

## Section 4

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# Weather Diary and Narrative Journals Relating to Weather, Water & Climate

NOAA's National Weather Service  
2003-2006 Lewis & Clark Corps of Discovery Bicentennial

# 1805

## January 1, 1805 to December, 31 1805

The winter of 1804-1805 at Fort Mandan was harsh with frequent snows, blizzards and extreme temperatures. The party experienced a variety of natural phenomena including sun dogs, mirages, northern lights, and even an eclipse of the moon. As spring neared, the party moved quickly to free the keelboat and perogues from the icy barrier of the Missouri River before breakup. By late March the ice was flowing and temperatures were warming. On April 7, 1805, the keelboat and a small party returned down-river to St. Louis carrying journal notes and specimens from the previous years journey destined for President Thomas Jefferson. The main Expeditionary force set off towards the Rocky Mountains and their ultimate goal the Pacific Ocean. The party made slow progress westward as they endured strong Spring winds which created sand storms along the Missouri.

By June 2<sup>nd</sup>, they reached a flood swollen fork in the Missouri. Most of the party believed the north fork was the true Missouri as it was muddy like the previous weeks coming up the river. To be certain, Lewis and Clark took scouting parties to locate the great falls the Minetare/Hidatsa Indians had described. After an unsuccessful try, Lewis took a second party for a further investigation and discovered the Great Falls of the Missouri on June 13. It would take over a month to portage around the falls during a cool and wet early summer. At the end of July, they reached another decision point known today as the Three Forks of the Missouri just as the weather warmed to summer norms. The Expedition moved westward up the newly

named Jefferson River in search of the Shoshone Indian Nation to obtain horses for their trek across the Continental Divide. Lewis led a small scouting party across the great divide on August 12 and found the Shoshones. Clark took a small contingent to explore “Lewis’s (today’s Salmon) River but found it unpassable. Faced with potential failure, the Captains decided they would have to use an old Indian trail to cross the mountains. After purchasing horses, their Shoshone Indian guide, Old Toby, led them over a mountain pass from Idaho back into Montana, down the Bitterroot Valley and then westward along the Lolo Trail. During this time they experience early Fall snows in the high rugged mountains. Nearly starving to death, the Expedition left the Bitterroot Mountains near the end of September and reached the Nez Perce Indian Nation east of present-day Lewiston, Idaho. Here they set up Canoe Camp to build water craft to take them down the Clearwater, Snake and Columbia Rivers to the ocean.

With the current at their back, they set off towards the ocean from near present-day Orofino, Idaho on October 7. After passing many rapids in the Clearwater and Snake Rivers, the Expedition came to great Columbia River on October 16. They proceeded down the wide Columbia passing many dangerous falls, shutes and rapids, and by early November they had reached the tidal waters of the Columbia. Rain began on November 4 and numerous late Fall storms ravaged their camps as they progressed to the ocean. Finally, Clark declared prematurely on November 7<sup>th</sup>, “*Great joy in camp we are in View of the Ocian!*”; however, they were in the great Columbia River estuary. After being pinned down by the intense storms, the Expedition reached the mouth of the river on November 16. The Pacific Ocean at last. Some 4,162 miles by Clark’s dead reckoning from St. Louis. Looking for winter quarters, the party moved back up the river, crossed to the south shore, and established Fort Clatsop near present-day Astoria, Oregon on December 7. They would remain at Fort Clatsop until their departure on March 23, 1806. Although mild temperatures remained for the rest of December, strong Pacific storm systems would bring daily rains, wind and sometimes thunder, lightning and hail.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1805. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)

# January 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition established Fort Mandan on November 2, 1804 near present-day Washburn, North Dakota and remain here for winter quarters until they leave on April 7, 1805.

Tuesday, January 1

#### Weather Diary <sup>1</sup>

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	s	SE	34a	f	NW	R	1	0

1 Reference: Coues, Volume III, pages 1269-70, 1286; Moulton, Volume 3, pages 281-283; Thwaites, Volume 6, Part II, pages 181-182.

2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** The Day was worm. Themtr 34<sup>0</sup> above 0. Some fiew Drops of rain about Sunset, at Dark it began to Snow, and Snowed the greater part of the night. (The temptr for Snow is about 0)

**Gass** The day was warm and pleasant.

**Ordway** cloudy but moderate. Rained a little in the eve.

**Whitehouse** the day was warm and pleasant.

Wednesday, January 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	s	NW	8b	f a s	N	-	-	-

### Daily Narrative Journals

**Clark** a Snowey morning. Some Snow to Day. Verry Cold in the evening.

**Gass** Some snow fell this morning. This day I discovered how the Indians keep their horses during the winter. In the day time they are permitted to run out and gather what they can; and at night are brought into the lodges, with the natives themselves

**Ordway** Snowed fast this morning.

**Whitehouse** This morning some Snow fell. The Mandan Indians in this Second Village had a number of horses, which they keep in their lodges with them, every Cold night during the Winter.

**Thursday, January 3**

### Weather Diary

the Snow was not considerable the ground is now covered 9 inches deep—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	c	N	4b	s	SE	-	-	-

### Daily Narrative Journals

**Clark** some Snow to day

**Gass** The weather was generally very cold.

**Ordway** Snowed this morning

Friday, January 4

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	W	4b	c	NW	R	-	2 ½

Daily Narrative Journals

**Clark** a worm Snowey morning, the Themtr. at 28<sup>0</sup> abov 0, Cloudy. The evening the weather became cold and windey, wind from the NW.

**Gass** The weather was generally very cold.

**Ordway** Cloud, warm morning. The afternoon blustry.

**Whitehouse** This morning Clear, the weather is not as cold, the weather was moderate to what it had been some days past. In the Evening, the weather grew verry cold and the Wind blew hard from the NW all night—

Saturday, January 5

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	c	NW	18b	s	NE	R	-	2

Daily Narrative Journals

**Clark** a cold day. Some Snow.

**Gass** The weather was generally very cold.

**Ordway** high blustry winds all last night & verry cold three of our hunters Stayed out all night. A cold morning.

**Whitehouse** a cloudy cold day. The weather continued verry Cold. The Weather continuing

very Cold—

**Sunday, January 6**

**Weather Diary**

at 12 oC. Today two Luminous spots appeared on either side of the sun extremely bright

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11b	c a s	NW	16b	f	NW	R	-	3

**Daily Narrative Journals**

**Clark** a Cold day

**Gass** The weather was generally very cold.

**Ordway** a clear cold morning. The wind high & blustry.

**Whitehouse** Cloudy, Cold weather

**Monday, January 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22b	f	NW	14b	f	W	F	-	1

**Daily Narrative Journals**

**Clark** a very Cold clear Day, the Thermtr Stood at 22 d below 0, wind NW. The river fell 1 inch.

**Gass** The weather was generally very cold.

**Ordway** a clear cold morning. The wind high from NW

**Whitehouse** Cloudy, Cold weather

**Tuesday, January 8**

**Weather Diary**

the snow is now ten inches deep. (Lewis) accumulolating by frosts (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	10b	f	NW	R	-	1

**Daily Narrative Journals**

**Clark** a Cold Day. Wind from the NW.

**Gass** The weather was generally very cold.

**Ordway** the wind blew cold from NW

**Whitehouse** Cloudy, Cold weather

**Wednesday, January 9**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
21b	f	W	18b	f a c	NW	R	-	1

**Daily Narrative Journals**

**Clark** A Cold Day, Thermometer at 21<sup>0</sup> below 0. The after part of this day very Cold, and wind Keen.

**Gass** The weather was generally very cold.

**Ordway** Some Snow this morning Squally the after part of the day blustry and exceeding

cold. A number of the Savages out hunting the Buffalo [again] & came in towards evening with their horses loaded with meat and told us that two of their young men was froze to death in the prairie. Had Suffered considerable with the cold. We expected nothing else but the other man had froze or would freeze this night. A young Indian came in the Garrison with his feet frost bit.

**Whitehouse** the day proved to be very cold & Stormey, one of the them (hunters) returned to the fort about 8 oClock in the evening with one of his feet frost bit. The other Stayed out all night.

**Thursday, January 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40b	f	NW	28 <sup>3</sup>	f	NW	R	-	1

3 Clark's Journal Codex C lists this temperature as "28 b."

**Daily Narrative Journals**

**Clark** last night was excessively Cold. The murkery this morning Stood at 40<sup>0</sup> below 0 which is 72 below the freezing point. The Indians...turned out to hunt for a man & boy who had not returned from the hunt of yesterday, and borrowed a Slay to bring them in, expecting to find them frozed to death. about 10 oClock the boy about 13 years of age Came to the fort with his feet frozed and had layed out last night without fire with only a Buffalow Robe to cover him. We had his feet put in Cold water and they are Comeing too— (this boy lost his Toes only) ...a man Came in who had also Stayed our without fire, and verry thinly Clothed, this man was not the least injured— Customs & the habits of those people has ancered [inured them] to bare more Cold than I thought it possible for man to indure—

**Gass** The weather was generally very cold. A number of the natives being out hunting in a very cold day, one of them gave out on his return in the evening; and was left in the plain or prairie covered with a buffalo robe. After some time he began to recover and removed to the woods, where he broke a number of branches to lie on, and to keep his body off the snow. In the morning he came to the fort, with his feet badly frozen, and the officers undertook his cure.

**Ordway** a clear cold morning. It is the Same Boy that the Indians had left last night & expected that he was froze to death in the praries.

**Whitehouse** This day we had severe cold weather. The weather still continued to be extremely



Cold and Stormy, the Officers had some of our party preparing to go in search of the Man, who Staid out all night, believing from the severty of the weather that he had been froze to death— but fortunately he returned to the Fort, before they had started in good health— Some of the Natives came to our Fort, bringing with them one of their Nation, that was frost bitten— His feet very much bit by the frost.

**Friday, January 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38b	f	NW	14b	f	NW	F	-	½

**Daily Narrative Journals**

**Clark**            verry Cold

**Gass**            The weather was generally very cold.

**Ordway**        clear cold morning. Nothing extroordinary accured.—

**Whitehouse**    This day the weather still continued Cold & the Air very thin;

**Saturday, January 12**

**Weather Diary**

singular appearance of three distinct Halo or luminus rings about the moon appeared this evening at half after 9 PM and continued one hour. the moon formed the center of the middle ring, the other two which lay N & S of the moon & had each of them a limb passing through the Moons Center and projecting N & S a simidiameter beyond the middle ring to which last they were equal in dimentions, each ring appearing to subtend an angle of 15 degrees of a great circle<sup>4</sup>

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	16 <sup>5</sup>	f	NW	R	-	1

4 "...The captains are actually seeing an atmospheric event caused by the refraction of light by ice crystals. Neiburger, Edinger, & Bonner, 426." (Moulton, 1986, 2: 284)

5 Clark's Journal Codex C lists this temperature as "16 b."

### Daily Narrative Journals

**Clark** a verry Cold Day

**Gass** The weather was generally very cold.

**Ordway** cloudy

**Whitehouse** The weather still continued clear and cold;

**Sunday, January 13**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34b	f	NW	20 <sup>6</sup>	f	NW	R	-	2

6 Clark's Journal Codex C lists this temperature as "20 b."

### Daily Narrative Journals

**Clark** a Cold Clear Day

**Gass** A clear cold day. Two frenchmen came by, they had their faces so badly frost bitten that the skin came off, and their guide was so badly froze that they were obliged to leave him with the Assiniboins

**Ordway** a clear cold morning.

**Whitehouse** The weather still continues clear & Cold. The Indians infrom'd us that the Guide who went with them, had got so bad frost bitten on their faces, that the whole of the skin came off—

Monday, January 14

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	s	SE	8b	c a s	SE	-	-	-

Daily Narrative Journals

- Lewis** Observed an Eclips of the Moon. I had no other glass to assist me in this observation but a small refracting telescope belonging to my sextant, which however was of considerable service, as it enabled me to define the edge of the moon's image with much more precision than I could have done with the natural eye. The commencement of the eclips was obscured by clouds, which continued to interrupt me throughout the whole observation; to this cause is also attributable the inaccuracy of the observation of the commencement of total darkness. I do not put much confidence in the observation of the middle of the Eclips, as it is the worst point of the eclips to distinguish with accuracy. The two last observations (i.e.) The end of total darkness, and the end of the eclips, were more satisfactory; they are as accurate as the circumstance under which I laboured would permit me to make them—
- Clark** this morning early a number of indians...passed down on the ice. Our hunters...informs that one Man (Whitehouse) is frost bit and Can't walk home—
- Gass** Some snow fell this morning. Hunters, one of men had got his feet so badly frozen that he was unable to come to the fort.
- Ordway** Whitehouse had his feet frost bit & could not come in without a horse
- Whitehouse** Some Snow fell this morning. I got my feet so Froze that I could not walk to the fort.

Tuesday, January 15

Weather Diary

an eclips of the moon total last night, visible here but partially obscured by the clouds.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10b	f	E	3a	c	SW	R	-	1

### Daily Narrative Journals

**Lewis** I do not place much confidence in this observation in consequence of loosing the observation of the Altitude of the Sun...was somewhat obscured by a cloud. The weather was so cold that I could not use water as the reflecting surface, and I was obliged to remove my glass horizon from it's first adjustment lest the savages should pilfer it.

**Clark** between 12 & 3 o'clock this morning we had total eclips of the moon. This morning not so cold as yesterday, wind from the SE. Wind chopped around to the NW. Still temperate.

**Gass** the weather was warm, and the snow melted fast

**Ordway** a warm pleasant day the weather is thoughy [thawing] so that the Snow melts off the huts & C.

**Whitehouse** This day the weather had moderated considerable, warm to what it has been. The day kept warm & pleasant—

**Wednesday, January 16**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	W	16a	f	SW	R	-	2 ½

### Daily Narrative Journals

**Clark** 4 men...hunting returned one frost'd (but not bad) [Whitehouse]

**Gass** the weather was warm, and the snow melted fast

**Ordway** cloudy & warm.

**Whitehouse** quite warm weather for the time a year & pleasant and the snow melted fast— The Man that was frost bitten informed us that he felt much easier than he had done, since he was frost bitten

**Thursday, January 17**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	W	12b	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a verry windey morning hard from the North. Thermometer at 0

**Gass** it became cold; the wind blew hard from the north, and it began to freeze.

**Ordway** a clear cold morning. The wind high from the NW

**Whitehouse** This morning about 3 oClock the Wind began to blow from the North, & began to freeze. This wind continued all this day, the Weather being very Cold—

**Friday, January 18**

**Weather Diary**

at Sun rise 12<sup>0</sup> below 0

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b <sup>7</sup>	f	NW	7a	f a c	NW	F	-	1

<sup>7</sup> In Voorhis No. 4 Clark lists this temperature as "20 b."

**Daily Narrative Journals**

**Clark** a fine worm morning

**Gass** Clear cold weather.  
**Ordway** moderate weather  
**Whitehouse** This day we had clear cold Weather

**Saturday, January 19**

**Weather Diary**

Ice now 3 feet thick on the most rapid part of the river—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	6b	f	NW	R	-	1

**Daily Narrative Journals**

**Clark** a fine Day  
**Ordway** cloudy  
**Whitehouse** The weather continued Cold and Clear. Two hunters proceeded on the Ice the River being fast froze over for some time past—

**Sunday, January 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a <sup>8</sup>	f	NE	9b	c	SE	R	-	3/4

<sup>8</sup> Clark's Journal Codex C lists this temperature as "28 a."

**Daily Narrative Journals**

**Clark** a Cold fair day

**Ordway** a pleasant morning

**Whitehouse** We still continued to have clear cold weather.

**Monday, January 21**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	NE	8a	f	SE	R	-	-

**Daily Narrative Journals**

**Clark** a fine day

**Gass** A clear cold day.

**Ordway** moderate weather.

**Whitehouse** The weather still continued Clear and Cold,

**Tuesday, January 22**

**Weather Diary**

mist the afternoon observation.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f a h	NW	19a	c	NW	R	-	1 3/4

**Daily Narrative Journals**

**Clark** a find warm Day. Attempted to Cut the Boat & perogues out of the Ice, found water at about 8 inches under the 1<sup>st</sup> Ice, the next thickness about 3 feet

**Gass** The weather was warm. We commenced cutting ice from about our craft, in order

to get them out of the river.

**Ordway** a pleasant morning. All hands Employed at cutting away the Ice from round the Barge & pearogues. They soon cut through the Ice in places. The water Gushed over where they had cut so they had to quit cutting with axes—

**Whitehouse** This day all our Men who were at the fort was employed to cut the Ice in order to get the boat & Pettyaugers out of the River, in the night we had a heavy fall of Snow, which made it difficult to work in the Ice for some days—

**Wednesday, January 23**

**Weather Diary**

the snow fell about 4 inches deep last night and continues to snow

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	s	E	2b	c a s	N	F	-	2 ½

**Daily Narrative Journals**

**Clark** a Cold Day, Snow fell 4 Inches deep, the occurrences of this day is as is common—

**Gass** The weather was warm. The snow fell about 3 inches deep.

**Ordway** Snowey this morning

**Whitehouse** We had a continuation of Snow the greater part of this day, on its leaving off, it continued Cold to the 30<sup>th</sup>, all hands during this time were employed at work on the boats & Pettyaugers to get them free from the Ice, and hawled Stones on a Sled which they made warm in a fire, in order to thaw the Ice from about the said Crafts, when the Stones were put into the fire, they would not stand the heat of the fire but all of them broke, so that their labour was lost.

**Thursday, January 24**

**Weather Diary**



Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	c	NW	2b	f	NW	R	-	1/4

**Daily Narrative Journals**

**Clark** a fine day

**Gass** A cold day.

**Ordway** colder this morning than it has ben for Several days past.

**Whitehouse** Cold

**Friday, January 25**

**Weather Diary**

it frequently happens that the sun rises fair and in about 15 or 20 minutes it becomes suddonly [cloudy] turbid, as if the had some chiminal effect on the atmosphere.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26b	f	NW	4b	f a c	W	-	-	-

**Daily Narrative Journals**

**Clark** men employ'd in Cutting the Boat out of the ice

**Gass** All hands employed in cutting away the ice, which we find a tedious business.

**Ordway** clear & cold this morning.

**Whitehouse** Cold

Saturday, January 26

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	20a	f a c	SE	-	-	-

Daily Narrative Journals

**Clark** a verry fine worm Day

**Gass** A pleasant day

**Ordway** Cloudy & warm the wind from the South.

**Whitehouse** Cold

Sunday, January 27

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c	SE	16a	c	NW	R	-	2

Daily Narrative Journals

**Clark** a fine day, attempt to Cut our Boat and Conoos out of the Ice, a deficuelt Task I fear as we find water between the Ice

**Gass** The weather has become much more settled, warm and pleasant than it had been for some time.

**Ordway** Cloudy

**Whitehouse** Cold

Monday, January 28

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	15a	f	SW	-	-	-

Daily Narrative Journals

- Lewis** Observed Equal altitudes...in which sperits were substituted for water, it being to could to use the later.
- Clark** warm day
- Gass** The weather warm and pleasant
- Ordway** Clear and cold.
- Whitehouse** Cold

Tuesday, January 29

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SW	16a	f	W	R	-	½

Daily Narrative Journals

- Clark** we Sent & Collect Stones and put them on a large log heap to heet them with a View of warming water in the Boat and by that means, Sepperate her from the Ices, our attempt appears to be defeated by the Stones all breaking & flying to peaces in the fire, a fine warm Day.
- Gass** We attempted another plan for getting our water craft disengaged from the ice: which as heated in the boast, with hot stones; but in this project we failed, as the stones we

found would not stand the fire, but broke to pieces.

**Ordway** Clear & pleasant

**Whitehouse** Cold

**Wednesday, January 30**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	14a	c	NW	R	-	1

**Daily Narrative Journals**

**Clark** a fine morning, Clouded up at 9 oClock

**Gass** I went up river and found another kind of stones, which broke in the same manner; so our batteux and periogues remained fast in the ice.

**Ordway** Some Cloudy. Sergt. Gass sent up the river to an other bluff in order to look for another kind of Stone that would not Split with heat he brought one home & het it found it was the Same kind of the other as soon as it was hot it bursted asunder So we Gave up that plan—

**Whitehouse** Cold

**Thursday, January 31**

**Weather Diary**

the Snow feel 2 Inches last night.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c a s	NW	8a	f a c	NW	F	-	1

**Daily Narrative Journals**

- Clark**            Snowed last night, wind high from the NW. Cold disagreeable
- Gass**            Some snow fell last night. In the morning the wind blew and was cold, toward the middle of the day the weather became moderate, and the afternoon was pleasant.
- Ordway**        Snowed the greater part of last night. The wind high from NW the Snow flew
- Whitehouse**    This morning we had a fresh wind from the NW, and the weather Cold, In the afternoon it got warm & pleasant weather—

# February 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during February 1805.

Friday, February 1

#### Weather Diary <sup>1</sup>

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	16a	f	NW	R	-	2 ½

<sup>1</sup> Reference: Coues, Volume III, pages 1270, 1286; Moulton, Volume 3, pages 305-307; Thwaites, Volume 6, Part II, pages 182-183.

<sup>2</sup> River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** a cold windey Day

**Gass** A cold day.

**Ordway** clear & cold. The weather being bad they killed nothing—

**Whitehouse** This morning we had pleasant weather.

Saturday, February 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	f	NW	3a	f	S	F	-	1

### Daily Narrative Journals

**Clark** a fine Day

**Ordway** a clear morning. My hat got burnt exedantly this morning. The river raiseing.

**Sunday, February 3**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	SW	2a	f	W	-	-	-

### Daily Narrative Journals

**Lewis** a fine day. the situation of our boat and perogues is now allarming, they are firmly inclosed in the Ice and almost covered with snow – the ice which incloses them lyes in several stratas of unequal thickness which are seperated by streams of water. This [is] peculiarly unfortunate because so soon as we cut through the first strata of ice the water rushes up and rises as high as the upper surface of the ice and thus creates such a debth of water as renders it impracticable to cut away the lower strata which appears firmly attached to, and confining the bottom of the vessels. We then determind to attempt freeing them from the ice by means of boiling water which we purposed heating in the vessels by means of hot stones, hut this expedient proved also fruitless, as every species of stone which we could procure in the neighbourhood partook so much of the calcarious genus that they burst into small particles on being exposed to the heat of the fire.

**Gass** A cold day.

**Whitehouse** This day we had Clear cold weather, nothing of consequence happened at the Fort worth mentioning—

**Monday, February 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	NW	9b	f	W	-	-	-

**Daily Narrative Journals**

**Lewis** This morning fair tho' could, the thermometer stood at 18<sup>0</sup> below Naught, wind from NW.

**Clark** our provisions of meat being nearly exorsted I concluded to Decend the River on the Ice & hunt

**Gass** A fine day.

**Ordway** clear and pleasant

**Whitehouse** This day we had Clear weather but cold

**Tuesday, February 5**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	NW	20a	f	NW	R	-	1

**Daily Narrative Journals**

**Lewis** Pleasent morning wind from NW, fair

**Clark** the morning verry Cold & windey [entered on the 13th]

**Ordway** the morning clear. The River Riseing So that the water Spreads over the Ice in Sundry places near this.



Whitehouse We had fair Weather

Wednesday, February 6

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	f	NW	12a	f	W	R	-	½

Daily Narrative Journals

Lewis Fair morning, wind from NW

Clark Cold morning the after part of the Day worm [entered on the 13th]

Ordway clear and pleasant

Whitehouse This day was clear & pleasant Weather

Thursday, February 7

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	SE	29 <sup>3</sup>	c	S	R	-	½

3 Clark's Journal Codex C lists this temperature as "29 a."

Daily Narrative Journals

Lewis This morning was fair, Thermometer at 18<sup>0</sup> above naught much warmer than it has been for some days; Wind SE

Ordway pleasant & warm

**Friday, February 8**

**Weather Diary**

the Black & white & Speckled woodpecker has returned—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	28	c	NE	F	-	1

**Daily Narrative Journals**

**Lewis** This morning was fair, wind SE. The weather still warm and pleasant—

**Ordway** moderate weather

**Saturday, February 9**

**Weather Diary**

very little snow

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	SE	33a	c	SE	-	-	-

**Daily Narrative Journals**

**Lewis** The morning fair and pleasant, wind from SE—

**Ordway** Some cloudy, the water which run over the Ice in the River has froze smooth.

**Sunday, February 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	c a s	NW	12a	c	NW	-	-	-

**Daily Narrative Journals**

**Lewis** This Morning was Cloudy after a slight snow which fell in the course of the night, the wind blew very hard from W. altho' the thermometer stood at 18<sup>0</sup> Above naught the violence of the wind caused a degree of cold that was much more unpleasant than that of yesterday when thermometer stood at 10<sup>0</sup> only above the same point.

**Clark** a cold Day, wind blew hard from the NW. J. Fields got one of his ears frosted [entered on the 13th]

**Ordway** high wind from NW Squawly flights of Snow. On the river...the Ice being Smooth the horses could not Go on the Ice with out Shoes.

**Monday, February 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	NW	2b	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** this morning the weather was fair and cold wind NW.

**Clark** air keen [entered on the 13th]

**Ordway** the day clear but cold—

**Tuesday, February 12**

**Weather Diary**

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	f	SE	2a	f	W	-	-	-

**Daily Narrative Journals**

**Lewis** The morning was fair tho' could, thermometer at 14<sup>0</sup> below naught wind SE

**Clark** The ice on the parts of the River which was verry rough, as I went down, was Smothe on my return, this is owing to the rise and fall of the water, which takes place every day or two, and Caused by partial thaws, and obstructions in the passage of the water thro the Ice, which frequently attaches itself to the bottom— the water when riseing forses its way thro the cracks & air holes above the old ice, & in one night becomes a Smothe Surface of ice 4 to 6 Inches thick— the river falls & the ice Sink in places with the water and attches itself to the bottom, and when it again rises to its former hite, frequently leavs a valley of Several feet to Supply with water to bring it on a leavel Surface. The water of the Missouri at this time is Clear with little Tinges. [entered on the 13th]

**Ordway** a clear morning

**Wednesday, February 13**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	SE	10a	c	NW	F	-	1

**Daily Narrative Journals**

**Lewis** The morning cloudy, thermometer 2<sup>0</sup> below naught, wind from SE.

**Clark** I returned last Night from a hunting party much fatigued, haveing walked 30 miles on the ice and through Points of wood land in which the Snow was nearly Knee Deep.

**Ordway** Snow the later part of the day.

**Whitehouse** This day clear & pleasant weather—

**Thursday, February 14**

**Weather Diary**

The Snow fell 3 Inches deep last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c a s	NW	2b	f	NW	-	-	-

**Daily Narrative Journals**

- Clark**            The Snow fell 3 inches Deep last night, a fine morning
- Ordway**        Snowed the Greater part of last night. The day pleasant.
- Whitehouse**    This morning we had clear weather but pleasant—

**Friday, February 15**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	f	SW	6b	f	W	-	-	-

**Daily Narrative Journals**

- Clark**            the morning fine, the Thermometer Stood at 16<sup>0</sup> below 0, Nought. one Chief of the Mandans returned from Capt. Lewises Partly nearly blind— this Complaint is as I am informd. Common at this Season of the year and caused by the reflection of the Sun on the ice & Snow, it is cured by “jentilly Swetting the part affected, by throwng Snow on a hot Stone.” Verry Cold part of the night—
- Ordway**        Some of the mens feet were sore walking 300 odd mls. on the Ice to day.
- Whitehouse**    This morning we had fine Clear weather.

Saturday, February 16

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	SE	8a	f	W	F	-	1

Daily Narrative Journals

**Clark** a fine morning

**Gass** had a cold morning. This morning the Indians, who had come down with us and of our men whose feet had been a little frozen, returned home.

**Ordway** a clear cold morning.

**Whitehouse** We had a fine Clear day, the weather being moderate—

Sunday, February 17

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	c	SE	12a	f	NW	F <sup>4</sup>	-	½

4 Lewis does not record rise or fall but does record "½" inch. Clark gives neither a rise or fall or depth.

Daily Narrative Journals

**Clark** this morning worm & a little Cloudy. The after part of the day fair

**Whitehouse** The weather continued Clear & moderate.

**Monday, February 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	s	NE	10a	f	S	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning, Some Snow

**Ordway** clear and pleasant

**Whitehouse** The hunters...brought the Sleds loaded with the Meat up the River on the Ice, it still being froze over the Mesouri, & the Ice very thick & strong—

**Tuesday, February 19**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SE	20a	f	S	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day

**Ordway** a clear pleasant morning.

**Whitehouse** We had fine clear moderate weather

Wednesday, February 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	S	22a	f	S	-	-	-

Daily Narrative Journals

**Clark** a Butifull Day

**Ordway** a clear and pleasant morning.

**Whitehouse** We had fine clear moderate weather

Thursday, February 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	f	S	30a	f	S	-	-	-

Daily Narrative Journals

**Clark** a Delightfull Day put our Clothes to Sun—

**Gass** Some rain fell to day, the first that has fallen since November. In the evening, the weather became clear and pleasant.

**Ordway** clear and pleasant. The Snow and Ice thoughed on the River considerable So that it was wet & Slopy halling the Sled. The men generally fatigued halling a heavy load 21 miles on the hard Ice & Snow in places which made the Sleds run hard except where the Ice was Smoth under—

**Whitehouse** This day the weather still continued Clear & pleasant



**Friday, February 22**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	c	N	32a	c a r & s	NW	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning, at about 12 oClock it began to rain and Continud for a fiew minits, and turned to Snow, and Continud Snowing for about one hour, and Cleared away fair

**Gass** Was a fine day and we again began to cut away the ice, and succeeded in getting out one of the perioques.

**Ordway** rained a Short time and turned to Snow. Snowed a Short time and cleared off, the men came home last night

**Whitehouse** We had still Clear, pleasant weather

**Saturday, February 23**

**Weather Diary**

got the poplar perogue out of the ice.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	32a	f	W	R	-	½

**Daily Narrative Journals**

**Clark** All hands employed in Cutting the Perogues Loose from the ice, which was nearly even with their top; we found great difficuelty in effecting this work owing to the Different devisions of Ice & water. After Cutting as much as we Could with axes, we had all the Iron we Could get & Some axes put on long poles and picked through the ice, under the first water, which was not more the 6 to 8 inches deep— we

disengaged one Perogue, and nearly disengaged the 2<sup>nd</sup> in Course of this day which has been warm & pleasant

**Gass** We had fine pleasant weather, and all hands were engaged in cutting the ice away from the boat and the other perioque. At 4 o'clock in the afternoon we had the good fortune to get both free from the ice

**Ordway** a pleasant morning.

**Whitehouse** The weather still continued fine and Clear, all our party were employ'd in cutting the Ice from round the Boat & Pettyaugers. At one o'clock we got one of the Pettyaugers out of the Ice on Shore—

**Sunday, February 24**

**Weather Diary**

loosed the boat & large perogue from the ice.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	f	NW	32a	f	W	-	-	-

**Daily Narrative Journals**

**Clark** The Day fine, we Commenced very early to day the Cutting loose the boat

**Ordway** a beautiful morning. All hands employed cutting away Ice from round the Barge. Found that the Ice was verry thick clear under hir.

**Whitehouse** We had pleasant weather. All our party were still employed in cutting the Ice round the Boat & pettyauger we succeeded, and got both the boat & pettyauger on the bank....clear of danger, when the Ice broke up in the River—

**Monday, February 25**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

16a	f	W	38a	f	NW	-	-	-
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**Daily Narrative Journals**

**Clark**            The day has been exceedingly pleasant

**Whitehouse**    This day was Clear & pleasant.

**Tuesday, February 26**

**Weather Diary**

got the Boat and perogues on the bank

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	f	NE	31a	f	N	-	-	-

**Daily Narrative Journals**

**Clark**            a fine day    Drew up the Boat & perogus, after Cutting them out of the ice with great Dificuelty— & trouble

**Ordway**        a pleasant morning.

**Whitehouse**    The weather continued still clear & fine;

**Wednesday, February 27**

**Weather Diary**

got the Boat and Perogues on the bank.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	SE	36a	f	E	F	-	½

**Daily Narrative Journals**

**Clark** a fine day. I commence a Map of the Countrey on the Missouries & its waters &c &c—

**Ordway** a beautiful pleasant morning.

**Whitehouse** We have still fine weather;

**Thursday, February 28**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	E	38a	c	SE	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning

**Whitehouse** This morning the weather cold but toward Noon it moderated

# March 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during March 1805.

Friday, March 1

#### Weather Diary<sup>1</sup>

the snow has disappeared in many place the river partially broken up—

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	W	38a	f	NW	-	-	-

1 Reference: Coues, Volume III, pages 1270-71, 1286-87; Moulton, Volume 3, pages 324-327; Thwaites, Volume 6, Part II, pages 183-185.

2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** a fine Day

**Ordway** cloudy & arm this morning. The after part of the day clear and pleasant—

**Whitehouse** the weather continued Clear & Cold—

Saturday, March 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NE	36a	f	NE	R	-	1 ½

**Daily Narrative Journals**

**Clark** a fine Day. The river brake up in places

**Ordway** a beautiful pleasant morning

**Whitehouse** This day we had fine Clear weather.

**Sunday, March 3**

**Weather Diary**

a flock of ducks pased up the river this morning—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	E	39a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day, wind from the W. A large flock of Ducks pass up the River—

**Ordway** clear & pleasant.

**Whitehouse** This day we had Clear Cold weather

**Monday, March 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	NW	36a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning, wind from the NW. The after part of the day Clear

**Ordway** the wind high from the NW They day pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 5**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	40a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day. Themometer at 40<sup>o</sup> abo. 0

**Ordway** clear and pleasant. A light Squawl of Snow fell about 4 oClock this morning. Nothing extraordinary.

**Whitehouse** the weather continued Clear & pleasant

**Wednesday, March 6**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	c	E	36a	f	E	R	-	2

**Daily Narrative Journals**

**Clark** a Cloudy morning & Smokey all Day from the burning of the plains, which was Set on fire by the Minetarries for an early crop of Grass as an endusement for the Buffalow to feed on— the river rise a little to day—

**Ordway** moderate weather. The wind from NE the Water has run over the Ice So that it is difficult crossing the river.

**Whitehouse** the weather continued Clear & pleasant

**Thursday, March 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	f	E	26a	c	E	R	-	2

**Daily Narrative Journals**

**Clark** a little Cloudy and windey NE.

**Ordway** clear but Some colder than it has been for Several days past.

**Whitehouse** the weather continued Clear & pleasant

**Friday, March 8**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
7a	c	E	12a	f	E	R	-	2 ½

**Daily Narrative Journals**

**Clark** a fair morning, Cold and windey, wind from the East

**Ordway** Some cloudy & cold.

**Whitehouse** the weather continued Clear & pleasant



**Saturday, March 9**

**Weather Diary**

wind hard all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c	N	18a	f	NW	R	-	2

**Daily Narrative Journals**

**Clark** a Cloudy Cold and windey morning, wind from the North. I walked up to see the Party that is making Perogues, about 5 miles above this, the wind hard and Cold

**Ordway** the wind high from the NW

**Whitehouse** the weather continued Clear & pleasant

**Sunday, March 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	12a	f	NW	R	-	3 ½

**Daily Narrative Journals**

**Clark** a Cold windy Day

**Ordway** the day clear and cold high winds—

**Whitehouse** the weather continued Clear & pleasant

**Monday, March 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	SE	26 <sup>3</sup>	f a c	NW	R	-	4 ½

3 Clark's Journal Codex C lists this temperature as "26 a."

**Daily Narrative Journals**

**Clark** A Cloudy Cold windey day, Some Snow in the latter part of the day

**Ordway** clear Moderate weather

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 12**

**Weather Diary**

snow but slight disappeared to day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f a s	N	10a	f	NW	R	-	5

**Daily Narrative Journals**

**Clark** a fine day Some Snow last night Wind NW

**Ordway** a little Snow last night. A clear cold morning the river raiseing fast.

**Whitehouse** the weather continued Clear & pleasant

Wednesday, March 13

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b	f	SE	28a	f	SW	R	-	3 ½

Daily Narrative Journals

**Clark** a fine day The river rising a little— wind SW

**Ordway** clear and cold the wind high from the South

**Whitehouse** the weather continued Clear & pleasant

Thursday, March 14

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	SE	40a	f	W	-	-	-

Daily Narrative Journals

**Clark** a fine day wind Wet. River Still rising

**Ordway** clear & warm

**Whitehouse** the weather continued Clear & pleasant

Friday, March 15

Weather Diary

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	SE	38a	f	W	F	-	1

**Daily Narrative Journals**

**Clark** a fine day

**Ordway** clear pleasant and warm.

**Whitehouse** the weather continued Clear & pleasant

**Saturday, March 16**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	c	E	42a	c	W	F	-	3

**Daily Narrative Journals**

**Clark** a Cloudy day, wind from the SE

**Ordway** Cloudy & warm. The wind high from the East. Look likely for rain—

**Whitehouse** the weather continued Clear & pleasant

**Sunday, March 17**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	SE	46a	f	SW	R	-	2

**Daily Narrative Journals**

**Clark** a windey Day. The river riseing a little and Severall places open.

**Ordway** clear and pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Monday, March 18**

**Weather Diary**

collected Some herbs plants in order to send by the boat. paticularly the root said to cure bites of the mad dog and rattlesnake.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	c	N	34a	c	N	F	-	1

**Daily Narrative Journals**

**Clark** a cold cloudy Day, wind from the N

**Ordway** Cloudy

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 19**

**Weather Diary**

But little snow not enough to cover the ground

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c a s	N	31 <sup>4</sup>	f	NW	R	-	1

<sup>4</sup> Clark's Journal Codex C lists this temperature as "31 a."

**Daily Narrative Journals**

**Clark** Cold windey Day Cloudy. Some little Snow last night

**Ordway** cloudy a light Squawl of Snow cold air

**Whitehouse** the weather continued Clear & pleasant

**Wednesday, March 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	NW	28 <sup>5</sup>	f	NW	R	-	3

5 Clark's Journal Codex C lists this temperature as "28 a."

**Daily Narrative Journals**

**Clark** cloudy, wind hard from N

**Ordway** a cloudy cool morning. The after part of the day pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Thursday, March 21**

**Weather Diary**

some ducks seen to light in the river opposit the fort

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a	c	E	26a	s & h	S	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy Day, Some Snow

**Ordway** Cloudy the wind from the SE a little Snow fell the after part of the day—

**Whitehouse** This day we had still, pleasant Weather, nothing occur'd worth mentioning

**Friday, March 22**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f a s	S	36a	f	SW	F	-	4

**Daily Narrative Journals**

**Clark** Some few Drops of rain this evening for the first time this Winter, a Cloudy Day

**Ordway** a clear pleasant morning. The wind from the SE

**Whitehouse** We had some Rain this morning, but it continued but a short time, the weather being cloudy & cold.

**Saturday, March 23**

**Weather Diary**

but little rain.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	38a	c a r	NW	F	-	4

**Daily Narrative Journals**

**Clark** a find Day in the fore part, in the evening a little rain & the first this winter—

**Ordway** clear and pleasant. Rained a little the latter part of the day—

**Whitehouse** This morning we had Snow— towards Noon it ceased, and the weather moderated

and became pleasant— in the evening it grew cold & froze during the Night.

**Sunday, March 24**

**Weather Diary**

but little Snow.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	NE	30a	c a s	N	R	-	1

**Daily Narrative Journals**

**Clark** preparing to Set out, A Cloudy morning, wind from the NE, the after part of the Day fair. Saw Swans & wild Gees flying NE this evening

**Ordway** cloudy

**Whitehouse** We had pleasant Weather, continued to freeze in the Evenings

**Monday, March 25**

**Weather Diary**

a gang of swan return to day the ice in the river has given way in many places and it is with some difficulty it can be passed—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16	f	E	32a	f	S	R	-	5

**Daily Narrative Journals**

**Clark** a fine Day, wind SW. The ice broke up in Several places in the evenig, broke away and was nearly takeing off our new Canoes, river rise a little

**Ordway** clear and pleasant.



**Whitehouse** We had pleasant Weather, continued to freeze in the Evenings

**Tuesday, March 26**

**Weather Diary**

the ice gave way in the river about 3 PM and came down in immense sheets very near destroying our perogues— some gees pass today.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20	f	SE	46a	f	W	R	-	4 ½

**Daily Narrative Journals**

**Clark** The river choked up with ice opposit to us and broke away in the evening, raised only ½ Inch, all employed prepareing to Set out

**Gass** We put the canoes in the water as the river had risen there was some water between the ice and the shore. We got three of them safe to the fort; but the ice breaking before the other three were gotten down, so filled the channel, that we were obliged to carry them the rest of the way by land.

**Ordway** clear and pleasant. About 2 oClock they returned with the perogues, but before they had landed the Ice Started So that we had to draw them out with Speed The ice Stoped and jamed up. Started Several times but Stoped entirely before night.

**Whitehouse** This day we had moderate weather, and the Ice broke up.

**Wednesday, March 27**

**Weather Diary**

the first insect I have seen was a large black knat today— the ice drifting in large quantities.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	SE	60a	f	SW	R	-	9

**Daily Narrative Journals**

**Clark** a windey Blustering Day, wind SW. Ice running the [river] Blocked up in view for the Space of 4 hours and gave way leaveing great quantity of ice on the Shallow Sand bars.

**Ordway** clear and pleasant. The Ice kep breaking and Starting the Most of the day—

**Whitehouse** This day we had pleasant weather

**Thursday, March 28**

**Weather Diary**

it [river] raised 13 inch and fell 12. wind hard, ice abates in quantity

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	SE	64a	f	SW	R	-	1

**Daily Narrative Journals**

**Clark** the ice Stoped running owing to Some obstickle above. But few Indians visit us today, they are watching to catch the floating Buffalow which brake through the ice in Crossing

**Ordway** the Ice run in the River all last night. A pleasant morning. The Ice continues to run.

**Whitehouse** This day was blustering which continued the whole day—

**Friday, March 29**

**Weather Diary**

a variety of insects make their appearance, as flies bugs &c. the ice ceases to run supposed to have formed an obstruction above.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

42	f	NW	52a	f	NW	F	-	11
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**Daily Narrative Journals**

**Clark** The obsticle broke away above & the ice came down and is passing in great quantities, the river rose 13 inches the last 24 hours. I observed extrodanary dexterity of the Indians in jumping from one Cake of ice to another, for the purpose of Catching the buffalow as they float down. Maney of the Cakes of ice which they pass over are not two feet Square. The Plains are on fire in view of the fort on both Sides of the River, it is Said to be common for the Indians to burn the Plains near their villages every Spring for the benifit of ther horse, and to induce the Buffalow to come near to them.

**Ordway** clear and pleasant. The River fell 22 inches in 22 hours. We continue gitting ready to Start up the River.

**Whitehouse** We had all this day high winds, but the Air was not so cold, as it had been for the several days past.

**Saturday, March 30**

**Weather Diary**

ice came down in great quantities the Mandans take Some floating Buffaloe

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	NW	49a	f	NW	R	1	1

**Daily Narrative Journals**

**Clark** Cloudy Day. Several gangus of Gees and Ducks pass up the river. Not much Ice floating down today—

**Ordway** clear and pleasant. The river raised 10 Inches last night the ice runs thick in the R. to day

**Whitehouse** high winds, but not cold

**Sunday, March 31**

**Weather Diary**

ducks and Gees passing ice abates in quantity

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35	c a r	SE	45a	c	SE	R	-	9

**Daily Narrative Journals**

**Ordway** cloudy. Rained Some at three oclock this morning. The Ice does not run So thick in the River as it did yesterday.

**Whitehouse** fine Clear warm weather—

# April 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Mandan near present-day Washburn, North Dakota until they leave on April 7, 1805 into un-explored lands towards the Continental Divide and on to the Pacific Ocean.

Monday, April 1

#### Weather Diary<sup>1</sup>

ice ceases to run A fine refreshing shower of rain fell about 2 PM this was the first shower of rain that we had witnessed since the fifteenth of September 1804 tho' it several times has fallen in very small quantities, and was noticed in this diary of the weather. The cloud came from the west, and was attended by hard thunder and Lightning. I have observed that all thunderclouds in the Western part of the continent, proceed from the westerly quarter, as they do in the Atlantic States. The air is remarkably dry and pure in this open country, very little rain or snow ether winter or summer. The atmosphere is more transparent than I ever observed it in any country through which I have passed.

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
33a <sup>3</sup>	c	NW	43a	c a t l r & h <sup>4</sup>	W	F	-	11

1 Reference: Coues, Volume III, pages 1271-72, 1287-88; Moulton, Volume 4, pages 91-96; Thwaites, Volume 6, Part II, pages 185-188.

2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

3 Clark's Journal Codex C lists this temperature as "38 a."

4 Clark's Journal Codex C lists this weather data as "c a t c h & r."

#### Daily Narrative Journals

**Clark** The fore part of the day haile rain with Thunder & lightning, the rain continued by intimitions all day, it is worthy of remark that this is the 1<sup>st</sup> rain which has fallen Since we have been here or Since the 15 of October last, except a few drops at two or three defferent times—

**Gass** A considerable quantity of rain fell this day; the first of any consequence that had fallen here for six months.

**Ordway** Thunder and hail & hard rain about 8 oClock this morning for about an hour. Began to rain again about 4 ock. PM rained untill 12 oC. at night & ceased.

**Whitehouse** This morning we had some rain, which lasted about 2 hours & clear'd up Cool, all our party was employed in putting the Boat & Pettyaugers into the River, which they Effected—

## Tuesday, April 2

### Weather Diary

rained hard and without intermission last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a r	NW	38a	f a c	W	F	-	5

### Daily Narrative Journals

**Clark** a Cold cloudy rain day. Rained all last night. The river falling fast.

**Gass** the weather was fair bu windy

**Ordway** the wind blew high from NW all the later part of the night. A cloudy morning. The wind rises from NW the river fell 5 inches Since yesterday morning The later part of the day plsant.

**Whitehouse** This day the weather was cold & in the fore part of the day it froze. The latter part we had Blustery weather—

## Wednesday, April 3

### Weather Diary

frost last night a white frost & Some ice on the edge of the river ....

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	N	44a	f	W <sup>5</sup>	F	-	4

<sup>5</sup> Clark's Journal Codex I lists this wind direction as "N."

### Daily Narrative Journals

**Clark** a white frost this morning, some ice on the edge of the water. A fine day.

**Gass** the weather was fine and pleasant

**Ordway** clear and pleasant.

**Whitehouse** This day was Clear, & pleasant weather.

### Thursday, April 4

#### Weather Diary

Observed a flock of brant passing up the river today; the wind blew very hard as it dose frequently in this quarter; there is sarcely any timber to brake the wind from the river, & the country on both sides being level plains, wholly destitute of timber, the wind blows [over them] with astonishing violence. In this open country the winds form a great obstruction to the navigation of this river particularly with small vessels, which can neither ascend or descend should the wind be the least violent.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	S	55a	f	NW	F	-	4

### Daily Narrative Journals

**Clark** a blustering windey Day.

**Gass** A fine clear day.

**Ordway** clear and pleasant. The articles for St. Louis carred on board the barge ready to Set out but the wind blew high from the NW so we did not load the perogues.

**Whitehouse** had fine Clear weather

### Friday, April 5

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	NW	39a	f	N <sup>6</sup>	F	-	2

6 Clark's Journal Codex C lists this wind direction as "NW."

### Daily Narrative Journals

**Clark** the wind verry high from the NW

**Gass** This was a clear day and the wind blew hard and cold from the NW

**Ordway** clear and pleasant. The wind high from the NW

**Whitehouse** had fine Clear weather

**Saturday, April 6**

### Weather Diary

all the birds that we believe visit this country have now returned.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	N	48a	c	NW	F	-	1

### Daily Narrative Journals

**Clark** a fine Day

**Gass** The day was clear and pleasant.

**Ordway** clear and pleasant. The wind Gentle from the South.

**Whitehouse** had fine Clear weather

**The Expedition splits into two parties. The permanent party of 33 people begins**



their journey up the Missouri in two perogues and canoes, while the remaining members return the keelboat to St. Louis with journals that were written coming up the Missouri and at Fort Mandan, as well as various plant, animal and mineral specimens.

Sunday, April 7

**Weather Diary**

Visited by Ricara Chief wind very high. Set out on our voyage at 5 PM encamp a 4 me. S.S.

Sunrise			4 PM			Missouri River <sup>7</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	W	64a	f	SW	R	-	2 <sup>6</sup>

<sup>6</sup> Clark's Journal Codex C lists this river rise as "½."

<sup>7</sup> River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

**Daily Narrative Journals**

**Lewis** Our vessels consisted of six small canoes, and two large perogues. This little fleet altho' not quite so respectable as those of Columbus or Capt. Cook were still viewed by us with as much pleasure as those deservedly famed adventures ever beheld theirs; and I dare say with quite as much anxiety for their safety and preservation. We were now about to penetrate a country at least two thousand miles in width, on which the foot of civillized man had never trodden.

**Clark** a windey day

**Ordway** clear and pleasant. We went on verry well with a hard head wind wind high from NW the greater part of the night

**Whitehouse** This day we had fair weather—

**Monday, April 8**

**Weather Diary**

the Kilde, and large Hawk have returned. Buds of the Elm swollen and appear red— the only birds that I observed during the winter at Fort Mandan was the Missouri Magpie, a bird of the Corvus genus.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	NW	56a	f	NW	F	-	2

**Daily Narrative Journals**

**Lewis** Set out early this morning, the wind blew hard against us from the NW. We therefore traveled very slowly.

**Clark** wind hard a head from the NW.

**Gass** had a clear day. The wind blew hard from the NW. In the afternoon we passed very high bluffs on the South side; one of which had lately been a burning volcano. The pumice stones lay very thick around it, and there was a strong smell of sulphur.

**Ordway** clear and cold. The wind high from the W we saw some Snow on the NS of the hills, and thick Ice on and under the banks of the river.

**Whitehouse** This day we had clear weather, the Wind blowing fresh from the Northwest.

**Tuesday, April 9**

**Weather Diary**

the Crow has also returned saw the first today. & the corvus bird disappears the Musquitoes revisit us, saw several of them. Capt. Clark brought me a flower in full blo. it is a stranger to me.— the peroque [shakes with] is so unsteady that I can scarcely write

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	SE	70a	f	SW	F	-	½

**Daily Narrative Journals**

**Clark** Set out this morning verry early under a gentle breeze from the SE. I saw a Musquetor to day. great numbers of Brant flying up the river, the Maple, & Elm has buded & Cotton and arrow wood beginning to bud. I saw flowers in the praries to day

**Gass** had a fine day.

**Ordway** clear and pleasant. A gentle breeze from the South we set off at day light. Sailed on went Short distance further and halted for to take dinner at a bottom covered with Small cotton wood on N.S. The wind Shifted in to the West and blew Steady. We Saw a nomber of wild Geese on the river and brants flying over. The Musquetoes begin to Suck our blood this afternoon.

**Whitehouse** This day Clear & pleasant weather.

**Wednesday, April 10**

**Weather Diary**

The prairie lark, bald Eagle, & the large plover have returned. The grass begins to Spring, and the leaf buds of the willow to appear.— Cherry birds disappear.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	E	74a	f	SW	R	-	1/8

**Daily Narrative Journals**

**Lewis** The country on both sides of the missouri from the tops of the river hills, is one continued level fertile plain as far as the eye can reach, in which there is not even a solitary tree or shrub to be seen except such as from their moist situations or the steep declivities oh hills are sheltered from the ravages of the fire. About 1 ½ miles down this bluff from this point, the bluff is now on fire and throws out considerable quantities of smoke which has a strong sulphurious smell. The courant of the Missouri is but moderate, at least not greater than that of the Ohio in high tide; it's banks are falling in but little; the navigation is therefore comparitively with it's lower portion easy and safe—

**Clark** the morning cool and no wind. This day proved to be verry worm

**Gass** rapid water and a great many sand-bars. But a fine pleasant day.

**Ordway** a clear and pleasant. The current swift. The wind raised from West. One of our men Shot a bald Eagle. I took the quills to write.

**Thursday, April 11**

**Weather Diary**

the lark wood pecker, with yellow wings, and a black spot on the breast common to the U' States has appeared, with sundry small birds.— many plants being to appear above the ground.— saw a large white gull today— the Eagle is now laying their eggs, and the gees have mated.— the Elm, large leafed, willow and the bush which bears a red berry, called by the engages greas de buff are in blume— Small leaf willows in blum.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NW	76a	f	W	F	-	½

**Daily Narrative Journals**

**Clark** we Camped on the S.S. below a falling in bank. The river raise a little.

**Gass** had a fine clear pleasant day

**Ordway** Clear and pleasant.

**Whitehouse** We set off at day light, this morning, the weather being Cool

**Expedition arrives at the confluence of the Missouri and Little Missouri Rivers in present-day western North Dakota.**

**Friday, April 12**

**Weather Diary**

small shower from the W attended with hard wind

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	NW	74a	c a r t & l	W	R	-	1/8

**Daily Narrative Journals**

- Lewis** Canoes passed over the Lard side in order to avoid a bank which was rappidly falling in on the Stard. The night proved so cloudy I could make no further observations.
- Clark** a fine morning. Set out verry early, the murcery Stood 56<sup>0</sup> above 0. The wind blew verry hard from the S all the after part of the day, at 3 oClock PM it became violent & flowey accompanied with thunder and a little rain. The water of the little Missouri is of the Same texture Colour & quality of that of the Big Missouri. The after part of the day so Cloudy that we lost the evening observation.
- Gass** Another fine day. arrived at the Little Missouri (properly named), for it exactly resembles the Missouri in colour, current and taste.
- Ordway** a clear and pleasant warm morning. The little River Missouri...is 120 yards wide at the mouth, but rapid and muddy like the big Missouri. About 3 oClock their came up a Squawl of verry high wind and rain. Some Thunder. The wind lasted untill after Sunsed. Then clear up pleasant evening.
- Whitehouse** This morning we had pleasant Weather, the Little Mesouri River...its width at it mouth is 150 yards....it is Muddy, & its current runs strong

**Saturday, April 13**

**Weather Diary**

The leaves of the Choke cherry are about half grown; the Cotton wood is in blume the flower of this tree resembles that of aspen in form, and is of a deep purple colour.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SE	80a	f	SE	F	-	1

**Daily Narrative Journals**

- Lewis** The wind was in our favour after 9 A.M. and continued favourable untill three 3. PM. we therefore hoisted both the sails in the White Perogue ...which carried her at a pretty good gate, untill about 2 in the afternoon when a suddon squall of wind struck us and turned the perogue so much on the side as to allarm Sharbono who was steering at the time....the wind however abating for an instant I ordered Drewyer to the helm and the sails to be taken in,
- Clark** the Missouri above the mouth of Little Missouri widens to nearly a mile

**Gass** We had a pleasant day and a fair wind; but our small canoes could not bear the sail.

**Ordway** clear pleasant & warm proceeded on under a fine breeze of wind from the South.

**Whitehouse** a fair wind from the Eastward, we sailed the greater part of this day

**Sunday, April 14**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c	SE	82a	f	SW	f	-	3/4

**Daily Narrative Journals**

**Clark** a fine morning.

**Gass** had a fine morning

**Ordway** clear & pleasant

**Monday, April 15**

**Weather Diary**

several flocks of white brant with black wings pass us today, their flight was to the NW the trees now begin to assume a green appearance, tho' the earth at the depth of about three feet is not yet thawed, which we discovered by the banks of the river, falling in [to the river] and disclosing a strata of frozen eath.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f	E	78a	f	SW	F	-	½

**Daily Narrative Journals**

**Clark** the wind hard from the SE

- Gass** We had a pleasant day and a fair wind
- Ordway** a clear pleasant morning. Sailed under a fine breeze from the SE the river Shallow only about 8 feet deep in some places
- Whitehouse** We set off this Morning, having a fresh breeze from the NE, about 8 oClock it veered round to the South East, and blew moderately—

**Tuesday, April 16**

**Weather Diary**

saw the first leather winged bat. It appeared about the same size of those common to the U' States.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SE	78a	f	S	F	-	½

**Daily Narrative Journals**

- Clark** Wind hard from the SE. Great numbers of Gees in the river & in the Plains feeding on the Grass
- Gass** We had a clear pleasant day; and in the early part of it, a fair gentle wind. The wind became flawy (gusty), and the sailing bad.
- Ordway** a clear pleasant morning. The wind gentle from SE passed a Sand beach on the N.S. covered with Ice in Some heaps it lay 4 feet thick where the Ice was drove in When the river broke up. The trees are puting out Green. The Grass begin to Grow in the bottoms & plains which look beautiful. We sailed some with a Southerly flawey (gusty) wind. The river crooked so that we could not sail much of the time
- Whitehouse** The Weather was Cool and clear; we proceeded on with all Sails set, having a fine breeze from the SE

**Wednesday, April 17**

**Weather Diary**

thunder Shower passed above us from SW to NW <no> rain where we were.

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	NE	74a	c	SW	F	-	½

### Daily Narrative Journals

**Lewis** A delightfull morning. There wase more appearance of birnt hills, furnishing large quantities of lave and pumice stone, of the latter some pieces were seen floating down the river. We had a fair wind today which enabled us to sail the greater part of the distance we have traveled

**Clark** a fine morning, wind from the SE. Pumice Stone & Lava washed down to the bottoms and some Pumice Stone floating in the river. In the evening a thunder gust passed from the SW without rain

**Gass** We proceeded on early as usual with a fair wind. The day was fine and we made good way.

**Ordway** a clear beautiful morning. A fair wind. We sailed on

**Thursday, April 18**

### Weather Diary

Wind very violent a heavy dew this morning, which is the first and only one we have seen since we passed the council bluffs last summer. there is but little dew in this open country.— saw a flock of pillean pass from SW to NE they appear to be on a long flight.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NE	64a	c	N	-	-	-

### Daily Narrative Journals

**Lewis** a fine morning. We were detained today from one to five PM in consequence of the wind which blew so violently from N. that it was with difficulty we could keep the canoes from filling with water altho' they were along the shore. We came too on the Stard side under a boald well timbered bank which sheltered us from the wind which had abated but not yet ceased.

**Clark** until near Sunset before Capt. Lewis and the party came up, they were detained by



the wind, which rose Soon after I left the boat from the NW & blew verry hard untill verry late in the evening.

**Gass** The morning was fine and we went on very well until 1 o'clock, when the wind blew so hard down the river, we were obliged to lie to for 3 hours, after which we continued our voyage. Encamped in a good harbour on the north on account of the wind, which blew very hard all night accompanied with some drops of rain.

**Ordway** a clear pleasant morning. The wind shifted in to the NW and blew hard against us. The wind rose so high that we could not go wit the cannoes without filling them with water. Detained us about 3 hours. The river has been verry crooked and bearing towards the South the most of the day. The Game is gitting plentyier every day—

**Whitehouse** This morning Clear pleasant weather. We set off Early, having the wind from the South the water in the River was at a stand in regad to its depth. In the night the dew fell, which was what we had not seen for a long time—

**Friday, April 19**

**Weather Diary**

wind violent. The trees have now put forth their leaves. The goosbury, current, servisbury, and wild plumbs are in blume.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a <sup>8</sup>	c	NW	56a	c	NW	-	-	-

8 Clark's Journal Codex I lists this temperature as "54 a."

**Daily Narrative Journals**

**Lewis** the wind blew So hard this morning from NW that we dared not to venture our canoes on the river— the wind detained us through the course of this day, tho' we were fortunate in having placed ourselves in a safe harbour.

**Clark** a blustering windey day, the wind So hard from the NW that we were fearfull of ventering our Canoes in the river. The Praries appear to green, the cotton trees bigin to leave, Saw some plumb bushes in full bloom

**Gass** A cloudy morning, with high wind.

**Ordway** Cloudy. The wind blew high from the Northward so that we were obleged to lay at our last nights harbour all day. The evening clear blustry & cold. Winds—

**Whitehouse** This morning we had the Weather dark and Cloudy— the Wind blowing hard from the North The water still at a stand, we remained here this day, the wind blowing so hard that we could make no headway—

**Saturday, April 20**

**Weather Diary**

wind violent.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c	NW	42a	c a s	NW	-	-	-

**Daily Narrative Journals**

**Lewis** the wind continued to blow tolerably hard this morning but by no means as violently as it did yesterday; we determined to set out and accordingly departed a little before seven. The wind blew so hard that I concluded it was impossible for the perogues and canoes to proceed and therefore returned and joined them about three in the evening. Capt. Clark informed me that soon after setting out, a part of the bank of the river fell in near one of the canoes and had very nearly filled here with water. That the wind became so hard and the waves so high that it was with infinite risk he had been able to get as far as his present station.

**Clark** wind a head from the NW. we set out at 7 oClock proceeded on, Soon after we Set out a Bank fell in near one of the canoes which like to have filled her with water, the wind became hard and waves So rough that we proceeded with our little canoes with much risque, our Situation was Such after Setting out that we were obliged to pass round th 1<sup>st</sup> Point or lay exposed to the blustering winds & waves. The wind Continued So hard that we were Compelled to delay all day. Several buffalow lodged in the drift wood which had been drowned in the winter in passing the river. This morning was very cold, some Snow about 2 oClock from flying clouds, Some frost this morning & the mud at the edge of the water was frosted.

**Gass** had a cold disagreeable morning; rapid water and a strong wind. We were obliged again to lie too, on account of the wind

**Ordway** cloudy. The wind is not so high as it was yesterday this morning. We found it cold polling. The air chilley. The wind rose and blew same as yesterday so that we could hardly make any head way. Delayed som time the wind abated a little. We proceeded on the wind Shortly rose again and blew so hard that the canoes were near filling they took in considerable water. The Sand blew off the sand bars & beaches so that we could hardly see, it was like a thick fogg. High squawls of wind

& flights of round Snow this day. We took in some water in the Canoe I was in. The water came up to my Box so that a part of my paper Got wet.

**Whitehouse** wind blew so fresh from the North, that we could make no headway

## Expedition passes near present-day Williston, ND

Sunday, April 21

### Weather Diary

wind violent white frost last night—the earth friezed along the water’s edge.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NW	40a	c	NW	F	-	½

### Daily Narrative Journals

**Lewis** Set out at an early hour this morning...the wind tho’ a head was not violent. The wind blew so hard this evening that we were obliged to halt several hours.

**Clark** Se out early, the wind gentle & from the NW. The river being verry Crooked. In the evening the wind became a verry hard a head.

**Gass** a fine clear morning, but cold; there was a sharp frost. About 12 the wind again rose and was disagreeable, but we continued our voyage.

**Ordway** a hard white frost last night. Froze water in the buckets setting near the fire. A clear and pleasant morning, but verry chilly & cold. About 3 oClock clouded up cold the wind began blow as usal. A cool evening.

**Whitehouse** This morning we had pleasant Weather, in the night we had a frost, we sett out early, the Wind blowing from the Northwest. The Water in the River fell one Inch.<sup>9</sup>

<sup>9</sup> Whitehouse had two entries labeled April 20 and one for April 21. By looking at the Lewis & Clark Weather diary’s river rise/fall records, these dates have been adjusted to the 21<sup>st</sup> and 22<sup>nd</sup>.

**Monday, April 22**

**Weather Diary**

wind very hard greater part of the day—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f a c	W	40	f	NW	R	-	2

**Daily Narrative Journals**

**Lewis** Set out at an early hour this morning; proceeded pretty well untill breakfat, when the wind became so hard a head that we proceeded with difficulty even with the assistance of our toe lines. The white river...the water is much clearer than that of the Missouri.

**Clark** a verry cold morning some frost, we Set out...untill brackfast at which time the wind began to blow verry hard ahead, and Continued hard all day. The river rising a little.

**Gass** The wind was unfavourable to day, and the river here is very crooked.

**Ordway** clear and cold. Delayed again on acct. of the high wind. Saw a buffaloe calf which had fell down the bank & could not git up again. We helped it up the bank and it followed us a short distance (the river raised 4 Inches last & white frost) we have Seen a great number of dead buffaloe lying on each shore all the way from the little missourie R. We suppose that they Got drowned attempting to cross on the Ice last fall before it got Strong.

**Whitehouse** the Wind blew from the N East and the Water fell 2 Inches in the River <sup>1</sup>

**Tuesday, April 23**

**Weather Diary**

wind very hard greater part of the day— saw the first robbin. Also the brown Curloo

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	52	c	NW	R	-	2

**Daily Narrative Journals**

**Lewis** about nine AM the wind arose, and shortly after became so violent that we were unable to proceed, in short it was with much difficulty and some risk that I was enabled to get the canoes and perogues into a place of tolerably safety. We remained untill five in the evening when the wind abating in some measure, we reloaded and proceeded. These winds being so frequently repeated, become a serious source of detention to us—

**Clark** a cold morning, about 9 oClock the wind as usual rose from the NW and continued to blow verry hard untill late in the evening. The wind which had become violently hard, I joined Capt Lewis in the evening & after the winds falling which was late in the evening we proceeded on & encamped. The winds of this Countrey which blow with Some violence almost every day, has become a Serious obstruction in our progression onward, as we Cant move when the wind is high without great risque, and [if] there was no risque the winds is generally a head and often too violent to proceed.

**Gass** had a fine day; but the wind was ahead, and we were obliged to lie to about three hours.

**Ordway** a clear and pleasant morning. Not quite as cold as it has been for Several morning. The river verry crooked. The wind blew so hard that the large perogues Sailed in a bend where the wind came fair verry high the Small canoes took in some water. The large perogues Sailed verry fast. A short distanc we were obliged to halt the first safe place untill the wind abated which was about 3 hours. Dried the articles which was wet. Towards evening the wind abated and we proceeded on round a point and camped

**Whitehouse** This morning, we had Clear weather. We proceeded on about 3 Miles, when the Wind blew so fresh, that we had to come too, it being a head Wind from the North west—

**Wednesday, April 24**

**Weather Diary**

wind very hard this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	N	56	f	N	R	-	1

## Daily Narrative Journals

- Lewis** The wind blew so hard during the whole of this day, that we were unable to move. Notwithstanding that we were sheltered by high timber from the effects of the wind, such was it's violence that it caused the waves to rise in such manner as to wet many articles. Soar eyes is a common complaint among the party. I believe it originates from the immense quantities of sand which is driven by the wind from the sandbars of the river in such clouds that you are unable to discover the opposite bank of the river in many instances. The particles of this sand are so fine and light that they are easily supported by the air, and are carried by the wind for many miles, and at a distance exhibiting every appearance of a column of thick smoke. So penetrating is this sand that we cannot keep any article free from it; in short we are compelled to eat, drink, and breath it very freely.
- Clark** The wind rose last night and continued blowing from the N & NW, and Sometimes with great violence untill 7 oClock PM. As the wind was a head we could not move to day.
- Gass** This was a clear day, but the wind blew so hard down the river we could not proceed. While we lay here some of the men went to see some water at a distance which appeared like a river or small lake. In the afternoon they returned, and had found it only the water of the Missouri, which had run up a bottom.
- Ordway** Clear and cold. The wind high from the NW so that we had to delay here all this day. The woods got on fire.
- Whitehouse** This day we had Clear weather; but the Wind still blowing from the North West (ahead Wind) that we lay by, at the place we encamped the last night.

**Expedition sends advance party to confluence of the Missouri and Rochejhone [Yellowstone] Rivers in present-day North Dakota. Main party camps there on April 26.**

**Thursday, April 25**

### Weather Diary

wind very hard until 5 oClock PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	N	52a	f	NW	R	-	2

**Daily Narrative Journals**

**Lewis** The wind was more moderate this morning, tho' still hard; we set out at an early hour. the water friezed on the oars this morning as the men rowed. about 10 oclock AM the wind began to blow so violently that we were obliged to lye too. The wind had been so unfavourable to our progress for several days past, and seeing but little prospect of a favourable change; knowing that the river was crooked...believing that we were at no very great distance from the Yellow stone River; proceed by land...with a few men...to the entrance...and make the necessary observations. At 5 PM after I left him [Capt. Clark] the wind abated in some measure.

**Clark** The wind was moderate & ahead this morning. The morning cold, Some flying Clouds to be Seen, the wind from the N; ice collected on the ores this morning, the wind increased and became So violent about 1 oClock we were obliged to lay by. At 5 oClock the wind luled and we proceeded on and incamped.

**Gass** We set out as usual and had a fine day; but about 11 were obliged to halt again the wind so strong ahead. I remarked, as a singular circumstance, that there is now dew in this Country, and very little rain. Can it be owing to the want of timber? At 5 o'clock in the afternoon, we renewed our voyage

**Ordway** a clear cold morning. The river rose 2 inches last night The wind blew from the N Sailed some in a bend of the river. The perogues could go no further as the wind blew them a head so that they halted for it to abate on the N.S.

**Whitehouse** this morning, having fine clear weather; about 11 oClock AM we had to come too, on account of the Wind being a head & blowing hard. The dew at this place never falls; and it seldom Rains, this we were told, by an Indian Women that was with us

**Friday, April 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	S	63a	f	SE	R	-	3

**Daily Narrative Journals**

**Lewis** Capt. Clark measured these rivers just above their confluences; found the bed of the Missouri 520 yards wide, the water occupying 300. it's channel deep. The yellowstone river including it's sandbar, 858 yds. of which the water occupied 297 yards; the deepest part 12 feet; it was falling at this time & appeared to be nearly at it's summer tide. ...the water of this river is turbid tho' dose not possess as much sediment as that of the Missouri. The clouds this morning prevented my observing the moon.

**Clark** last night was verry Cold. The Thermometer Stood at 32 above 0 this morning. I Set out at an early hour, as it was cold I walked on the bank. The river has been rising for Several days, & 3 inches last night. Yellow Stone...it is at this time falling, the Missouri rising. I saw maney buffalow dead on the banks...those animals either drouded in attempting to Cross on the ice dureing the winter or Swimming across to bluff banks where they Could not get out & too weak to return. We Saw several in this Situation.

**Gass** a fine day. The river Jaune is shallow, the Missouri is deep and rapid.

**Ordway** a Clear pleasant morning (at the Yellowstone River) Capt. Clark measured these two rivers to day and found the Missouri to be 337 yards wide only the water but at high water mark 529 yards the River Roshjone is 297 water, high water mark is 858 yards wide. The River Roshjone is not quite as rapid as the missourie

**Whitehouse** This morning we had a fine Clear weather. At 12 oClock AM...arrived at the River's mouth called Roshjone (Yellowstone). At this junction...the River Mesouri was 337 Yards wide; and very deep; and the River Roshjone at its mouth, 97 yards wide...Shallow....Clear and its current rapid—

**The Expedition passes the present-day North Dakota - Montana state line.**

**Saturday, April 27**

**Weather Diary**

wind very hard from 11 to 4 oClock

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	SW	64a	f	NW	F	-	2

**Daily Narrative Journals**



- Lewis** at 11 AM the wind became very hard from the NW insomuch that the perogues and canoes were unable either to proceed or pass the river to me. The wind abated about 4 PM and the party proceeded.
- Clark** wind moderate & a head, at 11 oClock the wind rose and continued to blow very hard a head from the NW until 4 oClock PM, which blew the Sand off the Points in Such clouds as almost Covered us on the opposit bank, at 4 I Set out from my unpleasent Situation and proceeded on
- Gass** About 9 o'clock in the forenoon we renewed our voyage. The day was fine, but on account of a strong wind we were obliged at 1 to halt till 4
- Ordway** a clear and pleasant morning. About 12 oC. The wind rose so high from the NW and the Sand flew so thick from the Sand bars that we halted about 1 oClock, to wait until the wind abates, about 4 oClock the wind abated the current swift
- Whitehouse** weather being clear and pleasant. Stopped at One oClock to dine....shortly after the Wind blew so hard a head, from the Westward that we were delayed from starting till 4 oClock PM. River Mesouri, having had a strong current against us

**Sunday, April 28**

**Weather Diary**

Vegetation has progressed but little since the 18<sup>th</sup> in short the change is scarcely perceptible.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	SE	63a	f	SE	F	-	1 ½

**Daily Narrative Journals**

- Lewis** Set out this morning at an early hour; the wind was favourable and we employed our sails to advantage.
- Clark** a fine day. River falling. Wind favourable from the SE and moderate
- Gass** had a fine day
- Ordway** clear and pleasant the wind had shifted to SE and blew gently So that we Sailed some part of the time
- Whitehouse** This day we had fine clear weather & pleasant The River Mesouri, was not so

high

**Monday, April 29**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NE	64a	f	E	F	-	1 ½

### Daily Narrative Journals

**Lewis** Set out this morning as the usual hour; the wind was moderate.

**Clark** Set out this morning as the usual hour; the wind was moderate & from the NE.

**Gass** had a clear morning. This forenoon we passed some of the highest bluffs I had ever seen

**Ordway** a clear pleasant morning.

**Tuesday, April 30**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NW	58a	f	SE	F	-	½

### Daily Narrative Journals

**Lewis** the wind blew hard all last night, and continued to blow pretty hard all day, but not so much, as to compell us to ly by.

**Clark** The wind blew hard from the NE all last night, we Set out at Sunrise, the wind blew hard the greater part of the day and part of the time favourable, we did not lie by to day on account of the wind.

**Gass** had a fine morning and went on very well

**Ordway** clear and pleasant we sailed a little in the bends of the River this afternoon—

**Whitehouse** this morning, having fine pleasant Weather.

# May 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition camped in eastern Montana between present-day Culbertson and Wolf Point.

Wednesday, May 1

#### Weather Diary <sup>1</sup>

wind violent from 12 OC. to 6 pM

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	E	46a	c a f	NE	F	-	1 ½

1 Reference: Coes, Volume III, pages 1272, 1288-1289; Moulton, Volume 4, pages 234-238; Thwaites, Volume 6, Part II, pages 189-191.

2 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** the wind being favourable...untill about 12 Ock. when the wind became so high that the small canoes were unable to proceed. One of them which seperated from us just before the wind became so violent, is now lying on the opposite side of the river, being unable to rejoin us in consequence of the waves, which during those gusts run several feet high. Here the wind compelled us to spend the ballance of the day.

**Clark** We Set out at Sun rise under a Stiff Breeze from the East, the morning Cool & Cloudy. The wind became verry Hard and we put too on the L. side, as the wind Continued with Some degree of violence and the waves too high for the Canoes we were obliged to Stay all day.

**Gass** a cool morning; and went on till 12 o'clock, when the wind rose so high, that our small canoes could not stand the waves.

**Ordway** a clear pleasant morning, but cold. The wind from the East. About 12 oClock the wind rose so high that the Small canoes could not go on without filling. We halted

at a bottom covered with timber on S.S. One of the canoes lay on the opposite Shore and could not cross the water ran so high. The wind continued so high that we delay and camped for the night.

**Whitehouse** a clear pleasant morning but cold. We set off at Sun rise, the wind from the East. We Sailed Some. About 12 oClock the wind rose So high that we were obliged to halt. I and one other stopped on the other side of the river on account of the wind and ware obliged to lay out all night without any blanket. It being verry cold I Suffered verry much.

**Thursday, May 2**

**Weather Diary**

snow 1 inch deep the wind continued so high from 12 oClock yesterday, untill 5 this evening that we were unable to proceed. The snow which fell last night and this morning one inch deep has not yet disappeared.— it forms a singular contrast with the trees which are now in leaf.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	s	NE	34a	c a s	NW	F	-	1

**Daily Narrative Journals**

**Lewis** the wind continued violent all night nor did it abate much of it's violence this morning, when at daylight it was attended with snow which continued to fall untill about 10 AM being about one inch deep, it formed a singular contrast with the trees and other vegetation which was considerably advanced. Some flowers had put forth in the plains, and the leaves of the cottonwood were as large as a dooler. The [water] friezed on the oars as they rowed. The wind dying at 5 PM we set out.

**Clark** The wind blew verry hard all the last night, this morning about Sunrise began to Snow, (The Thermomtr. At 28 abov o) and Continued untill about 10 oClock, at which time Seased, the wind Continued hard untill about 2 PM . The Snow which fell to day was about 1 In deep, verry extroadernaley Climate, to behold the tree Green & flowers Spred on the plain, & Snow an inch deep.

**Gass** At day break it began to snow; and the wind continued so high, we could not proceed until the afternoon. The snow did not fall more than an inch deep.

**Ordway** at day light it began Snowing & continued Snowing & blowing so that we did not Set off. About 3 oClock it let off Snowing. The wind shifted in to the West. The Snow lay on the edge of the Sand bars & Sand beaches where the wind had blew it up one foot deep, but on the hills it was not more than half an Inch deep. The air &

wind verry cold.

**Whitehouse** at day light it began to Snow & the wind blow hard So that we did not set off this morning. About 3 oClock PM the Wind bated, and it quit snowing. Proceeded on our Voyage—the wind shifted and blew from the West. The Snow lay on the edge of the Sand Bars, blown by the wind, it was 12 Inches deep. The air verry cold during the whole day.

**Friday, May 3**

**Weather Diary**

hard frost last night. At four PM the snow has not yet entirely disappeared.— the new horns of Elk being to appear.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	W	46a	c	W	F	-	1/4

**Daily Narrative Journals**

**Lewis** The morning being very cold we did not set out as early as usual; ice formed on a kettle of water 1/4 of an inch thick. The snow has melted generally in the bottoms, but the hills still remain covered. The wind continued to blow hard from the West but not so strong as to compel us to ly by.

**Clark** we Set our reather later this morning than usial owing to weather being verry cold, a frost last night and the Thermt. Stood this morning at 26 above 0 which is 6 degrees blow freeseing— The ice that was on the Kettle left near the fire last night was 1/4 of an inch thick. The Snow is all or nearly all off the low bottoms, the Hills are entirely Covered. the wind Continued to blow hard from the West, altho' not Sufficently So to detain us. As this Creek is 2000 miles up the Missouri we Call it the 2000 miles Creek. The greater part of the Snow is melted.

**Gass** though very cold and disagreeable, and a severe frost. The snow and green grass on the prairies exhibited an appearance somewhat uncommon. The cotton wood leaves are as large as dollars, notwithstanding the snow and such hard frost.

**Ordway** clear but verry cold for May. Saw the standing water froze over the Ice froze to ore poles as we poled where the sun Shined on us. A hard white frost last night. The ground covered with Snow. The wind rose high from the W about one. The wind verry high & cold.

**Whitehouse** This morning we had Clear weather, but very Cold for the Season; We set out about 7 oClock AM the Standing water froze last night, and the Water froze to our

Setting pole. We had a severe white frost last night, and the ground covr'd with Snow— The wind rose & blew hard from the West. The wind continued Cold during the whole day. IN the Evening, the Snow had melted away.

**Saturday, May 4**

**Weather Diary**

the black martin makes it's appearance. The snow has disappeared. Saw the first grasshoppers today.— there are great quantities of a small blue beetle feeding on the willows.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	W	48a	f a c	W	-	-	-

**Daily Narrative Journals**

**Lewis** We were detained this morning untill about 9 Ock. in order to repair the rudder....we then set out, the wind hard against us. I walked on shore this morning, the weather was more plesant, the snow has disappeared; the frost seems to have effected the vegetation much less than could have been expected. The leaves of the cottonwood the grass the box alder willow and the yellow flowering pea seem to be scarecely touched; the rosebushes and honeysuckle seem to have sustained the most considerable injury. At noon the sun so much obscured that I could not obtain his maridian Altitude.

**Clark** detained untill 9 oClock...the wind a head from the west. The river has been falling for Several days passed; it now begins to rise a little, the rate of rise & fall is from one to 3 inches in 24 hours.

**Gass** This day was more pleasant.

**Ordway** clear and moderate this morning the Snow is all melted off the hills.

**Whitehouse** This morning we had clear, pleasant weather

**Sunday, May 5**

**Weather Diary**

a few drops of rain only

Sunrise	4 PM	Missouri River

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	NW	62a	f a r	SE	R	-	1

### Daily Narrative Journals

**Lewis** a fine morning. The country is as yesterday beatifull in the extreme—

**Clark** the river rising & Current Strong.

**Gass** The morning was fine with some white frost.

**Ordway** Clear and pleasant. We Sailed considerable in the course of the day with an East wind.

**Whitehouse** Clear and pleasant weather

**Monday, May 6**

### Weather Diary

rain very inconsiderable as usual

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	E	61a	c a r	SE	R	-	2

### Daily Narrative Journals

**Lewis** The morning being fair and pleasant and wind favourable we set sale at and early hour. The rains in the spring of the year ( in a few days) suddonly melts the snow at the same time and causes for a few days a vast quantity of water which finds it's way to the Missouri through those channels; by reference to the diary of the weather &c it will be percieved that there is scarcely any rain during the summer Autumn and winter in this open country distant from the mountains. At noon the sun being obscured by clouds I was unable to observe Altitude; it continued cloudy the ballance of the day and prevented all further observation.  
ut did not last long.  
t did not last long.

**Whitehouse** clear pleasant weather, a fair wind from the East, we Sailed on verry well. At mid night a light Sprinkling of rain, but did not last long.



it soon cleared up.

**Ordway** pleasant and warm. Sailed on under a gentle breeze from the East. Some Sprinkling rain, but did not last long.

**Whitehouse** clear pleasant and warm weather, a fair wind from the East, we Sailed on verry well. About 4 oclock, A light Sprinkling of rain, but did not last long.

**Tuesday, May 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	c	S	60a	f	NE	R	-	1 ½

**Daily Narrative Journals**

**Lewis** a fine morning. The drift wood begins to come down in consequence of the river's rising; the water is somewhat clearer than usual, a circumstance I did not expect on it's rise. At 11 AM the wind became so hard that we were compelled to ly by for several hours. Vegetation appears to have advanced very little since the 28<sup>th</sup> Ulto—we continue to see great number of bald Eagles.

**Clark** A fine morning, river rose 1 ½ inches last night, the drift wood beginning to run, the water Something Clearer than usial, the wind became verry hard,

**Gass** went on very well till 12 when it began to blow hard and being all under sail one of our canoes turned over. Fortunately the accident happened near the shore; and after halting three hours we were able to go again.

**Ordway** clear pleasant and warm. We set off eairly. The wind rose from the East. We Sailed verry fast untill about 12 oC. One of the canoes filled with water, but we got it Safe to Shore , and halted for the wind to abate

**Whitehouse** weather clear & pleasant. We set off eairly. The wind rose from the East, we set out sails. Sailing till about 12 oClock AM at which time the wind rose so high, that one our canoes filled with water....stopped on shore for the wind to about. About 4 oClock PM we set out again.

**Party arrives at the confluence of the Missouri and Milk Rivers southeast of**

**present-day Glasgow, MT.**

**Wednesday, May 8**

**Weather Diary**

rain inconsiderable a mear sprinkle the bald Eagle, of which there are great numbers, now have their young. The turtledove appears.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41a	c	E	52a	c a r	E	F	-	1/4

**Daily Narrative Journals**

**Lewis** Set out at an early hour under a gentle brieze from the East. A black cloud which suddonly spring up at SE, soon over shaddowed the horizon; at 8 AM it gave us a slight sprinkle of rain, the wind became much stronger but not so much so as to detain us. Examined the river [Milk River] I found it generally 150 yards wide....it is deep, gentle in it's courant...the water of this river possesses a peculiar whiteness, being about the colour of a cup of tea with the admixture of a tablespoonfull of milk. From the colour of it's water we call it Milk river.

**Clark** a verry black Cloud to the SW. We Set out under a gentle breeze from the NW. About 8 oClock began to rain, but not Sufficent to wet. The water of this river [Milk River] will justify the belief that it has its Source at a considerable distance, and waters a great extent of Countrey— we are willing to believe that this is the river the Minitarres Call the river which Scolds at all others.

**Gass** We were again very early under way in a cloudy morning; about 12 some rain fell; passed the Milk River there is a good deal of water in this river which is clear, and its banks beautiful.

**Ordway** it clouded up of a Sudden, and rained Some. We Sailed on under a fine breeze from the East.

**Whitehouse** Clouded up and rained shortly after we set off early. We found the current of the River to run very strong against us. Set our Sails and we proceeded on under a fine breeze from the East

**Thursday, May 9**

**Weather Diary**

The choke Cherry is now in blume.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	58a	f	W	R	-	3/4

**Daily Narrative Journals**

**Lewis** Set out at an early hour; wind being favourable we used our sails and proceeded very well. The river for several days has been as wide as it is generally near it's mouth, tho' it is much shallower. I begin to feel extremely anxious to get in view of the rocky mountains.

**Clark** a fine day, wind from the East. Came to a river...This river did not Contain one drop of running water...Those dry Streams which are also verry wide, I think is the Conveyance of the melted Snow, & heavy rains which is Said to Probable fall in from the high mountainious Countrey which is Said to be between this river & the Yellow Sone river— The Missouri keeps its width...water not So muddy & Sand finer

**Gass** had a fine day. The river more crooked

**Ordway** Clear and pleasant. The game is gitting so pleanty and tame in this country that Some of the party clubbed them out of their way. Passed Big Dry creek, it is 220 yards wide at its high water mark, but at this time the water is So low that the water all Sinques in the quick Sand.

**Whitehouse** This morning we had Clear pleasant Weather.

**Friday, May 10**

**Weather Diary**

rain but slight a few drops

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

38a	f a c	WNW	62a	c a r	NW	F	-	3/4
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**Daily Narrative Journals**

**Lewis** Set out at sunrise and proceeded but a short distance ere the wind became so violent that we were obliged to come too, which we did on the Lard side in a suddon or short bend of the river where we were in a great measure sheltered from the effects of the wind. The wind continued violently all day, the clouds were thick and black, had a slight sprinkle of rain several times in the course of the day.

**Clark** river fell 3/4 of an inch last night, wind from the NW we proceeded on but a short distance ere the wind became So violent we could not proceeded...the wind Continued all day. Several times in the course of the day We had some fiew drops of rain from verry black Clouds, no thunder or lightning latterly

**Gass** We set out early in a fair morning; but having gone five miles were obliged to halt and lye by during the day, on account of hard wind. Some small showers of rain occasionally fell.

**Ordway** a clear cold morning. The wind rose So high from the NW that obledged us to halt The wind rose verry high

**Whitehouse** We had clear and pleasant weather, the wind rose from the NW, we went about 4 miles, and halted for the Wind to abate, it blowing fresh The wind rose considerably high, accompanied with Squalls of Rain—

**Saturday, May 11**

**Weather Diary**

frost this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	NE	60a	c	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the courant strong; and the river very crooked; the banks are falling in very fast. I sometimes wonder that some of our canoes or perogues are not swallowed up by means of these immense masses of earth which are eternally precipitating themselves into the river. The wind blue very hard the forepart of last night but abated toward morning; it again arose in the after part of this day and retarded our progress very much.

- Clark** Wind hard fore part of last night. The latter part verry Cold a white frost this morning, the river riseing a little and verry Crooked. River rose 2 In
- Gass** The morning was fine.
- Ordway** a clear cool morning & white frost
- Whitehouse** a clear cold morning, a white frost this morning.

**Sunday, May 12**

**Weather Diary**

rain but slight

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SE	54a	c a r	NW	R	-	2

**Daily Narrative Journals**

- Lewis** Set out at an early hour; the weather clear and Calm. About 12 Oclock the wind veered about to the NW and blew so hard that we were obliged to Ly by the ballance of the day. About sunset it began to rain, and continued to fall a few drops at a time untill midnight; the wind blew violently all night—
- Clark** the morning Clear and Calm. About 12 oClock the wind becam Strong from the E. About half past one oClock the wind Shifted round to the NW and blew verry hard all the latter part of the day, which obliged us to Lay by— about Sunset it began to rain, and rained very moderately only a few drops at a time for about half the night, wind Continued violent all night.
- Gass** had a pleasant morning. At 1 we halted for dinner and a violent storm of wind then arose, which continued until night when some rain fell.
- Ordway** a clear pleasant & warm morning The wind rose high from the NW the detained us the remainder part of the day. Some Squawls of rain this evening—
- Whitehouse** We had a clear, pleasant warm morning The wind rose from the NW, and blew hard. The wind continuing to blow hard, detained us here the remainder of the day— In the evening we had some Squalls of Rain.

**Monday, May 13**

**Weather Diary**

rain but slight

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a r	NW	54a	f a c	NW	F	-	2 1/4

**Daily Narrative Journals**

**Lewis** The wind continued to blow so violently this morning that we did not think it prudent to set out. At 1 PM the wind abated. The courant reather stronger than usual and the water continues to become reather clearer.

**Clark** The wind Continued to blow hard untill one oClock PM to day at which time it fell a little as we Set out.

**Gass** The weather continued stormy, and a few drops of rain fell.

**Ordway** the wind blew verry hard all last night. Some Sprinkling rain and high wind this morning. About one oC. PM the wind abated So that we set off The afternoon pleasant.

**Whitehouse** The wind blew hard all last night, and this morning some Squalls of rain and high wind, which occasioned our not setting off Early— about 2 oClock PM the weather cleared off & became pleasant, and the wind abated— The current of the River running very swift

**Tuesday, May 14**

**Weather Diary**

white frost this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	52a	c	SW	F	-	1 3/4

## Daily Narrative Journals

**Lewis** Some fog on the river this morning, which is a very rare occurrence. Surface it so say, that the Perogue was under sail when a sudon squawl of wind struck her obliquely, and turned her considerably, the steersman allarmed, in stead of puting, her before the wind, lufted her up into it, the wind was so violent that it drew the brace of the squarsail out of the hand of the man who was attending it, and instantly upset the perogue and would have turned her completely topsaturva, had it not have been from the resistance mad by the oarning against the water.

**Clark** A verry Clear Cold morning, a white frost & some fog on the river. The Thermomtr Stood at 32 above 0, wind from the SW. We proceeded on verry well untill about 6 oClock a Squawl of wind Struck our Sale broad side and turned the perogue nearly over

**Gass** There was some white frost in the morning. About 12 the day became warm. Banks of snow were seen lying on the hills on the North side. About 4...a sudden gust of wind arose, which overset one of the periogues before the sail could be got down.

**Ordway** a hard white frost last night. Our mocassons froze near the fire. A clear and pleasant morning. It was verry warm or much warmer than it has been before this Spring. We saw some banks of Snow laying in the vallies at the N.S. of the hills. About 4 oClock the white peroque of the Captains was Sailing a long, there came a violent gust of wind from the NW which was to the contrary to the course they were sailing. It took the sail and before they had time to douse it turned the perogue down on one Side So that she filled with water, and would have turned over had it not been for the awning which prevented it. With much a diew they got the sail in and got the pirogue to shore

**Whitehouse** a hard white frost last night, so that our Mocasins froze near the fire last night. A clear and pleasant morning. Sergt. Gass who was out hunting, Saw Some banks of Snow on the N. Side of Some hills north of the river. Hoisted Sail as the wind blew fair. Shortly after we set off a Violent Storm came from a black Cloud, which lay to the Northwest, and the Wind rose and shifted suddenly to the Northwest. This wind took the sail of the Pettyauger and had it not been for the awning, and mast She would have turned up Side down. The Pettyauger filled full of Water, and with much trouble they got her to shore—

**Wednesday, May 15**

### Weather Diary

slight shower

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c a r	SW	54a	c	NW	F	-	3/4

### Daily Narrative Journals

**Lewis** as soon as a slight shower of rain passed over this morning, we spread the articles to dry which had got wet yesterday in the white perogue; tho' the day proved so cloudy and damp that they received but little benefit from the sun or air.

**Clark** Our medisons, Instruments, merchandize, Clothes, provisions &c. &c. which was nearly all wet we had put out to air and dry. The day being Cloud & rainy those articles dried but little to day— We see Buffalow on the banks dead, others floating down dead, and others mired every day, those buffalow either drown in Swimming the river or brake thro' the ice.

**Gass** We remained here all day to dry our baggage that had got wet. It was cloudy and unfavourable for the purpose and some rain fell.

**Ordway** cloudy. A Small Shower of rain about 11 oClock. Continued cloudy all day.

**Whitehouse** This morning we had Cloudy Weather. A Shower of rain coming on, which lasted about One hour, when it cleared off—

**Thursday, May 16**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c	SW	67a	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** The morning was fair and the day proved favourable to our operations; by 4 oClock in the evening our Instruments, Medicine, merchandize provision &c. were perfectly dryed.

**Clark** a morning fair, our articles all out to Dry. At 4 oClock we had everything that was



Saved dry.

**Gass** This was a fine day.

**Ordway** a heavy dew last night. A clear and pleasant morning.

**Whitehouse** a heavy dew fell last night, but a pleasant clear morning.

**Friday, May 17**

**Weather Diary**

the Gees have their young; the Elk being to produce their young, the Antelope and deer as yet have not.— the small species of Goatsucker or whiperwill begin to cry— the blackbirds both small and large have appeared. We have had scarcely any thunder and lightning. The clouds are generally white and accompanied with wind only

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NE	68a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** we were roused late at night by the Sergt. Of the guard, and warned of the danger we were in from a large tree that had taken fire and which leant immediately over our lodge. We had the loge removed, and few minutes after a large proportion of the top of the tree fell on the place the lodge had stood; had we been a few minutes later we should have been crushed to attoms. the wind blew so hard, that notwithstanding the lodge was fifty paces distant from the fire it sustained considerable injury from the burning coals which were thrown on it; the party were much harrassed also by this fire which communicated to a collection of fallen timber, and could not be extinguished.

**Clark** a fine morning, wind from the NW. Mercury at 60<sup>o</sup> a 0. River falling a little. River much narrower than below from 2 to 300 yards wide. We were roused late at night and warned of the danger of fire from a tree which had Cought... the wind blew hard and the dry wood Cought & fire flew in every direction, burnt our Lodge verry much...the whole party was much disturbed by this fire, which could not be extinguished &c.

**Gass** The morning was fine. The hills...some of them, which at a distance resembled ancient steeples.

**Ordway** A clear pleasant morning. Verry high hills and white knobs, which are washed by

rains.

**Whitehouse** a Clear pleasant morning

## Saturday, May 18

### Weather Diary

a good shower saw the wild rose blume the brown thrush or mocking bird has appeared.— had a good shower of rain today, it continued about 2 hours; this is the first shower that deserves the appellation of rain, which we have seen since we left Fort Mandan.— no thunder or lightning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	W	46a	c a r	NW	F	-	1

### Daily Narrative Journals

**Lewis** the wind blew hard this morning from the West. There are now but few sandbars, the river is narrow and current gentle.

**Clark** A windey morning, wind from the West. The after part of the day was Cloudy & at about 12 oClock it began to rain and continued moderately for about 1 ½ hours, not Sufficient to wet a man thro' his clothes; this is the first rain Since we Set out this Spring

**Gass** A cloudy morning. We had some showers of rain in the forenoon; hail in the afternoon; and a fine clear evening.

**Ordway** a clear warm morning. The Missourie is gitting clear and gravelly bottom & Shore a pleasant warm afternoon

**Whitehouse** a clear fine warm morning. About 10 oClock AM it clouded up and began to rain; and we had Several Small Showers. Here the Water of the Mesouri River, that had been muddy ever since we first entered it, began to get clear,, and the bottom that was muddy, is gravelly—

## Expedition's first sighting of the Little Rocky Mountains, MT

Sunday, May 19

Weather Diary

heavy fog this morning on the river

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	68a	f a c	SW	-	-	-

Daily Narrative Journals

**Lewis** This last night was disagreeably cold; we were unable to set out until 8 o'clock AM in consequence of a heavy fog, which obscured the river in such a manner that we could not see our way; this is the first we have experienced in any thing like so great a degree; there was also a fall of dew last evening, which is the second we have experienced since we have entered this extensive open country. On Capt. Clark's return...he saw a range of Mountains, bearing W. distant 40 or 50 miles. The NNE extremity of these mountains appeared abrupt. [The Little Rocky Mountains, MT] This afternoon the river was crooked, rapid and containing more sawyers than we have seen in the same space since we left the entrance of the river Platte.

**Clark** a very cold night, the mercury stood at 38 at 8 o'clock this morning, a heavy dew which is the 2d I have seen this spring. The fog (which was the first) was so thick this morning that we could not set out until the sun was about 2 hours up, at which time a small breeze sprung up from the E. which cleared off the fog & we proceeded on by means of the cord. I also saw a high mountain in a westerly direction, bearing SSW about 40 to 50 miles distant.

**Gass** The morning was foggy and there was some dew.

**Ordway** a heavy dew fell last night. We set off at 7 o'clock clear and pleasant.

**Whitehouse** a heavy dew fell last night, and this morning was clear and pleasant

**Expedition arrives at the confluence of the Missouri and Musselshell Rivers in central Montana.**

**Monday, May 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NE	76a	f	E	F	-	1

**Daily Narrative Journals**

**Lewis** river narrow and croked. At 11 AM we arrived at the entrance of a handsome bold river [Muscleshell]...is 110 yards in width...the waters is of a greenish yellow cast. The Missouri opposite to this point is deep, gentle in it's courant, and 222 yards in width. About 5 miles above this river...a handsome river of about fifty yards in width...we called it Sah-ca-gar-me-ah or bird woman's River [Sacagawea River], after our interpreter the Snake woman.

**Clark** a fine morning, wind from the NE. River falling a little.. Passed some verry swift water, river narrow and crooked ....the Missouri water is not so muddey as below, but retains nearly its usial cholour, and the sand principallly confined to the points

**Gass** had a fine morning. The water of the Missouri is becoming more clear. The water of the Musselshell is of a pale colour and the current is not rapid.

**Ordway** a clear pleasant morning the Missouri at the mouth of the (Mussel) Shell River is 222 yds wide with a small current....not so muddy as below but retains nearly the usal colour.

**Whitehouse** A Clear pleasant morning

**Tuesday, May 21**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	76a	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** a delightfull morning. The wind which was moderate all the fore part of the day continued to encrease in the evening, and about dark veered about to the NW and blew a storm all night, in short we found ourselves so invellped with clouds of dust and sand that we could neither cook, eat, nor sleep; and were finally compelled to remove our lodge about eight oClock at night to the foot of an adjacent hill where we were covered in some measure from the wind by the hills.

**Clark** a butifull morning, wind from the West, river falling a little. Wind which blew moderatly all the forepart of the day increased and about Dark Shifted to the NW and Stormed all night, Several loose articles were blown over board, our lodge & Camp which was on a Sand bar on the Std. Side & opposte the lower point of the Island we were obliged to move under the hills, the dust & Sand blew in clouds.

**Gass** had a fine morning; towards the middle of the day the wind blew hard

**Ordway** a butiful morning. Wind from the west. River falling a little. The wind which moderatly all the fore part of the day increased and about dusk Shifted to the NW and blew high & Stormed all night. Several loose articles were blown overboard the dust & Sand blew in clouds.

**Whitehouse** This morning we had clear and pleasant Weather. About 1 oClock the wind rose So high from the NW that we delayed about 2 hours and then proceeded on. Came about 15 miles....the wind rose very high and hard, Soon after we made Camp, and made the Sand fly So that it was very disagreeable. The most of the part moved back towards the hills. Some of our party that was out hunting Yesterday reported that they had seen, a high ridge of Mountains, which lay to the West, but appeared to be a very great distance from them. (The Little Rocky Mountains)

**Wednesday, May 22**

**Weather Diary**

the wind excessively hard all night— saw some particles of snow fall today it did not lye in sufficient quantity on the ground to be perceptible.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	c	NW	48a	c	NW	F	-	½

**Daily Narrative Journals**

- Lewis** The wind blew so violently this morning that we did not think it prudent to set out untill it had in some measure abated; this did not happen untill 10 AM. The river continues about the same width from 200 to 250 yds wide
- Clark** The wind continued to blow So violently hard we did not think it prudent to Set out untill it lulled a little, about 10 oClock we set out the morning cold. River falls about an inch a day. Maney of the Creeks which appear to have no water near ther mouths have Streams of running water higher up which rise & waste in the Sand or gravel. The water of those Creeks are So much impregnated with the Salt Substance that it cannot be Drank with pleasure.
- Gass** A cloudy morning. The wind blew so hard this morning, we did not get under way until 9 o'clock. The forenoon was cold and disagreeable, but the afternoon became more pleasant.
- Ordway** the wind continued to blow so violently hard we did not think it prudent to Set out untill it luled a little about 11 oClock we set out the morning cold. River falls about an Inch a day. Many of the creeks which appear to have no water near their mouths have Streams running water high up which rise & waste in the Sand or gravel the water of those creeks are so much impregnated with the Salt Substance that it cannot be drank with pleasantness—
- Whitehouse** The wind blew hard all last night and continues blowing this morning till about 11 oClock AM when it abated. Cloudy. The day was chilly and Cold.

**Thursday, May 23**

**Weather Diary**

hard frost last night; ice in the eddy water along the shore, and the water friezed on the oars this morning. Strawburies in bloom. Saw the first king fisher.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	54a	f	SW	F	-	½

**Daily Narrative Journals**

- Lewis** the frost was severe last night, ice appeared along the edge of the water, water also friezed on the oars. The creeks...strongly impregnated with these salts that it is unfit for uce; all the wild anamals appear fond of this water; I have tryed it by way of experiment & find it moderately pergative, but painfull to the intestens in it's

operation. I am astonished how this animal as it does without water [Prairie Dog], particularly in a country like this where there is scarcely any rain during 3/4 of the year and more rarely any dew...in the Autumn when the hard frosts commence they close they close their burrows and do not venture out again untill spring. River more rappid. The musquetoos troublesome this evening, a circumstance I did not expect from the temperature of the morning. The Gees begin to lose the feathers of their wings and are unable to fly.

**Clark** a Severe frost last night, the Thrmotr. stood at the freesing point this morning i.e. 32 a 0. wind SW. the water freezes on the oars. Ice on the edge of the river. ...the river beginning to rise, and current more rapid than yesterday. The after part of this day was worm & the Misquitors troublesome.

**Gass** The morning was clear with a white frost, and ice as thick as window glass

**Ordway** a Severe frost last night. the Thurmomiter Stood at the freezing point this morning. W ind SW the water freezes on the ore Ice on the edge of the river. The after part of the day was warm & the Musquetoos troublesome. The river begining to rise & current more rapid than yesterday.

**Whitehouse** We had a cold frosty morning. The standing water was froze over, and cover'd with Ice

## Expedition enters the present-day Missouri Breaks National Monument, MT.

Friday, May 24

### Weather Diary

frost last night ice 1/8 of an inch thick

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	NW	68a	f	SE	R	-	3 ½

### Daily Narrative Journals

**Lewis** The water standing in the vessels freized during the night 1/8 of an inch thick, ice also appears along the verge of the river. The folage of some of the cottonwood trees have been entirely destroyed by the frost and are again puting forth other buds. About 9 AM when a fine breeze sprung up from the SE and enabled us though the ballance of the day to employ our sails to advantage; we proceed at a pretty good

pace notwithstanding the current of the river was very strong. The air is so pure in this open country that mountains and other elevated objects appear much nearer than they really are; these mountains do not appear to be further than 15 m.

**Clark** a Cold night. The water in the Small vessels frozed 1/8 of an inch thick, and the thermometer Stood this morning at the freesing point. At 9 oClock we had a Breeze from the SE which Continued all day. This Breeze afforded us good Sailing. The river rising fast, Current verry rapid.

**Gass** There was again some white frost this morning. The water is high, rapid and more clear.

**Ordway** a cold night. The water in the Small vessels froze 1/8 of an inch thick & the Thurmot. Stood this morning at the freezing point At 9 oClock we had a breeze of wind from the SE which continued all day this Breeze aforded us good Sailing the River rising fast current very rapid The cotton wood in this point is begining to put out a Second time the first being killed by the frost.

**Whitehouse** clear & pleasant weather. After 3 oClock...The wind began to blow from the SE, and we set all Sails— At camp...the leaves of these trees were killed by the frost—

**Saturday, May 25**

**Weather Diary**

saw the kingbird, or bee martin; the grouse disappear. Killed three of the bighorned antelopes.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	82a	f	SW	R	-	2

**Daily Narrative Journals**

**Clark** the morning Cool & pleasant, wind a head all day from the SW. I also think I saw a range of high mounts, at a great distance to the SSW but am not certain as the horizon was not clear enough to view it with Certianty. the Air of this quarter is pure and helthy. The water of the Missouri well tasted not quite So muddy as it is below, not withstanding the last rains has raised the river a little is less muddy than it was before the rain.

**Gass** The forenoon was pleasant. These hills are very much washed in general; they appear like great heaps of clay, washing away with every shower; with scarcely any herbs or grass on any of them.



**Ordway** the morning cool & pleasant wind a head all day from the SW the air of this country is pure & healthy the water of the Missouri fine and cool.

**Whitehouse** clear pleasant weather. About 3 oClock the wind shifted to the Northwest and blew moderately— about 4 oClock...the current of the River running very swift— it being so for these several days past

**Sunday, May 26**

**Weather Diary**

The last night was much the warmest we have experienced, found the covering of one blanket sufficient. The air is extremely dry and pure.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	80a	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis** ascended the river hills. As from this point I beheld the Rocky Mountains for the first time, I could only discover a few of the most elevated points above the horizon...these points of the Rocky Mountains were covered with snow and the sun shone on it in such manner as to give me the most plain and satisfactory view. while I viewed these mountains I felt a secret pleasure in finding myself so near the head of the heretofore conceived boundless Missouri; but when I reflected on the difficulties which this snowey barrier would most probably throw in my way to the Pacific, and the sufferings and hardships of myself and party in them, it in some measure is counterbalanced the joy I had felt in the first moments I gazed on them; but as I have always held it a crime to anticipate evils I will believe it a good comfortable road untill I am compelled to believe differently. This is truly a desert barren country and I feel myself still more convinced of it's being a continuation of the black hills.

**Clark** proceeded as yesterday wind from the SW. Ascended the high country...I could plainly See the Mountains on either Side which I Saw yesterday...most S. Westerly of those Mountains there appeared to be Snow. We had a few drops of rain at dark— this Country may with propriety I think be termed the Deserts of America, as I do not Conceive any part can ever be Settled, as it is deficent in water, Timber & too Steep to be tilled.

**Gass** a fine morning

**Ordway** wind from SW the waves roled for Some distance below (a rapid) we ascended it by the assistance of the chord & poles we had a fiew drops of rain at dark. This

country may with propriety be called the Deserts of North america for I do not conceive any part of it can ever be Setled as it is deficient of or in water except this river, & of timber & too Steep to be tilled.

**Whitehouse** a clear pleasant morning. Stream running so strong. Came to a rapid which had considerable fall.

**Monday, May 27**

**Weather Diary**

wind so hard we were unable to proceed in the early part of the day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	82a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** The wind blew so hard this morning that we did not sent out untill 10 AM. Great quantities of stone also lye in the river and garnish it's borders, which appears to have tumbled from the bluffs where the water rains had washed away the sand and clay in which they were imbedded. About midday it was very warm to this the high bluffs and narrow channel of the river no doubt contributed greatly.

**Clark** The wind blew hard from the SW which detained us untill about 10 oClock. This day verry worm—the river is Genly about 200 yards wide and Current very Swift to day and has a verry perceptible fall in all its Course— it rises a little.

**Gass** We have now got into a country which presents little to our view, but scenes of barrenness of desolation; and see no encouraging prospects that it will terminate. The grass is generally short on these immense natural pastures, which in the proper seasons are decorated with blossoms and flowers of various colours. The day was fine, but the wind ahead. The bed of the river is rocky.

**Ordway** the wind blew hard from the SW which detained us untill about 10 oClock this day verry warm.

**Whitehouse** This morning pleasant weather, but the wind high, from the Northwest. The current of the River running very swift. Passed verry high Steep mountains and clifts Steep precipices. These mountains appear to be a desert part of the country. They wash by rains, but a little rain in this part. No diews like other parts but barron broken rich soil but too much of a desert to be inhabited, or cultivated. The Game became scarcer here...owing to there being no grass, or timber'd land for them to live in.

**Tuesday, May 28**

**Weather Diary**

a slight thundershower; the air was turbid in the forenoon and appeared to be filled with smoke; we supposed it to proceed from the burning of the plains, which we are informed are frequently set on fire by the Snake Indians to compell the antelopes to resort to the woody and mountainous country which they inhabit.— saw a small white and black woodpecker with a red head; the same which is common to the Atlantic states.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c	SW	72a	c & r	SW	R	-	½

**Daily Narrative Journals**

**Lewis** the weather dark and cloudy, the are smokey, had a few drops of rain. At 10 AM a few drops of rain again fell and were attended with distant thunder which is the first we have heard since we left the Mandans—

**Clark** a Cloudy morning Some few drops of rain and verry smokey, wind from the SW. at 1 oClock we had a few drops of rain and Some thunder which is the first thunder we have had since we Set out from Fort Mandan.

**Gass** had a fine morning

**Ordway** a cloudy morning. Some few drops of rain & Smokey wind from the SW. At 1 oClock we had a few drops of rain & Some Thunder which is the first Thunder we have had Since we Set out, from Fort Mandans

**Whitehouse** clear and pleasant weather. We had some thunder, and small showers of rain which lasted about 2 hour. Had pleasant afternoon.

**The party passes the confluence of the Missouri and Judith River in central Montana.**

Wednesday, May 29

Weather Diary

rained by little, some dew this morning.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c a r	SW	67a	r	SW	R	-	1

Daily Narrative Journals

**Lewis** soon after we landed it began to blow & rain, and there was no appearance of even wood enough to make our fires for some distance. Passed a handsome river...100 yds wide...it appeared to contain much more water than the Muscle-Shell...the water is clear...Cap C. who assended this R. much higher tan I did has thought proper to call it Judieths River. Gave each man a small dram. Notwithstanding the allowance of sperits we issued did not exceed ½ pn. Man several of them were considerably effected by it, such is the effects of abstaining for some time from the uce of sperituos liquors; they were all very merry—

**Clark** Soon after we Came too it began to rain & blow hard. A table Spoon full of water exposed to the air in a Saucer would avaporate in 36 hours when the mercury did not Stand higher than the temperate point [66<sup>0</sup> F or 55<sup>0</sup> F] in the heat of the day.

**Gass** had a fine morning. At 12 it became cloudy and began to rain. It rained a little all the afternoon.

**Ordway** passed a considerable rapid came to a bold running Stream. Soon after we came too it began to rain, and blew hard Some of the hunters who went out on the high land, Said it Snowed & hailed on the hills.

**Whitehouse** Cloudy weather this morning. About 3 oClock began to rain, the wind rose high & hard from the NW. Hunters returned & Said it Snowed and hailed on the hills back from the River. In the Evening we had rain.

Thursday, May 30

Weather Diary

the rain commenced about 4 Oclock in the evening, and continued moderately through the course of the night; more rain has now fallen than we have experienced since the 15<sup>th</sup> of September last.

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	c a r	SW	50a	r	SW	R	-	5

### Daily Narrative Journals

**Lewis** The rain which commenced last evening continued with little intermission until 11 this morning when we set out; the high wind which accompanied the rain rendered it impracticable to proceed earlier. More rain has now fallen than we have experienced since the 15<sup>th</sup> of September last. Many circumstances indicate our near approach to a country whose climate differs considerably from that in which we have been for many months. The air of the open country is astonishingly dry as well as pure. I found by several experiments that a table spoon of water exposed to the air in a saucer would evaporate in 36 hours when the mercury did not stand higher than the temperate point at the greatest heat of the day; My inkstand so frequently becoming dry put me on this experiment. I also observed the well seasoned case of my sextant shrunk considerably and the joints opened. The water of the river still continues to become clearer and notwithstanding the rain which has fallen it is still much clearer than it was a few days past. The bluffs were more steep than usual and were now rendered so slippery by the late rain that the men could scarcely walk. The wind was also hard against us. We had slight showers of rain through the course of the day, the air was cold and rendered more disagreeable by the rain. One of the party ascended the river hills and reported on his return that there was snow intermixed with the rain which fell on the heights

**Clark** The rain commenced yesterday evening, and continued moderately through the course of the night, more rain has now fallen than we have experienced Since the 15<sup>th</sup> of September last, the rain continued this morning, and the wind too high for us to proceed until about 11 o'clock at which time we were set out, and proceeded on with great labour. notwithstanding we proceeded on as well as we could wind hard from the NW. Some little rain at times all day. one man ascended the high country and it was raining & snowing on those hills, the day has proved to be raw and cold.

**Gass** The forenoon was cloudy, with some rain. It rained a little all day.

**Ordway** the rain commenced yesterday evening & continued moderately through the course of the night. More rain has now fallen than we have experienced Since the 15<sup>th</sup> of September last, the rain continued this morning, and the wind too high for us to proceed, until about 11 o'clock at which time we set out the men could scarcely walk notwithstanding we proceeded as well as we could, wind hard from the NW. Some little rain at times all day. One man ascended the high country & it was raining & snowing on those high hills, the day has proved to be raw and cold back from the river is tolerably level.

**Whitehouse** weather Cloudy and Rainey this morning, & the wind blowing high and hard from the NW. WE delayed setting off till 10 oClock, the weather still being very disagreeable working. The weather still continued Cold & Chilling with wind and rain just before 2 oClock.

**Friday, May 31**

**Weather Diary**

but little rain. The Antelope now bring forth their young. from the size of the young of the bighorned Antelope I suppose they bring forth their young as early at least at the Elk.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c a r	W	53a	c a r	SW	R	-	1 ½

**Daily Narrative Journals**

**Lewis** soon after we got under way it began to rain and continued untill meridian when it ceased but still remained cloudy through the ballance of the day. The obstructions of rocky points and riffles still continue as yesterday; at those places the men are compelled to be much in the water even to their armpits, and the water is yet very could, and so frequent are those point that they are one fourth of their time in the water. The hills and river Clifts which we passed today exhibit a most romantic appearance...horizontal stratas of white free-stone, on which the rains or water make nor impression. The water in the course of time in decending from those hills and plains on either side of the river trickled down the soft sand clifts and woarn it into a thousand grotesque figures, which with the help of a little immagination and an oblique view at a distance, are made to represent eligant ranges of lofty freestone buildings, haveing their pararpets well stocked with statuary; collumns of various sculpture both grooved and plain, are also seen supporting long galleries in front of those buildings; in other places on a much nearer approach and with the help of less immagination we see the remains or ruins of eligant buildings, some collumns standing and almost entire with their pedestals and capitals. As we passed on it seemed as if those seens of visionary inchantment would never have an end...So perfect indeed are those walls that I should have thought that nature had attempted here to rival the human art of masonry had I not recollected that she had first began her work. The river today has been from 150 to 250 yds. wide.

**Clark** a cloudy morning. Soon found it verry laborious as the mud Stuck to my mockersons & was verry Slippery. Soon after we got under way it began to rain and continued moderately untill about 12 oClock when it ceased, & Continued Cloudy the ballance of the day. The Hills and river Clifts of this day exhibit a most romantick appearance...in many places this Sand Stone appears like antient ruins

some like elegant buildings at a distance, some like Towers &c. &c. Remind us of Some of those large Stone buildings in the United States. As we passed on it Seemed as if those Seens of Visionary enchantment would never have an end; for here it is too that nature present to the view of the traveler vast ranges of walls of tolerable workmanship, so perfect indeed are those falls [walls] that I Should have thought that nature had attempted here to rival the human art of Masonry had I not recollected that She had first began her work. The river rises a little. The water is yet very cold. Little timber on the river to day. River less muddy than it was below.

**Gass** a cloudy morning. About 11 o'clock it began to rain slowly, and continued raining two hours, when it cleared up. The rocky peaks...appear like the ruins of an ancient city.

**Ordway** a Cloudy morning. It continued to rain moderately untill about 12 oClock when it ceased & continued cloudy. The Stones on the edges of the river continue to form very considerable rapids. We find them difficult to pass. The River rises a little it is from 150 to 250 yards wide

**Whitehouse** cloudy weather this morning. About 11 oClock AM it began to rain, and rained moderately for some time. The current of the River rain very strong, the whole of this day. In the Evening, the weather cleared off, and became pleasant.

# June 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is nearing the western edge of the Missouri Breaks and approaching the confluence of the Missouri and Marias Rivers.

Saturday, June 1

#### Weather Diary <sup>1</sup>

rained a few drops only

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	62a	c	-	R	-	1 ½

1 Reference: Coues, Volume III, pages 1272-73, 1289; Moulton, Volume 4, pages 346-349; Thwaites, Volume 6, Part II, pages 191-193.

2 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** the morning was cloudy and a few drops of rain. Capt. C who waked on shore today informed me...he observed large banks of pure sand which appeared to have been driven by the SW winds from the river bluffs and there deposited. A range of high Mountains appear to the SW at a considerable distance covered with snow, they appear to run Westerly [Probably the Highwood Mountains]. The river from 2 to 400 yards wide, courant more gentle and still becoming clearer. Some few drops of rain again fell this evening. The wind has been against us all day—

**Clark** a Cloudy morning. Wind to day from the SW. Som fiew drops of rain in the morning and also in the evening, flying Clouds all day.

**Gass** The morning was cloudy, but without rain. The water is not so rapid to day as usual, but continues high.

**Ordway** a Cloudy morning. The River from 2 to 400 yards wide & current more jentle that yesterday. But fiew bad rapids points to day. The river rising a little. Wind to



day from SW Some few drops of rain in the morning and also in the evening. Flying clouds all day.

**Whitehouse** a clear pleasant morning. About 2 o'clock...the wind rose and blew from the SE.

## **Expedition arrives at the confluence of the Missouri & Marias Rivers, MT.**

**Sunday, June 2**

### **Weather Diary**

<b>Sunrise</b>			<b>4 PM</b>			<b>Missouri River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	c a r	SW	68a	f	SW	-	-	-

### **Daily Narrative Journals**

**Lewis** The wind blew violently last night and was attended by a slight shower of rain; the morning was fair and we set out at an early hour. The current was strong tho' regular. The wind was hard and against us yet we proceeded with infinitely more ease than the two preceding days. A small shower of rain today but it lasted only a few minutes and was very moderate. Remain here until the morning, as the evening was favourable to make some observations.

**Clark** we had a hard wind and a little rain last night, this morning fair, we set out at an early hour, wind from the SW. Some little rain today wind hard a head. The current swift but regular. A fair night. We took some lunar observations of moon & stars

**Gass** a fine morning.

**Ordway** we had a hard wind & a little rain last night. This morning fair. Wind from SW some little rain today wind hard a head. The current swift but regular. A fair night.

**Whitehouse** a clear pleasant morning. About 12 o'clock the wind blew hard from the NW at this place, and the sky became cloudy— about 1 o'clock PM we had some small sprinkling of rain— the current is not so swift yesterday & today as it has been some time past.

**Monday, June 3**

**Weather Diary**

Cought the 1<sup>st</sup> White Chub, and a fish resembling the Hickory Shad in the Clear Stream

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	60a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** This morning early we passed over and formed a camp on the point formed by the junction of the two large rivers. An interesting question was now to be determined; which of these rivers was the Missouri. To mistake the stream at this period of the season, two months of the traveling season having now elapsed, and to ascend such stream to the rocky Mountain or perhaps much further before we could inform ourselves...to this end an investigation of both streams was the first thing to be done. Between the time of my AM and meridian Capt. C & myself stroled out to the hights in the fork of these rivers from whence we had an extensive and most inchanting view. The verdure perfectly clothed the ground, the weather was pleasant and fair, to the south we saw a range of lofty mountains which we supposed to be continuation of the S. Mountains, stretching themselves from SE to NW terminating abrubtly about S. West for us; these were partially covered with snow; behind these Mountains and at a great distance, a second and more lofty range of mountains appeared...where their snowey tops lost themselves beneath the horizon. We took the width of the two rivers, found the left hand or S. fork 372 yards and the N fork 20. The north fork is deeper than the other but it's courant not so swift; it's water run in the same boiling and roling manner which has uniformly characterized the Missouri throughout it's whole course so far; it's waters are of a whitish brown colour very thick and terbid, also characteristic of the Missouri; while the South fork is perfectly transparent runds very rappid but with a smoth unriffled surface. The North fork...I am confident that this river rises in and passes a great distance through an open plain country. Convinced I am that if it penetrated the Rocky Mountains to any great distance it's waters would be clearer unless it should run an immense distance. What astonishes us a little is that the Indians who appeared to be so well acquainted with the geography of this country should not have mentioned this river on wright hand if it be not the Missouri. I am equally astonished at their not mentioning the S fork which they must have passed in order to get to those large falls which they mention on the Missouri. The evening proved cloudy.

**Clark** the after part of the day proved Cloudy. Cloudy evening—

**Gass** The Rose (Teton) river is muddy and the current rapid.

**Ordway** the after part of the day proved Cloudy. Clark measured each river & found the one to the Right hand 186 yards wide & the left had fork 372 yards wide and rapid.

**Whitehouse** a fine fair clear morning. Some men went towards a mountain [perhaps the Highwoods] covered with Snow to the South of this place. The afternoon of this day proved Cloudy.

**Lewis & Clark depart with scouting parties to research up each fork.**

**Tuesday, June 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f a c	NE	61a	f	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** [Traveling up the Marias River] The Barn Mountin, a lofty mountain so called from it's resemblance to the roof of a large Bar, is a separate Mountain [Square Butte, MT] it was not yet twelve when we arrived at the river and I was anxious to take the Meridian Altd. of the sun but the clouds prevented my obtaining the observation. The part of the river we have passed is from 40 to 60 yds. wide, is deep, has falling banks, the courant strong, the water terbind. It rained this evening and wet us to the skin; the air was extremely could.

**Clark** [Traveling up the Missouri River] Some rain all the afternoon. The river is rapid

**Gass** We saw a mountain to the South about 20 miles off, which appeared to run East and West, and some spots of it resembling snow.

**Ordway** the day proved Cloudy. A fiew drops of rain towards evening & high cold wind from the North.

**Whitehouse** remained here tody. The weather was Cloudy. A fiew drops of rain towards evening, and the Wind rose high & cold from the NE.

Wednesday, June 5

Weather Diary

rained considerably some Snow fell on them mounts. Great numbers of the sparrows larks, Curloos and other small birds common to praries are now laying their eggs and seting, their nests are in great abundance. The large batt, or night hawk appears. The Turkey buzzard appears.— first saw the mountain cock near the entrance of Maria’s river.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	r	SW	42a	c a r	NE	F	-	3/4

Daily Narrative Journals

**Lewis** This morning was cloudy and so could that I was obleged to have recourse to a blanket coat in order to keep myself comfortable altho’ walking. The rain continued during the greater part of last night. The wind hard from NW. A large creek...some timber but not water, notwithstanding the rain; it is astonishing what a quantity of water it takes to saturate the soil of this country

**Clark** Some little rain & Snow last night. the mountains to our SE covered with Snow this morning. air verry cold & raining a little. The top of which I could plainly See a mountain to the South & W. covered with Snow at a long distance, the mountains opposit to us to the SE is also Covered with Snow this morning— some few drops of rain to day, the evening fair wind hard from the NE.

**Gass** Some light showers of rain fell in the night, and the morning was cloudy. About 7 we set out along the plains again, and discovered the mountain South of us covered with snow, that had fallen last night.

**Ordway** the wind blew high from the North all last night A Cloudy Cold windy morning.

**Whitehouse** The wind blew high during the last night from the NE, and we have a cold windy & cloudy morning.

Thursday, June 6

Weather Diary

rained hard the greater part of the day.—

Sunrise			4 PM			Missouri River		
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	c a r	NE	42a	r a r	NE	F	-	1 ½

### Daily Narrative Journals

**Lewis** I now became well convinced that this branch of the Missouri [Marias] had it's direction too much to the North for our rout to the Pacific. The forepart of the last evening was fair but in the latter part of the night clouded up and continued so with short intervals of sunshine untill a little before noon when the whole horizon was overcast, and I of course disappointed in making the observation which I much wished. The wind blew a storm from NE accompanied for frequent showers of rain; we were wet and very could. We continued our rout down the river only a few miles before the abbruptness of the clifts and their near approach to the river compelled us to take the plains and once more face the storm. It continues to rain and we have no shelter, an uncomfortable nights rest is the natural consequence—

**Clark** a Cloudy Cold raw day, wind hard from the NE. At 12 oClock...it began to rain and Continued all day. My Self and party much fatigued haveing walked constantly as hard as we Could march over a Dry hard plain

**Gass** Some light rain fell this afternoon.

**Ordway** a Cloudy Cold morning. The wind high from the North the hunters....saw a large mountain to the South of them covred with Snow A light Sprinkling of rain this afternoon.

**Whitehouse** a cold cloudy morning. The wind still blew cold from the NE. A light sprinkling of rain this forenoon and to day.

**Friday, June 7**

### Weather Diary

rained moderately all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c a r	SW	43a	r a r	SW	F	-	1 ½

### Daily Narrative Journals

**Lewis** It continued to rain almost without intermission last night and as I expected we had a most disagreeable and restless night. Our camp possessing no allurements, we left our watery beads at an early hour and continued our rout down the river [Marias]. It still continues to rain the wind hard from the NE and could. the ground remarkably slipry, insomuch that we were unable to walk on the sides of the bluffs where we had passed as we ascended the river. Notwithstanding the rain that has now fallen the earth of these bluffs is not wet to a greater depth than 2 inches; in it's present state it is precisely like walking over frozan grownd which is thawed to small debth and slips equally as bad. We continued our disagreeable march through the rain, mud and water untill late in the evening.

**Clark** rained moderately all the last night and Continus this morning, the wind from the SW off the mountains, the Thermometer Stood at 40<sup>o</sup> above 0. The rain Continue moderately all day. River falling

**Gass** It rained all day.

**Ordway** rained all last night. A rainy cold morning the wind NW rained moderately all day. Capt Lewis and his party did not return this evening we expect the reason is owing to the badness of the weather as it is muddy & Slippery walking

**Whitehouse** rained the greater part of last night. Cloudy and wet this morning. Rained moderately all day. Capt. Lewis & his party have not returned yet. We expect the reason is owing to the badness of the weather.

**Saturday, June 8**

**Weather Diary**

cleared off at 10 AM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41	r a r	SW	48a	f a r	SW	F	-	1 1/4

**Daily Narrative Journals**

**Lewis** It continued to rain moderately all last night, this morning was cloudy untill about ten oClock when it cleared off and became a fine day. When sun began to shine today these birds appeared to be very gay and sun most inchantingly. Some of the inhabitants of the praries also take reffuge in these woods at night or from a storm. T he whole of my party to a man except myself were fully peswaided that this river was the Missouri. I determined to give a named in honor of Miss Maria W- d. called it Maria's River. A noble river...one destined to become in my opinion an object of

contention between the two great powers of America and Great Britin. In adition to which it passes through a rich fertile and one of the most beatifully picteresque countries that I ever beheld.

**Clark** rained moderately all the last night & Some this morning untill 10 oClock. Aired and dried our Stores &c. The rivers at this point has fallen 6 Inches Sinc our arrival. At 10 oClock cleared away and became fair— the wind all the morning from the SW & hard— the water of the South fork is of a redish brown colour this morning the other river of a whitish colour as usual— the mountains to the South Covered with Snow. Wind Shifted to the NE in the evening. Some rain in the evening. The left hard fork rose a little.

**Gass** A fine cool morning. About 10 o'clock AM the water of the South river, or branch, became almost of the colour of claret (reddish brown) and remained so all day. The water of the other branch has appearance of milk. About five o'clock n the afternoon the weather became cloudy and cold, and it began to rain. At dark the rain ceased.

**Ordway** the wind blew cold from the NW about 9 oClock AM clear off pleasant. We Saw the high Mountains to the West. Our Camp covered with Snow the greater part of which has fallen within a fiew days. The South fork of the Missourie is high & of a yallow colour. The N fork is more white than common owing as we expect to the late rain which has melted the Snow on the mountains. The wind blew from the East a light Shower of rain this evening.

**Whitehouse** This morning we had cloudy weather, and the wind blew cold from the NW. Between 7 and 9 oClock the weather cleared off, and became pleasant. We saw on the weather clearing away, a high mountain, lying to the West of us, which was covered with Snow. The South fork of the Missouri is high & of a yellow Colour today, and rose to a great height, the north fork more white and riffing than it was before, the cause of which, we expect, is owing to the Rain that fell lately, and the snow melting in the Mountains. The wind blew from the E toward evening with a light Shower of Rain—

**Sunday, June 9**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50	f	SW	62 <sup>3</sup>	f	SW	F	-	1

<sup>3</sup> Clark's Journal Codex I lists this temperature as "52 a."

**Daily Narrative Journals**

- Lewis** The Indian information also argued strongly in favour of the South fork. That the falls lay a little to the South of sunset from them. Cruzatte who had been an old Missouri navigator and who from his integrity knowledge and skill as a waterman...declared it as his opinion that the N fork was the true genuine Missouri and could be no other. Finding them so determined in this belief, and wishing that if we were in an error to be able to detect it and rectify it as so as possible it was agreed between Capt. C. and myself that one of us should set out with a small party by land up the South fork and continue our rout up it untill we found the falls or reached the snowy Mountains by which means we should be enabled to determine this question prety accurately.
- Clark** a fair morning, the wind hard from the SW. The river during the night fell 1 inch. Took some Luner observations.
- Gass** a fine morning. The water of the Missouri changed this morning to its former colour. The day was fine, but the wind blew hard from the northwest.
- Ordway** a clear pleasant morning. The wind rose high from the west all day. We had a light Shower of rain about 11 oClock at night.
- Whitehouse** a clear beautiful pleasant morning. The wind towards evening rose from the West. We had a frolick. We had a light Shower of rain late in the evening

**Monday, June 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	68a	f a r	SW	R	-	2

**Daily Narrative Journals**

- Lewis** The day being fair and fine we dried all our baggage and merchandize. We drew up the red perogue...secured and made her fast to the trees to prevent the high floods from carrying her off. Put my brand on several trees standing near her, and covered her with brush to shelter her from the effects of the sun. At 3 PM we had a hard wind from the SW which continued about an hour attended with thunder and rain. As soon as the shower had passed over we drew out our canoes. The night was cloudy with some rain.



**Clark** a fine day, dry all our articles. Branded several trees to prevent the Indians injuring her, at 3 oClock we had hard wind from the SW. Thunder and rain for about an hour after which we repaired & Corked the Canoes. The after noon or night Cloudy Some rain. river rising a little.

**Gass** about two it began to rain and blow we were obliged to desist. The rain continued only an hour

**Ordway** a beautiful pleasant morning. About 4 oClock PM we had a light Shower of rain which lasted about an hour. High wind. The evening pleasant.

**Whitehouse** A beautiful pleasant morning. About 4 oClock PM we had a light shower of Rain, & in the Evening it cleared up, & we had pleasant Weather—

**Tuesday, June 11**

**Weather Diary**

Capt. Lewis & 4 men Set out up the S. fork

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	66a	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fair morning, wind from the SW hard. The evening fair and fine wind from the NW. After night it became cold & the wind blew hard. Both rivers rising fast.

**Gass** A fine day.

**Ordway** a clear pleasant morning. The wind from the S West hard. The evening fair & fine wind from the NW after night became cold. High wind

**Whitehouse** a Clear pleasant morning. Capt. Lewis & party set out for the South Snowey Mountain.

**Wednesday, June 12**

**Weather Diary**

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	64	f a r	SW	-	-	-

### Daily Narrative Journals

**Lewis** the sun became warm, and I boar a little to the south in order to gain the river as well to obtain water to allay my thirst. From this hight we had a most beatifull and picturesk view of the Rocky mountains which wer perfectly covered with Snow and reaching from SE to the N of NW— they appear to be formed of several ranges each succeeding range riseing higher than the preceding one untill the most distant appear to loose their snowey tops in the clouds.

**Clark** last night was Clear and Cold, this morning fair. Wind from the SW. The interpreters wife verry Sick So much So that I move her into the back part of our Covered part of the Perogue which is Cool, her our situation being a verry hot one in the bottom of the Canoe exposed to the Sun— water verry swift. At 2 oClock PM a few drops of rain.

**Gass** The morning was fine. At 1 o'clock the weather became cloudy and threatened rain; at 2 there was a light shower, and the day became clear.

**Ordway** a clear pleasant morning. The current verry rapid.

**Whitehouse** a clear pleasant morning. The current verry Rapid.

## **Lewis' with a second scouting party arrives at the Great Falls of the Missouri, MT**

**Thursday, June 13**

### Weather Diary

Some dew this morng.

Sunrise			4 PM			Missouri River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	72	f	SW	R	-	3/4

<sup>4</sup> It appears observations were taken at the lower portage camp at Belt Creek, Montana until the upper portage camp at the White Bear Islands is established on June 23, 1805.

## Daily Narrative Journals

- Lewis** I overlooked a most beautiful and level plain of great extent or at least 50 or sixty miles; in this there were infinitely more buffalo than I had ever before witnessed at a view. I proceeded on this course...when my ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arise above the plain like a column of smoke which would frequently disappear again in an instant caused I presume by the wind which blew pretty hard from the SW...soon began to make a roaring too tremendous to be mistaken for any cause short of the great falls of the Missouri. Here I arrived about 12 O'clock...to gaze on this sublimely grand spectacle. Immediately at the cascade the river is about 300 yds. On my right forms the grandest sight I ever beheld...some what projecting rocks below receives the water in its passage down and brakes it into a perfect white foam which assumes a thousand forms in a moment sometimes flying up in jets of sparkling foam to the height of fifteen or twenty feet and are scarcely formed before large rolling bodies of the same beaten and foaming water is thrown over and conceals them. From the reflection of the sun on the spray or mist which arises from these falls there is a beautiful rainbow produced which adds not a little to the beauty of this majestically grand scenery. After writing this imperfect description, I again viewed the falls and was so much disgusted with the imperfect idea which it conveyed of the scene that I determined to draw my pen across it and begin again, but then reflected that I could not perhaps succeed better than penning the first impressions of the mind. I wished...that I might be enabled to give to the enlightened world some just idea of this truly magnificent and sublimely grand object which has from the commencement of time been concealed from the view of civilized man.
- Clark** a fair morning. Some dew this morning. Small stream...heads in a mountain to the SE...which at this time covered with snow, we call this stream Snow river [Shonkin Creek]. The river very rapid many shoals great numbers of large stones
- Gass** a fine morning. Some dew fell last night.
- Ordway** a beautiful pleasant morning. A heavy dew. Small river...about 50 yards wide....muddy colour and very rapid.
- Whitehouse** we had a clear & pleasant morning.

**Friday, June 14**

### Weather Diary

Capt. Lewis Discover the falls & Send back Joe Fields to inform me

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	74	f	SW	F	-	3/4

### Daily Narrative Journals

**Lewis** proceeded up the river about SW. I arrived at a fall of about 19 feet; the river is here about 400 yds. wide. [Crooked Falls]. I now thought that if a skillfull painter had been asked to make a beautifull cascade that he would most probably have presented the precise immage of this one; nor could I for some time determine on which of those two great cataracts to bestoe the palm, on this or that which I had discovered yesterday; at length I determine between these two great rivals for glory that this was pleasingly beautifull, while the other sublimely grand. Still pursuing the river...I arrived at another cataract of 26 feet....the river near six hundred yards wide at this place [Eagle Falls]...this fall is certainly much the greatest I ever behald except those two which I have mentioned below. It is incomparably a greater cataract and a more noble interesting object than the celibrated falls of Potomac or Soolkin &c. From hence I overlook a most beatifull and extensive plain reaching from the river to the base of the Snowclad mountains to the S and SW. I passed through the plain...to medicine river [Sun River], found it a handsome stream, about 200 yds. wide with a gentle current, apparently deep, it's water clear...they had not the appearance of ever being overflown, a circumstance, which I did not expect so immediatly in the neighbourhood of the mountains, from whence I should have supposed, that sudden and immense torrants would issue at certain seasons of the year; but the reverse is absolutely the case. I am therefore compelled to believe that the snowey mountains yeald their warters slowly, being partially effected every day by the influence of the sun only, and never suddonly melted down by haisty showers of rain— The weather being warm I had left my leather over shirt and had woarn only a yellow flannin one.

**Clark** a fine morning. The Current excesevely rapid more So as we assend find great dificulety in getting the Perogue & canoes up in safety

**Gass** the morning was pleasant.

**Ordway** a fare pleasant morning. The current verry rapid all day. We came 10 miles to day through a verry rapid current.

**Whitehouse** a fare pleasant morning. The current verry rapid all day.

**Portage around the great falls to White Bear Islands begins on June 15 and they remain between the lower portage and upper portage camps until July 13 at present-day Great Falls, MT.**

**Saturday, June 15**

**Weather Diary**

The deer now begin to bring forth their young the young Magpies begin to fly. The Brown or grizzly bear begin to copulate.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	76	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** when I awoke from my sleep [nap] today I found a large rattlesnake coiled on the leaning trunk of a tree under the shade of which I had been lying at the distance of about ten feet from him. I find a very heavy dew on the grass about my camp every morning which no doubt proceeds from the mist of the falls, as it takes place no where in the plains nor on the hills river except here.

**Clark** a fair morning and warm. Proceeded on with great difficulty as the river is more rapid. We can hear the falls this morning very distinctly— river rises a little this evening.

**Gass** had the most rapid water I ever saw any craft taken through.

**Ordway** a clear pleasant morning. Passed through the rapidiest water I ever Saw any craft taken through. The afternoon very warm.

**Whitehouse** a clear pleasant morning. Passed the rapidiest water I ever Seen any crafts taken through. In the afternoon, it became very warm.

**Sunday, June 16**

**Weather Diary**

Some rain last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
64	c a r	SW	58	f	SW	R	-	½

### Daily Narrative Journals

**Lewis** a Sulpher Spring...this spring is situated about 200 yards from the Missouri on the NE side...the water is as transparent as possible strongly impregnated with sulpher...the water to all appearance is precisely similar to that of Bowyer's Sulpher spring in Virginia

**Clark** Some rain last night, a cloudy morning, wind hard from the SW

**Ordway** a Small Shower of rain and high wind from the west the fore part of last night.

**Whitehouse** we had a Showers of rain & high wind the fore past of the last night. This morning it cleared away & we had pleasant weather

**Sunday, June 17**

### Weather Diary

the thermometer placed in the shade tree at the foot of the rappid. Capt Clark sets out to survey the river & portage

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	57	c	SW	F	-	½

### Daily Narrative Journals

**Lewis** I found the Elk skins I had prepared for my boat were insufficient to compleat her, some of them having become dammaged by the water and being frequently wet...lyed in the sun to dry.

**Clark** a fine morning, wind as usial. Proceeded up the river passing a Sucession of rapids & Cascades to the Falls, which we had herd for Several miles makeing a dedly Sound, I beheld those Cateracts with astonishment. The whole of the water of this great river Confined in a Channel of 280 yards and pitching over a rock of 97 feet ¾ of an, from the foot of the falls arrises a Continued mist. We Camped for the night which was Cold. The mountains in every derection has Snow on them.

**Ordway** a clear morning.

**Whitehouse** a cloudy morning.

**Monday, June 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c	SW	64a	f a c	SW	F	-	½

**Daily Narrative Journals**

**Lewis** the wind blew violently this evening, as they frequently do in this open country where there is not a tree to brake or oppose their force.

**Clark** arrived at the second great Cataract...this is one of the grandest views in nature and by far exceeds any thing I ever saw...the river is 473 yards wide...a continuel mist quite across the fall...proceeded...to the largest fountain or Spring I ever Saw, and doubt if it is not the largest in America Known, this water boils up from under the rocks near the edge of the river and falls imediately into the river 8 feet and keeps its Colour for ½ a mile which is emencely Clear and of a bluish Cast...a Considerable mist rises at this fall ocasionally, dined...opposite the mouth of the Medison River...and is 137 yards wide at its mouth. The Missouri above is 800 yards wide. I Saw the bear but the bushes was So thick that I could not Shoot him and it was nearly dark, the wind from the SW & Cool.

**Ordway** the day pleasant. The wind high from the west.

**Whitehouse** a fine pleasant day. After 12 oClock...the wind rose & blew high from the West.

**Tuesday, June 19**

**Weather Diary**

wind violent all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	70a	f	SW	F	-	½

**Daily Narrative Journals**

- Lewis**            The wind blew violently the greater part of the day.
- Clark**            the wind all this day blew violently hard from the SW off the Snowey mountains, Cool, in my last rout I lost a part of my notes which could not be found as the wind must have blown them to a great distance.
- Gass**             A fine day, but the wind very high.
- Ordway**          a clear pleasant morning. The wind verry high from NW.
- Whitehouse**    a clear cool morning. The wind had blown very hard during the last night. Continues verry high from the West and whole of this day.

**Thursday, June 20**

**Weather Diary**

wind still violent. Capt. Clark returns.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	c	SW	74a	f a r	SW	F	-	1/4

**Daily Narrative Journals**

**Clark**            a Cloudy morning, a hard wind all night and this morning. Soon after we set out it began to rain and continued a short time. the wind hard from the SW. A fair after noon. The Countrey above the falls & up the Medison river is leavel, with low banks, a chain of mountains to the west some part of which particuler those to the NW & SW are Covered with Snow and appear verry high--- We had a heavy dew this morning. The Clouds near those mountains rise Suddonly and discharge their Contents partially on the neighbouring Plains; the Same Cloud discharge hail alone in one part, hail and rain in another and rain only in a third all within the Space of a few miles; and on the Mountains to the South & SE of us Sometimes Snow. At present there is no Snow on those mountains; that which covered them a few days ago has all disappeared. the Mountains to the NW and West of us are Still entirely Covered are white and glitter with the reflection of the sun. I do not believe that the Clouds that pervale at this Season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit Snow which they Contain since we first saw them. I have thought it probable that these mountains might have derived their appellatoin of Shineing Mountains, from their glittering



appearance when the Sun Shines in certain directions on the Snow which Cover them.

Dureing the time of my being on the Plains and above the falls I as also my party repeatedly heard a nois which proceeded from a Direction a little to the N. of West, as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at the distance of 5 or six miles. I was informed of it Several times by the men. J. Fields particularly before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains yesterday near the most extream SE bend of the River above the falls I heard this nois very distinctly, it was perfectly calm clear and not a Cloud to be Seen, I halted and listend attentively about two hour dureing which time I heard two other discharges, and took the direction of the Sound with my pocket Compass which was as nearly West from me as I could estimate from the Sound. I have not doubt but if I had leasure I could find from whence it issued. I have thought it probable that it might be caused by running water in Some of the caverns of those emence mountains, on the principal of the blowing caverns [Blowing Cave, Bath County, Virginia]; but in Such case the Sounds would be periodical and regular, which is not the Case with this, being Sometimes heard once only and at other times Several discharges in quick Succession. It is heard also at different times of the day and night. I am at a great loss to account for this Phenomenon. I well recollect hereing the Minitarees Say that those Rocky Mountains make a great noise, but they could not tell me the Cause, neither Could they inform me of any remarkable substance or situation in these mountains which would autherise a conjecture of a probable cause of this noise— it is probable that the large river just above those Great falls which heads in the derection of the noise has taken it's name Medicine River from this unaccountable rumbling Sound, which like all unaccountable thing with the Indians of the Missouri is Called Medicine. The Ricaras inform us of the black mountains making a Simalar noise &c. &c. and maney other wonderfull tales of those Rocky mountains and those great falls.

- Gass** A cloudy morning.
- Ordway** Some cloudy & cold for the Season. The wind continues high from the west off the mountains. A light Sprinkling of rain about noon. A light sprinkle of rain. The hunters...saw a chain of Mountains to the West Some of which perticular those to the NW and SW are covered with Snow, and appear to be verry high.
- Whitehouse** This morning we had Cloudy cold weather; and the wind continues high from the West. We had about Noon some light Squalls of rain and wind. We had small Showers of rain this afternoon. 1 mile above the fall...is the largest fountain or Spring, as they think it is the largest in america known. They Saw a chain of mountains to the west, some of which particular those to the NW & SW are covered with Snow & appear to be verry high. [probably the Lewis Range of the Rockies] Capt, Clark lost a part of his notes which could not be found, as the wind blew high and hard & took them off.

Friday, June 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	70a	c	SW	F	-	1/4

Daily Narrative Journals

- Lewis**            The wind blew violently all day.
- Clark**            a fine morning, wind from the SW off the mountains and hard. Cloudy afternoon.
- Gass**             This morning was also fine, but there was a high wind.
- Ordway**          a fine cool morning. the wind from the SW. off the mountains and hard.
- Whitehouse**     a fine morning, the wind blew hard from the SW off the mountains.

Saturday, June 22

Weather Diary

wind not so violent. Thermometer removed to the head of the rapid and place in the shade of a tree.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	c	SW	54a	f	SW	F	-	1/2

Daily Narrative Journals

- Clark**            a fine morning. Wind from the
- Ordway**          a clear pleasant morning. the wind as usual. ...a light Sprinkling of rain. ...we are a little South of the Mandans but have had cold weather as yet. it must of course be a healthy county.
- Whitehouse**     a fair pleasant morning. The wind as usual. West. We are at this place a little

South of the Mandan Villages, but as yet have experienced no very warm weather—

**Sunday, June 23**

**Weather Diary**

Sunrise			4 PM			Missouri River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SE	65a	c	SE	F	-	1/4

<sup>5</sup> It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

**Daily Narrative Journals**

**Lewis** during the late rains the buffaloe have troden up the prarie very much, which having now become dry the sharp points of earth as hard as frozen ground stand up in such abundance that there is no avoiding them. This is particulary severe on the feet of the men who have not only their own wight to bear in treading on those hacklelike points but have also the addition of the burthen which they draw

**Clark** a Cloud morning, wind from the SE.

**Gass** The morning was cloudy.

**Ordway** a cloudy morning. The wind from East. A light Sprinkling of rain. The hard ground in many places is So hard as to hurt our feet verry much. The emence numbers of buffalow after the last rain has trod the flat places in Such a manner as to leave them uneaven, and dried as hard as frozen Ground.

**Whitehouse** this morning the wind shifted to the east & became Cloudy an we had a light sprinkling of rain—

**Monday, June 24**

**Weather Diary**

slight rain last night & a heavy shower this evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	c a r	SE	74a	f a c	SW	F	-	

### Daily Narrative Journals

**Clark** a Cloudy morning. Some few drops of rain in the fore part of the day, at 6 o'clock a black Cloud arose to the NW, the wind shifted from the S to that point and in a Short time the earth was entirely Covered with hail, Some rain Succeeded, which Continud for about an hour very moderately on this Side of the river, without the earths being wet ½ an inch, the riveins on the opposit or NW Side discharged emence torrents of water into the river, & Showed evidently that the rain was much heavier on that Side, Some rain at different times in the night which was worm. Thunder without lightning accompanied the hail Cloudy.

**Gass** In the evening there was a very heavy shower of rain, at night the weather cleared up

**Ordway** a cloudy morning. A violent shower arose from the NW hard thunder caught us in a verry hard rain So that in a few minutes the ground was covered with water. So that we got a hearty drink of water in the holes & puddles & C. The rain continued about half an hour, at dusk we arived at the upper camp all wet and much fatigued. The wind was considerable assistance to us in the course of the day, as we were drawing the canoes the wind being Sufficently hard at times to move the canoe on the Trucks. This is Saleing on dry land in every Since of the word.

**Whitehouse** fair weather this morning. We proceeded across the prairie, the wind blowing steady from the SE, we hoisted a Sail in the largest canoe which helped us much. Towards evening when we were within 3 miles of the upper camp, up came a sudden and Violent thunder Shower & rained amazingly hard for about 15 to 20 minutes, in which time the water stood on the ground over our mockasons. Our water being all gone & the men very thirsty, they drank heartily, out of the puddles of water that lay in the plains—

**Tuesday, June 25**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	c a r	SW	72a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the river is about 800d yds. wide opposite to us above these islands, and has a very gentle current [White Bear Islands, upper portage camp]. It is worthy of remark that the winds are sometimes so strong in these plains that the men informed me that they hoisted a sail in the canoe and it had driven her along on the truck wheels. This is really sailing on dry land.

**Clark** a fair worm morning, Clouded & a few drops of rain at 5 oClock AM fair. I had a little Coffee for brackfast which was to me a riarity as I had not tasted any Since last winter. The wind from the NW & worm. This Countrey has a romantick appearance river inclosed between high and Steep hills. A powerfull rain fell on the party on their rout yesterday, Wet Some fiew articles, and Caused the rout to be So bad wet & Deep thay Could with dificuelty proceed. A fair after noon— it may be worthy of remark that the Sales were hoised in the Canoes as the men were drawing them and the wind was great relief to them being Sufficently Strong to move the Canoes on the Trucks, this is Saleing on Dry land in every Sence of the word

**Gass** A cloudy morning.

**Ordway** a cloudy morning. The day proved pleasant and warm the men much fatigued.

**Whitehouse** a cloudy morning. The weather cleared up about 10 oClock AM and the day proved pleasant and warm. The evening was clear and pleasant.

**Wednesday, June 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	78a	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis** The Musquetoës are extreemly troublesome to us.

**Clark** Some rain last night, this morning verry Cloudy. The wind from the NW verry worm. Flying Clouds, in the evening the wind Shifted round to the East & Blew hard, which is a fair wind for the two Canoes to Sail on the Plains across the portage.

**Gass** a fine morning. Captain Lewis measured the falls, found them in a distance of 17 miles 362 feet 9 inches. The first great pitch 98 feet, the second 19 feet, the third 47 feet 8 inches, the fourth 26 feet; and the number of small pitches amounting altogether to 362 feet 9 inches.

**Ordway** Some rain last night. This morning cloudy. The day proved fair.

**Whitehouse** We had some rain last night, and this morning verry cloudy. The weather cleared up at 9 oClock AM and the verry hot Sun beat down on us as the day proved fair. I took sick this evening I expect by drinking too much water when I was hot. I got bled &c. I had an opportunity of seeing the quantity of Buffalo as related; and I can without exaggeration say, that I saw more Buffalo feeding— at one time, than all the Animals I had ever seen before in my life time put together—

**Thursday, June 27**

**Weather Diary**

at 1 PM a black cloud which arose in the SW came on accompanied with a high wind and violent Thunder and Lightning; a great quantity of hail also fell during this storm which lasted about 2 ½ hours the hail which was generally about the size of a pigeon’s egg and not unlike them in form covered the ground to the debth of 1 ½ inches.— for about 20 minutes during this storm hail fell of an innomus size driven with violence almost incredible, when they struck the ground they would bound to the hight of ten to 12 feet and pass 20 or thirty before they touched again. (during the emence Storm I was with the greater part of the men on the portage the men Saved themselves, Some by getting under a Canoe others by putting Sundery articles on their heads two was kocked down & Seven with their legs & thighs much brused. - Clark’s notes) After the rain I measured and weighed many of these hail stones and found several weighing 3 ozs. and measuring 7 Inches in circumference; they were generally round and perfectly sollid. I am convinced if one of those had struck a man on the neaked head it would have knocked him down, if not fractured his skull.— Young blackbirds which are abundant in these Island are now beginning to fly

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	77	f a r & h t l <sup>6</sup>	SW	R	-	1 1/4

<sup>6</sup> Clark’s Journal Codex C lists this weather data as “f a r h.”

**Daily Narrative Journals**

**Lewis** at 1 PM a cloud arrose to the SW and shortly after came on attended with violent Thunder Lightning and hail &c. (see notes on diary of the weather for June). Soon after this storm was over Drewyer and J. Fields returned. They were about 4 miles above us during the storm, the hail was of no uncommon size where they were. Soon after the storm this evening the water on this side of the river became of a deep

crimson colour which I presume proceeded from some stream above and on this side. At 4 PM the party returned from the upper camp; Capt. C. gave them a drink of grog; they prepared for the labour of the next day. Soon after the party returned it began to rain accompanied by some hail and continued a short time; a second shower fell late in the evening accompanied by a high wind from the NW—

**Clark** a fair warm morning, wind from the SE and moderate. The warmest day we have had this year, at 4 PM the party returned...Soon after it began to hail and rain hard and continued for a few minutes & Ceased for an hour and began to rain again with a heavy wind from the NW. I refreshed the men with a drink of grog. The river beginning to rise a little the water is Coloured a rich brown, the Small Streams, discharges in great torrents, and partake of the Cholera of the earth over which it passes— a great part of which is light & of a redish brown. Several Buffalow pass drowned & dashed to pieces in passing over the falls. Cloudy all night, Cold.

**Gass** a fine morning. In the afternoon a dreadful hail storm came on, which lasted half an hour. Some of the lumps of ice that fell weighed 3 ounces, and measured 7 inches in circumference. The ground was covered with them, as white as snow. It kept cloudy during the evening and some rain fell.

**Ordway** a fair warm morning. a heavy dew last night. passed the upper falls which is a great catteract and look remarkable. passed the lower high falls which is the highest known except the falls of the Neagra. a hard Shower of rain and hail came on of a Sudden So I got under a Shelving rock on one Side of the creek where a kept dry through the hardest of it. hard thunder. large hail the creek rose So high in a few minutes that I had to move from the dry place and proceeded on. the wind blew So high that the hail cut verry hard against me and I could hardly keep my feet. the rain has made it So muddy and Slippery, cloudy all night.

**Whitehouse** a fair clear warm morning. About 4 oClock PM we had a hard shower of rain which made the Portage so Slippery

**Friday, June 28**

**Weather Diary**

Cat fish no higher

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	75	c a f	SW	R	-	2

**Daily Narrative Journals**

**Lewis** the river is now about nine inches higher than is was on my arrival. Portage creek had arisen considerably and the water was of crimson colour and illy tasted. Soon after his arrival [Clark during the morning] at willow run he experienced a hard shower of rain which was succeeded by a violent wind from the SW off the snowy mountains, accompanied with rain; the party being cold and wet, he administered the consolation of a dram to each.

**Clark** a fair morning, wind from the South. Set out passed the Creek which had rose a little and the water nearly red, and bad tasted [Portage Creek]. Soon after we halted we had a Shower, and at dark we expereinced a most dredfull wind from off the Snow Mountains to the SW accompd. with rain which continued at intervalles all night men wet. I refreshed them with a dram.

**Gass** a fine morning.

**Ordway** a fair morning. Wind from the South. The water is riseing and of a redish brown colour. Soon after we halted, we had a Shower and at dark we experienced a most dredful wind from off the Snow Mountains to the SW accompanied with rain which lasted nearly all night.

**Whitehouse** a fair clear morning, wind from the South, which continued the whole of this day

**Saturday, June 29**

**Weather Diary**

heavy gust of rain the morning and evening

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	r t & l	SW	77	f	SW	R	-	4 ½

**Daily Narrative Journals**

**Lewis** This morning we experienced a heavy shower of rain for about an hour after which it became fair. Not having seen the large fountain of which Cap. Clark spoke I determined to visit it today...passed through a level plain for about Six miles when I reached a brake of the river hills. Here we were overtaken by a violent gust of wind and rain from the SW attended with thunder and Litning. I expected a hail storm probably from this cloud and therefore took refuge in a little gully wher there were some broad stones with which I purposed protecting my head if we should have a repetition of the scene of the 27<sup>th</sup> but fortunately we had but little hail and that not



large; I sat very composedly for about an hour without shelter and took a copious drenching of rain; after the shower was over I continued my route to the fountain. ...nature seems to have dealt with a liberal hand for I have scarcely experienced a day since my first arrival in this quarter without experiencing some novel occurrence among the party or witnessing the appearance of some uncommon object. I think this fountain the largest I ever beheld, and the handsome cascade which it affords over some steep and irregular rocks in its passage to the river adds not a little to its beauty...it is about 25 yds. from the river...the water of this fountain is extremely transparent and cold...very pure and pleasant. After amusing myself about 20 minutes in examining the fountain I found myself so chilled with wet cloaths that I determined to return. I was astonished not to find the party yet arrived, but then concluded that probably the state of the prairies had detained them, as in the west state in which they are at present the mud sticks to the wheels in such manner that they are obliged to halt frequently and cleanse them. [Lewis describes the following flash flood episode repeating it using his literary prose. It is omitted to allow the full effect from Clark's discussion below.]

#### Clark

a little rain very early this morning after[wards] Clear, finding that the Prairie was So wet as to render it impossible to pass on to the end of the portage determined to Send back to the top of the hill...for remaining baggage...Soon after I arrived at the falls, I perceived a cloud which appeared black and threaten immediate rain, I looked out for a Shelter but Could see no place without being in great danger of being blown into the river if the wind Should prove as turbelant as it is at Some times. about 1/4 of a mile above the falls I obsd [observed] a Deep riveen in which was Shelveing rocks under which we took shelter near the river and placed our guns the compas &c. &c....which was very Secure from rain, the first Shower was moderate accompanied with a violent wind, the effects of which we did not feel, Soon after a torrent of rain and hail fell more violent than ever I saw before, the rain fell like one voley of water falling from the heavens and gave us time only to get out of the way of a torrent of water which was Poreing down the hill in the rivin with emence force tareing everything before it takeing with it large rocks & mud. I took my gun and Shot pouch in my left hand, and with the right Scrambled up the hill pushing the Interpreters wife (who had her child in her arms) before me, the Interpreter himself makeing attempts to pull up his wife by the and much Scared and nearly without motion— we at length retched the top of the hill Safe where I found my Servent in Serch of us greatly agitated, for our wellfar— before I got out of the bottom of the revein which was a flat dry rock when I entered it, the water was up to my waste & wet my watch, I Scrcely got out before it raised 10 feet deep with a torrent which [was] turrouble to behold, and by the time I reached the top of the hill, at least 15 feet water, I directed the party to return to the Camp at the run as fast as possible to get to our lode where Cloathes Could be got to Cover the Child whose Clothes were all lost, and the woman who was but just recovering from a Severe indisposition, and was wet and Cold, I was fearfull of a relaps. I caused her as also the others of the party to take a little Spirits, which my Servent had in a Canteen, which revived very much. On arrival a the Camp on the willow run— met the party who had returned in great Confusion to the run leaveing their loads in the Plain, the hail & wind being So large and violent in the plains, and them naked, they were much brused, and Some

nearly killed one knocked down three times, and other without hats or any thing on their heads bloodey & Complained verry much; I refreshed them with a little grog— Soon after the run began to rise and rose 6 feet in a few minites— I lost at the river in the torrent the large Compass, an eligant fusee [umbrella], Tomahawk Humbrallo, Shot pouch, & horn with powder & Ball, mockersons, & the woman lost her Childs Bear & Clothes bedding &c. — The Compass is a Series loss; as we have no other large one. The plains are So wet that we Can do nothing this evening particularly as two deep reveins are between ourselves & Load

**Gass** We had a very hard gust of wind and rain in the morning; but a fine forenoon after it. In the afternoon there was another heavy shower of rain, and after it a fine evening. Captain Lewis came to camp, but drenched with rain.

**Ordway** a little rain verry eairly this morning after clear & warm. We find that the prarie is So wet as to render it impossable to pass on the end of the portage. Saw a black cloud rise in the west which we looked for emediate rain we made all the haste possable but had not got half way before the Shower met us and our hind extletree broke in too we were obledged to leave the load Standing and ran in great confusion to Camp the hail being So large and the wind So high and violent in the plains, and we being naked we were much bruuzed by the large hail. Some nearly killed one knocked down three times, and others without hats or any thing about their heads bleading and complained verry much. [He then relates Clark's story above.] The plains are so wet that we could doe nothing this evening.

**Whitehouse** a little rain verry eairly this morning which lasted but for a short time, when the weather cleared off and it became pleasant. In the afternoon, there arose a storm of hard wind & rain; accompanied with amazing large hail at the upper camp. We caught several of the hail Stones which was measured & weighed by us, there were 7 inches in Surcumference and weighed 3 ounces— Captain Lewis made a small bowl of punch out of one of them. As luck would have it, we were all...Safe...the party that was at the upper camp, were under a good shelter, but we feel concerned about the men on the road with the baggage from the lower Camp—

**Sunday, June 30**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	76	f	SW	R	-	2 1/4

## Daily Narrative Journals

- Lewis** We had a heavy dew this morning which is a remarkable event. I being to be extremely impatient to be off as the season is now waisting a pace. Nearly three months have now elapsed since we left Fort Mandan and not yet reached the Rocky Mountains. I am therefore fully preswaded that we shall not reach Fort Mandan again this season if we even return from the ocean to the Snake Indians. The men complained much today of the bruises and wounds which they had received yesterday from the hail. Two men sent to the falls returned with the compass which they found covered in the mud...the other articles were irrecoverably lost. They found that part of the rivene in; which Capt. C. had been seting yesterday, filled with huge rocks. experienced a heavy gust of wind this evening from the SW after which it was a fair afternoon. More buffaloe than usual were seen about their camp; Capt. C. assured me that he believes he saw at least ten thousand at one view— I made several attempts to obtain Equal altitudes since my arrival here but have been uniformly defeated untill now by the flying clouds and storms in the evening—
- Clark** a fair morning. At 3 oClock a Storm of wind from the SW after which we had a clear evening. Great numbers of Buffalow in every direction, I think 10,000 may be Seen in a view.
- Gass** A fine day. The hail that fell on the 27<sup>th</sup> hurt some of the men very badly. Captain Clarke, the interpreter, and the squaw and child, had gone to see the spring at the falls; and when the storm began, they took shelter under a bank at the mouth of the run; but in five minutes there was seven feet water in the run; and they were very near being swept away. They lost a gun, an umbrella and a Surveyor's compass, and barely escaped with their lives.
- Ordway** a fair morning. This run has fallen a little. Last evening it was up to a mans waist at the crossing place where it was dry before the Showers, and verry riley and bad tasted at 3 oClock we had a Storm of wind from SW after which a fair evening.
- Whitehouse** a fair morning & pleasant. We are at the upper camp, looking out for the arrival of Captain Clark and his party, with the baggage &c. fearing that they must have suffered much by the hail—

# July 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition continued it's portage around the Great Falls of the Missouri.

Monday, July 1

#### Weather Diary <sup>1</sup>

wind hard during the grater part of the day.—

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f	SW	74a	f	SW	R	-	½

<sup>1</sup> Reference: Coues, Volume III, pages 1273, 1289-90; Moulton, Volume 5, pages 22-24; Thwaites, Volume 6, Part II, pages 193-195.

<sup>2</sup> It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

#### Daily Narrative Journals

**Lewis** the day has been warm and the Musquitoes troublesome of course

**Clark** the Day worm and party much fatigued. The wind hard from the SW— the hail which fell at Capt. Lewis Camp 27 Ins [June 27] was 7 Inches in circumfrance & waied 3 ounces, fortunately for us it was not So large in the plains, if it had we Should most certainly fallen victims to its rage as the men were mostly naked, and but few with hats or any covering on their heads.

**Ordway** the day warm and party much fatigued. The wind hard from the SW. The hail which fell at Capt. Lewis Camp was 7 Inches in Surcumference and weighed 3 oucnes. Fortinately for us it was not so large in the plains where we was. If it had we Should most certainly fallen victims to its rage as the most of the men were without hats or any thing on their heads and mostly neaked.

**Whitehouse** This morning pleasant and warm. About 3 oClock PM Captain Clarke & party arrived...they informed us that they were detained by the wet weather, and that they were out in the hail Storm but as luck would have it, the hail was not So big as that

which fell at the upper Camp. Captain Clarke was at the falls of the River, at the time the hail fell, and hunted a shelter for himself & party from the Rain & hail— This sheltering place, was in a deep Creek, without any Water in it, at the time it first began raining; he mentioned that the Creek rose so fast, they had scarcely time to get out, before the water was ten feet deep. The party that was hawling the crafts, had nearly all lost their lives, being naked and most without hats on, or any thing to cover them, they had no shelter & were Cut and bruised very much by the hail, and underwent, as much as Men could possibly endure; to escape with their lives—

**Tuesday, July 2**

**Weather Diary**

some rain just before sun rise

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	78a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** A shower of rain fell very early this morning. The wind hard from the SW all day. I think it possible that these almost perpetual SW winds proceede from the agency of the Snowey Mountains and the wide level and untimbered plains which streach themselves along their bases for an immense distance (ie) that the air comeing in contact with the snow is suddonly chilled and condenced, thus becoming heavier than the air beneath in the plains, where by the constant action of the sun on the face of an untimbered country there is a partial vacuum formed for it's reception. I have observed that the winds from this quarter are always the coldest and most violent which we experience, yet I am far from giving full credit to my own hypothesis on this subject; it hoever I find on the opposite side of these mountains that the winds take a contrary direction I shall then have more faith....completed my observation of Equal Altitudes today.

**Clark** Some rain at day light this morning, after which a fair morning. The Roreing of the falls for maney miles above us. Musquetors verry troublesom to day, day worm. Wind to day as usial from the SW and hard all the after part of the day, those winds are also Cool and generally verry hard.

**Gass** a fine morning.

**Ordway** Some rain at day light this morning after which a fair morning. The day warm.

**Whitehouse** Some rain at day light this morning, and it then cleared up, and we had clear pleasant

fair weather.

**Wednesday, July 3**

**Weather Diary**

slight rain in the evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a <sup>3</sup>	f	SW	74a	c a f & r	SW	-	-	-

3 Lewis' Journal Codex P & Clark's Codex I lists this temperature as "56."

**Daily Narrative Journals**

**Lewis** at 10 Ock AM we had a slight shower which scarcely wet the grass. The current of the river looks so gentle and inviting that the men all seem anxious to be moving upward as well as ourselves.

**Clark** a fine morning. Wind from the SW. At 1 oClock began to rain. A Small Shower at 1 oClock which did Scercely wet the grass— The water tolerably clear and Soft in the river, Current jentle and bottoms rising from the water; no appearance of the river rising more than a few feet above the falls, as high up as we have yet explored. The winds has blown for Several days from the SW I think it possible that those almost perpetal SW winds, proceed from the agency of the Snowey mountains and the wide leavel and untimbered plains which Streach themselves along their borders for an emence distance, that the air comeing in Contact with Snow is Suddenly chilled and condensed, thus becoming heavier than the air beneath in the plains, it glides down the Sides of those mountains and decends to the plains, where by the constant action of the Sun on the face of the untimbered country there is a partial vacuum formed for it's reception. I have observed that the winds from this quarter is always the Coaldest and most violent and most violent which we experience, yet I am far from giveing full credit to this hypothesis on this Subject; if I find however on the opposit Side of these mountains that the winds take a contrary direction I Shall then have full faith. The winds take a contrary direction in the morning or from the mountains on the west Side.

**Gass** a fine morning. We had a light shower of rain (in early afternoon)

**Ordway** a clear pleasant warm morning.

**Whitehouse** A clear pleasant morning. We had a light sprinkling Shower of rain in the afternoon.

Thursday, July 4

Weather Diary

heavy dew this morning. slight sprinkle of rain at 2 PM.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	Sw	76a	f a r	SW	F	-	1/4

Daily Narrative Journals

**Lewis**

we all believe that we are now about to enter on the most perilous and difficult part of our voyage, yet I see no one repining; all appear ready to met those difficulties which wait us with resolution and becoming fortitude. We had a heavy dew this morning. The clouds near these mountains rise suddonly and discharge their contents partially on the neighbouring plains; the same cloud will discharge hail along in one part, hail and rain in another, and rain only in a third, all within the space of a few miles; and on the Mountains to the SE of us sometimes snow. At present there is no snow on those mountains; that which covered them when we first saw them and which has fallen on them several times since has all disappeared. The Mountains to the NW & W of us are still entirely covered are white and glitter with the reflection of the sun. I do not believe that the clouds which prevail at this season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit snow only for there has been no preceptible deminution of the snow which they contain since we first saw them. I have thought it probable that these mountains might have derived their appellation of shining Mountains, from their glittering appearance when the sun shines in certain directions on the snow which covers them.

Since our arrival at the falls we have repeatedly witnessed a nois which proceeds from a direction a little to the N of West as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at a distance of three miles. I was informed of it by the men several times before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains the other day I heard this noise very distinctly, it was perfectly calm clear and not a cloud to be seen. I halted and listened attentively about an hour during which time I heard two other discharges and took the direction of the sound with my pocket compass. I have no doubt but if I had leasure I could find from whence it issued. I have thout it probable that it might be caused by runing water in some of the caverns of those immense mountains, on the principal of the blowing caverns; but in such case the sound would be periodical & regular, which is not the case with this, being sometimes heard once only and at other times, six or seven discharges in quick succession. It is heard also at different seasons of the day and night. I am at a loss to account for this phenomenon. Our work being at an end this evening, we gave a drink of sperits, it being the last of our stock, and some of them appeared a little sensible of it's effects. The fiddle was plyed and they danced very merrily untill 9 in

the evening when a heavy shower of rain put an end to that part of the amusement tho' they continued their mirth with songs and festive jokes and were extremely merry untill late at night.

**Clark** A fine morning, a heavy dew last night. A black Cloud came up from the SW and rained a few drops. I employ my Self drawing a Copy of the river to be left at this place for fear of Some accident in advance. The party amused themselves danceing untill late when a Shower of rain broke up the amusement. The climate about the falls of the Missouri appears to be Singular Cloudy every day (Since our arrival near them) which rise from defferent directions and discharge themselves partially in the plains & mountains, in some places rain other rain & hail, hail alone, and on the mountains in Some parts Snow. A rumbling like Cannon at a great distance is heard to the west if us; the Cause we Can't account.

**Gass** A fine day. We drank the last of our spirits in celebrating the day, and amused ourselves with dancing till 9 o'clock at night, when a shower of rain fell and we retired to rest.

**Ordway** a beautiful clear pleasant warm morning. Last in the evening we had a light Shower of rain but did not last long—

**Whitehouse** This morning we had Clear weather. We amused ourselves with frolicking, dancing &ca. untill 9 of 10 oClock PM in honor of the day. About that time, we had a slight shower of Rain, but it soon cleared away & we had fine weather—

**Friday, July 5**

**Weather Diary**

heavy shower of rain and hail last evening at 9 PM. some thunder & lightning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a h & r <sup>4</sup>	SW	72a	f	SW	F	-	½

<sup>4</sup> Lewis' Journal Codex P lists this weather data as "f h & r" & Clark's Codex I lists this as "h & r."

**Daily Narrative Journals**

**Clark** a fine morning and but little wind, worm and Sultrey at 8 oClock—

**Gass** a fine morning.

**Ordway** a clear pleasant morning.



**Whitehouse** a clear pleasant morning

**Saturday, July 6**

**Weather Diary**

wind high all day. A heavy wind from the SW attended with rain about he middle of last night. about day had a violent thunderstorm attended with Hail and rain. the Hail Covered the ground and was about the Size of Musquet balls. I have Seen only one black bird killed with the hail, and am astonished that more have not Suffered in a similar manner as they are abundant, and I Should Suppose the hail Sufficiently heavy to kill them.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	c a h r t & l	SW	74a	f a c	SW	F	-	1/4

**Daily Narrative Journals**

**Lewis** In the course of last night had several showers of hail and rain attended with thunder and lightning. About day a heavy storm came on from the SW attended with hail rain and a continued roar of thunder and some lightning. The hail was as large as musket balls and covered the ground perfectly. We had some of it collected which kept very well through the day and served to cool our water. These showers and gusts keep my boat wet in despite of my exertions. After the hail and rain was over this morning we dispatched 4 hunters

**Clark** a heavy wind from the SW and Some rain about mid night last, at day light his morning a verry black Cloud from the SW, with a Contained rore of thunder & Some lightning and rained and hailed tremendously for about ½ an hour, the hail was the Size of a musket ball and Covered the ground. This hail & rain was accompan. by a hard wind which lasted for a fiew minits. Cloudy all the forepart of the day, after Part Clear.

**Ordway** verry hard Showers of rain and hail through the course of last night, hard Thunder & lightning, at day light this morning a hard shower came up of a Sudden attended with high wind & large hail one of the men Saved a Small tin kittle full of the hail which did not all disolve through the day. The morning cloudy. A part of the day clear. Light Showers of rain in the afternoon. The wind high from the west.

**Whitehouse** verry hard Showers of Rain & hail, through the course of last night. Hard Thunder. At day light a hard shower of rain, thunder & large hail; one of the men gethered a Small kittle full of the hail which he kept most part of the day, without melting. The morning continued cloudy. In the afternoon it cleared up with some light showers of rain.

Sunday, July 7

Weather Diary

a Shower at 4 PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c a f	SW	77a	r a c	SW	F	-	1/4

Daily Narrative Journals

- Lewis** The weather warm and cloudy therefore unfavourable for many operations. We have no tents; the men are therefore obliged to have recourse to the sails for shelter from the weather and we have not more skins than are sufficient to cover our baggage when stowed away in bulk on land. Many of the men are engaged in dressing leather to cloath themselves. Ther leather cloathes soon become rotonn as they are much exposed to the water and frequent wet. We had a light shower of rain about 4 PM attended with some thunder and lightning. The musquetoos are excessively troublesome to us. I have prepared my composition which I should have put on this evening but the rain prevented me.
- Clark** A Warm day, wind from the SW. Cloudy as usial. Some rain in the after part of the day.
- Gass** The morning was fine. In the evening some few drops of rain fell
- Ordway** a clear pleasant morning. The day warm. I the afternoon Some Thunder A light shower of rain.
- Whitehouse** A clear pleasant morning. They proved warm. Before 4 oClock PM we had some Thunder and a light Shower of Rain.

Monday, July 8

Weather Diary

I finish taking the hight of the falls of the Missouri

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	78a	f a r	SW	F	-	1/4

### Daily Narrative Journals

**Lewis** day being warm and fair. The mountains which ly before us from the South, to the NW still continue covered with snow. Slight rain this afternoon.

**Clark** A worm morning, flying Clouds. Some rain this evening after a verry hot day— the mountains which are in view to the South & NW are Covered with Snow.

**Gass** a fine morning.

**Ordway** a clear pleasant morning. Some Thunder and light Showers this afternoon. The River falling.

**Whitehouse** A clear pleasant morning. We had this Evening some Thunder and light sprinkling of rain, &c.

**Tuesday, July 9**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	SW	76a	c a r	NW	F	-	1/4

### Daily Narrative Journals

**Lewis** The morning was fair and plesant. Men loaded canoes...just at this moment a violent wind commenced and blew so hard that we were obliged to unload the canoes. again; a part of the baggage in several of them got wet before it could be taken out. The wind continued violent untill late in the evening. The buffaloe had principally deserted us, and the season was now advancing fast. I therefore relinquished all further hope of my favorite boat and ordered her to be sunk in the water. [Lewis' experimental iron framed, Elk skin covered boat. The Iron frame being made at Harper's Ferry and transported all the way the upper portage camp location.]

**Clark** a clear worm morning, wind from the SW. This falire of our favourate boat was a great disapointment to us.

**Gass** a fine morning, and heavy dew. In the afternoon a storm of wind, with some rain came on from the north west, and we had again to unload some of our canoes, the waves ran so high. After the storm we had a fine evening.

**Ordway** a beautiful pleasant morning. Soon after we got the canoes loaded Thunder and high wind came on So that we had to unload again.

**Whitehouse** a beautiful morning. In the afternoon, Soon after we got the canoes loaded, there came up a Violent Storm of wind & Thunder. The waves dashed over the canoes to such a height, so that all hands were employed to unload them as quick as possible—

**Wednesday, July 10**

**Weather Diary**

wind hard all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f a r	SW	66a	F	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the wind blew very hard the greater part of the day. Sergt. Ordway proceeded up the river about 5 miles when the wind became so violent that he was obliged to ly by untill late in the evening when he again set out with the canoes.

**Clark** a fair windey day, wind hard the most of the day from the SW— rained modderately all last night (by Showers). The Canoes did not arrive as I expected, owing to the hard wind which blew a head in maney places.

**Gass** a fine cool morning.

**Ordway** a clear morning. Then the wind arose So high that we were obleged to lay by untill towards evening. Late in the afternoon the wind abated a little So we proceeded on within about 3 miles of the upper camp.

**Whitehouse** a clear pleasant morning. We proceeded on about 8 miles when the wind rose so Great and high that we were obleged to lay by untill the evening. The wind then abated and we went on untill dark.

**Thursday, July 11**

**Weather Diary**

wind hard all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	70a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** this evening a little before the sun set, I heard two other discharges of this unaccountable artillery of the Rock Mountains proceeding from the same quarter that I had before heard it. I now recollected the Minnetares making mention of the noise which they had frequently heard in the Rocky Mountains like thunder; and which they said the mountains made; but I paid no attention to the information supposing it either false or the phantom of a superstitious imagination. I have also been informed by the engages that the Panis and Ricaras give the same account of the Black mountains which lye West of them. This phenomenon the philosophy of the engages readily accounts for; they state it to be the bursting of the rick mines of silver which these mountains contain. The three other canoes did not arrive untill late in the evening in consequence of the wind and the fear of wetting their loads which consisted of articles much more liable to be injured by moisture...Capt C. had the canoes unloaded and ordered them to float down in the course of the night to my camp, but the wind proved so high after the night that they were obliged to put too 8 miles above and remain untill morning.

**Clark** a fair windey morning, wind SW.

**Ordway** a clear morning. The wind verry high from the NW which obliged us to lay at Camp untill late in the afternoon. Towards evening the wind abated So that we went on and arrived at Capt. Clarks camp. We floated about 8 miles and the wind rose So high that drove us to Shore So we landed untill morning.

**Whitehouse** a clear morning, but the high wind which oblegded us to lay at our Camp untill late in the afternoon. Towards evening the wind abated a little so that we went on. A party of 4 men set out to float back to the lower camp at night, but the wind rose so high, that they were forced to lay by till morning—

**Friday, July 12**

**Weather Diary**

wind violent all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	74a	f	SW	F	-	1/4

**Daily Narrative Journals**

**Lewis** I feel excessively anxious to be moving on. The canoes were detained by the wind until 2 PM.

**Clark** a fair windey morning, wind from the SW. The wind hard all day.

**Gass** a fine morning.

**Ordway** a clear morning. The wind as usual. The wind rose so high that one canoe filled with water the other 2 took in water the waves high but with difficulty we got down to Camp about noon. The wind continues very high all day—

**Whitehouse** a clear morning. The wind blew high and hard from the NW. The wind continued to blow so high and hard that one of the canoes filled and the other two took in water. The wind continued to blow high and hard during this day.

**Expedition leaves the upper portage camp and continues their journey up the Missouri River.**

**Saturday, July 13**

**Weather Diary**

Wind violent in the latter part of the day

Sunrise			4 PM			Missouri River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	SW	76a	f	SW	F	-	1/4

<sup>5</sup> River observations once again change daily as the Expedition is again moving up the Missouri River. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

### Daily Narrative Journals

**Lewis** This morning being calm and Clear I had the remainder of our baggage embarked in the six small canoes and maned them with two men each. I now bid a cheerfull adue to my camp. Proceeded up the river about 5 miles when the wind became so violent that two of the canoes shiped a considerable quantity of water and they were compelled to put too...and clense the canoes of water. About 5 PM the wind abated. It is impossible to sleep a moment without being defended against the attacks of these most tormenting of all insects.

**Clark** a fair Calm Morning, verry Cool before day— at 9 oClock, the wind rose and blew hard from the SE the greater part of the day.

**Gass** A fine day, but high wind.

**Ordway** clear and calm this morning. About 5 miles...the wind rose so high that 2 of the canoes took water.

**Whitehouse** a clear, calm pleasant morning. Proceeded on this morning abt. 5 miles...then the wind rose so high that obledged us halt untill the middle of the afternoon. When the wind abated we went on about 7 mls further

**Sunday, July 14**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	f	SW	78a	c a r	SW	-	-	-

**Daily Narrative Journals**

- Lewis** This morning was calm fair and warm. The grass and weeds in this bottom are about 2 feet high; which is much greater height than we have seen them elsewhere this season. Had a slight shower at 4 PM this evening.
- Clark** a fine morning, Calm and warm. Some rain this afternoon. All preparing to Set out on tomorrow.
- Gass** a fine morning. In the afternoon some rain fell but we continued to work at the canoes
- Ordway** the morning clear and pleasant. About 4 o'clock PM we experienced a Small Shower of rain. Warm. The weeds and Grass in this bottom is as high as a mans knees but the Grass on the high plains & praries is not more than 3 Inches high not time in this Season.
- Whitehouse** the morning clear, calm and pleasant. About 4 o'clock PM we had a Small Shower of rain & very warm. The weeds and grass in this bottom is as high as a mans knees, but the grass on the high land is not more than 3 inches high.

**Monday, July 15**

**Weather Diary**

Set out from our upper camp above the falls

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	76a	f	SW	F	-	1 1/2

**Daily Narrative Journals**

**Lewis** At 10 AM we once more saw ourselves fairly under way much to my joy and I believe that of every individual who compose the party. We have not passed Fort Mountain on our right it appears to be about ten miles distant. [Square Butte]. From it's figure we gave it the name of fort mountain. The prickly pear is now in full blume and forms one of the beauties as well as the greatest pests of the plains. The sunflower is also in blume and is abundant. The river is from 100 to 150 yds. wide. on the banks of the river there are many large banks of sand much elevated above the plains on which they ly and appear as if they had been collected in the course of time from the river by the almost incessant SW winds; they always appear on the sides of the river opposite to those winds—



- Clark** rained all the last night, I was wet all night. This morning wind hard from the SW.  
**Gass** After a night of heavy rain, we had a pleasant morning. The snow appears to have melted from all the mountains in view.
- Ordway** rained the greater part of last night. A clear morning. The wind high from the NW. The current very gentle & river smooth since we left the falls.
- Whitehouse** rained the greater part of last night. This morning was clear, but the wind blowing high and hard from the NW. The current very gentle since we came above the falls and clear

**Tuesday, July 16**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
53a	f	SW	80a	f	SW	F	-	3/4

**Daily Narrative Journals**

- Lewis** We had a heavy dew last night. Early this morning we passed about 40 little booths formed of willow brushes to shelter them from the sun; they appeared to have been deserted about 10 days; we supposed that they were snake Indians. Came to a rapid [Probably the later Half-Breed, or Lone Pine Rapids]...the current of the Missouri below these rapids is strong for several miles, tho' just above there is scarcely any current, the river very narrow and deep, about 70 yds. wide. The mosquitoes are extremely troublesome this evening and I have left my bier, of course suffered considerably, and promised in my wrath that I never will be guilty of a similar peice of negligence while on this voyage—
- Clark** a fair morning after a very cold night, heavy dew the river is not so wide as below from 100 to 150 yards wide & Deep Crowded with Islands & Crooked. the current of the river from the Madison river to the Mountain is gentle, bottoms low and extensive.
- Gass** a fine morning. The water became more rapid; but the current not so swift as below the falls.
- Ordway** a clear pleasant morning. The current Swift towards evening.
- Whitehouse** a clear pleasant morning. The current begin to get swifter.

Wednesday, July 17

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	81a	f	SW	F	-	1 1/2

Daily Narrative Journals

- Clark** took a Medn. Altitude & we took Some Luner Observations &c. The river confined in maney places in a verry narrow Chanel from 70 to 120 yards wide.
- Gass** the morning was fine and pleasant.
- Ordway** a clear morning. Came to a verry bad rapid. The River is about 100 yards wide.
- Whitehouse** a clear morning. The current verry rapid, and river Crooked, and only about 100 yard wide.

Thursday, July 18

Weather Diary

Sunrise			4 PM			Missouri River <sup>6</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	84a	f	SW	-	-	-

<sup>6</sup> Clark Journal Codex I lists that the river fell one-half inch.

Daily Narrative Journals

- Lewis** passed the entrance of a considerable river...it's current is rapid and water extreamly transparent...in honour of the Secretary of war calling it Deaborn's River. The river [Missouri] somewhat wider than yesterday and the mountains more distant from the river and not so high.
- Clark** a fine morning.

**Gass**            The morning was fair

**Ordway**        a clear pleasant morning.

**Whitehouse**    a clear pleasant morning.

**Expedition enters what Lewis names “The Gates of the Rocky Mountains,” MT.**

**Friday, July 19**

**Weather Diary**

Thunder Storm ½ after 3 PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	68a	c a h & r	SW	F	-	½

**Daily Narrative Journals**

**Lewis**            the current has been strong all day. The river deep and from 100 to 150 yds., wide. This evening we entered much the most remarkable cliffs that we have yet seen. Every object here wears a dark and gloomy aspect. Several fine springs burst out at the waters edge from the interstices of the rocks. From the singular appearance of this place, I called it the gates of the rocky mountains. Musquetoos less troublesome than usual. We had a thundershower today about 1 PM which continued about an hour and was attended with som hail.

**Clark**            a find morning.

**Gass**            a fine morning. About 1 o'clock we had thunder, lightning and rain, which continued an hour or two, and then the weather became clear.

**Ordway**        a clear pleasant morning. This curious looking place (we entered) we call the gates of the Rocky Mountains. About one oClock PM we had a Thunder Shower which lasted about one hour a little hail attended it

**Whitehouse**    a clear pleasant morning. The current swift and water clear. About 1 oClock PM we had a Thunder Shower which lasted 1 hour. Shortly after we camped we had a light Sprinkling Shower of rain this evening.

Saturday, July 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f a r	SW	60a	f	NW	-	-	-

Daily Narrative Journals

**Lewis** currant strong. Having lost my post Meridian Observation for Eq. Altitudes in consequence of a cloud which obscured the sun for several minutes about that time, I had recourse to two altitudes of the sun with Sextant.

**Clark** a fine morning.

**Gass** a fine morning. About 2 o'clock came to a level plain on the north side, from which we saw a strong smoke rising. The river is very crooked in general

**Ordway** a clear morning

**Whitehouse** a clear morning. The current verry rapid.

**Main party passes just east of the present-day Capitol of the State of Montana, Helena.**

Sunday, July 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NW	67a	f	NW	F	-	½

Daily Narrative Journals

**Lewis** the current strong...the river is not now so deep but reather wide and much more

rapid. The grass near the river is lofty and green that of the hill sides and high open grounds is perfectly dry and appears to be scorched by the heat of the sun. This valley is bounded by two nearly parallel ranges of high mountains which have their summits partially covered with snow. The musquetoës were equally as troublesome to them as to ourselves this evening; tho' some hours after dark the air becomes so cold that these insects disappear.

**Clark** a fine morning. I observed on the highest pinecals of Some of the mountains to the West Snow lying in Spots Some Still further North are covered with Snow and cant be Seen from this point. The Winds in those mountains are not Settled generally with the river, to day the wind blow hard from the West at the Camp.

**Gass** a pleasant morning. At noon....the wind blew very hard and some drops of rain fell.

**Ordway** a clear morning. The grass in the valley and on the hills look dry and pearched up. The River divides in many channels and full of Islands and Spreads about a mile wide. The current swift.

**Whitehouse** a clear morning. The wind high from the NW.

**Monday, July 22**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NW	80a	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** Onions...this appears to be a valuable plant inasmuch as it produces a large quantity to the squar foot and bears with ease the rigor of this climate. Killed an otter which sunk..The water was about 8 feet deep yet so clear that I could see it at the bottom; I swam in and obtained it by diving. I placed my thermometer in a good shade as was my custom about 4 PM and after dinner set out without it and had proceeded near a mile before I recollected it I sent Sergt. Ordway back for it, he found it and brought it on. The murcury stood at 80 a. 0. This is the warmest day except one which we have experienced this summer.

**Clark** a fine morning, wind from the SE. The last night verry cold, my blanket being Small I lay on the grass & Covered with it.

**Gass** We embarked early, the weather being pleasant. We saw to day several banks of

snow on a mountain west of us. (Elkhorn Mountains)

**Ordway** a clear morning. Capt. Lewis forgot his Thurmometer where we dined. I went back for it. It Stood in the heat of the day at 80 degrees abo. 0, which has only been up to that point but once before this Season as yet.

**Whitehouse** A clear pleasant morning. Capt, Lewis forgot his Thurmometer which he had hung in a Shade. It Stood this day at 80 degrees above 0. The current verry rapid and a pleasant country.

**Tuesday, July 23**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	80a	c	SW	F	-	½

**Daily Narrative Journals**

**Clark** a fair morning, wind from the South.

**Gass** A cloudy morning.

**Ordway** a little cloudy the current swift

**Whitehouse** This morning cloudy. The current verry rapid.

**Wednesday, July 24**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	90a	f	SW	F	-	¾

**Daily Narrative Journals**

**Lewis** the current very strong. The mountains still continue high and seem to rise in some places like an amphitheater one rang above another as they recede from the river untill the most distant and lofty have their tops clad with snow...I fear every day that we shall meet some considerable falls or obstruction in the river notwithstanding the information of the Indian woman to the contrary who assures us that the river continues much as we see it. I can scarcely form an idea of a river runing to great extent through such a rough mountainous country without having it's stream intersepted by some difficult and gangerous rappids or falls.

**Clark** a fine day, wind from the NW. The river much like it was yesterday. The mountains on either Side appear like the hills had fallen half down & turned Side upwards [Lombard thrust fault crosses here] the bottoms narrow and no timber a few bushes only.

**Gass** The morning was fine

**Ordway** a clear pleasant morning. The current swift. The Swift water continues some bad rapids which it is with difficulty we passed over them.

**Whitehouse** a clear pleasant morning. The current still verry rapid and strong all day.

**Expedition spends July 25 through July 30 at the Three Forks of the Missouri.**

**Thursday, July 25**

**Weather Diary**

Snow appears on the mountains ahead.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	86a	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** two rapids near the large spring we passed this evening were the worst we have seen since that we passed on entering the rocky mountains.

**Clark** a fine morning we proceeded on a few miles to the three forks of the Missouri. Those three forks are nearly of a Size, that North appears to have the most water and

must be Considered as the one best calculated for us to ascend. Middle fork is quit as large about 90 yds. wide. The South fork is about 70 yds wide. The forks appear to be verry rapid. On the North Side the Indians have latterly Set the Prarie on fire, the Cause I Can't account for. The day verry hot. About 6 to 8 miles up the North fork a Small rapid river falls in on the Lard Side which affords a great Deel of water and appears to head in the Snow mountains to the SW. musquetors verry trouble Som untill the mountain breeze Sprung up, which was a little after night.

**Gass** a fine morning.

**Ordway** a clear morning. We discover Mountains a head which have Spots of Snow on them. Passed a large dry plain on S side. Bad rapids.

**Whitehouse** A clear pleasant morning. Discovered mountains lying ahead of us, which appear to have Snow on them, if not Snow it must be verry white Clay or rocks. Several bad rocky rapids.

**Friday, July 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	82a	c a r	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** current strong with frequent riffles on entering this open valley I saw the snowclad tops of distant mountains before us. This morning Capt. Clark...proceeded up the river about 12 miles to the top of a mountain ...The day being warm and the road unshaded by timber he [Clark] suffered excessively with heat and the want of water. He returned down the mountain...here Charbono was very near being swept away by the current and cannot swim, Capt. C. however risqued him and saved his life.

**Clark** proceeded to top of a mountain...much fatigue...we came to a Spring of excessively Cold water, which we drank reather freely of as we were already famished; not with Standing the precautions of wetting my face, hands & feet, I Soon felt the effects of the water. We Contind. thro a Deep Vallie without a Tree to Shade us Scorching with heat. a few drops of rain this evening

**Gass** the morning was fine. Before 4 o'clock....while we remained here it became cloudy and some rain fell

**Ordway** a clear morning. The current verry Swift. We can discover high mountains a head,



with Snow on them. The River wide and full of islands. Passed over several bad rapids.

**Whitehouse** a clear morning. We find that we have not entered the 2<sup>nd</sup> chain of Mountains but can discover very high white topped mountains. The wind blew hard since 10 AM and at 2 oClock & a light Sprinkling of rain.

**Saturday, July 27**

**Weather Diary**

a considerable fall of rain unattended with Lightning. ....

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c	SW	80a	c a r	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** We set out at an early hour and proceeded on but slowly the current still so rapid that the men are in continual state of their utmost exertion to get on, and they begin to weaken fast from this continual state of violent exertion. The limestone appears to be of an excellent quality of deep blue colour when fractured and a light led colour when exposed to the weather. We arrived at 9 AM at the junction of the SE fork of the Missouri and the country opens suddonly to extensive and beatifull plains and meadows which appear to be surrounded in every direction with distant and lofty mountains. From the E to S between the SE and middle forks a distant range of lofty mountains rose their snow-clad tops above the irregular and broken mountains which lie adjacent to this beautifull spot. A range of high mountains at a considerable distance appear to reach from South to West and are partially covered with snow. My principal consolations are that from our present position it is impossible that the SW fork can head with the waters of any other river but the Columbia

**Gass** had a pleasant morning. There is very little difference in the size of the 3 branches. About 9 o'clock...we halted here, it began to rain and continued 3 hours. In the evening the weather became clear and we had a fine night.

**Ordway** a clear morning. The current Swift as usual. About 9 oClock we arived at the three forks of the Missourie, which is in open view of the high Mountains covered in Some places with Snow. We had a Shower of rain this afternoon.

**Whitehouse** a clear morning. Current rapid as yesterday. At 9 oClock AM we arrived at the Three Forks of the Mesouri River which is in a wide valley in open view of high Mountains which has white Spots on it which has the appearance of Snow. We had

showers of rain that continued till the evening.

**Sunday, July 28**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a r	SW	90a	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** the day proved warm...our leather lodge when exposed to the sun is excessively hot. In the evening about 4 O'Clock the wind blew hard from the South West and after some little time brought on a Cloud attended with thunder and Lightning from which we had a fine refreshing shower which cooled the air considerably; the showers continued with short intervals untill after dark.

**Clark** a very worm day untill 4 oClock when the wind rose & blew hard from the SW, and was Cloudy, The Thermometr. Stood at 90<sup>0</sup> above 0 in the evening a heavy thunder Shower from the SW which continud at intervalles untill after dark

**Gass** As this was a fine day, the men were employed in airing the baggage. From this valley we can discover a large mountain with snow on it, towards the southwest.

**Ordway** a foggy morning, but clear after. Towards evening we had a fine Shower of rain Some Thunder attended it which cooled the air verry much.

**Whitehouse** We has some fog early this morning, but it cleared away at Sun rise, & the weather was pleasant. In the evening we had a fine shower of rain, accompanied with Thunder, which cooled the Air, & made it very pleasant.

**Monday, July 29**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f a r	N	82a	f	NE	R	-	½

### Daily Narrative Journals

**Lewis** we see a great abundance of fish in the stream some of which we take to be trout, but they will not bite at any bate we can offer them.

**Clark** a fair morning, wind from the North

**Gass** a fine day.

**Ordway** a clear pleasant morning. The day warm. The wind from the East. the width of the three Rivers at the forks we allow the North fork to be about 60 yards, the middle fork the Same, the South forks not So wide nor large. All appear rapid but not verry deep.

**Whitehouse** a clear pleasant morning. The day proved verry warm since 9 oClock AM the wind from the East.

**Tuesday, July 30**

### Weather Diary

Set out from 3 forks

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SE	80a	f	SE	-	-	-

### Daily Narrative Journals

**Lewis** the night was cool but I felt very little inconvenience from it as I had a large fire all night.

**Clark** the river very rapid & Sholey

**Gass** This branch (Jefferson) is about 60 yards wide and 6 feet deep, with a rapid current.

**Ordway** a fine pleasant morning. The River crooked rapid and full of islands & C.  
**Whitehouse** a clear pleasant morning. They day warm, but verry pleasant. The current verry swift & rapids common.

**Expedition now embarks up the Jefferson River [West Fork of the Missouri River], MT.**

**Wednesday July 31**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	92a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** Capt. Clark and party...their detention had been caused by the rapidity of the water and the circuitous route of the river. The river...from 90 to 120 yd. wide

**Clark** a fair Morning.

**Gass** a fine cool morning with dew.

**Ordway** a fine morning. the current swift. We dined under a handsom Shady grove of cotton timber under the hills of the Mountains to or left which has heaps of Snow on the tops & sides of it. The day very warm

**Whitehouse** a fine morning, the current rapid. Wed dined about 1 oC, under a delightful Grove of cotton timber on L. Side under the mountain which has large heaps of Snow on it. The day verry warm.

# August 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition has moved up the Jefferson Fork of the Missouri River and is just east of present-day Whitehall, Montana.

Thursday, August 1

#### Weather Diary<sup>1</sup>

Sunrise			4 PM			Jefferson River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	91a	f	SW	F	-	½

1 Reference: Coues, Volume III, pages 1273-74, 1290; Moulton, Volume 5, pages 180-182; Thwaites, Volume 6, Part II, pages 195-196.

2 River observations were taken on the Jefferson Fork of the Missouri. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** about 2 PM much exhausted by the heat of the day. Our rout lay through the steep and narrow valleys of the mountains exposed to the intense heat of the midday sun without shade and scarcely a breath of air.

**Clark** a fine day. The water Swift & very Sholey. The river so rapid that the greatest exertion is required by all to get the boats on. Wind SW. Murckery at sun rise 50<sup>0</sup>  
Ab. 0

**Gass** a fine morning.

**Ordway** a fine morning. The current swift.

**Whitehouse** a clear pleasant morning. We also saw Snow on the Mountains, a short distance to the South of our Camp—

**Friday, August 2**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	NW	81a	f	NW	F	-	½

**Daily Narrative Journals**

**Lewis** we resumed our march this morning at sunrise, the weather was fair and wind from NW. Found the current very rapid about 90 yards wide and wait deep, this is the first time that I ever dared to make the attempt to wade the river. The tops of these mountains are yet covered partially with snow, while we in the valley are nearly suffocated with the intense heat of the mid-day sun; the nights are so cold that two blankets are not more than sufficient covering.

**Clark** a fine day. The wind from the SW. We proceeded on with great difficulty from the rapidity of the current & rapids.

**Gass** The morning was fine. In the middle of the day it was very warm in the valley, and at night very cold; so much so that two blankets were scarce a sufficient covering. On each side of the valley there is a high range of mountains, which run nearly parallel, with some spots of snow on their tops.

**Ordway** a fine pleasant morning. The River is now Small crooked Shallow and rapid. The day warm.

**Whitehouse** a fine pleasant morning. The river is now small crooked Shallow and rapid.

**Saturday, August 3**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NE	86a	f	NE	F	-	½

**Daily Narrative Journals**

- Lewis** ...they passed a handsome little stream on Lard. which is form of several large springs which rise in the bottoms and along the base of the mountains with some little rivulets form the melting snow. In the evening they passed a very bad rappid where the bed of the river is formed entirely of solid rock and encamped on an island just above.
- Clark** a fine morning, wind from the NE. The river more rapid and Sholey than yesterday. Passed a bold Stream which heads in the mountains to our right and the dreaon of the minting Snow in the Montn. on that side are in View— the Greater portion of the Snow on this mountain is melted...no wood being near the Snow.
- Gass** A fine cool morning. The night was disagreeably cold.
- Ordway** a clear morning. Passed verry rapid water. The mountains a Short distance South of us Some Spots of Snow on it. The day pleasant and warm. Passed a large Spring run which is made by the Snow on the Mountains and runs from the foot of the Mo. through a Smooth plain.
- Whitehouse** a clear morning. The day proved pleasant & warm.

**Sunday, August 4**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	92a	f	S	F	-	½

**Daily Narrative Journals**

- Lewis** passed a bould runing creek about 12 yard wide and the water could and remarkably clear. The middle fork...its water is much warmer than that of the rappid fork and somewhat turbid, from which I concluded that it had it's source at a greater distance in the mountains and passed through an opener country than the other. [Forks of the Jefferson River]
- Clark** a fine morning cool. Murcury at Sun rise 39 a. 0
- Gass** a fine morning.
- Ordway** a clear morning. The rapids continue. Some of the mountains near the River has

been burned by the natives Some time ago. The pine timber killed. The cotten timber in some of the R. bottoms killd. & dry also.

**Whitehouse** a clear cool morning. Some of the mountains on the South side of the River has had the Grass burned off from them & the Timber killed on them, some time ago.

**Monday, August 5**

**Weather Diary**

Sunrise			4 PM			Jefferson River <sup>3</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SE	79a	f	SE	F	-	½

<sup>3</sup> This is the last entry in the Weather Diary for Missouri River rise and fall. No explanation is given as to why they stopped. They are located at the Big Hole River near present-day town of Twin Bridges. They had followed up that river a short distance before returning to the Jefferson River. Since the river was becoming so shallow and observation changes were so minimal, it could be assumed that they decided that the remarks were no longer necessary.

**Daily Narrative Journals**

**Lewis** the mountains put in close on both sides and arose to great height, partially covered with snow.

**Clark** a Cold Clear morning, the wind from the SE. The river Streight & much more rapid than yesterday. 4 oClock PM Murcury 49 ab. 0

**Ordway** a clear cool morning. passd. rapids as usual. the wind cold from the South. Passed over rapids covered with Slippery Small Stone and gravel. Passed over rapids worse than ever it is with difficulty & hard fatigue we git up them Some of which are allmost perpinticular 3 or 4 feet in a Short distance. About 7 oC. PM cloud up high wind it appears this little Stream is verry high, but has been high by the Snow melting off the Mountains. It is now falling a little.

**Whitehouse** a clear cool morning. The wind blew cold from the South. At 1 PM clouded up. Wind high. We expect this little Stream is high from the Snow melting on the mountains. It appears it has lately been higher, but is now falling a little.

**Tuesday, August 6**

**Weather Diary**



Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	71a	c	SW	-	-	-

### Daily Narrative Journals

**Lewis** We believe that the NW or rapid fork is the dane (drain) of the melting snows of the mountains.

**Clark** a Clear morning, Cool, wind from the SW. This evening Cool...a Violent wind from the NW accompanied with rain which lasted half an hour. Wind NW.

**Ordway** a clear morning.

**Whitehouse** a clear morning. After 4 o'clock PM...and some time after we had a small Shower of rain.

**Wednesday, August 7**

### Weather Diary

Thunder shower last evening from the NW. The river which we are now ascending is so inconsiderable and the current so much on a Stand that I relinquished paying further attention to it's State.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c a r	SW	80a	c	SW	-	-	-

### Daily Narrative Journals

**Lewis** the morning being fair we spread our stores to dry at an early hour. We had a shower of rain which continued about 40 minutes attended with thunder and lightning. This shower wet me perfectly before I reached the camp. The clouds continued during the night in such manner that I was unable to obtain any lunar observations.

**Clark** a fine morning. At 5 o'clock a thunder Storm from the NW accompanied with rain which lasted about 40 minutes—

**Gass** We remained here during the forenoon, which was fair and clear. In the evening a heavy cloud came up, and we had hard thunder with lightening and rain. The weather cleared (early evening), and we had a fine night.

**Ordway** a clear morning. The morning cool, but the day warm. We had Thunder Showers this afternoon, attended with high winds.

**Whitehouse** a clear cool morning. This day was very warm & the party was much troubled with large horse flies— the rapids not So bad. We had Thunder Showers & high winds this afternoon.

**Thursday, August 8**

**Weather Diary**

a thunder Shower last evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f a r	SW	82a	c a f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** We had a heavy dew this morning. The evening again proved cloudy much to my mortification and prevented my making any lunar observations. The Indian woman recognized the point of a high plain to our right...this hill she says here nation calls the beaver's head from a conceived remembrance of it's figure to the head of that animal.

**Clark** wind from the SW. The Thermometer at 52 a 0 at Sunrise.

**Gass** a pleasant morning. The river is very crooked in this valley.

**Ordway** a clear cold morning. A heavy dew. The prairie is covered with grass which is high in places. The day warm. On the River, which is very crooked but not So rapid as below, and only 25 yards wide, and very crooked

**Whitehouse** a clear cold morning. Saw a little Snow on the knobs & mountains which lay but a short distance from us. The day proved warm & pleasant.

**Friday, August 9**

**Weather Diary**

Encamped below the Forks Jeffersons River    Set out on a part of discovery

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	NE	78a	c	SW	-	-	-

**Daily Narrative Journals**

**Lewis**            the morning was fair and fine. The current of the river increasing in rapidity towards evening. In the evening it clouded up and we experienced a slight rain attended with some thunder and lightning. The musquetoës very troublesome this evening.

**Clark**            a fine morning, wind from the NE. in the evening Clouded up and a few drops of rain

**Gass**            a fine morning with some dew. The river is narrow and very crooked

**Ordway**        a clear cool morning. The wind high from SE. Some Thunder. Saw Snow on the Mountains Some distance a head. Some showers passed over.

**Whitehouse**   a clear cool morning. The wind high from the SE. Some Thunder in the afternoon. Saw Snow on the Mountains Some distance a head. In the evening we had some Showers of rain accompanied with Thunder with passed round or over. We all expect that we are near the head Waters or source of the Mesouri River, as the River, here is growing much narrower that it was.

**Expedition passes present-day Dillon, MT.**

**Saturday, August 10**

**Weather Diary**

rain Commenced at 6 PM and continued Showery through out the night. Musqueters bad.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	c a r f & l	SW	68a	t l & r	SW	-	-	-

### Daily Narrative Journals

**Lewis** The mountains do not appear very high in any direction tho' the tops of some of them are partially covered with snow. This convinces me that we have ascended to a great high since we have entered the rocky Mountains, yet the ascent has been so gradual along the vallies that it was scarcely perceptible by land. I do not believe that the world can furnish an example of a river runing to the extent which the Missouri and Jefferson's rivers do through such a mountainous country and at the same time so navigable as they are.

**Clark** Some rain this morning at Sun rise and Cloudy. At 4 oClock a hard rain from the SW accompanied with Hail Continued half an hour, all wet, the men Sheltered themselves from the hail with bushes. River narrow, & Sholey but not rapid.

**Gass** a fine morning. At 1 o'clock we halted t dine, when a shower of rain came on with thunder and lightening, and continued an hour, during which some hail fell.

**Ordway** a clear pleasant morning. A hard Thunder Show arose of rain and large hail which lasted nearly an hour.

**Whitehouse** a clear pleasant morning. About 1 oClock...had a hard Thunder Shower of large hail and rain.

### **Tuesday, August 11**

#### Weather Diary

heavy Dew last evening

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	c a r & j	NE	70a	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** Discovered an Indian on horseback...he suddonly turned his horse about, gave him a

whip leaped the creek and disappeared...we now set out on the track of the horse...halted...cooked breakfast....before we had finished our meal, a heavy shower of rain came on with some hail which continued about 20 minutes and wet us to the skin, after this shower we pursued the track of the horse but as the rain had raised the grass which he had trodden down it was with difficult that we follow it.

**Clark** A Shower of rain this morning at Sun rise, Cloudy all the morning wind from the SW. the river shallow and rapid. Passed a large Island which I call the 3000 miles Island.

**Gass** This morning was cloudy and we did not set out until after breakfast. About 2 some rain fell.

**Ordway** a wet rainy morning. The day warm. We Saw high Mountains a head some distance large Spots of Snow on them.

**Whitehouse** a cool cloudy morning & some Rain. They turned warm & large flies became very troublesome. We see mountains, lying a head of us some Short distance; which appear very high, and large spots of snow on them.

**Lewis’ advanced party crosses the Continental Divide at Lemhi Pass, Montana-Idaho state line.**

**Monday, August 12**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f a r & j	W	72a	f a r a h	NW	-	-	-

**Daily Narrative Journals**

**Lewis** two miles below McNeal had exultingly stood with a foot on each side of this little rivulet and thanked his god that he had lived to bestride the mighty & heretofore deemed endless Missouri. After refreshing ourselves we proceeded on to the top of the dividing ridge from which I discovered immense ranges of high mountains still to the West of us with their tops partially covered with snow. Here I first tasted the water of the great Columbia river.

**Clark** We Set out early (Wind NE). The weather Cool.

**Gass** A few drops of rain fell to day.

**Ordway** a clear morning. The current verry rapid. Some of these rapids is deep and dangerous to pass up. We had a hard Thunder Shower rained some time.

**Whitehouse** A clear morning. The current verry rapid. About 2 oClock PM a hard Thunder Shower arose rained hard a Short time.

## Tuesday, August 13

### Weather Diary

very cold last night. Passed the dividing ridge to the waters of the Columbia river.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a f	NW	70a	f a r	NW	-	-	-

### Daily Narrative Journals

**Lewis** [Meets the Shoshones] the sun was verry warm and no water at hand. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.

**Clark** a verry Cool morning. The Thermometer Stood at 52 a 0. All the fore part of the day Cloudy. At 8 oClock a mist of rain

**Gass** A cloudy morning. The weather was cold during the whole of this day.

**Ordway** Cloudy. The current rapid. In the afternoon the current more gentle.

**Whitehouse** Cloudy. The current of the river running very rapid

## Wednesday, August 14

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f a r	NW	76a	f	NW	-	-	-

### Daily Narrative Journals

**Lewis** [Indian Chief describes route to Clearwater River, Lewis notes the following] the next part of the journey of the rout was about 10 days through a dry and parched sandy desert...the sun had now dried up the little pools of water which exist through this desert plain in the spring season and had also scorched all the grass.

**Clark** a Cold morning, wind from the SW. Thermometer Stood at 51<sup>0</sup> a 0, at Sunrise the morning being cold and men Stiff. I deturmind to dealy & take brackfast...we set out at 7 oClock. River verry Crooked and rapid. Stream on the Stard. Side which head in a mountain to the North on which there is Snow.

**Gass** The morning was clear and cold.

**Ordway** a clear cold morning. The water is verry cold. The wind high from SW the current continued rapid all day.

**Whitehouse** a clear cold morning. Water in the river is clear and Cold.

**Thursday, August 15**

### Weather Diary

remarkably cold this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43a <sup>4</sup>	f	SE	74a	f	SW	-	-	-

<sup>4</sup> Clark's Journal Codex I lists this temperature as "52 a."

### Daily Narrative Journals

**Lewis** [on Horse Prairie Creek near present-day Grant, MT] the Cove is called Shoshone Cove. The grass being birned on the North side of the river we passed over...as I came up this cove.

**Clark** a Cool windey morning, wind from the SW.

**Gass** a fine morning. The river meanders The water is very cold and severe and disagreeable to the men, who are frequently obliged to wade and drag the canoes

**Ordway** clear & cold this morning. We passed Several bad rapids.

**Whitehouse** a cold clear morning. The river shallow.

## Main Party establishes Camp Fortunate at present-day Clark Reservoir, MT.

**Friday, August 16**

### Weather Diary

Capt Lewis Join with the Snake Indians at the forks

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	70a	f	SW	-	-	-

### Daily Narrative Journals

**Clark** as this morning was cold and the men fatigued Stiff and Chilled...detained till 7 o'clock. The Therm. Stood at 48<sup>o</sup> at Sunrise, wind SW. The water excessively cold.

**Gass** we proceed through rapid water, the river is very narrow, crooked and shallow.

**Ordway** a clear morning but very cold. The Thermometer Stood at 47<sup>o</sup>. The water So cold that we delayed untill after we took breakfast. We find the current Swift the river Shallow. The water not So Swift above the bad rapid.

**Whitehouse** a clear but very cold morning. The thermometer stood at 47<sup>o</sup> the river water So cold that we delayed untill after breakfast

**Saturday, August 17**

### Weather Diary



Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NE	76a	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** the nights are very cold and the sun excessively hot in the day.

**Clark** a fair Cold morning, wind SW. The Thermometer at 42 a. 0 at Sunrise, set out at 7 oClock

**Gass** a fine morning. The water so shallow

**Ordway** a clear cold morning. We have been cold this Several nights under 2 blankets or Robes, over us. A little white frost. The air chilley & cold.

**Whitehouse** a clear cold morning. The weather was so cold last night, that our party had to lay under 2 buffalo robes each in order to keep themselves warm. Some frost this morning.

### Sunday, August 18

#### Weather Diary<sup>5</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	c	SW	78a	r	SW	-	-	-

- <sup>5</sup> Clark takes at least twelve men in an advanced party to the Salmon River to view if it is navigatable and build canoes if it is between August 18, 1805 through August 29, 1805 when the return back up the Salmon and meet the main party near Tendoy, Idaho. It appears he copied the Weather Diary information when he returned from the scouting trip. But his daily narrative remarks as well as Sergeant Gass' are separated from Lewis and the main group.

### Daily Narrative Journals

**Lewis** [his birthday] ...resolved in future, to redouble my exertions and at least indeavour to promote those two primary objects of human existence, by giving them the aid of that portion of talents which nature and fortune have bestoed on me; or in future, to live for mankind, as I have heretofore lived for myself—

**Ordway** a clear morning. We had Showers of Rain this afternoon.  
**Whitehouse** a clear morning. We had some Showers of rain this afternoon—

**Daily Narrative Journals - Clark Scouting Party**

**Clark** the fore part of the day worm, at 12 o'clock it became hasey with a mist of rain, wind hard from the SW and Cold which increased untill night. The rain Seased in about two hours.

**Gass** a fine morning. At three o'clock this afternoon there was a violent gust of wind, and some rain fell. In about an hour the weather became clear, and very cold, and continued cold all night.

**Monday, August 19**

**Weather Diary**

ice on Standing water 1/8 of an inch thick.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f a r	SW	71a	f a r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the frost which perfectly whitened the grass this morning had a singular appearance to me at this season.

**Ordway** a clear cold morning. A white frost & the grass Stiff with frost it being disagreeably cold. The day pleasant & warm. Light showers of rain this evening.

**Whitehouse** a cold morning. A white frost this morning. A clear pleasant day. We had a shower of rain about 3 o'clock PM which lasted but a few minutes.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** A verry Cold morning, Frost to be seen

**Gass** A fine morning, but cold. At 1 o'clock we dined at the head spring of the Missouri and Jefferson river. A bout 5 miles south of us we saw snow on top of a mountain, and in the morning there was a severe white frost, but the sun shines very warm

where we now are. It is not more than a mile from the head spring of the Missouri to the head of one of the branches of the Columbia.

**Tuesday, August 20**

**Weather Diary**

hard frost last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r <sup>6</sup>	SW	74a	f	SW	-	-	-

6 Clark's Journal Codex C list this weather data as "f."

**Daily Narrative Journals**

**Ordway** a clear cold morning.

**Whitehouse** a clear cold morning. A white frost.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Frost last night

**Gass** A fine cool frosty morning.

**Wednesday, August 21**

**Weather Diary**

ice ½ an inch thick on standing water. Most astonishing difference between the hight of the Murcury at Sunrise and at 4 PM today there was 59° and this in the Space of 8 hours, yet we experience this wonderfull transicion without feeling it near so Sensibly as I should have expected.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	SE	78a	f	E	-	-	-

**Daily Narrative Journals**

**Lewis** This morning was very cold. The ice 1/4 of an inch thick on the water which stood in the vessels exposed to the air. Some wet deerskins that had been spread on the grass last evening are stiffly frozen. The ink feizes in my pen. The bottoms are perfectly covered with frost, insomuch that they appear to be covered with snow. notwithstanding the coldness of the last night the day has proved excessively warm.

**Ordway** the ground is covered with a hard white frost. The water which stood in the Small vessells froze 1/4 of an Inch thick, a little. Some Deer Skins which was spread out we last night are froze Stiff this morning. The Ink freezes in my pen now the Sun just ariseing clear and pleasant this morning

**Whitehouse** We had a hard white frost this morning. The water that stood in small Vessells froze, and some Deer Skins which was spread out wet last night, froze Stiff this morning, & the Ink froze in the pen at Sun rise; the morning was clear & got pleasant. At 8 oClock AM some of the party found Ice in some standing water 1/4 of an inch thick

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Frost last night. I shall in justice to Capt. Lewis who was the first white man ever on this fork of the Columbia Call this Louis's river [Salmon River]. The Westerley fork of the Columbia River is double the Size of the Easterley fork & below those forks the river is about the Size Jeffersons River near its mouth or 100 yards wide, it is very rapid & clear

**Gass** at this place the river is about 70 yard wide (Salmon River near Carmen, ID)

**Thursday, August 22**

**Weather Diary**

Snow yet appears on the summits of the mountains.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	70a	f	E	-	-	-

**Daily Narrative Journals**

**Ordway** a white frost and cold as usal.

**Whitehouse** a white frost & cold as usual in the morning. The morning clear and got pleasant.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** mountains verry Steap high & rocky, the assent of three was So Steap that it is incredible to describe the rocks in maney places.

**Gass** The morning was fine, with a great white frost. We proceeded down the river; but with a great deal of difficulty; the mountains being so close, steep and rocky. The river here is about 80 yards wide, and a continual rapid but not deep (Salmon River above Shoup, Idaho)

**Friday, August 23**

**Weather Diary**

white frost this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	E	72a	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the season is now far advanced to remain in these mountains as the Indians inform us we shall shortly have snow; the salmon have so far declined that they are themselves haistening from the country. The bends of the river are short and the currant beats from side to side against the rocks with great violence. The river is about 100 yds. wide and so deep that it cannot be foarded but in a few places. The sides of the mountains are very steep, and the torrents of water which roll down their sides at certain seasons appear to carry with them vast quantities of the loose stone into the river. This view was terminated by one of the most lofty mountains, Capt. C. informed me, he had ever seen which was perfectly covered with snow.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** [Salmon River] Current So Strong that is dangerous crossing the river. 100 yards wide. The mountains Cloe and is perpendicular Clift on each Side, and Continues

for a great distance and that the water runs with great violence from one rock to the other on each Side foaming & roeing thro rocks in every direction, So as to render the passage of any thing impossible. The Hills or mountains were not like those I had Seen but like the Side of a tree Streight up— The Torrents of water which came down after a rain carries with it emence numbers of those Stone into the river.

**Gass** We proceeded down the river through dreadful narrows, where the rocks were in some places breast high, and no path or trial of any kind.

**Saturday, August 24**

**Weather Diary**

Set out with the Indians and pack horses for the Columbia river

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	f	SE	76a	f a r	SE	-	-	-

**Daily Narrative Journals**

**Lewis** I had now the inexpressible satisfaction to find myself once more under way with all my baggage and party. after we encamped we had a slight shower of rain.

**Ordway** a clear cold morning. We had a Small Shower of rain

**Whitehouse** a clear cold morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** marked my name on a pine Tree. Every man appeared disheartened from the prospects of the river.

**Gass** had a pleasant morning. The river at this place is so confined by the mountains that it is not more than 20 yard wide and very rapid. The water is so rapid and the bed of the river so rocky, that going by water appeared impracticable; and the mountains so amazingly high, steep and rocky, that it seemed impossible to go along the river by land.

**Sunday, August 25**

**Weather Diary**

white frost this morning,

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r	SE	65a	c	SE	-	-	-

**Daily Narrative Journals**

**Lewis** This morning while passing through the Shone cove Frazier fired his musquet at some ducks in a little pond at the distance of about 60 yards from me; the ball rebounded from the water and pased within a very few feet of me. This part of the cove on the NE side of the Creek has lately been birned by the Indians as a signal on some occasion.

**Ordway** a clear morning. Some frost.

**Whitehouse** a clear morning a little light frost last night.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Mountain to our right...Pine timber which is thick on that side

**Gass** a fine morning.

**Main party crosses the continental divide at Lemhi Pass, Montana-Idaho state line and proceeds down the Lemhi and Salmon Rivers and then starts up the north fork of the Salmon River.**

**Monday, August 26**

**Weather Diary**

hard white frost and some ice on standing water this morning arrived with baggage and party on the Columbia river at 5 PM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31a	f	SE	45a	f	SE	-	-	-

### Daily Narrative Journals

**Lewis** This morning was excessively cold; there was ice on the vessels of water which stood exposed to the air nearly a quarter of an inch thick. We soon arrived at the extreme source of the Missouri; here I halted a few minutes, the men drank of the water and consoled themselves with the idea of having at length arrived at this long wished for point. From hence we proceeded to a fine spring on the side of the mountain [west side]...here I halted to dine and graze our horses, there being fine green grass on that part of the hillside which was moistened by the water of the spring while the grass on the other parts was perfectly dry and parched with the sun. [Lewis ponders Indian women birthing process] — if a pure and dry air, an elevated and cold country is unfavourable to childbirth, we might expect every difficult incident to that operation of nature in this part of the continent. — The tops of the high and irregular mountains which present themselves to our view on the opposite side of this branch of the Columbia are yet perfectly covered with snow; the air which proceeds from those mountains has an agreeable coolness and renders these parched and South hillsides much more supportable at this time of the day it being now about noon.

**Ordway** a clear cold morning. The water in the Small vessells froze. We Set out at Sunrise and proceeded on with out big coats on and our fingers ackd with the Cold. Saw considerable of Snow on the mountain near us which appear but little higher than we are. It lies in heaps and a cold breeze always comes from these mountains.

**Whitehouse** a clear morning, we find it verry cold and a heavy frost every morning. The water froze a little in the Small Vessells. Crossed a high ridge between the Mesouri and Calumbian River. Saw high mountains to the SW with Some Spots of Snow on them.

### Daily Narrative Journals - Clark Scouting Party

**Clark** a fine morning.

**Gass** a pleasant morning.



**Tuesday, August 27**

**Weather Diary**

hard frost white this morning. on the Columbian waters (Clark).

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SE	56a	f	SE	-	-	-

**Daily Narrative Journals**

**Ordway** a beautiful pleasant morning. Snow now lying a Short distance to the South of us on the broken mountains.

**Whitehouse** a beautiful pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Some frost this morning.

**Gass** A fine morning with frost

**Wednesday, August 28**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	SW	66a	f	SW	-	-	-

**Daily Narrative Journals**

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning. Some Spots of Snow continues to lay on the mountains a few miles to the South of us.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** a frost this morning.

**Gass** The morning again was pleasant. I found the weather very cold for the season.

**Thursday, August 29**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	68a	f	SW	-	-	-

**Daily Narrative Journals**

**Ordway** a clear pleasant morning. They find that the mountains are So bad that we cannot follow the river by land and the river So rapid and full of rocks that it is impossible for crafts to pass down.

**Whitehouse** a clear pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** a Cold morning Some frost. The Wind from the South.

**Gass** There was a severe white frost this morning.

**Friday, August 30**

**Weather Diary**

Set out with the party by land at 2 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c	NE	59a	c	NE	-	-	-

**Daily Narrative Journals**

**Clark** a fine Morning.

**Ordway** a fine morning.

**Whitehouse** a clear pleasant morning.

**Saturday, August 31**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c a r	NE	58a	c a r & h	NE	-	-	-

**Daily Narrative Journals**

**Clark** A fine morning. The wind hard from the SW. This day warm and Sultrey. Praries or open Valies on fire in Several places— The Countrey is Set on fire for the purpose of Collecting the different bands

**Ordway** a fare morning. The River bottoms narrow and verry much dried up.

**Whitehouse** a fine morning

# September 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition starts towards the Lost Trail Pass along the North Fork of the Salmon River near a future mining called named Gibbonsville, Idaho.

Sunday, September 1

#### Weather Diary <sup>1</sup>

Service berries dried on the bushes abundant and very fine. black colour.

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	NW	67a	c	NW	-	-	-

1 Reference: Coues, Volume III, pages 1274-75; Moulton, Volume 5, pages 240-243; Thwaites, Volume 6, Part II, pages 196-198.

2 There is no record of river rise or fall during this month.

#### Daily Narrative Journals

**Clark** a fine morning. Some rain to day at 12 and in the evening which obliges us to Continu all night.

**Gass** a fine morning. At noon some rain fell, and the day continued cloudy. At 3 o'clock....we halted the weather became cloudy, and considerable quantity of rain fell.

**Ordway** Cloudy. In the afternoon we had Several Shower of rain and a little hail. Several Small Showers of rain this evening—

**Whitehouse** a fine clear morning. We stopped and camped about 3 hours before night on account of its raining. We passed across several large Creeks, the water of which was very Cold. During this afternoon we had several small Showers of rain—

**Monday, September 2**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c a r	NE	60a	c a r h	NE	-	-	-

**Daily Narrative Journals**

- Clark** a Cloudy Morning, rained Some last night. Camped. Some rain at night
- Gass** The morning was cloudy. In the afternoon we had a good deal of rain, and the worst road (if road it can be called) that was ever travelled.
- Ordway** a cloudy wet morning. This is a verry lonesome place.
- Whitehouse** a wet cloudy morning.

**Expedition crosses over the Lost Trail Pass, Idaho-Montana state line.**

**Tuesday, September 3**

**Weather Diary**

Choke Cherries ripe and abundant.

Sunrise <sup>3</sup>			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c a r	NE	52a	c a r	NE	-	-	-

<sup>3</sup> The Daily Narrative Journals note that the Expedition's last thermometer was broken during an accident this day as they proceeded up the Lost Trail pass. However, the Weather Dairy does not record this until September 6, 1805 in the remarks section which appears to be after the fact. Temperature observations are noted for two additional days in the Weather Diary, but the readings may be suspect. No further temperature observations are recorded for the rest of the journey.

**Daily Narrative Journals**

- Clark** a Cloudy morning. we assended after crossing Several Steep points & one

mountain, but little to eat at dusk it began to Snow, at 3 oClock Some Rain. The last mountains we had passed to the East Covered with Snow. We met with a great misfortune, in haveing our last Th[er]mometer broken by accident. This day we passed over emence hils and Some of the worst roads that ever horses passed, our horses frequently fell. Snow about 2 inches deep when it began to rain which termonated in a Sleet

**Gass** The morning of this day was cloudy and cool. We halted for dinner....we staid here about two hours, during which time some rain fell, and the weather was extremely cold for the season. This was not the creek our guide wished to have come upon; and to add to our misfortunes we had a cold evening with rain.

**Ordway** Several Small Showers of rain. So we lay down wet hungry and cold.

**Whitehouse** We had a cloudy morning & set out as usual. We crossed a dividing ridge [Lost Trail Pass]. At dark it began to rain hard, We lay down to sleep being wet, hungry & Cold. Saw Snow on the tops of Some of these mountains this day.

**Wednesday, September 4**

**Weather Diary**

ice one inch thick.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	r a s	NE	34a	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a verry cold morning every thing wet and frosed, we detained untill 8 oClock to thaw the covering for the baggage &c &c. Ground covered with Snow. I was the first white man who ever wer on the water of this river [The Bitterroot River]

**Gass** A considerable quantity of snow fell last night, and the morning was cloudy.

**Ordway** the morning clear, but very cold. The ground covred with frost. Our moccasins froze. The mountains covred with Snow. the Snow over our mockasons in places. The air on the mountains verry chilley and cold. Our fingers aked with the cold.

**Whitehouse** the morning clear but verry cold. Our mockersons froze hard. The mountains covred with Snow. The Snow lay on the mountain So that it stuck to our mockisons  
The air verry cold our fingers aked with the cold.

Thursday, September 5

Weather Diary

Ground Covered with Snow.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
17a	c a s	NE	29a	c a r & s	NE	-	-	-

Daily Narrative Journals

**Clark** a Cloudy morning

**Gass** This was a fine morning with a great white frost.

**Ordway** a clear cold morning. The Standing water froze a little. A hard white frost this morning.

**Whitehouse** a clear cold morning. The Standing water we had in our small Vessells froze a little last night.

Friday, September 6

Weather Diary

Thermometer broke by the Box strikeing against a tree in the Rocky Mountains

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	r	NE	-	-	-

Daily Narrative Journals

**Clark** Some little rain. Rained contd. untill 12 oClock. rained this evening

**Gass** A cloudy morning. About 12 o'clock some rain fell

**Ordway** a clear cold morning. Light Sprinkling of rain, through the course of this day—

**Whitehouse** a clear cold morning. Light Sprinklings of rain through the course of the day.

**Saturday, September 7**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** A Cloudy & rainie Day. The Vallie from 1 to 3 miles wide the Snow top mountains to our left, open hilley Countrey on the right.

**Gass** We set out early in a cloudy cool morning. 12 o'clock...some rain fell. Some rain fell in the afternoon

**Ordway** a cloudy cold morning. High mountains a little to the Lard. Side which is covered thick with Snow. We had Several Showers of rain.

**Whitehouse** a cloudy cold morning. The high mountains...Several Small Showers of rain in the course of the day.

**Sunday, September 8**

**Weather Diary**

Mountains Covered with Snow to the SW a singular kind of Prickly Pears.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning. The wind from the NW & Cold. The foot of the Snow mountains approach the River on the left Side. Some Snow on the mountain to the



right also. A hard rain all the evening we are all Cold and wet.

**Gass** The morning was wet had a cold, wet disagreeable afternoon

**Ordway** cloudy and cold. Saw Snow on the mount to our left. High barron hills to our right. The wind cold from the NW & Showers of rain, and a little hail. The mountains are rough on each side and are covred with pin and on the tops of which are covered with Snow.

**Whitehouse** cloudy and verry chilley and cold. Saw Snow on the Mountains to our left. The wind from NW & the Air chilley and cold. The Snow lays thick on the mountains a little to our left....the tops of which are covered with Snow and at places appear to lay thick.

**Party arrives at Travelers Rest, near present-day Lolo, MT.**

**Monday, September 9**

**Weather Diary**

arrived at travelers rest Creek

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	f a r	NE	-	-	-

**Daily Narrative Journals**

**Lewis** as our guide informes that we should leave the river at this place and the weather appearing settled and fair I determined to halt the next day rest our horses and take some scestitial Observations. We called this Creek Travellers rest.

**Clark** a fair morning. Day fair, wind NW. The foot of the Snow toped mountains approach near the river.

**Gass** The morning was fair, but cool. The nigh snow-topped mountains are still in view on our left. The Flathead River (Bitterroot River) is 100 yards wide.

**Ordway** Cloudy. The Snow continues on the Mont. each side of this valley.

**Whitehouse** a cloudy cold morning, wind blew from the NW. The Snow continues on the Mountains on both sides of the valley. The afternoon pleasant, but the Snow Still continues on the Mountains as usul.

**Tuesday, September 10**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis**            The morning being fair I sent out all the hunters

**Clark**            a fair morning.    The day proved fair

**Gass**             We remained here all this day, which was clear and pleasant.

**Ordway**          a fair morning.    The day warm.

**Whitehouse**    a clear pleasant morning, and the weather moderate, not So cold as usual. As our road [next] leads over a mountain to our left, our Captains conclude to Stay here this day to take observations, and for the hunters to kill meat to last us across the mountains and for our horses to rest, etc....the day continued to grow warm, but the Snow does not melt on the mt. a Short distance from us...The snow on the Mountains have the appearance of the Middle of winter.

**Expedition starts over the Bitterroot Mountains on the Lolo Trail from September 11 until the 22.**

**Wednesday, September 11**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fair morning, wind from the NW. nothing killed this evening hills on the right high & rugged, the mountains on the left high & Covered with Snow. The day Verry worm.

**Gass** This was a fine morning.

**Ordway** a clear pleasant morning.

**Whitehouse** a beautiful pleasant morning. The snow on the mountains about 1 miles to the SW of us does not melt but verry little.

**Thursday, September 12**

**Weather Diary**

Mounts to our left Covered with Snow

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NE	-	-	-

**Daily Narrative Journals**

**Clark** a white frost, Set out at 7 oClock. Creek of fine clear water. The road through this hilly Country is verry bad passing over hills & thro' Steep hollows, over falling timber &c &c.

**Gass** a fine morning.

**Ordway** a fair morning.

**Whitehouse** a white frost, and clear pleasant morning. Saw high Mountains to the South of us covered with Snow, which appears to lay their all the year round.

**Party passes across the Lolo Pass, Montana-Idaho state line.**

**Friday, September 13**

**Weather Diary**

a hot Spring

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning. The after part of the day Cloudy. Passed Several Springs [Lolo Hot Springs]...I tasted this water and found it hot & not bad tasted. I found this water nearly boiling hot at the places it Spouted from rocks. I put my finger in the water, at first could not bare it in a Second— Those springs come out in maney places. Some mountains in view to the SE & SW Coverd with Snow.

**Gass** A cloudy morning. We came to a most beautiful warm spring, the water of which is considerably above blood-heat; and I could not bear my hand in it without uneasiness. (At Lolo Hot Springs, Montana)

**Ordway** cloudy.

**Whitehouse** Cloudy weather. The day proved very pleasant.

**Saturday, September 14**

**Weather Diary**

killed and eat a colt, Snowed rained & hailed to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r & s <sup>4</sup>	SW	-	-	-

<sup>4</sup> Lewis' Journal Codex P & Clark's Codex I lists this weather data as "c a r."

**Daily Narrative Journals**

**Clark** a Cloudy day in the Valies it rained and hailed, on the top of the mountains Some

Snow fell. Rained, Snowed & hailed the greater part of the day all wet and Cold. Crossed a verry high Steep mountain for 9 miles to a large fork from the left which appears to head in the Snow topped mountains Southerly and SE. Camped. The rain

**Gass** We set out early in a cloudy morning. I saw service-berry bushes hanging full of fruit; but not yet ripe, owing to the coldness of the climate on these mountains. Encamped for the night, as it rained and was disagreeable travelling.

**Ordway** a little Thunder hail and rain. Saw high Mountains covred with Snow and timber—

**Whitehouse** A cloudy morning. We had towards evening Several light small Showers of rain and a little hail. Several severe claps of Thunder. Saw high mountains. A little to the South of us, which are covred with Snow.

**Sunday, September 15**

**Weather Diary**

no water we are obliged to Substitute the coald Snow to boil our Colt.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a l & s <sup>5</sup>	SW	-	s	SW	-	-	-

5 Lewis' Journal Codex P & Clark's Codex I lists this weather data as "c a s."

**Daily Narrative Journals**

**Clark** ...here the road leaves the river to the left and assends a mountain winding in every direction to get up the Steep assents & to pass the emence quantity of falling timber which had [been] falling from dift. Causes I e fire & wind and has deprived the greater part of the Southerly Sides of this mountain of its green timber. Several horses slip...my portable desk broken...Some others verry much hurt, from this point I observed a range of high mountains Covered with Snow from SE to SW with Their top bald or void of timber. We could find no water and Concluded to Camp and make use of the Snow e found on the top to cook the remns. Of our Colt & make our Supe. evening verry Cold and Cloudy. From this mountain I could observe high ruged mountains in every direction as far as I could see. Encamped on the top of the mountain near a Bank of old Snow about 3 feet deep lying on the Northern side of the mountain. We melted the Snow to drink

**Gass** Encamped on a high mountain...there was no water, but a bank of snow answered as a substitute.

**Ordway** cloudy. We found Some Spots of Snow so we camped on the top of the Mountain and melted Some Snow. This Snow appears to lay all year on this Mount.

**Whitehouse** This morning we had Cold weather & cloudy. We followed on the ridge of the Mountain & went over several high knobs on it, where the Wind had blown down most of the timber on them. On top of the mountain...some Spots of Snow. We encamped on a top ridge of the Mountain, where we found plenty of Snow, which appear to have lain here all year.

**Monday, September 16**

**Weather Diary**

Snow commenced about 4 oClock AM and continued untill night. It is about 7 inches deep. Ice one inch thick. The Snow fell on the old Snow 4 inches deep last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** began to Snow about 3 hours before Day and continued all day The Snow in the morning 4 inches deep on the old Snow, and by night we found it from 6 to 8 inches deep. I walked in front to keep the road and found great difiuelty in keeping maney places the Snow had entirely filled up the track and obliged me to hunt Several minits for the track. As 12 oClock we halted on the top of the mountain to worm & dry our Selves. The pine, which are So covered with Snow, that is passing thro them we are continually covered with Snow, I have been wet and as cold in every part as I ever was in my life, indeed I was at one time fearfull my feet would freeze in the thin Mockirsons which I wore. Men all wet cold and hungary. To describe the road of this day would be a repitition of yesterday expt the Snow which made it much wors to proseed as we had in maney places to drect our Selves by the appearence of the rubbings of the Packs against the trees which have limbs quiet low and bending downwards

**Gass** Last night about 12 o'clock it began to snow. We renewed our march early, though the morning was very disagreeable, and proceed over the most terrible mountains I ever beheld. It continued snowing untill 3'oclock PM. The snow fell so thick, and the day was so dark, that a person could not see to a distance of 200 yards. In the night and during the day the snow fell about 10 inches deep.

**Ordway** when we a woke this morning to our great Surpize we were covred with Snow, which had fell about 2 Inches deep the later part of last night, & continues a cold Snowey

morning. Could Scarsely keep the old trail for the Snow. About one oClock finding no water we halted and melted Some snow and eat or drank a little more soup. Saw considerable of old snow The Snow is now about 4 inches deep on a levl. The clouds So low on the Mount that we could not See any distance no way. It appeared as if we have been in the clouds all this day.

**Whitehouse** When we awoke this morning to our great Surprize we were covred with Snow, which had fallen about 2 Inches the latter part of last night, & [it] continues a verry cold Snow Storm. Could hardly See the old trail for the Snow. The Snow fell so fast that it is now in common 5 or 6 Inches deep & where old Snow remained it was considerably deeper. We mended up our mockasons. Some of the men without Socks, wrapped rags on their feet, and loaded up our horses and Set out without anything to eat, and proceeded on. It has quit Snowing this evening, but continues very chilley and cold.

**Tuesday, September 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** Cloudy morning. One oClock PM at which time we Set out the falling Snow & snow falling from the trees which kept us wet all the after noon. Snow on the Knobs, no Snow in the vallies. The after part of the day fare. Road emencely bad as usial, no Snow in the hollers all the high knobs of the mounts Covered.

**Gass** It was a fine day with warm sunshine, which melted the snow very fast on the south sides of the hills, and made the travelling very fatiguing and uncomfortable. We continued over high desert mountains.

**Ordway** Cloudy and cold. The afternoon clear and pleasant & warm. The Snow melted fast.

**Whitehouse** cloudy and cold. Set out about Noon, the Snow lay heavy on the timber. In the afternoon the weather cleared away & then it became clear & warm. The snow melted so that the water Stood in the trail over our mockasons in Some places & in some places it was very Slippy

**Wednesday, September 18**

**Weather Diary**

hard black frost this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** used the snow for cooking—

**Clark** The want of provisions together with the difficulty of passing those immense mountains dampened the spirits of the party which induced us to resort to some plan of reviving their spirits. A fair morning, cold. From the top of a high part of the mountain at 20 miles I had a view of an immense plain and level country to the SW & West at a great distance [on top of Sherman Peak looking at prairies towards Grangeville & Lewiston ID]

**Gass** This was a clear cold frosty morning. About 12 we passed a part where the snow was off, and no appearance that much had lately fallen. At 3 we came to snow again, and halted to take some soup, which we made with snow water, as no other could be found. We see now prospect of getting off these desert mountains yet, except the appearance of a deep cove on each side of the ridge we are passing along.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning. Melt a little snow as we found not water to make a little port soup. The weather moderated, & the snow melted a little. The mountains appear a head of us as far as we can see & continue much further than we expected—

**Thursday, September 19**

**Weather Diary**

rose raspberry ripe and abundant. Snow is about 4 inches deep.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-



**Daily Narrative Journals**

- Lewis** this plain appeared to be about 60 miles distant.
- Clark** passed...two high mountains, ridges and through much falling timber. As we descend the mountain the heat becomes more proseptable every mile.
- Gass** last night was disagreeably cold. About 8 this morning....the sun shining warm and pleasant. The snow is chiefly gone except on the north points of the high mountains.
- Ordway** a clear morning.
- Whitehouse** a clear pleasant morning. The ground was covered with Snow & froze.

**Friday, September 20**

**Weather Diary**

<b>Sunrise</b>			<b>4 PM</b>			<b>River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	Sw	-	f	SW	-	-	-

**Daily Narrative Journals**

- Lewis** our road was much obstructed by fallen timber particularly in the evening. Saw the hucklebury.
- Gass** day was fine
- Ordway** a cold frosty morning
- Whitehouse** a cold frosty morning.

**Saturday, September 21**

**Weather Diary**

I arrive at the Flat head Camp of 200 lodges in a Small prarie

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. The day proved warm. The weather very warm after descending into the low Country—

**Gass** The morning was pleasant

**Ordway** a clear pleasant morning.

**Whitehouse** a Clear pleasant morning. On Some of the ridges the timber has been killed by fire and fell across the trail So that we had Some difficulty to git a long the trail.

**Expedition leaves the Bitterroot Mountains down onto the Weippe Prairie, ID.**

**Sunday, September 22**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. A very warm day. Some few drops of rain this evening.

**Gass** This was a fine warm day. in the evening arrived in a fine large valley

**Ordway** a clear pleasant morning. and white frost.

**Whitehouse** a clear pleasant morning. A white frost.

Monday, September 23

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** Hot day. At dark a hard wind from the SW accompanied with rain which lasted half an hour.

**Gass** The morning was warm and pleasant. About dark a shower of rain fell.

**Ordway** a fair morning. Had a Thunder Shower this evening.

**Whitehouse** a clear pleasant morning. We had a Shower of rain attended with Thunder this evening.

Tuesday, September 24

Weather Diary

a thunder cloud last evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l <sup>6</sup>	SE	-	f a r <sup>7</sup>	SE	-	-	-

6 Lewis' Journal Codex P lists this weather data as "f."

7 Lewis' Journal Codex P & Clark's Codex I lists this weather data as "f."

Daily Narrative Journals

**Clark** a fine morning. Hot day.

**Gass** The morning was fine. In the evening we arrived at the camp of our hunters on a river about 100 yards broad, a branch of the Columbia River (Clearwater River).

**Ordway** a clear morning. We Set out and proceeded on the day warm. Towards evening we came down on a fork of Columbia River. (Clearwater)

**Whitehouse** a clear pleasant morning. The day warm.

**Wednesday, September 25**

**Weather Diary**

I proceed to the forks worm day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a verry hot day. Calculated to build Canoes, as we had previously deturmined to proceed on by water.

**Gass** A fine, pleasant warm morning. The climate here is warm; and the heat to day was as great as we had experienced at any time during the summer. The water also is soft and warm, and perhaps causes our indisposition more than any thing else.

**Ordway** a fair morning. This river is about 60 yards wide.

**Whitehouse** a fine morning. The fork of the Columbia we are now one is about 60 yards wide, and generally very deep.

**Expedition stops to build canoes for their journey to the Pacific Ocean and establishes Canoe Camp, near Orofino, ID.**

**Thursday, September 26**

**Weather Diary**

Form a Camp at the forks

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** this day proved verry hot.

**Gass** The morning was fine.

**Ordway** a clear pleasant morning. Several of the party Sick with a relax by a Sudden change of diet and water as well as the change of climate also.

**Whitehouse** clear and pleasant morning. Several of the men Sick with the relax, caused by a Suddin change of diet and water as well as the Climate Changed a little also.

**Friday, September 27**

### Weather Diary

day very warm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** the day verry hot.

**Gass** A fine warm morning. The river below the fork is about 200 yards wide, the water is clear as crystal, from 2 to 5 feet deep, and abounding with salmon of an excellent quality.

**Ordway** a fair morning.

**Whitehouse** a fine fair pleasant morning.

Saturday, September 28

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** this day proved very worm and Sultery

**Gass** We had a pleasant morning

**Ordway** a clear morning.

**Whitehouse** This morning we had clear fine pleasant weather.

Sunday, September 29

Weather Diary

3/4 of the party Sick. Day very hot

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** a Cool morning, wind from the SW. The after part of the day worm.

**Gass** A fine day

**Ordway** a fair morning.

**Whitehouse** A fair and pleasant morning.

**Monday, September 30**

**Weather Diary**

Great numbers of Small Ducks pass down the river. hot day

<b>Sunrise</b>			<b>4 PM</b>			<b>River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. Cool

**Gass** The weather continued pleasant.

**Ordway** a fair morning.

**Whitehouse** Fair and pleasant weather this morning.

# October 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is at Canoe Camp on the Clearwater near present-day Orofino, Idaho.

Tuesday, October 1

#### Weather Diary<sup>1, 2</sup>

*Note* from the 1<sup>st</sup> to 7<sup>th</sup> of octr. we were at the mouth of the Chopunnish river makeing Canoes to Decend the Kooskooske.

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, page 1275; Moulton, Volume 5, pages 364-366; Thwaites, Volume 6, Part II, pages 198-199.

2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of October.

#### Daily Narrative Journals

**Clark** a cool morning, wind from the NE and East. Worm evening

**Gass** This was a fine pleasant warm day.

**Ordway** a clear pleasant morning.

**Whitehouse** a fair fine clear morning.



Wednesday, October 2

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	-	-	-	-	-

Daily Narrative Journals

**Clark** day excessively hot in the river bottom, wind North

**Ordway** a fair morning.

**Whitehouse** a fair and pleasant morning.

Thursday, October 3

Weather Diary

The easterly winds which blow immediately off the mountains are very cool until 10 a.m. when the day becomes very warm and the winds shift about

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a fair cool morning, wind from the East.

**Ordway** a clear morning.

**Whitehouse** a fair and very pleasant morning.

Friday, October 4

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** This morning is a little cool, wind from off the Eastern mountains. The after part of this day verry warm.

**Gass** a white frost, afterwards a fine day.

**Ordway** a fair morning.

**Whitehouse** a fair morning.

Saturday, October 5

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cool morning, wind East for a Short time, wind is always a Cool wind

**Ordway** a clear cool morning. A little white frost.

**Whitehouse** a fair clear cool frosty morning.

Sunday, October 6

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cool Easterly wind which Spring up in the latter part of the night Continues untill about 7 or 8 oClock AM. The winds blow cold from a little before day untill the Suns gets to Some hight from the Mountains East as they did from the mountains at the time we lay at the falls of the Missouri from the West. The river below this forks is Called Kos kos kee, it is Clear rapid with Shoals or Swift places—

**Ordway** a pleasant morning.

**Whitehouse** a clear pleasant morning. A raft Seen floating down the River with Several Indians on it.

**Expedition resumes its journey and uses canoes to proceed via the river system, the first of which is the Kooskooskee River [present-day Clearwater River], ID.**

Monday, October 7

Weather Diary

*Note* from the 7<sup>th</sup> to the 16<sup>th</sup> octr. We were decending Kooskooske & Lewises river, the 17<sup>th</sup> 18 at the mouth of Lewis River.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** The after part of the day cloudy

**Gass** a pleasant morning. About 3 o'clock in the afternoon we began our voyage down the river, and found the rapids in some places very dangerous.

**Ordway** a clear morning. Some part of the River is deep and current gentle & C.

**Whitehouse** a fair clear weather and a pleasant morning. Some places the water is deep & and the current is gentle. The Evening proved cloudy.

**Tuesday, October 8**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning

**Gass** a fine morning. Several rapids. Water was not more than waist-deep.

**Ordway** a fair morning. Passed Some cliffs of rocks and barron hills on each side. The waves roared over the rocks.

**Whitehouse** a fair day. The day proved warm.

**Wednesday, October 9**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The morning Cool as usual the greater part of the day proved to be Cloudy, which was unfavourable for drying our things &c. which got wet yesterday. The wet articles not Sufficiently dried to pack up obliged us to delay another night

**Gass** We stayed here during the whole of this day, which was very pleasant.

**Ordway** a fair morning, and warm.

**Whitehouse** a fair and pleasant morning.

**Expedition arrives at the confluence of the Kooskooskee and Lewis’s River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID. They also cross the state line from Idaho into Washington.**

**Thursday, October 10**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. a verry worm day. Worm night— I think Lewis’s [Snake] River is about 205 yards wide, the Koos koos ke River about 150 yards wide and the river below the forks about 300 yards wide. The water of the South fork is a greenish blue, the north as clear as cristial. We came to on the Stard. Side below with a view to make some luner observations, the night proved Cloudy and we were disapointed—. The Indians...winter hunting the dear on Snow Shoes in the plains

**Gass** We had a fine morning. the southwest branch very large, and of a goslin-green colour. The wind blew so hard we could not proceed.

**Ordway** a clear morning. We Set out eairly and proceed on down passed over a number of bad rapids. About 4 oClock PM we came to the Columbia River this great Columbia River is about 400 yards wide and afords a large body of water and of a greenish colour. We went down it a short distance and the wind blew so high from NW

**Whitehouse** a fair and pleasant morning. About 5 o'clock PM we arrived at the forks of the Columbian river. The wind blew so high from the west that we camped on the north side. This river is about 400 yards wide, and a greenish colour.

**Friday, October 11**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	E & SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning, wind from the East. The after part of the day the wind from the SW and hard. The day warm.

**Gass** a fine morning; proceeded on

**Ordway** a clear morning. The country is barren and broken. Some high plains. No timber. Passed over some rapids where the waves roiled high.

**Whitehouse** fair and clear weather a pleasant morning. Some rapid water but the current mostly gentle.

**Saturday, October 12**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E & SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** a fair cool morning, wind from the East. In the afternoon the wind Shifted to the SW and blew hard. the wind blew hard this evening—
- Gass** a fine morning.
- Ordway** a fair morning. Bad rocky rapid.
- Whitehouse** a clear pleasant morning. The current swift in Some places, but gentle in general. After 12 oClock...the wind rose hard and blew from the west.

**Sunday, October 13**

**Weather Diary**

rained moderately from 4 to 11 AM to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** rained a little before day. A windey dark rane y all the morning, a hard wind from the SW untill 9 oclock, rain continued moderately untill near 12 oClock. the rained Seased & wind luled. This must be a verry bad place in high water. Wind hard from the SW in the evening and not very cold.
- Gass** This was a cloudy wet morning, and we did not set out till 11 o'clock. In the afternoon the weather cleared and we had a fine evening.
- Ordway** a rainy morning. High wind. Rapids The current swift
- Whitehouse** a rainy wet morning which delayed us untill about 10 oClock AM. The wind hard a head. Between 2 and 3 oClock PM the weather became clear and pleasant.

**Monday, October 14**

**Weather Diary**

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** a verry Cold morning, Set out at 8 oClock, wind from the West and Cool untill about 12 oClock When it Shifted to the SW. All wet we had every articles exposed the Sun to dry on the Island, our loss in provisions is verry Considerable. The wind this after noon from the SW as usial and hard.

**Gass** a fine clear cool morning.

**Ordway** a clear cold morning. The wind high NW the current rapid. Bad rocky rapid The country continues barron and broken in places &.C.

**Whitehouse** A clear cold morning, the wind blowing hard and high ahead of us from the West. Very bad Rocky rapid, it being the worst rapid that we had passed in this River.

**Tuesday, October 15**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** a fair morning after a Cold night. Some frost this morning and Ice. A high point to the west. Plain wavering.

**Gass** This day was fine, clear and pleasant. This river in general is very handsome, except at the rapids, where it is risking both life and property to pass; and these rapids, when the bare view or prospect is considered distinct from advantages of navigation, may add to its beauty, by interposing variety and scenes of romantick grandeur where there is so much uniformity in the appearance of the county.

**Ordway** a clear cold morning. The current very rapid.

**Whitehouse** clear cool weather this morning.



**Expedition arrives at the confluence of the Lewis's River [present-day Snake River] & Columbia Rivers, near present-day Pasco [Tri-Cities], WA.**

**Wednesday, October 16**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cool morning. haveing taken Diner Set out and proceeded on Seven miles to the junction of this river and the Columbia which joins from the NW.

**Gass** a fine morning. Having gone 21 miles we arrived at the great Columbia river, which comes in from the northwest.

**Ordway** towards evening we arived at the big forks. The large River which is wider than the Columbia River comes in from a northerly direction. No timber. Not a tree to be Seen as far as our Eyes could extend.

**Whitehouse** a pleasant morning. Towards evening we arived at the forks of the river, which came from a northly direction and is larger than this Columa. R.

**Thursday, October 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** This morning after the Luner observations, the old chief came down. This river is remarkably Clear and Crouded with Salmon in maney places. The number of dead Salmon on the Shores & floating in the river is incrediabile to say. The Cause of the emence numbers of dead Salmon I can't account for. – at this Season they have only to collect the fish Split them open and dry them on their Scaffolds on which they have great numbers. No wood to be Seen in any direction— Those people as also those of the flat heads which we had passed on the koskoske and Lewis's rivers are Subject to Sore eyes, and maney are blind of one and some of both eyes. This misfortune must be owing to the reflections of the Sun &c. on the waters in which they are continually fishing during the Spring Summer & fall, & the Snows dureing the, winter Seasons, in this open counrey where the eye has no rest. The roughfs are nearly flat, which proves to me that rains are not common in this open country.

**Gass** The Columbia here is 860 yards wide, the Kimooeenum (Snake River) is 475 yards wide at the junction.

**Ordway** a clear pleasant morning. Saw a great quantity of sammon....a great number lay dead on the Shores which the Indians had gixed.

**Whitehouse** We had a clear and pleasant morning. The columbia River is more Smooth and the current gentle

**Expedition starts its final leg of the journey as they proceed down the Columbia River from the confluence of the Snake River. During this day they begin their parallel journey along the border of present-day Oregon and Washington state line [which is the Columbia River].**

**Friday, October 18**

**Weather Diary**

*Note* from the eighteenth to the twenty-second of October descending the Great Columbia to the falls.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** a cold morning faire & wind from SE. Distance across the Columbia 960 3/4 yds...Ki-moo-e im 575 yds. At 4 Oclock we Set out down the Great Columbia. No timber in view. Saw a mountain bearing SW Conocal form, Covered with Snow [probably Mount Hood]
- Gass** a fine day. At one we proceeded on down the Great Columbia, which is a very beautiful river.
- Ordway** a clear pleasant morning. Capt. Clark measured Columbian River and the Ki mo e nem (Snake) Rivers and found the Columbia to be 860 yards wide, and the (Snake) to be 475 yard wide at the forks. Proceeded down the Columbia....we passed over Several rapids.
- Whitehouse** a clear pleasant morning. Columbia 860 yards wide and ki-moo-e-nem River 475 yards wide at the forks. Columbia...verry wide from a half a mile to three forths wide and verry Smooth & pleasant.

**Saturday, October 19**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** I assended a high clift about 200 feet above the water...from this place I discovered a high mountain of emence hight covered with Snow, this must be one of the mountains laid down by Vancouver, as seen from the mouth of the Columbia River, from the Course which it bears which is West I take it to be Mt. St. Helens [probably Mt. Adams], destant about 156 miles, a range of mountains in the Derection crossing a conical mountain SW topped with snow.
- Gass** The morning was clear and pleasant, with some white frost.
- Ordway** a clear cold morning. We discovered a verry high round mountain a long distance down the River which appears to have Snow on the top of it.
- Whitehouse** A clear cold morning. We discovered a high hill or mountn a long distance down the River which appears to have Snow on it. We found the day pleasant

Sunday, October 20

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a very cold morning, wind SW. The river to day is about 1/4 of a mile in width. The current much more uniform than yesterday or the day before.

**Gass** A fine clear frosty morning.

**Ordway** a clear frosty morning. The River Smooth. Passed many rapid places of water.

**Whitehouse** a clear frosty morning.

Monday, October 21

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a very Cold morning, we Set out early, wind from the SW. The Conocil mountain is SW....high and the top covered with Snow.

**Gass** a fine morning.

**Ordway** a clear cold morning. Passed a number of bad rocky rapids where the River is nearly filled with high dark coloured rocks

**Whitehouse** A clear cold morning.

**Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.**

**Tuesday, October 22**

**Weather Diary**

*Note* from the twenty-second to the twenty-ninth about the Great Falls of the Columbia river.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning, calm and fare. Portage of 457 yards & down a Slide...of the Great falls...of the Columbia

**Gass** The morning was fine. came to the first falls or great rapids

**Ordway** a fair morning. A short distance (from a large river) below we came to the first falls of the Columbia River.

**Whitehouse** A clear pleasant morning. A mist rises contiually from the falls...the first falls of the Columbia River. the water falling in such an immense quantity, makes a roaring that can be heard several miles below it.

**Wednesday, October 23**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning.

**Gass** A pleasant day. The high water mark below the falls is 48 feet, The reason of this rise in the water below the falls is, that for three miles down, the river is so confined by rocks (being not more than 70 yards wide) that it cannot discharge the water, as fast as it comes over the falls,

**Ordway** a clear pleasant morning. The height of these falls...in all is 37 feet eight Inches

**Whitehouse** a clear pleasant morning.

**Expedition portages by the Long and Short Narrows at the present-day The Dalles, OR.**

**Thursday, October 24**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine fare morning, after a beautiful night. Below those falls are Salmon trout and great numbers of the heads of a Species of trout Smaller than the Salmon. Narrow chanel of 45 yards wide. Those narrows the water was agitated in a most Shocking manner boils Swell & whorl pools, we passed with great risque... Those narrows was the whorls and Swills ariseing from the Compression of th water...notwithstanding the horrid appearance of this agitated gut Swelling, boiling & whorling in every direction.

**Gass** a fine morning.

**Ordway** a clear pleasant morning. The current rapid

**Whitehouse** a clear cool morning. The current verry rapid.

Friday, October 25

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

Daily Narrative Journals

**Clark** A Cold morning. Came to...a Creek which falls in on the Lard Side and head up towards the high Snow mountain to the SW.

**Ordway** a fair morning. The River gitting Smoth. The country timbred back a little from the River.

**Whitehouse** a clear & pleasant morning.

Saturday, October 26

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a fine morning. The river has rose nearly 8 Inches to day and has every appearance of a tide, from what Cause I can't say— as the tides cannot effect the river here as there is a falls below, I conjecture that the rise is owing to the wind which has Set up the river for 24 hours past. All our articles we have exposed to the Sun to Dry

**Gass** a fine morning.

**Ordway** a clear pleasant morning. the River raised considerable this afternoon.

**Whitehouse** a clear pleasant morning. The river began to raise about 4 oClock PM and raised Several Inches, the cause of which we think that the tide Swels a little up to this place. Called the long narrows of Columbia River.

**Sunday, October 27**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a very windy night and morning from the west and hard. The wind very high. The wind increased in the evening and blew very hard from the Same point W. Day fair and Cold—

**Gass** This was a fine clear morning, but the wind blew very hard up the river, and we remained here all day. The wind blew hard all this day.

**Ordway** fair morning. The wind high from the west. The waves roled very high—

**Whitehouse** a clear morning, but the wind blew high from the west., which continued so the whole of this day.

**Monday, October 28**

**Weather Diary**

a Violent wind a moderate rain commenced at 4 oClock PM and continued untill 8 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a f	NW	-	-	-	-	-	-



**Daily Narrative Journals**

**Clark** A cool windey morning. Wind from the West. Set out at 9 oClock AM. The wind rose and we were obliged to lie by about 1 mile below. The wind which is the cause of our delay, does not retard the motions of those people at all, as their canoes are calculated to ride the highest waves. Wind blew hard accompanied with rain all the evening, our Situation not verry good one for an encampment, but such as it is we are obliged to put up with, the harbor is a Safe one, we encamped on the Sand, wet and disagreeable.

**Gass** Just before day light there was a shower of ran; but at sunrise the morning was fine and clear. Went about 4 miles...here we stayed about an hour and proceeded again for about a mile, when we were compelled to stop on account if the wind, which blew so hard ahead that we were unable to continue our voyage. In the course of the day there were some showers of rain.

**Ordway** rained hard the later part of last night. Cleared up this morning. We then went on a Short distance further the wind rose so high NW that obledged us to halt on the Lard. Side under Some cliffs of rocks. A little rain this evening.

**Whitehouse** the wind Seased the later part of last night; when it began to rain and rained moderately untill morning, then cleared off. About 9 oClock AM the wind rose again & blew westward. We continued on our way a short distance further down the river, when the Wind rose so high from the Westward, & the waves ran also so high, that our officers thought it dangerous and not safe to proceed. We had Several Squalls of wind which were high during this day.

**Tuesday, October 29**

**Weather Diary**

rained moderately all day. Saw the first large Buzzard or Voultur of the Columbia.

*Note* from the 29<sup>th</sup> of Octr. to the 3<sup>rd</sup> of Novr. in passing through the western mountains below falls.

*Note* the balance of Novr. and December between the Mountains & Pacific Ocean.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** a Cloudy morning wind from the West but not hard. A good Situation for winter quarters if game can be had is just below Sepulchar rock on the Lard Side. The falls mountain [Mount Hood] covered with Snow is South. Here the mountains are high on each Side, those to the Lard. Side has Some Snow on them at this time, more timber than above and of greater variety.
- Gass** We embarked early in a cloudy morning. In the evening we discovered a high mountain to the south, not more than five miles off, covered with snow (Mt. Hood). We have here still water; and the breadth of the river is from three quarters to a mile.
- Ordway** a cloudy morning. The current gentle. Saw Snow on a mountain on the Lard Side—
- Whitehouse** a cloudy cool morning. We proceeded on in the gentle current. We saw mountains lying on the South side of the River; a distance back from it; Covered with timber, which had Snow lying on them.

**Wednesday, October 30**

**Weather Diary**

rained moderately all day. arrived at the Grand rapids. Saw a different Species of ash.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** A cool Cloudy morning. moderate rain all the last night. Rained moderately all day we are wet and cold. The day proved Cloudy dark and disagreeable with Some rain all day which kept us wet. Rained all the evening, a wet disagreeable evening. This part of the river resembles a pond partly dreaned leaving many Stumps bare both in & out of the water, current about 1 mil pr. Hour. Saw 4 Cascades caused by Small Stream falling from the mountains on the Lard. Side, a remarkable circumstance in this part of the river is, the Stumps of pine trees are in maney places are at some distance in the river, and gives every appearance of the rivers bing damed up below from Some cause which I am not at this time acquainted with, the current of the river is also verry jentle and about 3/4 of a mile in width. Examine the Shute and river below.
- Gass** The morning was cloudy. It rained hard all day.

**Ordway** a cloudy morning. The River wide and Strait the current gentle. The after part of the day rainy and foggy. A number of the Savages came to our Camp and Signed to us that they were Surprized to See us they thought we had rained down out of the clouds.

**Whitehouse** cool and cloudy morning. The river verry Strait and wide current gentle. The after part of the day rainy and foggey. These savages were Surprized to See us they Signed to us that they thought we had rained down out of the clouds. Continued raining. The rain continued the greater part of this night—

**Expedition portages past the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam.**

**Thursday, October 31**

**Weather Diary**

Som rain last night and this morning.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloudy rainy disagreeable morning. At a mile lower is a verry Considerable rapid at which place the waves are remarkably high. I could not See any rapids below for in the extent of my view which was for a long distance down the river, which from the last rapids widened and had every appearance of being effected by the tide— This great Shute or falls is about ½ mile with the water of this great river Compressed within the Space of 150 paces...water passing with great velocity forming & boiling in the most horriable manner. The Shute, must be the Cause of the rivers daming up to Such a distance above, where it Shows Such evidant marks of the Common current of the river being much lower than at the present day.

**Gass** The morning was cloudy.

**Ordway** Cloudy. This Shoote is full of rocks and roles verry high waves &.C. The after part of the day pleasant.

**Whitehouse** This morning was cool & Cloudy. About 9 oClock AM the weather cleared off and

became pleasant.

# November 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition camped near the Cascades of the Columbia River (The Great Shute) near present-day Bonneville Dam.

Friday, November 1

#### Weather Diary<sup>1, 2</sup>

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	-	-	-	-	-

1 Reference: Coues, Volume III, pages 1275, 1290; Moulton, Volume 6, pages 99-101; Thwaites, Volume 6, Part II, pages 198-200.

2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of November.

#### Daily Narrative Journals

**Clark** A very Cool morning, wind hard from the NE

**Gass** We had a cool frosty morning. We carried down our baggage...we could not go into the water, without uneasiness on account of the cold.

**Ordway** a fair morning. The wind high from the NE and cold.

**Whitehouse** a clear morning. The wind rose high from the NE and cold.

**Expedition proceeds into the initial tidal water of the lower Columbia River system.**

Saturday, November 2

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The river wider and bottoms more extensive. River about 2 miles wide. The ebb tide rose here about 9 Inches, the flood tide must rise here much higher.

**Ordway** a fair morning. The river got more Smooth the current gentle wide and Strait. Saw a number of Spring runs flowing from the high cliffs and Mountains. Some of which falls off about 100 feet perpendicular.

**Whitehouse** a clear morning but cool. The Riv. got Smooth the current very gentle &c. The river wide and Strait the remainder of the day. Great number of springs runs, and Springs flowing from the high cliffs and mountains and fell off down 100 feet or more.<sup>5</sup>

5 Mention of these falls may be the Multnomah and other falls in Multnomah County, Oregon.

**On November 3 and 4 the party moves by present-day Portland, OR, but does not see the confluence of the present-day Willamette and Columbia Rivers.**

**Sunday, November 3**

**Weather Diary**

a thick fog which continued until meridian cleared off and was fair the remainder of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a fog	NE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The fog so thick this morning we did not think it prudent to Set out...we could not see a man 50 Steps off, this fog detained us untill 10 oClock at which time we Set out. The water rose 2 Inches last night the effects of tide. The water Shallow for a great distance from shore. The fog continued thick untill 12 o'clock

**Gass** The morning was foggy. At 9 we proceed on ,but could not see the country we were passing, on account of the fog, which was very thick till noon when it disappeared, and we had a beautiful day. We see the high point of a mountain covered with snow, in about a southeast direction from us. (Mt. Hood)

**Ordway** a foggy morning. We perceive the tide rise and fall a little at this place. We saw the round mountain some distance a head which we expect is the Same which was discovered by Lieut. Hood and is called Hoods Mountain.

**Whitehouse** a foggy morning & we delayed setting out till about 9 oClock AM. The fog So thick this morning that we cannot See more than one hundred yards distance. Agreeable to all calculations it cannot be more than two hundred miles from this to the ocean. We then set out abt. 9oC. and proceeded on the fog continued So thick that we could Scarsely See the Shores or Islands. We Saw a high round mountain on the Lard Side which we expect is the Same we Saw abo. the great falls and the Same that Lieut. Hood gave an account off. ( it is nearly covd. with Snow). River verry wide better than a mile in general. About 2 oClock PM...the weather now got clear & pleasant.

**Monday, November 4**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloudy cool morning, wind from the west. Tide rose last night 18 inches perpdicular at Camp. High tide at 6 o'clock pm. Verry worm. Saw Mount Hellen (Mt. St. Helens)...it is emensely high and covered with Snow, rising in a kind of Cone perhaps the highest pinecal from the common leavel in america. The river here is 1 ½ miles wide, and current jentle.

**Gass** a fine morning. The tide raised the water last night 2 feet. In the evening we saw Mount Rainy (Mt. St. Helens) It is a handsome point of a mountain, with little or

no timber on it, very high, and a considerable distance off this place.

**Ordway** cloudy. The tide Ebbs and floes abt. 3 feet at this place discovered a high round mountain some distance back from the River on the Stard side which is called mount rainy— (probably Mt. St. Helens)

**Whitehouse** This morning was cold, foggy & cloudy. . We are now tide way, the tide fell during last night 2 feet perpendicular, and is on the rise this morning. The river wider.

**Tuesday, November 5**

**Weather Diary**

Commenced raining at 2 PM and continued to rain with intervalles throughout the day. Saw 14 Garter Snakes.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r c r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Rained all the after part of the last night, rain continues this morning. We are all wet Cold and disagreeable, rain Continues & encreases. My feet and legs cold. I saw 17 Snakes to day on a Island, but little appearance of Frost at this place. Here the river is about one and a half miles wide The day proved Cloudy with rain the greater part of it, we are all wet cold and disagreeable. I Saw but little appearance of frost in this valley which we call Wap-pa-too Columbia

**Gass** Some rain fell last night about 2 o'clock, and the morning was cloudy. We proceed on in the afternoon, during which some rain and a little hail fell. Here the tide rises and falls 4 feet.

**Ordway** hard rain the later part of last night. We had several small showers of rain

**Whitehouse** it began to rain about one oClock last night and continued to rain till day light. This morning was Cloudy. Found the river run very strait, & grew wider. We had frequent small showers of rain. This evening continued Rainey. The river was about 1 miles wide at this place.



Wednesday, November 6

Weather Diary

rained the greater part of the day moderately.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cold (cool) wet rany morning. Wind high a head. Cloudy with rain all day, we are all wet and disagreeable

**Gass** We set out early in a cloudy morning after a disagreeable night of rain.

**Ordway** Several Showers of rain in the course of last night. The wind rose from the west towards evening so that the waves run high.

**Whitehouse** Several Showers of rain in the course of last night. The tide Ebbs & flows abt. 3 feet pertular. This morning was cloudy & wet. We also passed several small springs. Towards evening we had the Wind blowing hard from the Westward & the Waves ran very high.

**Expedition moves into the Columbia River estuary and proceeds to the mouth and interface with the Pacific Ocean between November 7 and December 6, 1805.**

Thursday, November 7

Weather Diary

Thick fog this morning which Continued untill 11 AM. Cleared off and was fair until meridian, Several havy Showers dureing the evening

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a fog <sup>6</sup>	SW	-	-	-	-	-	-

<sup>6</sup> Clark's Journal Codex I lists this weather data as "r a r fog."

**Daily Narrative Journals**

- Clark** a Cloudy fogey morning, a little rain. We delayed 1 ½ hour & set out the tide being up one of our Canoes Separated from us this morning in the fog. The rain continued untill 9 oclock moderately. Several marshey Islands towards the Lard Side the Shape of them I can't See as the river is wide and day foggey. The fog So thick we could not See across the river. rain Continud. moderately all day our Small Canoe which got Separated in the fog this morning joined us this evening. We are in view of the opening of the Ocian, which Creates great joy. Some high mountains to the S.W. on the top of one is Snow. *Ocian in View!* O! The joy. Great joy in camp we are in View of the Ocian, this great Pacific Octean which we been So long anxious to See. and the roeing or noise made by the waves brakeing on the rocky Showers (as I Suppose) may be heard distinctly
- Gass** a foggy morning. At this place the river is about 3 miles wide
- Ordway** a foggy cool morning.
- Whitehouse** a cool foggy morning. These Islands were Marshy & were covered with Grass, & had Water laying in different parts of them.

**Friday, November 8**

**Weather Diary**

rained moderately

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning Some rain and wind Cloudy and disagreeable all the day. After dinner we took the advantage of the returning tide & proceeded on to the 2<sup>nd</sup> point, at which place we found the Swells too high to proceed. The Swells Continued high all the evening river wide & at this place too Salt to be used for drink. here we found the Swells or Waves so high that we thought it imprudent to proceed; we landed unloaded and drew up our Canoes. Some fine rain all day at intervals, we are all wet and disagreeable, as we have been for Several days past, and our present Situation a verry disagreeable one in as much as we have not leavel land Sufficent for an encampment and for our baggage to lie cleare of the tide. The Seas

roled and tossed the Canoes in such a manner this evening that Several of our party were Sea sick. Ocian 4142 Miles from the Mouth of *Missouri* R.

**Gass** The morning was cloudy, and there was a hard wind from the east. We had to coast round (a bay), as the wind raised the waves so high we could go no other way. The waves ran so high we were obliged to lie to, and let the tide leave our canoes on dry ground. In crossing the bay when the tide was out, some of our men got sea sick, the swells were so great. The whole of this day was wet and disagreeable

**Ordway** a Cloudy morning. The waves high tossed us abt. We can see along distance a head We expect we can See the mo. of the Columbian River. We bet it appears a long distance off. The waves roled So high that we were obledged to land on the Same Shower Stard. Side and took great pains to keep the canoes from filling with water. The river water is gitting so brackish that we cannot drink of it at full tide. The evening rainy—

**Whitehouse** This morning we had cool cloudy weather. Shortly after the wind rose & blew from the SE very hard, & the River got so rough, that we were tossed very much in our Canoes. Entered into a Bay, or wide place about 7 Miles wide, which continued as far as our Eyes could discern. Found the waves running so high, that we were obliged to land about 3 oClock. We found the River water at this place brackish.

**Saturday, November 9**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	S	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The tide of last night did not rise Sufficiently high to come into our camp, but the Canoes which was exposed to the mercy of the waves &c. which accompanied the returning tide, they all filled and with great attention we Saved them untill the tide left them dry. wind Hard from the South, and rained hard all the fore part of the day, at 2 oClock P M the flood tide came in accompanied with emence waves and heavy winds, floated the tree and Drift which was on the point on which we Camped and tossed them about in such a manner as to endanger the canoes verry much. Our camp entirely under water dureing the hight of the tide, every man as wet as water could make them all the last night and to day all day as the rain continued all day, at 4 oClock P M the wind Shifted about to the SW and blew with great violence

mediately from the Ocean for about two hours, notwithstanding the disagreeable Situation of our party all wet and cold (and one which they have experienced for Several days past) they are chearfull and anxious to See further into the Ocian, The water of the river being too Salt to use we are obliged to make use of rain water. At this dismal point we must Spend another night as the wind & waves are too high to proceed. The rain Continud all day—

**Gass** The morning was windy, rainy and disagreeable, and we were obliged to remain at Cape Swell (Grays Bay) all day. We had no fresh water, except what rain we caught by the putting out our vessels. We remained here all night, and the rain continued.

**Ordway** rained hard the greater part of last night, and the wind rose so high NW that we had to unload the canoes in the night. This morning wet rained the most part of the day and the wind So high up the River that Caused the tide to raise much higher than common So we had to move our loads and some of the Camps further from Shore.

**Whitehouse** It rained the greater part of last night, & the Wind blew very hard from the SE, which caused the Waves to run so very high, that all hands...employed unloading canoes...The morning we had wet weather & rainy, & it rained the most part of this day— The wind continued high, which caused the tide to rise, much higher than a common tides.

**Sunday, November 10**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained verry hard the greater part of the last night & continues this morning, the wind has luled and the waves are not high. We loaded our canoes and proceeded on. About 12 o'clock the wind rose from the NW and the swells become so high, we were compelled to return about 2 miles to a place where we could unload our canoes. We are all wet also our bedding and maney other articles. We are all employed untill late drying our bedding. We are all wet the rain haveing continued all day

**Gass** We had a rainy morning, but the wind was not so high as it had been yesterday. Proceeded on....where we found swells so high, the wind having risen, that we could not proceed any further. After we had been here about 2 hours, it became calm, and

we loaded our canoes again, but could not get around the point, the swells were still so high. It rained hard all night, and was very disagreeable. The water is become very salt.

**Ordway** considerable of rain fell last night. A rainy morning. The waves not So high as yesterday. Continued raining hard abt. noon the wind rose So high that obliged us to turn back from a point of rocks and roe about 2 miles back into a cove. The wind contind. So high that we could not proceed.

**Whitehouse** We had rain the greater part of last night & a wet rainy morning, but the Waves did not run so high as they did Yesterday. We continued on our way, it raining hard on us, 'till about noon; when it ceased. The wave then ran so high that we had to turn back and went up river about 2 miles.

**Monday, November 11**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A hard rain all the last night, dureing the last tide the logs on which we lay was all on float, ....about 12 oClock 5 Indians came down in a canoe, the wind verry high from the SW with most tremendous waves brakeing with great violence against the Shores, rain falling in torrents, we are all wet as usial – and our Situation is truly disagreeable one; the great quantities of rain which has loosened the Stones on the hill Sides and the Small ones fall on us. Rained all day.. The tide was 3 hours later to day than yesterday and rose much higher.

**Gass** The morning was wet and the wind still blowing, so that we could not proceed. still had enough, as we have not tents, or coverings to defend us, except our blankets and some mats we got from the Indians, which we punt on poles to keep off the rain. It continued raining and blowing all day; and at 4 o'clock in the afternoon the tide was so high that we had to leave our lodges, until it got lower in the evening.

**Ordway** rained hard the greater part of last night. A rainy wet morning. Our Robes all wet as we have no Shelter that will keep the rain from us. The wind continued so high that we did not attempt to move this day. These Savages went in their canoe across the River in the high waves.

**Whitehouse** It rained hard the greater part of last night, which made it very disagreeable to us all. The greater part of our Men had nothing to Shelter them from the rain, & were obliged to lay down in it, & their Cloathes were wet through. This morning continued wet & rainy, the wind was high, & the swell in the river ran verry high, & we did not attempt to move from this place—

**Tuesday, November 12**

**Weather Diary**

violent wind from the SW acompanied with Hail thunder and lightning, the Claps of Thunder excessively loud and Continued form 3 to 6 AM. Cleared off a Short time & rained untill 12 oClock  
 Cleared off an hour and rained again. (Lewis) the rain has been pretty generally falling Since the 7<sup>th</sup> inst. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r t & l	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A Tremendious wind from the SW about 3 oClock this morning with Lightineng and hard claps of Thunder, and Hail which Continued untill 6 oClock a.m. in intervals when it became light for a Short time, then the heavens became sudenly darkened by a black cloud from the SW and rained with great violence untill 12 oClock, the waves tremendous brakeing with great fury against the rocks and trees on which we are encamped. our Situation became Seriously dangerous.

It would be distressing to a feeling person to See our Situation, at this time all wet and colde with our bedding &c. also wet, in a Cove Scercely large enough to Contain us, our Baggage in a Small holler about ½ mile from us, and Canoes at the mercey of the waves & drift wood. It was clear at 12 for a short time, I observed the Mountains on the opposit Side was covered with snow— I observe great numbers of Sea guls, flying in every direction— Rain Continued

**Gass** A cloudy wet morning, after a terrible night of rain, hail, thunder and lightning. The rain still continued, and the river remained very rough.

**Ordway** a hard Storm continued all last night, and hard Thunder lightning and hail this morning. We Saw a mountain on opposite Shore covered with Snow. The rain continued hard all day.

**Whitehouse** We had a hard storm the greater part of last night, & hard thunder, lightning, & hail

this morning. We saw a high mountain which lay on the opposite to where we were encamped covered with snow. The rain continued hard during the most part of this day.

**Wednesday, November 13**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some intervals of fair weather last night, rain and wind continue this morning. ...trees very high & thick Cannot determine the precise course of the winds. Rain all day moderately, I am wet &c.&c. The Hail which fell 2 nights past is yet to be Seen on the mountains. The rain continuing and weather proved So cloudy that I could not See any distance. The rain continue all day. The tides at every flud come in with great swells brakeing against the rocks & drift trees with great fury— if we were to have cold weather to accompany the rain which we have had for this 6 or 8 days passed we must eneviatilbly Suffer very much as Clothes are Scerce with us.

**Gass** This was another disagreeable rainy day at 9 o'clock in the forenoon it became a little more calm than usual

**Ordway** hard rain continued all last night a rainy morning. As the wind continues So high that obledges us to stay—

**Whitehouse** The storm continued & hard rain during last night, and this morning rainy disagreeable weather. Our Buffalo robes are getting rotten, and the most part of our baggage were wet. We have a very disagreeable time of it, the most part of our Men having slept in the rain, ever since this storm began, & are continually wet. The waves continued high & the Storm continued during the whole of this day.

**Thursday, November 14**

**Weather Diary**

a blustery rainy day

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	-	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** rained all the last night without intermission, and this morning wind blows verry hard, but our Situation is Such that we cannot tell from what point it comes. one of our canoes is much broken by the waves dashing it against the rocks in high tide. The rain &c. which has continued without a longer intermition than 2 hours at a time for ten days past has distroyd. the robes and rotted nearly one half of the fiew clothes the party has, perticularley the leather clothes if we have cold weather before we can kill & Dress Skins for clothing the bulk of the party will Suffer verry much. The rain Continue all day. Rained as usial all the evening, all wet and disagreeable Situated.

**Gass** We expected last night to have been able to proceed on this morning, but the rain continued, and the river still remained rough, and we are therefore obliged to lie by. 3 men returned...as the swells ran so high that they could not possibly get the canoe along. The weather continued wet, and the most disagreeable I had ever seen.

**Ordway** the Storm continues, and obledges us to Stay in this disagreeable harbour with nothing but pounded Sammon to Eat.

**Whitehouse** We had considerable quantity of rain during last night, & this morning we had wet rainy weather. About 10 oClock AM the weather cleared off, & in the afternoon it became tolerable calm weather.

**Friday, November 15**

### Weather Diary

The after part of this day fair and calm for the first time since the 5<sup>th</sup> instant. and no rain move our encampment.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-



**Daily Narrative Journals**

**Clark** Rained all the last night at intervalles of sometimes of 2 hours, This morning it became calm & fair, I prepared to set out at which time the wind sprung up from the SE and blew down the River & in a few minits raised such swells and waves brakeing on the Rocks at the Point as to render it unsafe to proceed. The sun shown untill 1 oClock P.M. which gave an oppertunity for use to dry some of our bedding & examine our baggage.

The rainy weather continued without a longer intermition than 2 hours at a time, from the 5<sup>th</sup> in the mornig. untill the 16<sup>th</sup> is eleven days rains, and the most disagreeable time I have experenced confined on a tempiest coast wet, Scerce Provisions, and torrents of rain poreing on us all the time— , where I can neither git out to hunt, return to a better situation, or proceed on; in this situation have we been for Six days past, fortunately the wind luled and the river became calm about 3 oClock we loaded in great haste and set out passed the blustering Point below which is a sand beech. The waves became very high Evening fare & pleasent.

**Gass** This morning the weather appeared to settle and clear off, but the river remained still rough. About 1 o'clock when the water became more calm we loaded and set out from our disagreeable camp. Went about 3 miles into a bay and halted on a sand beach, in full view of the ocean, at this time more raging than pacific.

**Ordway** a wet morning. About 10 oClock AM cleared off the after part of the day calm and pleasant.

**Saturday, November 16**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	WSW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Cool the latter part of the last night this morning Clear and butifull. The Sea is fomeing and looks truly dismal to day, from the wind which blew hard to day from the SW. The evening proved Cloudy and I could not take any Luner observations. On the Lard side...a pinical of which is now covered with Snow or hail,

**Gass** This was a clear morning and the wind pretty high. We could see the waves, like small mountains, rolling out in the ocean, and pretty bard in the bay. We are now at

the end of our voyage, which has been completely accomplished according to the intention of the expedition, the object of which was to discover a passage by the way of the Missouri and Columbia rivers to the Pacific Ocean; notwithstanding the difficulties, privations and dangers, which we had to encounter, endure and surmount. The day being clear we got our baggage dried

**Ordway** a clear cool morning.

**Whitehouse** A clear cool morning. We are now in plain view of the *Pacific Ocean*. The waves rolling, & the surf roaring very loud. We are now of opinion that we cannot go any further with our Canoes, & think that we are at an end of our Voyage to the Pacific Ocean, and as soon as discoveries necessary are made, that we shall return a short distance up the River & provide our Selves with Winter Quarters.

**Sunday, November 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	E	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A fair cool morning wind from the East. The tides rises at this place 8 feet 6 inches and comes in with great wave brakeing on the Sand beech on which we lay with great fury

**Gass** We had a fine pleasant clear morning.

**Ordway** a clear morning.

**Whitehouse** This morning we had clear pleasant weather.

**Monday, November 18**

**Weather Diary**

Cloudy .... (Lewis) I proceed the Ocean. (Clark)

Sunrise			4 PM			River		
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A little Cloudy this morning. here I found Capt. Lewis name on a tree, I also engraved my name, & by land the day of the month and year, as also Several of the men. Some rain in the after part of the night. Men appear much Satisfied with their trip beholding with estonishment the high waves dashing against the rocks & this emence Ocian.

**Gass** The morning was cloudy.

**Ordway** Cloudy. Set out in order to go down and see the passiffic ocean. —towards evening we arived at the Cape disapointment on the Sea Shore. Went over a bald hill where we had a handsom view of the ocean.

**Whitehouse** We had a cloudy morning.

**Tuesday, November 19**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** I arose early this morning from under a Wet blanket caused by a Shower of rain which fell in the latter part of the the last night. rauid. ...it Comenced raining and continued moderately untill 11 oClock A M.

**Gass** We had a cloudy, rainy morning

**Ordway** cloudy a light Sprinkling of rain the later part of last night

**Whitehouse** A cloudy morning.

**Wednesday, November 20**

**Weather Diary**

rained moderately from 6 AM. (Lewis) On the 20<sup>th</sup> until 1 PM the 21<sup>st</sup> after which it became Cloudy without rain (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain last night. The Morning Cleared up fare and we proceeded on. The tide being out we walked home on the beech—

**Gass** We had a fine clear morning. This day continued clear and pleasant throughout.

**Ordway** a fair morning.

**Whitehouse** A clear pleasant morning.

**Thursday, November 21**

**Weather Diary**

rained all last night until 1 PM and Cleared away and was Cloudy without rain

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloud morning. the Wind blew hard from the SE which with the addition of the flood tide raised very high waves which broke with great violence against the shore throwing water into our camp the fore part of this day Cloudy Mornng. dark & Disagreeable, a Suprising Climent. We have not had One cold day Since we passed below the last falls or great Shute & Some time before. The Climent is temperate, and the only change we have experienced is from fair weather to rainy windey weather— at 12 oClock it began to rain and continud all day moderately. Some

wind from the SE Waves too high for us to proceed on our homeward bound journey.

**Gass** A cloudy morning. The wind blew so violent to day, and the waves ran so high, that we could not set out on our return, which it is our intention to do as soon as the weather and water will permit. The season being so far advanced, we wish to establish our winter quarters as soon as possible. The night was very wet and disagreeable.

**Ordway** a cloudy and a little rain.

**Whitehouse** A cloudy morning, and a light sprinkling of rain fell. The swell in the River rain so high that it detain'd us, at our Camp from going up the River again, to look our for Winter Quarters, which our officers intended as soon as the Weather would permit, and the Season of the Year advancing made it absolutely necessary that it should be the case— The Season of the Year, is generally cold at this place, but at the present time it was very pleasant. The evening was rainy

**Friday, November 22**

**Weather Diary**

rained all day wind violent from the SE (Lewis) The wind violent from the SSE throwing water of the R over our Camp and rain continued all day. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SSE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A moderate rain all the last night with wind, a little before Day light the wind which was from the SSE blew with Such Violence that we wer almost overwhelmed with water blown from the river, this Storm did not sease at day but blew with nearly equal violence throughout the whole day accompaned with rain. O! how horriable is the day— waves brakeing with great violence against the Shore throwing the Water into our Camp &c. all wet and Confind to our Shelters. The Storm Continued all day with equal violence accompaned with rain.

**Gass** This was a rainy and stormy morning. The wind blew very hard from the south, and the river was rougher than it has been since we came here. At noon the tide was higher than common. The rain and wind continued all day violent.

**Ordway** a hard Storm arose the later part of last night and continues raining and the wind high

from the SW the waves rolled so high and the tide raised much higher than common. Dashed one of our canoes against the logs and was near Splitting it before we got it out. Damaged it and obliged us to move some of our Camps—

**Whitehouse** A hard Storm arose in the course of last night accompanied with Rain, & it continued raining very hard & the wind High from the So West. This caused the tide of flood to rise much higher, than it commonly did at this place. The Swell ran also to an amazing height. We had also to move some of our Camps, the water being all round them & a rising. It continued raining hard all day—

**Saturday, November 23**

**Weather Diary**

rained all last night to day Cloudy

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A calm Cloudy morning, a moderate rain the greater part of the last night. Rained at intervalles all day. I marked my name the day & year on a Alder tree.

**Gass** The weather was somewhat cloudy but more calm. In the evening the weather cleared and we had a fine night.

**Ordway** Still continues rainy and high wind

**Whitehouse** We had a hard wind blowing the greater part of last night, & it rained powerfully. This morning it moderated, both with regard to Wind & Rain. The evening was pleasant

**Sunday, November 24**

**Weather Diary**

rained moderately for a Short time this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A fare morning. This day proved to be fair which gave us an oppertunity of drying our wet articles. ....advantages of being near the Sea Coast one most Striking one occurs to me i'e, the Climate which must be from every appearance much milder than that above the 1<sup>st</sup> range of mountains (where the climate must be more Severe— ). The Indians are Slightly Clothed and give an account of but little Snow, and the weather which we have experienced Since we arrived in the neighbourhood of the Sea Coast has been verry warm, and maney of the fiew days past disagreeably So. if this Should be the Case it will most Certainly be the best Situation of our naked party dressed as they are altogether in leather.

**Gass** The morning was fine with some white frost. As this was a fine clear day, it was thought proper to remain here in order to make some observations, which the bad weather had before rendered impossible. At the head of the bay the river is 3 miles and 660 yards wide. At night, the party were consulted by the Commanding Officers, as to the place most proper for winter quarters; and the most of them were of opinion, that it would be best, in the first place, to go over to the south side of the river, and ascertain whether good hunting ground could be found there.

**Ordway** a clear pleasant morning. A white frost. The Calumbian River at this place is three miles 660 yards wide. Our officers conclude with the opinion of the party to cross the River and look out a place for winter quarters

**Whitehouse** A white frost this morning, & the weather clear & pleasant. The river Columbia at this place is 3 miles from the Sea & 660 Yards wide. Our officers went out and took down Notes on several remarkable points &ca. which they could not before have done, on account of the badness of the weather. In the evening our Officers had the whole party assembled in order to consult which place would be the best, for us to take up Winter Quarter at. The greater part of our Men were of opinion; that it would be best, to cross the River...

**Monday, November 25**

### Weather Diary

Some Showers of rain last night

Sunrise	4 PM	River
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	ESE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A fin day. The Swells too high to cross the river. The evening Cloudy the Winds of to day is generally ESE Mt. St. Hilians Can be Seen from the mouth of this river.

**Gass** The morning was pleasant, though cloudy, with a white frost.

**Ordway** a clear pleasant morning. Attempt to cross the river but the waves so high that the canoes were near filling. So we turned back to Shore again.

**Whitehouse** We had a clear pleasant morning. Up river 9 miles...attempted to cross it, but the Waves ran so high that we found it impracticable.

**Tuesday, November 26**

### Weather Diary

rained all day with Some hard Showers. the wind not so violent as it has been for Sevral days past. (Lewis) Some rain on the morning of the 23<sup>rd</sup> and night of the 24<sup>th</sup> instant. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	ENE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Cloudy and some rain this morning from 6 oClock. Wind from the ENE. We had rain all the day all wet and disagreeable. We found much difficuelty in precureing wood to burn, as it was raining hard, as it had been the greater part of the day.

**Gass** The morning of this day was cloudy and wet. The whole of the day was wet and unpleasant

**Ordway** a Cloudy wet morning. The day rainy and cold.

**Whitehouse** A cloudy wet morning, & we set out early. We continued on still down the River;



the day being wet, cold and very disagreeable.

**Wednesday, November 27**

**Weather Diary**

violent wind and hard all day. Campd. At Pt. William (Lewis) rained moderately all day a hard wind from the SW which compelled us to lie by on the isthmus of point William on the South Side. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** Rain all the last night and this morning it Continues moderately— The Swells became high and rained so hard we Concluded to halt and dry our Selves, Soon after our landing the wind rose from the East and blew hard accompanied with rain, this rain obliged us to unload & draw up our Canoes. The water at our Camp Salt that above the isthmus fresh and fine—
- Gass** a wet morning; coasted round, and turned a sharp cape (Tongue Point) about a mile; when we found swells running so high that we had to halt. Had a very wet night.
- Ordway** rained all last night. We could perceive a considerable of current in the River. The waves ran So high that obledged us to halt at an old fishery. Hard rain.
- Whitehouse** A rainey wet morning & cold. The Rain continued hard all this day—

**Thursday, November 28**

**Weather Diary**

a tremendous Storm from the NW in the after part of the day. rained all last night and to daye. (Lewis) The wind which was from the SW Shifted in the after part of the day to the NW and blew a Storm which was tremendous. rained all the last night and to day without intermission. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW & NW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Wind Shifted about to the SW and blew hard accompanied with hard rain. Rained all the last night. Wind to high to go either back or forward. This is our present Situation,! truly disagreeable. About 12 oClock the wind Shifted about to the NW and blew with great violence for the remainder of the day at maney times it blew for 15 ro 20 minits with Such violence that I expected every moment to See trees taken up by the roots. Many were blown down. Those Squals were Suckceeded by rain, !O how Tremendious is the day. This dredfull wind and rain Continued with intervalles of fair weather all the latter part of the night. O! How disagreeable is our Situation dureing this dreadful weather.

**Gass** We had a wet windy morning. It rained all day; an we had here no fresh water, but what was taken out of the canoes as the rain fell.

**Ordway** a hard Storm. The wind high from the N. West. Hard rain all day—

**Whitehouse** We had a very heavy Storm during the whole of last night, & the wind blowing hard from the Westward this morning. It rained the greater part of this day. The Wind rose from the North West & became a perfect storm

**Friday, November 29**

### Weather Diary

rained all last night hard, and to day moderately I decend with 5 men in a canoe to examine the Country.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Lewis** The wind being so high the party were unable to proceed with the perogues. It rained upon us by showers all day. Encamped at an old Indian hunting lodge

which afforded us a tolerable shelter from rain, which continued by intervalles throughout the night—

**Clark** Blew hard and rained the greater part of the last night and this morning much more moderate. The waves Still high and rain Continues. The Swells and waves being too high for us to proceed down in our large Canoes, in Safty— The winds are from Such points that we cannot form our Camp So as to prevent the Smoke which is emencely disagreeable, and painfull to the eyes.

**Gass** The weather continues cloudy and wet. There were some showers of rain and hail during the day.

**Ordway** Showery and Some hail in the course of the day.

**Whitehouse** It rained very hard all last night, & continued showery this morning. The weather continued showery & some hail fell during this day—

### Saturday, November 30

#### Weather Diary

rained and hailed with short intervalles throughout the last night, Some thunder and lightninge.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & h	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Lewis** cloudy morning. It rained but little on us today tho' it was cloudy generally— Wind from the NE.

**Clark** Some rain and hail with intervalles of fair weather for the Space of one or two hours at a time dureing the night untill 9 oClock this morning, at which time it Cleared up fair and the Sun Shown.

**Gass** This was a fair day. The whole of the day was fair, pleasant and warm for the season.

**Ordway** the after part of the day clear.

**Whitehouse** We had several hard showers of rain, & some hail fell during last night, and this morning after day light it cleared off.

# December 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is at the mouth of the Columbia River near Astoria, Oregon searching for a location to establish winter camp.

Sunday, December 1

#### Weather Diary<sup>1, 2</sup>

rained last night and Some this morning.

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, pages 1275, 1290-91; Moulton, Volume 6, pages 148-151; Thwaites, Volume 6, Part II, pages 198, 200-201.

2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of Decmber.

#### Daily Narrative Journals

**Lewis** Cloudy morning wind from the SE.

**Clark** Cloudy windey morning wind from the East. The Wind rose so high that I could not proceed. Began to rain hard at Sun Set and Continud. The Sea which is imedeately in front roars like a repeeted roling thunder. The emence Seas and waves which breake on the rocks & Coasts to the SW & NW roars like an emence fall at a distance, and this roaring has continued ever Since our arrival in the neighbourhood of the Sea Coast which has been 24 days Since we arrived in Sight of the Great Western; (for I cannot Say Pacific) Ocian as I have not Seen one pacific day Since my arrival in its vicinity, and its waters are forming and petially (perpetually) breake with emenc waves on the Sands and rocky Coasts, tempestous and horiable.

**Gass** The whole of this day was cloudy.

**Ordway** a cloudy morning.

**Whitehouse** A dark cloudy morning. We had in the course of this day a little rain, & all anxiously waiting for the arrival of Captain Lewis.

### Monday, December 2

#### Weather Diary

rained all the last night and untill meridian cloudy the remained of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** Cloudy with some little rain this morning. The evening....fair moon Shineing night—

**Gass** The day was agin cloudy and wet. In the evening the weather became clear, and we had a fine night.

**Ordway** a Cloudy wet morning.

**Whitehouse** A cloudy wet morning.

### Tuesday, December 3

#### Weather Diary

rained all the last night & to day untill meridian and became fair &c. (Lewis) fair from 12 to 2 PM rained all the last night & this morning. Rained the night of the 1<sup>st</sup> and morning of the 2 and Cloudy the remainder of the day. rained at intervalles the night of the 2d instant with constant hard and Sometimes violent winds. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	E	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fair windey morning wind from the East. Wind Continues to blow. I marked my name on a large pine tree imediately on the isthmus William Clark December 3<sup>rd</sup> 1805. By Land from the U. States in 1804 & 1805— Some rain this afternoon and evening.

**Gass** The morning was foggy. The greater part of the day was fair, but in the evening it clouded over and rained again.

**Ordway** Cloudy

**Whitehouse** This morning cloudy.

**Wednesday, December 4**

**Weather Diary**

rained all day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some little rain all the last night, this morning the rain and wind increased from the SE. a Spring tide to day rose 2 feet higher than Common flood tides and high water at 11 oClock. Hard wind from the SE this afternoon Hard wind from the South this evening. Rained moderately all day and the waves too high for me to proceed in Safty to the bay as I intended.

**Gass** We had a cloudy rainy morning. The river was so rough we could not set with the canoes. The rain continued all day.

**Ordway** a rainy wet morning. Continued Storming & high wind all day—

**Whitehouse** A rainy wet morning. The day continued Rainey, the Wind blew hard & the weather was stormy.

**Thursday, December 5**

**Weather Diary**

rained all last night and today I return to Capt Clark (Lewis) rained yesterday, last night, and moderately to day; all day wind violent in the after part of the day. .... (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some hard showers of rain last night, this morning Cloudy and drisley, in the bay the Shower appear harder. High water to day at 12 oClock this tide is 2 inches higher than that of yesterday. All our Stores again wet by the hard Showers of last night. Capt. Lewis’s long delay below has been the cause of no little uneasiness on my part for him, 1000 conjectures has crouded into my mind respecting his probably Situation & Safty— rained hard. The repeeted rains and hard winds which blows from the SW renders it impossible for me to move with loaded Canoes along an unknown Coast we are all wet & disagreeable; Rain continued all the after pt. of the day accompanied with hard wind from the SW which provents our moveing from this Camp.

**Gass** Again we had a wet stormy day, so the men were unable to proceed with the canoes. There is more wet weather on this coast, than I ever new in any other place; during a month, we had three fair days’ and there is no prospect of a change.

**Ordway** rainy dissagreeable weather.

**Whitehouse** We had hard rain & stormy weather; which was very disagreeable. It continued raining the whole of this day—

**Friday, December 6**

**Weather Diary**

rained last night and all day to day wind no violent in the after part of the day fair in the eving. (Lewis) rained all last night and to day untill 6 oClock at which time it Clear’d away and became far. the winds also Seased to blow violent. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The wind blew hard all the last night with moderate rain, the waves very high, This morning the wind which is Still from the SW increased and rain continued all day, about Dusk the wind Shifted to the North and it Cleared up and became fair weather. The high tide of today at 12 oClock is 13 inches higher than yesterday.

**Gass** We had another wet morning At noon it rained very hard, and the tide flowed so high, that in some part of our camp the water was a foot deep; we had therefore to remove to higher ground. In the afternoon it still continued it still to rain hard.

**Ordway** about noon the Storm arose and the tide raised about 2 feet higher than common so that the water came in to our Camp So that we moved our Camps to higher ground. The Storm cont. all day.

**Whitehouse** A rainy disagreeable morning, & the Wind continued high. About 1 oClock PM it blew a storm, and the tide rose about 2 feet perpendicular higher, than it had been, since we are at this place, & over flowed some of our Camps, which obliged us to move them to higher ground, than they were first at; the Storm still continued, & the Rain extinguish'd our fires, & made it exceedingly disagreeable to us. Towards evening the Weather cleared up, & it became a little more pleasant,

**After traveling back up river, the party crosses and searches for a suitable location for winter quarters. The Expedition established Fort Clatsop on December 7, 1805 and remain here for winter quarters until they leave on March 23, 1806. This site is near present-day Astoria, OR. Calculated milage by William Clark using dead reckoning place the distance from St. Louis to the mouth of the Columbia River at 4, 162 miles. He was within 40 miles of the actual distance. (Duncan and Burns, 1997, 159; Ambrose, 1998, 175)**

**Saturday, December 7**

**Weather Diary**

rained from 10 to 12 and at 2 PM leave Pt. William (Lewis) last night fair day leave Point William a hard wind from the NW and a Shower of rain at 2 PM. (Clark)

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** some rain from 10 to 12 last night, this morning fair. We proceeded on against the tide the waves verry high. This day fair except about 12 oClock the wind became hard from the NE and some rain which lasted 2 hours and cleared away.

**Gass** About 12 last night the rain ceased and we had a fine clear morning. The swells being too high here to land we went two miles further

**Ordway** the morning clear. The waves ran verry high. The hunters...no meat...the distance so great and the weather so bad that they brought no meat. The waves roled verry high. The River [Lewis and Clark River] is about 100 yds wide at this place but the tide water extends further up.

**Whitehouse** This morning clear & cold. The wind rose, & the wind caused the Waves to rise also. The Waves ran so high, that we could not land. Wet set off, the Waves running verry high—

**Sunday, December 8**

### Weather Diary

Cloudy after a moderate rain last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r <sup>5</sup>	NE	-	-	-	-	-	-

<sup>5</sup> Clark's Journal Codex I lists this weather data as "c."

### Daily Narrative Journals

**Clark** a Cloudy morning. Some rain this evening. We made a Camp of the Elk Skin to keep off the rain which Continued to fall

**Gass** We had a fine fair morning, with some white frost. In the evening, it began to rain again. The country towards the south is mountainous at some distance off, and there is some snow on the mountains.

**Ordway** one canoe taken away from the landing by the tide last night. A hard white frost this morning and cold.

**Whitehouse** We had a hard white frost & cold, & windy morning. The latter part of the day was cold & cloudy, & in the Evening we had a little Rain & high Wind from the North East—

**Monday, December 9**

**Weather Diary**

cloudy and rained moderately until 3 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	NE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained all the last night we are all wet. In the evening it began to rain with a tremendous storm and Continued accompanied with a Violent wind from the SW until 10 oClock PM—

**Gass** The morning was cloudy and wet. It continues cloudy and wet all day.

**Ordway** rained the greater part of last night rained hard all day found the canoe which the tide took off the other night.

**Whitehouse** We had rain the greater part of last night, & it continued raining this morning.

**Tuesday, December 10**

**Weather Diary**

a violent wind last night 6 to 9 PM. river fast with rain. rained all day. (Lewis) rained all day and the air cool I return from the Ocean a violent wind last night from the SW rained the greater part of the night of the 8<sup>th</sup> and all day the 9<sup>th</sup> int. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

-	r	NE	-	-	-	-	-	-
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**Daily Narrative Journals**

**Clark** a Cloudey rainey morning. I proceeded on to my Camp thro a heavy Cold rain. The day was Cloudy I could not See distinctly— rained nearly all day

**Gass** We had another wet cloudy morning; and all hands were employed at work notwithstanding the rain.

**Ordway** rained hard the most of the day

**Whitehouse** It rain'd the most part of this day.

**Wednesday, December 11**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained all the last night moderately. The rain continued moderately all day.

**Gass** This day was so cloudy and wet.

**Ordway** rained the greater part of the day.

**Whitehouse** A wet morning & the party continued cutting logs... It continued raining the greater part of this day—

**Thursday, December 12**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some moderate showers of rain at intervals all last night and to day.

**Gass** This morning was cloudy without rain Some rain fell in the evening.

**Whitehouse** It was cloudy the whole of this day.

**Friday, December 13**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some showers of light rain last night, and to day several very hard Showers.

**Gass** We had a cloudy, but fine morning. The day continued cloudy and some rain fell in the evening.

**Ordway** cloudy & rain

**Whitehouse** We had rain & Cloudy weather, during the whole of this day.

**Saturday, December 14**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy day & rained moderately. All our last supply of Elk has Spoiled in the repeated rains which has been fallen ever Since our arrival at this place, and for a long time before, Scerce one man in Camp can bost of being one day dry Since we landed at this point

**Gass** In the course of the day a good deal of rain fell; the weather here still continues warm, and there has been no freezing, except a little white frost.

**Ordway** continues wet and rainy.

**Whitehouse** This day we had moderate Rain.

**Sunday, December 15**

**Weather Diary**

rained all last night and untill 8 AM to day after which it was Cloudy all day. (Lewis) rained at Short intervalles from the 10<sup>th</sup> instant untill 8 AM to day I with 16 men Set out after meat. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Cloudy all Day. Some rain in the evening. Serjt. Ordway, Colter, Colins, Whitehouse & McNeal Staid out all night without fire and in the rain—

**Gass** The morning was cloudy. Some light showers fell during the day.

**Whitehouse** We had cloudy weather. We were obliged to stay out during the Night. It rained all that night & the wind blew very cold & being without fire, we suffered considerably both from the Rain & wind.

### Monday, December 16

#### Weather Diary

rained all the last night. air Cold wind violent from the SW accompanied with rain.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** Rained all the last night. We covered our selves as well as we could with elk skins & set up the greater part of the night, all wet, I lay in water very cold, a most dreadful night the rain continues, with Tremendous gusts of wind. The winds violent from the SE. With some risk proceeded on thro high waves in the river, a tempestuous disagreeable day. Trees falling in every direction, whorl winds, with gusts of rain Hail & Thunder, this kind of weather lasted all day, Certainly one of the worst days that ever was!

**Gass** This was a wet morning with high wind. The men who were out...had a very bad night, as the weather was stormy and a great deal of rain fell. Notwithstanding this, a serjeant and four men, who had got lost, lay out all night without fire. The whole of the day was stormy and wet.

**Ordway** rained hard all last night and cold we Suffered with wet & cold all last night. Hard rain and high wind.

**Whitehouse** It rained very hard during this day. We had hard Rain & some hail in the afternoon also.

### Tuesday, December 17

#### Weather Diary

rained all last night and to day untill 9 AM when we had a Shower of hail for an hour and Cleared off.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & h	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some rain last night and a continuation of it this morning. The fore part of this day rained hailed and blew hard, the after part of the day fair & Cool. The mountain which lies SE about 10 miles distant is covered with Snow on its top which is rugged and uneven.

**Gass** This was another cloudy day, with some light showers of rain and hail.

**Ordway** a little Snow and hail fell last night and continues this morning.

**Whitehouse** We had during last night some Snow & hail & it continued the same this morning. A little snow remained on the pine trees the whole of this day.

Wednesday, December 18

### Weather Diary

rained Snowed and hailed at intervals all the last night and to day until meridian.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r s h	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** rained and Snowed alternately all the last night, and Spurts (gusts) of Snow and Hail Continued until 12 o'clock, which has chilled the air, Cold disagreeable Dreadful day, the wind hard and unsettled. At 12 the Hail and Snow Seased, and the after part of the day was Cloudy with Some rain.

**Gass** Snow fell last night about an inch deep, and the morning was stormy. In the middle of the day the weather became clear, and we had a fine afternoon.

**Ordway** cloudy and rain. A little hail and frozen rain & cold—

**Whitehouse** This day was cloudy with some Rain. The day grew very cold, & some hail fell.

**Thursday, December 19**

**Weather Diary**

rained [and hailed] last night and Several Showers of Hail and rain to day. the air Cool.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r & c	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain with intervalles of fair weather last night, this morning Clear & the wind from the SW. The after part of the Day Cloudy with Hail and rain.

**Gass** This was a fine clear cool morning; and we expected to have some fair pleasant weather, but at noon it became cloudy again and began to rain.

**Ordway** rained all last night, and continues hard this mornng.

**Whitehouse** It rained hard all last night, & continued the same this morning.

**Friday, December 20**

**Weather Diary**

Some rain and hail last Night the rain Contd. untill 10 AM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r h	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain and hail last night and this morning it rained hard untill 10 oClock. The after part of the day Cloudy with Several Showers of rain—



**Gass** The morning was cloudy and wet— about 10 o'clock the weather became clear; but before night it rained as fast as before.

**Ordway** cloudy and rain. About 10 o'clock cleared off, but rained again before evening—

**Whitehouse** A Cloudy wet morning, & continued so the whole of this day. We continued on building our huts, notwithstanding the badness of the weather—

**Saturday, December 21**

**Weather Diary**

rained last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained as usual all the last night and contd. moderately all day to day without any intermission.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** Still continues raining by we Still kept at work finishing our huts to make ourselves comfortable &C—

**Whitehouse** A cloudy wet dy as usual, but rather warm.

**Sunday, December 22**

**Weather Diary**

rained last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained Continued all the last night and to day without much intermition. We discover that part of our last Supply of meat is Spoiling from the womph [warmth] of the weather not withstanding a constant Smoke kept under it day and night.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** high wind all last night. The weather rainy warm & wet.

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Monday, December 23**

**Weather Diary**

rained all last night and moderately to day with Several Showers of Hail accompanied with hard Claps of Thunder and Sharp Lightning. (Lewis) rained 21 & 22 all day & night (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r h & l	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained without intermition all the last night and to day with Thunder and some Hail the morning and evening with rain this day.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** nothing extraordinary hapened more than common this day—

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Tuesday, December 24**

**Weather Diary**

rained at intervalles last night and to day.

Sunrise			4 PM			River		
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some hard rain at Different times last night, and moderately this morning and the rest of the day without intermission. A hard rain in the evening.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** hard rain as usual.

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Wednesday, December 25**

### Weather Diary

rained at intervalles last night and to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some rain at different times last night and Showers of hail with intervalles of fair Starr light. worm Day. The day proved Showerey wet and disagreeable.

**Gass** Was another cloudy wet day. had occasional rain and high winds but the weather continued warm

**Ordway** rainy & wet. Disagreeable weather. We all moved in to our new Fort. We expect this to be the last winter that we will have to pass in this way—

**Whitehouse** We had hard rain & Cloud weather as usual.

Thursday, December 26

Weather Diary

rained with violent wind all last night and to day with Hard Claps of thunder & Sharp Lightning.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a t & l	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** rained and blew hard with great violence SE last night, some hard claps of Thunder, The rain continued as usual all day and wind blew hard from the SE.

**Gass** cloudy with rain

**Ordway** we found that our huts Smoked by the high winds and hard Storms hard rain continues as usual—

**Whitehouse** We had Stormy weather the whole of this day. It rain'd most part of this day—

Friday, December 27

Weather Diary

rained moderately last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** rained last night as usual and the greater part of this day. worm weather. Elk meet nearly Spoiled; & this accident of Spoiled meet, is owing to wormth & the repeated rains, which cause the meet to tante before we Can get it from the woods. Musquestors troublesom

**Gass** cloudy with rain

**Ordway** hard rain all day—

**Whitehouse** It continued raining hard during the whole of this day. ...a large fish was drove by the Wind & waves on the shore near to where their lodges were...

### Saturday, December 28

#### Weather Diary

rained moderately last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** rained as usual the greater part of the last night, and this morning rained and the wind blew hard from the SE. This day is verry worm, and rained all day without intermition.

**Gass** cloudy with rain

**Ordway** Capt. Lewis...three men got ready to go with a canoe to See the whail as we expect it is, but the wind and Storm arose So high that they could not go.

**Whitehouse** This morning it rained & the wind was so high, that it prevented us from going to see the Whale.

### Sunday, December 29

#### Weather Diary

rained moderately last night and to day until 7 AM after Cloudy the remained of the day wind hard from the SE (Lewis) rained moderately without much intermition from the 26<sup>th</sup> until 7 AM this morning hard wind from the SE. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained last night as usual, this morning cloudy without rain, a hard wind from the SE. The wind has proved too high as yet for him to Set out in Safety. I have the Satisfaction to Say that we had but little rain in the Course of this day, only not as much as would wet a person. But hard wind and Cloudy all day but very light rain.

**Gass** This was a cloudy morning, but a fair day succeeded

**Ordway** a fair day.

**Whitehouse** This day was fine clear pleasant weather, the first fair day we had for a long time past.

**Monday, December 30**

**Weather Diary**

Hard wind & rain last night. to day tolerably fair.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Hard wind and Some rain last night. This morning fair and the Sun Shown for a Short time. This day proved the fairest and best we have had Since our arrival at this place, only 3 Showers of rain this whole day, Wind the fore part of the day. Cloudy nearly all day, in the evening the wind lulled and the fore part of the night fair and clear.

**Gass** Heavy shower of rain fell last night, but the morning was fair, and we had some sunshine, which happens very seldom; light showers of rain fell during the day.

**Ordway** a fair morning and a little Sun shine which is very uncommon at this place.

**Whitehouse** We had several showers of Rain during last night, and this morning was fair; and the Sun shone a little which was very uncommon to us—

**Tuesday, December 31**

**Weather Diary**

rained last night and moderately all day to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A fair night. Last night was Cloudy and Some rain, this day proved cloudy and Some Showers of rain to day. The fore part of this night fair and clear.

**Gass** Another cloudy morning

**Ordway** a cloudy morning. We built a box for the centinel to Stand in out of the rain

**Whitehouse** A cloudy morning.

## Section 4

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# Weather Diary and Narrative Journals Relating to Weather, Water & Climate

NOAA's National Weather Service  
2003-2006 Lewis & Clark Corps of Discovery Bicentennial

# 1805

## January 1, 1805 to December, 31 1805

The winter of 1804-1805 at Fort Mandan was harsh with frequent snows, blizzards and extreme temperatures. The party experienced a variety of natural phenomena including sun dogs, mirages, northern lights, and even an eclipse of the moon. As spring neared, the party moved quickly to free the keelboat and perogues from the icy barrier of the Missouri River before breakup. By late March the ice was flowing and temperatures were warming. On April 7, 1805, the keelboat and a small party returned down-river to St. Louis carrying journal notes and specimens from the previous years journey destined for President Thomas Jefferson. The main Expeditionary force set off towards the Rocky Mountains and their ultimate goal the Pacific Ocean. The party made slow progress westward as they endured strong Spring winds which created sand storms along the Missouri.

By June 2<sup>nd</sup>, they reached a flood swollen fork in the Missouri. Most of the party believed the north fork was the true Missouri as it was muddy like the previous weeks coming up the river. To be certain, Lewis and Clark took scouting parties to locate the great falls the Minetare/Hidatsa Indians had described. After an unsuccessful try, Lewis took a second party for a further investigation and discovered the Great Falls of the Missouri on June 13. It would take over a month to portage around the falls during a cool and wet early summer. At the end of July, they reached another decision point known today as the Three Forks of the Missouri just as the weather warmed to summer norms. The Expedition moved westward up the newly



named Jefferson River in search of the Shoshone Indian Nation to obtain horses for their trek across the Continental Divide. Lewis led a small scouting party across the great divide on August 12 and found the Shoshones. Clark took a small contingent to explore “Lewis’s (today’s Salmon) River but found it unpassable. Faced with potential failure, the Captains decided they would have to use an old Indian trail to cross the mountains. After purchasing horses, their Shoshone Indian guide, Old Toby, led them over a mountain pass from Idaho back into Montana, down the Bitterroot Valley and then westward along the Lolo Trail. During this time they experience early Fall snows in the high rugged mountains. Nearly starving to death, the Expedition left the Bitterroot Mountains near the end of September and reached the Nez Perce Indian Nation east of present-day Lewiston, Idaho. Here they set up Canoe Camp to build water craft to take them down the Clearwater, Snake and Columbia Rivers to the ocean.

With the current at their back, they set off towards the ocean from near present-day Orofino, Idaho on October 7. After passing many rapids in the Clearwater and Snake Rivers, the Expedition came to great Columbia River on October 16. They proceeded down the wide Columbia passing many dangerous falls, shutes and rapids, and by early November they had reached the tidal waters of the Columbia. Rain began on November 4 and numerous late Fall storms ravaged their camps as they progressed to the ocean. Finally, Clark declared prematurely on November 7<sup>th</sup>, “*Great joy in camp we are in View of the Ocian!*”; however, they were in the great Columbia River estuary. After being pinned down by the intense storms, the Expedition reached the mouth of the river on November 16. The Pacific Ocean at last. Some 4,162 miles by Clark’s dead reckoning from St. Louis. Looking for winter quarters, the party moved back up the river, crossed to the south shore, and established Fort Clatsop near present-day Astoria, Oregon on December 7. They would remain at Fort Clatsop until their departure on March 23, 1806. Although mild temperatures remained for the rest of December, strong Pacific storm systems would bring daily rains, wind and sometimes thunder, lightning and hail.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1805. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)

# January 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition established Fort Mandan on November 2, 1804 near present-day Washburn, North Dakota and remain here for winter quarters until they leave on April 7, 1805.

Tuesday, January 1

#### Weather Diary <sup>1</sup>

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	s	SE	34a	f	NW	R	1	0

<sup>1</sup> Reference: Coues, Volume III, pages 1269-70, 1286; Moulton, Volume 3, pages 281-283; Thwaites, Volume 6, Part II, pages 181-182.

<sup>2</sup> River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** The Day was worm. Themtr 34<sup>0</sup> above 0. Some fiew Drops of rain about Sunset, at Dark it began to Snow, and Snowed the greater part of the night. (The temptr for Snow is about 0)

**Gass** The day was warm and pleasant.

**Ordway** cloudy but moderate. Rained a little in the eve.

**Whitehouse** the day was warm and pleasant.

Wednesday, January 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	s	NW	8b	f a s	N	-	-	-

### Daily Narrative Journals

**Clark** a Snowey morning. Some Snow to Day. Verry Cold in the evening.

**Gass** Some snow fell this morning. This day I discovered how the Indians keep their horses during the winter. In the day time they are permitted to run out and gather what they can; and at night are brought into the lodges, with the natives themselves

**Ordway** Snowed fast this morning.

**Whitehouse** This morning some Snow fell. The Mandan Indians in this Second Village had a number of horses, which they keep in their lodges with them, every Cold night during the Winter.

**Thursday, January 3**

### Weather Diary

the Snow was not considerable the ground is now covered 9 inches deep—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	c	N	4b	s	SE	-	-	-

### Daily Narrative Journals

**Clark** some Snow to day

**Gass** The weather was generally very cold.

**Ordway** Snowed this morning

Friday, January 4

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	W	4b	c	NW	R	-	2 ½

Daily Narrative Journals

**Clark** a worm Snowey morning, the Themtr. at 28<sup>0</sup> abov 0, Cloudy. The evening the weather became cold and windey, wind from the NW.

**Gass** The weather was generally very cold.

**Ordway** Cloud, warm morning. The afternoon blustry.

**Whitehouse** This morning Clear, the weather is not as cold, the weather was moderate to what it had been some days past. In the Evening, the weather grew verry cold and the Wind blew hard from the NW all night—

Saturday, January 5

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	c	NW	18b	s	NE	R	-	2

Daily Narrative Journals

**Clark** a cold day. Some Snow.

**Gass** The weather was generally very cold.

**Ordway** high blustry winds all last night & verry cold three of our hunters Stayed out all night. A cold morning.

**Whitehouse** a cloudy cold day. The weather continued verry Cold. The Weather continuing

very Cold—

**Sunday, January 6**

**Weather Diary**

at 12 oC. Today two Luminous spots appeared on either side of the sun extremely bright

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11b	c a s	NW	16b	f	NW	R	-	3

**Daily Narrative Journals**

**Clark** a Cold day

**Gass** The weather was generally very cold.

**Ordway** a clear cold morning. The wind high & blustry.

**Whitehouse** Cloudy, Cold weather

**Monday, January 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22b	f	NW	14b	f	W	F	-	1

**Daily Narrative Journals**

**Clark** a very Cold clear Day, the Thermtr Stood at 22 d below 0, wind NW. The river fell 1 inch.

**Gass** The weather was generally very cold.

**Ordway** a clear cold morning. The wind high from NW

**Whitehouse** Cloudy, Cold weather

**Tuesday, January 8**

**Weather Diary**

the snow is now ten inches deep. (Lewis) accumulolating by frosts (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	10b	f	NW	R	-	1

**Daily Narrative Journals**

**Clark** a Cold Day. Wind from the NW.

**Gass** The weather was generally very cold.

**Ordway** the wind blew cold from NW

**Whitehouse** Cloudy, Cold weather

**Wednesday, January 9**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
21b	f	W	18b	f a c	NW	R	-	1

**Daily Narrative Journals**

**Clark** A Cold Day, Thermometer at 21<sup>0</sup> below 0. The after part of this day very Cold, and wind Keen.

**Gass** The weather was generally very cold.

**Ordway** Some Snow this morning Squally the after part of the day blustry and exceeding

cold. A number of the Savages out hunting the Buffalo [again] & came in towards evening with their horses loaded with meat and told us that two of their young men was froze to death in the prairie. Had Suffered considerable with the cold. We expected nothing else but the other man had froze or would freeze this night. A young Indian came in the Garrison with his feet frost bit.

**Whitehouse** the day proved to be very cold & Stormey, one of the them (hunters) returned to the fort about 8 oClock in the evening with one of his feet frost bit. The other Stayed out all night.

**Thursday, January 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40b	f	NW	28 <sup>3</sup>	f	NW	R	-	1

3 Clark's Journal Codex C lists this temperature as "28 b."

**Daily Narrative Journals**

**Clark** last night was excessively Cold. The murkery this morning Stood at 40<sup>0</sup> below 0 which is 72 below the freezing point. The Indians...turned out to hunt for a man & boy who had not returned from the hunt of yesterday, and borrowed a Slay to bring them in, expecting to find them frozed to death. about 10 oClock the boy about 13 years of age Came to the fort with his feet frozed and had layed out last night without fire with only a Buffalow Robe to cover him. We had his feet put in Cold water and they are Comeing too— (this boy lost his Toes only) ...a man Came in who had also Stayed our without fire, and verry thinly Clothed, this man was not the least injured— Customs & the habits of those people has ancered [inured them] to bare more Cold than I thought it possible for man to indure—

**Gass** The weather was generally very cold. A number of the natives being out hunting in a very cold day, one of them gave out on his return in the evening; and was left in the plain or prairie covered with a buffalo robe. After some time he began to recover and removed to the woods, where he broke a number of branches to lie on, and to keep his body off the snow. In the morning he came to the fort, with his feet badly frozen, and the officers undertook his cure.

**Ordway** a clear cold morning. It is the Same Boy that the Indians had left last night & expected that he was froze to death in the praries.

**Whitehouse** This day we had severe cold weather. The weather still continued to be extremely

Cold and Stormy, the Officers had some of our party preparing to go in search of the Man, who Staid out all night, believing from the severty of the weather that he had been froze to death— but fortunately he returned to the Fort, before they had started in good health— Some of the Natives came to our Fort, bringing with them one of their Nation, that was frost bitten— His feet very much bit by the frost.

**Friday, January 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38b	f	NW	14b	f	NW	F	-	½

**Daily Narrative Journals**

**Clark**            verry Cold

**Gass**            The weather was generally very cold.

**Ordway**        clear cold morning. Nothing extroordinary accured.—

**Whitehouse**   This day the weather still continued Cold & the Air very thin;

**Saturday, January 12**

**Weather Diary**

singular appearance of three distinct Halo or luminus rings about the moon appeared this evening at half after 9 PM and continued one hour. the moon formed the center of the middle ring, the other two which lay N & S of the moon & had each of them a limb passing through the Moons Center and projecting N & S a simidiameter beyond the middle ring to which last they were equal in dimentions, each ring appearing to subtend an angle of 15 degrees of a great circle<sup>4</sup>



Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	16 <sup>5</sup>	f	NW	R	-	1

4 "...The captains are actually seeing an atmospheric event caused by the refraction of light by ice crystals. Neiburger, Edinger, & Bonner, 426." (Moulton, 1986, 2: 284)

5 Clark's Journal Codex C lists this temperature as "16 b."

### Daily Narrative Journals

**Clark** a verry Cold Day

**Gass** The weather was generally very cold.

**Ordway** cloudy

**Whitehouse** The weather still continued clear and cold;

**Sunday, January 13**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34b	f	NW	20 <sup>6</sup>	f	NW	R	-	2

6 Clark's Journal Codex C lists this temperature as "20 b."

### Daily Narrative Journals

**Clark** a Cold Clear Day

**Gass** A clear cold day. Two frenchmen came by, they had their faces so badly frost bitten that the skin came off, and their guide was so badly froze that they were obliged to leave him with the Assiniboins

**Ordway** a clear cold morning.

**Whitehouse** The weather still continues clear & Cold. The Indians infrom'd us that the Guide who went with them, had got so bad frost bitten on their faces, that the whole of the skin came off—

Monday, January 14

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	s	SE	8b	c a s	SE	-	-	-

Daily Narrative Journals

- Lewis** Observed an Eclips of the Moon. I had no other glass to assist me in this observation but a small refracting telescope belonging to my sextant, which however was of considerable service, as it enabled me to define the edge of the moon's image with much more precision than I could have done with the natural eye. The commencement of the eclips was obscured by clouds, which continued to interrupt me throughout the whole observation; to this cause is also attributable the inaccuracy of the observation of the commencement of total darkness. I do not put much confidence in the observation of the middle of the Eclips, as it is the worst point of the eclips to distinguish with accuracy. The two last observations (i.e.) The end of total darkness, and the end of the eclips, were more satisfactory; they are as accurate as the circumstance under which I laboured would permit me to make them—
- Clark** this morning early a number of indians...passed down on the ice. Our hunters...informs that one Man (Whitehouse) is frost bit and Can't walk home—
- Gass** Some snow fell this morning. Hunters, one of men had got his feet so badly frozen that he was unable to come to the fort.
- Ordway** Whitehouse had his feet frost bit & could not come in without a horse
- Whitehouse** Some Snow fell this morning. I got my feet so Froze that I could not walk to the fort.

Tuesday, January 15

Weather Diary

an eclips of the moon total last night, visible here but partially obscured by the clouds.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10b	f	E	3a	c	SW	R	-	1

### Daily Narrative Journals

**Lewis** I do not place much confidence in this observation in consequence of loosing the observation of the Altitude of the Sun...was somewhat obscured by a cloud. The weather was so cold that I could not use water as the reflecting surface, and I was obliged to remove my glass horizon from it's first adjustment lest the savages should pilfer it.

**Clark** between 12 & 3 o'clock this morning we had total eclips of the moon. This morning not so cold as yesterday, wind from the SE. Wind chopped around to the NW. Still temperate.

**Gass** the weather was warm, and the snow melted fast

**Ordway** a warm pleasant day the weather is thoughy [thawing] so that the Snow melts off the huts & C.

**Whitehouse** This day the weather had moderated considerable, warm to what it has been. The day kept warm & pleasant—

**Wednesday, January 16**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	W	16a	f	SW	R	-	2 ½

### Daily Narrative Journals

**Clark** 4 men...hunting returned one frost'd (but not bad) [Whitehouse]

**Gass** the weather was warm, and the snow melted fast

**Ordway** cloudy & warm.

**Whitehouse** quite warm weather for the time a year & pleasant and the snow melted fast— The Man that was frost bitten informed us that he felt much easier than he had done, since he was frost bitten

**Thursday, January 17**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	W	12b	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a verry windey morning hard from the North. Thermometer at 0

**Gass** it became cold; the wind blew hard from the north, and it began to freeze.

**Ordway** a clear cold morning. The wind high from the NW

**Whitehouse** This morning about 3 oClock the Wind began to blow from the North, & began to freeze. This wind continued all this day, the Weather being very Cold—

**Friday, January 18**

**Weather Diary**

at Sun rise 12<sup>0</sup> below 0

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b <sup>7</sup>	f	NW	7a	f a c	NW	F	-	1

<sup>7</sup> In Voorhis No. 4 Clark lists this temperature as "20 b."

**Daily Narrative Journals**

**Clark** a fine worm morning

**Gass** Clear cold weather.  
**Ordway** moderate weather  
**Whitehouse** This day we had clear cold Weather

**Saturday, January 19**

**Weather Diary**

Ice now 3 feet thick on the most rapid part of the river—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	6b	f	NW	R	-	1

**Daily Narrative Journals**

**Clark** a fine Day  
**Ordway** cloudy  
**Whitehouse** The weather continued Cold and Clear. Two hunters proceeded on the Ice the River being fast froze over for some time past—

**Sunday, January 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a <sup>8</sup>	f	NE	9b	c	SE	R	-	3/4

<sup>8</sup> Clark's Journal Codex C lists this temperature as "28 a."

**Daily Narrative Journals**

**Clark** a Cold fair day

**Ordway** a pleasant morning

**Whitehouse** We still continued to have clear cold weather.

**Monday, January 21**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	NE	8a	f	SE	R	-	-

**Daily Narrative Journals**

**Clark** a fine day

**Gass** A clear cold day.

**Ordway** moderate weather.

**Whitehouse** The weather still continued Clear and Cold,

**Tuesday, January 22**

**Weather Diary**

mist the afternoon observation.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f a h	NW	19a	c	NW	R	-	1 3/4

**Daily Narrative Journals**

**Clark** a find warm Day. Attempted to Cut the Boat & perogues out of the Ice, found water at about 8 inches under the 1<sup>st</sup> Ice, the next thickness about 3 feet

**Gass** The weather was warm. We commenced cutting ice from about our craft, in order

to get them out of the river.

**Ordway** a pleasant morning. All hands Employed at cutting away the Ice from round the Barge & pearogues. They soon cut through the Ice in places. The water Gushed over where they had cut so they had to quit cutting with axes—

**Whitehouse** This day all our Men who were at the fort was employed to cut the Ice in order to get the boat & Pettyaugers out of the River, in the night we had a heavy fall of Snow, which made it difficult to work in the Ice for some days—

**Wednesday, January 23**

**Weather Diary**

the snow fell about 4 inches deep last night and continues to snow

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	s	E	2b	c a s	N	F	-	2 ½

**Daily Narrative Journals**

**Clark** a Cold Day, Snow fell 4 Inches deep, the occurrences of this day is as is common—

**Gass** The weather was warm. The snow fell about 3 inches deep.

**Ordway** Snowey this morning

**Whitehouse** We had a continuation of Snow the greater part of this day, on its leaving off, it continued Cold to the 30<sup>th</sup>, all hands during this time were employed at work on the boats & Pettyaugers to get them free from the Ice, and hawled Stones on a Sled which they made warm in a fire, in order to thaw the Ice from about the said Crafts, when the Stones were put into the fire, they would not stand the heat of the fire but all of them broke, so that their labour was lost.

**Thursday, January 24**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	c	NW	2b	f	NW	R	-	1/4

### Daily Narrative Journals

**Clark** a fine day

**Gass** A cold day.

**Ordway** colder this morning than it has ben for Several days past.

**Whitehouse** Cold

**Friday, January 25**

### Weather Diary

it frequently happens that the sun rises fair and in about 15 or 20 minutes it becomes suddonly [cloudy] turbid, as if the had some chiminal effect on the atmosphere.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26b	f	NW	4b	f a c	W	-	-	-

### Daily Narrative Journals

**Clark** men employ'd in Cutting the Boat out of the ice

**Gass** All hands employed in cutting away the ice, which we find a tedious business.

**Ordway** clear & cold this morning.

**Whitehouse** Cold



Saturday, January 26

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	20a	f a c	SE	-	-	-

Daily Narrative Journals

**Clark** a verry fine worm Day

**Gass** A pleasant day

**Ordway** Cloudy & warm the wind from the South.

**Whitehouse** Cold

Sunday, January 27

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c	SE	16a	c	NW	R	-	2

Daily Narrative Journals

**Clark** a fine day, attempt to Cut our Boat and Conoos out of the Ice, a deficuelt Task I fear as we find water between the Ice

**Gass** The weather has become much more settled, warm and pleasant than it had been for some time.

**Ordway** Cloudy

**Whitehouse** Cold

Monday, January 28

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	15a	f	SW	-	-	-

Daily Narrative Journals

**Lewis** Observed Equal altitudes...in which sperits were substituted for water, it being to could to use the later.

**Clark** warm day

**Gass** The weather warm and pleasant

**Ordway** Clear and cold.

**Whitehouse** Cold

Tuesday, January 29

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SW	16a	f	W	R	-	½

Daily Narrative Journals

**Clark** we Sent & Collect Stones and put them on a large log heap to heet them with a View of warming water in the Boat and by that means, Sepperate her from the Ices, our attempt appears to be defeated by the Stones all breaking & flying to peaces in the fire, a fine warm Day.

**Gass** We attempted another plan for getting our water craft disengaged from the ice: which as heated in the boast, with hot stones; but in this project we failed, as the stones we

found would not stand the fire, but broke to pieces.

**Ordway** Clear & pleasant

**Whitehouse** Cold

**Wednesday, January 30**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	14a	c	NW	R	-	1

**Daily Narrative Journals**

**Clark** a fine morning, Clouded up at 9 oClock

**Gass** I went up river and found another kind of stones, which broke in the same manner; so our batteux and periogues remained fast in the ice.

**Ordway** Some Cloudy. Sergt. Gass sent up the river to an other bluff in order to look for another kind of Stone that would not Split with heat he brought one home & het it found it was the Same kind of the other as soon as it was hot it bursted asunder So we Gave up that plan—

**Whitehouse** Cold

**Thursday, January 31**

**Weather Diary**

the Snow feel 2 Inches last night.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c a s	NW	8a	f a c	NW	F	-	1

**Daily Narrative Journals**

- Clark**            Snowed last night, wind high from the NW. Cold disagreeable
- Gass**            Some snow fell last night. In the morning the wind blew and was cold, toward the middle of the day the weather became moderate, and the afternoon was pleasant.
- Ordway**        Snowed the greater part of last night. The wind high from NW the Snow flew
- Whitehouse**    This morning we had a fresh wind from the NW, and the weather Cold, In the afternoon it got warm & pleasant weather—

# February 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during February 1805.

Friday, February 1

#### Weather Diary <sup>1</sup>

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	16a	f	NW	R	-	2 ½

<sup>1</sup> Reference: Coues, Volume III, pages 1270, 1286; Moulton, Volume 3, pages 305-307; Thwaites, Volume 6, Part II, pages 182-183.

<sup>2</sup> River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** a cold windey Day

**Gass** A cold day.

**Ordway** clear & cold. The weather being bad they killed nothing—

**Whitehouse** This morning we had pleasant weather.

Saturday, February 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	f	NW	3a	f	S	F	-	1

### Daily Narrative Journals

**Clark** a fine Day

**Ordway** a clear morning. My hat got burnt exedantly this morning. The river raiseing.

**Sunday, February 3**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	SW	2a	f	W	-	-	-

### Daily Narrative Journals

**Lewis** a fine day. the situation of our boat and perogues is now allarming, they are firmly inclosed in the Ice and almost covered with snow – the ice which incloses them lyes in several stratas of unequal thickness which are seperated by streams of water. This [is] peculiarly unfortunate because so soon as we cut through the first strata of ice the water rushes up and rises as high as the upper surface of the ice and thus creates such a debth of water as renders it impracticable to cut away the lower strata which appears firmly attached to, and confining the bottom of the vessels. We then determind to attempt freeing them from the ice by means of boiling water which we purposed heating in the vessels by means of hot stones, hut this expedient proved also fruitless, as every species of stone which we could procure in the neighbourhood partook so much of the calcarious genus that they burst into small particles on being exposed to the heat of the fire.

**Gass** A cold day.

**Whitehouse** This day we had Clear cold weather, nothing of consequence happened at the Fort worth mentioning—

**Monday, February 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	NW	9b	f	W	-	-	-

**Daily Narrative Journals**

**Lewis** This morning fair tho' could, the thermometer stood at 18<sup>0</sup> below Naught, wind from NW.

**Clark** our provisions of meat being nearly exorsted I concluded to Decend the River on the Ice & hunt

**Gass** A fine day.

**Ordway** clear and pleasant

**Whitehouse** This day we had Clear weather but cold

**Tuesday, February 5**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	NW	20a	f	NW	R	-	1

**Daily Narrative Journals**

**Lewis** Pleasent morning wind from NW, fair

**Clark** the morning verry Cold & windey [entered on the 13th]

**Ordway** the morning clear. The River Riseing So that the water Spreads over the Ice in Sundry places near this.

Whitehouse We had fair Weather

Wednesday, February 6

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	f	NW	12a	f	W	R	-	½

Daily Narrative Journals

Lewis Fair morning, wind from NW

Clark Cold morning the after part of the Day worm [entered on the 13th]

Ordway clear and pleasant

Whitehouse This day was clear & pleasant Weather

Thursday, February 7

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	SE	29 <sup>3</sup>	c	S	R	-	½

3 Clark's Journal Codex C lists this temperature as "29 a."

Daily Narrative Journals

Lewis This morning was fair, Thermometer at 18<sup>0</sup> above naught much warmer than it has been for some days; Wind SE

Ordway pleasant & warm



**Friday, February 8**

**Weather Diary**

the Black & white & Speckled woodpecker has returned—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	28	c	NE	F	-	1

**Daily Narrative Journals**

**Lewis** This morning was fair, wind SE. The weather still warm and pleasant—

**Ordway** moderate weather

**Saturday, February 9**

**Weather Diary**

very little snow

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	SE	33a	c	SE	-	-	-

**Daily Narrative Journals**

**Lewis** The morning fair and pleasant, wind from SE—

**Ordway** Some cloudy, the water which run over the Ice in the River has froze smooth.

**Sunday, February 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	c a s	NW	12a	c	NW	-	-	-

**Daily Narrative Journals**

**Lewis** This Morning was Cloudy after a slight snow which fell in the course of the night, the wind blew very hard from W. altho' the thermometer stood at 18<sup>0</sup> Above naught the violence of the wind caused a degree of cold that was much more unpleasant than that of yesterday when thermometer stood at 10<sup>0</sup> only above the same point.

**Clark** a cold Day, wind blew hard from the NW. J. Fields got one of his ears frosted [entered on the 13th]

**Ordway** high wind from NW Squawly flights of Snow. On the river...the Ice being Smooth the horses could not Go on the Ice with out Shoes.

**Monday, February 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	NW	2b	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** this morning the weather was fair and cold wind NW.

**Clark** air keen [entered on the 13th]

**Ordway** the day clear but cold—

**Tuesday, February 12**

**Weather Diary**

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	f	SE	2a	f	W	-	-	-

### Daily Narrative Journals

**Lewis** The morning was fair tho' could, thermometer at 14<sup>0</sup> below naught wind SE

**Clark** The ice on the parts of the River which was verry rough, as I went down, was Smothe on my return, this is owing to the rise and fall of the water, which takes place every day or two, and Caused by partial thaws, and obstructions in the passage of the water thro the Ice, which frequently attaches itself to the bottom— the water when riseing forses its way thro the cracks & air holes above the old ice, & in one night becomes a Smothe Surface of ice 4 to 6 Inches thick— the river falls & the ice Sink in places with the water and attches itself to the bottom, and when it again rises to its former hite, frequently leavs a valley of Several feet to Supply with water to bring it on a leavel Surface. The water of the Missouri at this time is Clear with little Tinges. [entered on the 13th]

**Ordway** a clear morning

Wednesday, February 13

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	SE	10a	c	NW	F	-	1

### Daily Narrative Journals

**Lewis** The morning cloudy, thermometer 2<sup>0</sup> below naught, wind from SE.

**Clark** I returned last Night from a hunting party much fatigued, haveing walked 30 miles on the ice and through Points of wood land in which the Snow was nearly Knee Deep.

**Ordway** Snow the later part of the day.

**Whitehouse** This day clear & pleasant weather—

**Thursday, February 14**

**Weather Diary**

The Snow fell 3 Inches deep last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c a s	NW	2b	f	NW	-	-	-

**Daily Narrative Journals**

- Clark**            The Snow fell 3 inches Deep last night, a fine morning
- Ordway**        Snowed the Greater part of last night. The day pleasant.
- Whitehouse**    This morning we had clear weather but pleasant—

**Friday, February 15**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	f	SW	6b	f	W	-	-	-

**Daily Narrative Journals**

- Clark**            the morning fine, the Thermometer Stood at 16<sup>0</sup> below 0, Nought. one Chief of the Mandans returned from Capt. Lewises Partly nearly blind— this Complaint is as I am informd. Common at this Season of the year and caused by the reflection of the Sun on the ice & Snow, it is cured by “jentilly Swetting the part affected, by throwng Snow on a hot Stone.” Verry Cold part of the night—
- Ordway**        Some of the mens feet were sore walking 300 odd mls. on the Ice to day.
- Whitehouse**    This morning we had fine Clear weather.

Saturday, February 16

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	SE	8a	f	W	F	-	1

Daily Narrative Journals

**Clark** a fine morning

**Gass** had a cold morning. This morning the Indians, who had come down with us and of our men whose feet had been a little frozen, returned home.

**Ordway** a clear cold morning.

**Whitehouse** We had a fine Clear day, the weather being moderate—

Sunday, February 17

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	c	SE	12a	f	NW	F <sup>4</sup>	-	½

4 Lewis does not record rise or fall but does record "½" inch. Clark gives neither a rise or fall or depth.

Daily Narrative Journals

**Clark** this morning worm & a little Cloudy. The after part of the day fair

**Whitehouse** The weather continued Clear & moderate.

**Monday, February 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	s	NE	10a	f	S	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning, Some Snow

**Ordway** clear and pleasant

**Whitehouse** The hunters...brought the Sleds loaded with the Meat up the River on the Ice, it still being froze over the Mesouri, & the Ice very thick & strong—

**Tuesday, February 19**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SE	20a	f	S	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day

**Ordway** a clear pleasant morning.

**Whitehouse** We had fine clear moderate weather

Wednesday, February 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	S	22a	f	S	-	-	-

Daily Narrative Journals

**Clark** a Butifull Day

**Ordway** a clear and pleasant morning.

**Whitehouse** We had fine clear moderate weather

Thursday, February 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	f	S	30a	f	S	-	-	-

Daily Narrative Journals

**Clark** a Delightfull Day put our Clothes to Sun—

**Gass** Some rain fell to day, the first that has fallen since November. In the evening, the weather became clear and pleasant.

**Ordway** clear and pleasant. The Snow and Ice thoughed on the River considerable So that it was wet & Slopy halling the Sled. The men generally fatigued halling a heavy load 21 miles on the hard Ice & Snow in places which made the Sleds run hard except where the Ice was Smoth under—

**Whitehouse** This day the weather still continued Clear & pleasant

Friday, February 22

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	c	N	32a	c a r & s	NW	-	-	-

Daily Narrative Journals

**Clark** a Cloudy morning, at about 12 o'clock it began to rain and continued for a few minutes, and turned to Snow, and continued Snowing for about one hour, and cleared away fair

**Gass** Was a fine day and we again began to cut away the ice, and succeeded in getting out one of the perogues.

**Ordway** rained a short time and turned to Snow. Snowed a short time and cleared off, the men came home last night

**Whitehouse** We had still Clear, pleasant weather

Saturday, February 23

Weather Diary

got the poplar perogue out of the ice.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	32a	f	W	R	-	½

Daily Narrative Journals

**Clark** All hands employed in cutting the perogues loose from the ice, which was nearly even with their top; we found great difficulty in effecting this work owing to the different divisions of ice & water. After cutting as much as we could with axes, we had all the iron we could get & some axes put on long poles and picked through the ice, under the first water, which was not more than 6 to 8 inches deep— we



disengaged one Perogue, and nearly disengaged the 2<sup>nd</sup> in Course of this day which has been warm & pleasant

**Gass** We had fine pleasant weather, and all hands were engaged in cutting the ice away from the boat and the other perioque. At 4 o'clock in the afternoon we had the good fortune to get both free from the ice

**Ordway** a pleasant morning.

**Whitehouse** The weather still continued fine and Clear, all our party were employ'd in cutting the Ice from round the Boat & Pettyaugers. At one o'clock we got one of the Pettyaugers out of the Ice on Shore—

**Sunday, February 24**

**Weather Diary**

loosed the boat & large perogue from the ice.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	f	NW	32a	f	W	-	-	-

**Daily Narrative Journals**

**Clark** The Day fine, we Commenced very early to day the Cutting loose the boat

**Ordway** a beautiful morning. All hands employed cutting away Ice from round the Barge. Found that the Ice was verry thick clear under hir.

**Whitehouse** We had pleasant weather. All our party were still employed in cutting the Ice round the Boat & pettyauger we succeeded, and got both the boat & pettyauger on the bank....clear of danger, when the Ice broke up in the River—

**Monday, February 25**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

16a	f	W	38a	f	NW	-	-	-
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**Daily Narrative Journals**

**Clark**            The day has been exceedingly pleasant

**Whitehouse**    This day was Clear & pleasant.

**Tuesday, February 26**

**Weather Diary**

got the Boat and perogues on the bank

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	f	NE	31a	f	N	-	-	-

**Daily Narrative Journals**

**Clark**            a fine day    Drew up the Boat & perogus, after Cutting them out of the ice with great Dificuelty— & trouble

**Ordway**        a pleasant morning.

**Whitehouse**    The weather continued still clear & fine;

**Wednesday, February 27**

**Weather Diary**

got the Boat and Perogues on the bank.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	SE	36a	f	E	F	-	½

**Daily Narrative Journals**

**Clark** a fine day. I commence a Map of the Countrey on the Missouries & its waters &c &c—

**Ordway** a beautiful pleasant morning.

**Whitehouse** We have still fine weather;

**Thursday, February 28**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	E	38a	c	SE	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning

**Whitehouse** This morning the weather cold but toward Noon it moderated

# March 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during March 1805.

Friday, March 1

#### Weather Diary <sup>1</sup>

the snow has disappeared in many place the river partially broken up—

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	W	38a	f	NW	-	-	-

1 Reference: Coues, Volume III, pages 1270-71, 1286-87; Moulton, Volume 3, pages 324-327; Thwaites, Volume 6, Part II, pages 183-185.

2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

#### Daily Narrative Journals

**Clark** a fine Day

**Ordway** cloudy & arm this morning. The after part of the day clear and pleasant—

**Whitehouse** the weather continued Clear & Cold—

Saturday, March 2

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NE	36a	f	NE	R	-	1 ½

**Daily Narrative Journals**

**Clark** a fine Day. The river brake up in places

**Ordway** a beautiful pleasant morning

**Whitehouse** This day we had fine Clear weather.

**Sunday, March 3**

**Weather Diary**

a flock of ducks pased up the river this morning—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	E	39a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day, wind from the W. A large flock of Ducks pass up the River—

**Ordway** clear & pleasant.

**Whitehouse** This day we had Clear Cold weather

**Monday, March 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	NW	36a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning, wind from the NW. The after part of the day Clear

**Ordway** the wind high from the NW They day pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 5**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	40a	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day. Themometer at 40<sup>o</sup> abo. 0

**Ordway** clear and pleasant. A light Squawl of Snow fell about 4 oClock this morning. Nothing extraordinary.

**Whitehouse** the weather continued Clear & pleasant

**Wednesday, March 6**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	c	E	36a	f	E	R	-	2

**Daily Narrative Journals**

**Clark** a Cloudy morning & Smokey all Day from the burning of the plains, which was Set on fire by the Minetarries for an early crop of Grass as an endusement for the Buffalow to feed on— the river rise a little to day—

**Ordway** moderate weather. The wind from NE the Water has run over the Ice So that it is difficult crossing the river.

**Whitehouse** the weather continued Clear & pleasant

**Thursday, March 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	f	E	26a	c	E	R	-	2

**Daily Narrative Journals**

**Clark** a little Cloudy and windey NE.

**Ordway** clear but Some colder than it has been for Several days past.

**Whitehouse** the weather continued Clear & pleasant

**Friday, March 8**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
7a	c	E	12a	f	E	R	-	2 ½

**Daily Narrative Journals**

**Clark** a fair morning, Cold and windey, wind from the East

**Ordway** Some cloudy & cold.

**Whitehouse** the weather continued Clear & pleasant

**Saturday, March 9**

**Weather Diary**

wind hard all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c	N	18a	f	NW	R	-	2

**Daily Narrative Journals**

**Clark** a Cloudy Cold and windey morning, wind from the North. I walked up to see the Party that is making Perogues, about 5 miles above this, the wind hard and Cold

**Ordway** the wind high from the NW

**Whitehouse** the weather continued Clear & pleasant

**Sunday, March 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	12a	f	NW	R	-	3 ½

**Daily Narrative Journals**

**Clark** a Cold windy Day

**Ordway** the day clear and cold high winds—

**Whitehouse** the weather continued Clear & pleasant



**Monday, March 11**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	SE	26 <sup>3</sup>	f a c	NW	R	-	4 ½

3 Clark's Journal Codex C lists this temperature as "26 a."

**Daily Narrative Journals**

**Clark** A Cloudy Cold windy day, Some Snow in the latter part of the day

**Ordway** clear Moderate weather

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 12**

**Weather Diary**

snow but slight disappeared to day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f a s	N	10a	f	NW	R	-	5

**Daily Narrative Journals**

**Clark** a fine day Some Snow last night Wind NW

**Ordway** a little Snow last night. A clear cold morning the river raising fast.

**Whitehouse** the weather continued Clear & pleasant

Wednesday, March 13

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b	f	SE	28a	f	SW	R	-	3 ½

Daily Narrative Journals

**Clark** a fine day The river rising a little— wind SW

**Ordway** clear and cold the wind high from the South

**Whitehouse** the weather continued Clear & pleasant

Thursday, March 14

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	SE	40a	f	W	-	-	-

Daily Narrative Journals

**Clark** a fine day wind Wet. River Still rising

**Ordway** clear & warm

**Whitehouse** the weather continued Clear & pleasant

Friday, March 15

Weather Diary

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	SE	38a	f	W	F	-	1

**Daily Narrative Journals**

**Clark** a fine day

**Ordway** clear pleasant and warm.

**Whitehouse** the weather continued Clear & pleasant

**Saturday, March 16**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	c	E	42a	c	W	F	-	3

**Daily Narrative Journals**

**Clark** a Cloudy day, wind from the SE

**Ordway** Cloudy & warm. The wind high from the East. Look likely for rain—

**Whitehouse** the weather continued Clear & pleasant

**Sunday, March 17**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	SE	46a	f	SW	R	-	2

**Daily Narrative Journals**

**Clark** a windey Day. The river riseing a little and Severall places open.

**Ordway** clear and pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Monday, March 18**

**Weather Diary**

collected Some herbs plants in order to send by the boat. paticularly the root said to cure bites of the mad dog and rattlesnake.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	c	N	34a	c	N	F	-	1

**Daily Narrative Journals**

**Clark** a cold cloudy Day, wind from the N

**Ordway** Cloudy

**Whitehouse** the weather continued Clear & pleasant

**Tuesday, March 19**

**Weather Diary**

But little snow not enough to cover the ground

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c a s	N	31 <sup>4</sup>	f	NW	R	-	1

<sup>4</sup> Clark's Journal Codex C lists this temperature as "31 a."

**Daily Narrative Journals**

**Clark** Cold windey Day Cloudy. Some little Snow last night

**Ordway** cloudy a light Squawl of Snow cold air

**Whitehouse** the weather continued Clear & pleasant

**Wednesday, March 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	NW	28 <sup>5</sup>	f	NW	R	-	3

5 Clark's Journal Codex C lists this temperature as "28 a."

**Daily Narrative Journals**

**Clark** cloudy, wind hard from N

**Ordway** a cloudy cool morning. The after part of the day pleasant.

**Whitehouse** the weather continued Clear & pleasant

**Thursday, March 21**

**Weather Diary**

some ducks seen to light in the river opposit the fort

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a	c	E	26a	s & h	S	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy Day, Some Snow

**Ordway** Cloudy the wind from the SE a little Snow fell the after part of the day—

**Whitehouse** This day we had still, pleasant Weather, nothing occur'd worth mentioning

### Friday, March 22

#### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f a s	S	36a	f	SW	F	-	4

#### Daily Narrative Journals

**Clark** Some few Drops of rain this evening for the first time this Winter, a Cloudy Day

**Ordway** a clear pleasant morning. The wind from the SE

**Whitehouse** We had some Rain this morning, but it continued but a short time, the weather being cloudy & cold.

### Saturday, March 23

#### Weather Diary

but little rain.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	38a	c a r	NW	F	-	4

#### Daily Narrative Journals

**Clark** a find Day in the fore part, in the evening a little rain & the first this winter—

**Ordway** clear and pleasant. Rained a little the latter part of the day—

**Whitehouse** This morning we had Snow— towards Noon it ceased, and the weather moderated

and became pleasant— in the evening it grew cold & froze during the Night.

**Sunday, March 24**

**Weather Diary**

but little Snow.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	NE	30a	c a s	N	R	-	1

**Daily Narrative Journals**

**Clark** preparing to Set out, A Cloudy morning, wind from the NE, the after part of the Day fair. Saw Swans & wild Gees flying NE this evening

**Ordway** cloudy

**Whitehouse** We had pleasant Weather, continued to freeze in the Evenings

**Monday, March 25**

**Weather Diary**

a gang of swan return to day the ice in the river has given way in many places and it is with some difficulty it can be passed—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16	f	E	32a	f	S	R	-	5

**Daily Narrative Journals**

**Clark** a fine Day, wind SW. The ice broke up in Several places in the evenig, broke away and was nearly takeing off our new Canoes, river rise a little

**Ordway** clear and pleasant.

**Whitehouse** We had pleasant Weather, continued to freeze in the Evenings

**Tuesday, March 26**

**Weather Diary**

the ice gave way in the river about 3 PM and came down in immense sheets very near destroying our perogues— some gees pass today.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20	f	SE	46a	f	W	R	-	4 ½

**Daily Narrative Journals**

**Clark** The river choked up with ice opposit to us and broke away in the evening, raised only ½ Inch, all employed prepareing to Set out

**Gass** We put the canoes in the water as the river had risen there was some water between the ice and the shore. We got three of them safe to the fort; but the ice breaking before the other three were gotten down, so filled the channel, that we were obliged to carry them the rest of the way by land.

**Ordway** clear and pleasant. About 2 oClock they returned with the perogues, but before they had landed the Ice Started So that we had to draw them out with Speed The ice Stoped and jamed up. Started Several times but Stoped entirely before night.

**Whitehouse** This day we had moderate weather, and the Ice broke up.

**Wednesday, March 27**

**Weather Diary**

the first insect I have seen was a large black knat today— the ice drifting in large quantities.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	SE	60a	f	SW	R	-	9



**Daily Narrative Journals**

**Clark** a windey Blustering Day, wind SW. Ice running the [river] Blocked up in view for the Space of 4 hours and gave way leaveing great quantity of ice on the Shallow Sand bars.

**Ordway** clear and pleasant. The Ice kep breaking and Starting the Most of the day—

**Whitehouse** This day we had pleasant weather

**Thursday, March 28**

**Weather Diary**

it [river] raised 13 inch and fell 12. wind hard, ice abates in quantity

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	SE	64a	f	SW	R	-	1

**Daily Narrative Journals**

**Clark** the ice Stoped running owing to Some obstickle above. But few Indians visit us today, they are watching to catch the floating Buffalow which brake through the ice in Crossing

**Ordway** the Ice run in the River all last night. A pleasant morning. The Ice continues to run.

**Whitehouse** This day was blustering which continued the whole day—

**Friday, March 29**

**Weather Diary**

a variety of insects make their appearance, as flies bugs &c. the ice ceases to run supposed to have formed an obstruction above.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

42	f	NW	52a	f	NW	F	-	11
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**Daily Narrative Journals**

**Clark** The obsticle broke away above & the ice came down and is passing in great quantities, the river rose 13 inches the last 24 hours. I observed extrodanary dexterity of the Indians in jumping from one Cake of ice to another, for the purpose of Catching the buffalow as they float down. Maney of the Cakes of ice which they pass over are not two feet Square. The Plains are on fire in view of the fort on both Sides of the River, it is Said to be common for the Indians to burn the Plains near their villages every Spring for the benifit of ther horse, and to induce the Buffalow to come near to them.

**Ordway** clear and pleasant. The River fell 22 inches in 22 hours. We continue gitting ready to Start up the River.

**Whitehouse** We had all this day high winds, but the Air was not so cold, as it had been for the several days past.

**Saturday, March 30**

**Weather Diary**

ice came down in great quantities the Mandans take Some floating Buffaloe

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	NW	49a	f	NW	R	1	1

**Daily Narrative Journals**

**Clark** Cloudy Day. Several gangus of Gees and Ducks pass up the river. Not much Ice floating down today—

**Ordway** clear and pleasant. The river raised 10 Inches last night the ice runs thick in the R. to day

**Whitehouse** high winds, but not cold

**Sunday, March 31**

**Weather Diary**

ducks and Gees passing ice abates in quantity

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35	c a r	SE	45a	c	SE	R	-	9

**Daily Narrative Journals**

**Ordway** cloudy. Rained Some at three oclock this morning. The Ice does not run So thick in the River as it did yesterday.

**Whitehouse** fine Clear warm weather—

# April 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Mandan near present-day Washburn, North Dakota until they leave on April 7, 1805 into un-explored lands towards the Continental Divide and on to the Pacific Ocean.

Monday, April 1

#### Weather Diary<sup>1</sup>

ice ceases to run A fine refreshing shower of rain fell about 2 PM this was the first shower of rain that we had witnessed since the fifteenth of September 1804 tho' it several times has fallen in very small quantities, and was noticed in this diary of the weather. The cloud came from the west, and was attended by hard thunder and Lightning. I have observed that all thunderclouds in the Western part of the continent, proceed from the westerly quarter, as they do in the Atlantic States. The air is remarkably dry and pure in this open country, very little rain or snow ether winter or summer. The atmosphere is more transparent than I ever observed it in any country through which I have passed.

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
33a <sup>3</sup>	c	NW	43a	c a t l r & h <sup>4</sup>	W	F	-	11

1 Reference: Coues, Volume III, pages 1271-72, 1287-88; Moulton, Volume 4, pages 91-96; Thwaites, Volume 6, Part II, pages 185-188.

2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

3 Clark's Journal Codex C lists this temperature as "38 a."

4 Clark's Journal Codex C lists this weather data as "c a t c h & r."

#### Daily Narrative Journals

**Clark** The fore part of the day haile rain with Thunder & lightning, the rain continued by intimitions all day, it is worthy of remark that this is the 1<sup>st</sup> rain which has fallen Since we have been here or Since the 15 of October last, except a few drops at two or three defferent times—

**Gass** A considerable quantity of rain fell this day; the first of any consequence that had fallen here for six months.

**Ordway** Thunder and hail & hard rain about 8 oClock this morning for about an hour. Began to rain again about 4 ock. PM rained untill 12 oC. at night & ceased.

**Whitehouse** This morning we had some rain, which lasted about 2 hours & clear'd up Cool, all our party was employed in putting the Boat & Pettyaugers into the River, which they Effected—

## Tuesday, April 2

### Weather Diary

rained hard and without intermission last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a r	NW	38a	f a c	W	F	-	5

### Daily Narrative Journals

**Clark** a Cold cloudy rain day. Rained all last night. The river falling fast.

**Gass** the weather was fair bu windy

**Ordway** the wind blew high from NW all the later part of the night. A cloudy morning. The wind rises from NW the river fell 5 inches Since yesterday morning The later part of the day plsant.

**Whitehouse** This day the weather was cold & in the fore part of the day it froze. The latter part we had Blustery weather—

## Wednesday, April 3

### Weather Diary

frost last night a white frost & Some ice on the edge of the river ....

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	N	44a	f	W <sup>5</sup>	F	-	4

<sup>5</sup> Clark's Journal Codex I lists this wind direction as "N."

### Daily Narrative Journals

**Clark** a white frost this morning, some ice on the edge of the water. A fine day.

**Gass** the weather was fine and pleasant

**Ordway** clear and pleasant.

**Whitehouse** This day was Clear, & pleasant weather.

### Thursday, April 4

#### Weather Diary

Observed a flock of brant passing up the river today; the wind blew very hard as it dose frequently in this quarter; there is sarcely any timber to brake the wind from the river, & the country on both sides being level plains, wholly destitute of timber, the wind blows [over them] with astonishing violence. In this open country the winds form a great obstruction to the navigation of this river particularly with small vessels, which can neither ascend or descend should the wind be the least violent.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	S	55a	f	NW	F	-	4

### Daily Narrative Journals

**Clark** a blustering windey Day.

**Gass** A fine clear day.

**Ordway** clear and pleasant. The articles for St. Louis carred on board the barge ready to Set out but the wind blew high from the NW so we did not load the perogues.

**Whitehouse** had fine Clear weather

### Friday, April 5

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	NW	39a	f	N <sup>6</sup>	F	-	2

6 Clark's Journal Codex C lists this wind direction as "NW."

### Daily Narrative Journals

**Clark** the wind verry high from the NW

**Gass** This was a clear day and the wind blew hard and cold from the NW

**Ordway** clear and pleasant. The wind high from the NW

**Whitehouse** had fine Clear weather

**Saturday, April 6**

### Weather Diary

all the birds that we believe visit this country have now returned.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	N	48a	c	NW	F	-	1

### Daily Narrative Journals

**Clark** a fine Day

**Gass** The day was clear and pleasant.

**Ordway** clear and pleasant. The wind Gentle from the South.

**Whitehouse** had fine Clear weather

**The Expedition splits into two parties. The permanent party of 33 people begins**

their journey up the Missouri in two perogues and canoes, while the remaining members return the keelboat to St. Louis with journals that were written coming up the Missouri and at Fort Mandan, as well as various plant, animal and mineral specimens.

Sunday, April 7

**Weather Diary**

Visited by Ricara Chief wind very high. Set out on our voyage at 5 PM encamp a 4 me. S.S.

Sunrise			4 PM			Missouri River <sup>7</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	W	64a	f	SW	R	-	2 <sup>6</sup>

<sup>6</sup> Clark's Journal Codex C lists this river rise as "½."

<sup>7</sup> River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

**Daily Narrative Journals**

**Lewis** Our vessels consisted of six small canoes, and two large perogues. This little fleet altho' not quite so respectable as those of Columbus or Capt. Cook were still viewed by us with as much pleasure as those deservedly famed adventures ever beheld theirs; and I dare say with quite as much anxiety for their safety and preservation. We were now about to penetrate a country at least two thousand miles in width, on which the foot of civillized man had never trodden.

**Clark** a windey day

**Ordway** clear and pleasant. We went on verry well with a hard head wind wind high from NW the greater part of the night

**Whitehouse** This day we had fair weather—



**Monday, April 8**

**Weather Diary**

the Kilde, and large Hawk have returned. Buds of the Elm swollen and appear red— the only birds that I observed during the winter at Fort Mandan was the Missouri Magpie, a bird of the Corvus genus.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	NW	56a	f	NW	F	-	2

**Daily Narrative Journals**

**Lewis** Set out early this morning, the wind blew hard against us from the NW. We therefore traveled very slowly.

**Clark** wind hard a head from the NW.

**Gass** had a clear day. The wind blew hard from the NW. In the afternoon we passed very high bluffs on the South side; one of which had lately been a burning volcano. The pumice stones lay very thick around it, and there was a strong smell of sulphur.

**Ordway** clear and cold. The wind high from the W we saw some Snow on the NS of the hills, and thick Ice on and under the banks of the river.

**Whitehouse** This day we had clear weather, the Wind blowing fresh from the Northwest.

**Tuesday, April 9**

**Weather Diary**

the Crow has also returned saw the first today. & the corvus bird disappears the Musquitoes revisit us, saw several of them. Capt. Clark brought me a flower in full blo. it is a stranger to me.— the peroque [shakes with] is so unsteady that I can scarcely write

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	SE	70a	f	SW	F	-	½

**Daily Narrative Journals**

**Clark** Set out this morning verry early under a gentle breeze from the SE. I saw a Musquetor to day. great numbers of Brant flying up the river, the Maple, & Elm has buded & Cotton and arrow wood beginning to bud. I saw flowers in the praries to day

**Gass** had a fine day.

**Ordway** clear and pleasant. A gentle breeze from the South we set off at day light. Sailed on went Short distance further and halted for to take dinner at a bottom covered with Small cotton wood on N.S. The wind Shifted in to the West and blew Steady. We Saw a nomber of wild Geese on the river and brants flying over. The Musquetoes begin to Suck our blood this afternoon.

**Whitehouse** This day Clear & pleasant weather.

**Wednesday, April 10**

**Weather Diary**

The prairie lark, bald Eagle, & the large plover have returned. The grass begins to Spring, and the leaf buds of the willow to appear.— Cherry birds disappear.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	E	74a	f	SW	R	-	1/8

**Daily Narrative Journals**

**Lewis** The country on both sides of the missouri from the tops of the river hills, is one continued level fertile plain as far as the eye can reach, in which there is not even a solitary tree or shrub to be seen except such as from their moist situations or the steep declivities oh hills are sheltered from the ravages of the fire. About 1 ½ miles down this bluff from this point, the bluff is now on fire and throws out considerable quantities of smoke which has a strong sulphurious smell. The courant of the Missouri is but moderate, at least not greater than that of the Ohio in high tide; it's banks are falling in but little; the navigation is therefore comparitively with it's lower portion easy and safe—

**Clark** the morning cool and no wind. This day proved to be verry worm

**Gass** rapid water and a great many sand-bars. But a fine pleasant day.

**Ordway** a clear and pleasant. The current swift. The wind raised from West. One of our men Shot a bald Eagle. I took the quills to write.

**Thursday, April 11**

**Weather Diary**

the lark wood pecker, with yellow wings, and a black spot on the breast common to the U' States has appeared, with sundry small birds.— many plants being to appear above the ground.— saw a large white gull today— the Eagle is now laying their eggs, and the gees have mated.— the Elm, large leafed, willow and the bush which bears a red berry, called by the engages greas de buff are in blume— Small leaf willows in blum.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NW	76a	f	W	F	-	½

**Daily Narrative Journals**

**Clark** we Camped on the S.S. below a falling in bank. The river raise a little.

**Gass** had a fine clear pleasant day

**Ordway** Clear and pleasant.

**Whitehouse** We set off at day light, this morning, the weather being Cool

**Expedition arrives at the confluence of the Missouri and Little Missouri Rivers in present-day western North Dakota.**

**Friday, April 12**

**Weather Diary**

small shower from the W attended with hard wind

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	NW	74a	c a r t & l	W	R	-	1/8

**Daily Narrative Journals**

- Lewis** Canoes passed over the Lard side in order to avoid a bank which was rappidly falling in on the Stard. The night proved so cloudy I could make no further observations.
- Clark** a fine morning. Set out verry early, the murcery Stood 56<sup>0</sup> above 0. The wind blew verry hard from the S all the after part of the day, at 3 oClock PM it became violent & flowey accompanied with thunder and a little rain. The water of the little Missouri is of the Same texture Colour & quality of that of the Big Missouri. The after part of the day so Cloudy that we lost the evening observation.
- Gass** Another fine day. arrived at the Little Missouri (properly named), for it exactly resembles the Missouri in colour, current and taste.
- Ordway** a clear and pleasant warm morning. The little River Missouri...is 120 yards wide at the mouth, but rapid and muddy like the big Missouri. About 3 oClock their came up a Squawl of verry high wind and rain. Some Thunder. The wind lasted untill after Sunsed. Then clear up pleasant evening.
- Whitehouse** This morning we had pleasant Weather, the Little Mesouri River...its width at it mouth is 150 yards....it is Muddy, & its current runs strong

**Saturday, April 13**

**Weather Diary**

The leaves of the Choke cherry are about half grown; the Cotton wood is in blume the flower of this tree resembles that of aspen in form, and is of a deep purple colour.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SE	80a	f	SE	F	-	1

**Daily Narrative Journals**

- Lewis** The wind was in our favour after 9 A.M. and continued favourable untill three 3. PM. we therefore hoisted both the sails in the White Perogue ...which carried her at a pretty good gate, untill about 2 in the afternoon when a suddon squall of wind struck us and turned the perogue so much on the side as to allarm Sharbono who was steering at the time....the wind however abating for an instant I ordered Drewyer to the helm and the sails to be taken in,
- Clark** the Missouri above the mouth of Little Missouri widens to nearly a mile

**Gass** We had a pleasant day and a fair wind; but our small canoes could not bear the sail.

**Ordway** clear pleasant & warm proceeded on under a fine breeze of wind from the South.

**Whitehouse** a fair wind from the Eastward, we sailed the greater part of this day

**Sunday, April 14**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c	SE	82a	f	SW	f	-	3/4

**Daily Narrative Journals**

**Clark** a fine morning.

**Gass** had a fine morning

**Ordway** clear & pleasant

**Monday, April 15**

**Weather Diary**

several flocks of white brant with black wings pass us today, their flight was to the NW the trees now begin to assume a green appearance, tho' the earth at the depth of about three feet is not yet thawed, which we discovered by the banks of the river, falling in [to the river] and disclosing a strata of frozen eath.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f	E	78a	f	SW	F	-	1/2

**Daily Narrative Journals**

**Clark** the wind hard from the SE

- Gass** We had a pleasant day and a fair wind
- Ordway** a clear pleasant morning. Sailed under a fine breeze from the SE the river Shallow only about 8 feet deep in some places
- Whitehouse** We set off this Morning, having a fresh breeze from the NE, about 8 oClock it veered round to the South East, and blew moderately—

**Tuesday, April 16**

**Weather Diary**

saw the first leather winged bat. It appeared about the same size of those common to the U' States.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SE	78a	f	S	F	-	½

**Daily Narrative Journals**

- Clark** Wind hard from the SE. Great numbers of Gees in the river & in the Plains feeding on the Grass
- Gass** We had a clear pleasant day; and in the early part of it, a fair gentle wind. The wind became flawy (gusty), and the sailing bad.
- Ordway** a clear pleasant morning. The wind gentle from SE passed a Sand beach on the N.S. covered with Ice in Some heaps it lay 4 feet thick where the Ice was drove in When the river broke up. The trees are puting out Green. The Grass begin to Grow in the bottoms & plains which look beautiful. We sailed some with a Southerly flawey (gusty) wind. The river crooked so that we could not sail much of the time
- Whitehouse** The Weather was Cool and clear; we proceeded on with all Sails set, having a fine breeze from the SE

**Wednesday, April 17**

**Weather Diary**

thunder Shower passed above us from SW to NW <no> rain where we were.

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	NE	74a	c	SW	F	-	½

### Daily Narrative Journals

**Lewis** A delightfull morning. There wase more appearance of birnt hills, furnishing large quantities of lave and pumice stone, of the latter some pieces were seen floating down the river. We had a fair wind today which enabled us to sail the greater part of the distance we have traveled

**Clark** a fine morning, wind from the SE. Pumice Stone & Lava washed down to the bottoms and some Pumice Stone floating in the river. In the evening a thunder gust passed from the SW without rain

**Gass** We proceeded on early as usual with a fair wind. The day was fine and we made good way.

**Ordway** a clear beautiful morning. A fair wind. We sailed on

## Thursday, April 18

### Weather Diary

Wind very violent a heavy dew this morning, which is the first and only one we have seen since we passed the council bluffs last summer. there is but little dew in this open country.— saw a flock of pillean pass from SW to NE they appear to be on a long flight.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NE	64a	c	N	-	-	-

### Daily Narrative Journals

**Lewis** a fine morning. We were detained today from one to five PM in consequence of the wind which blew so violently from N. that it was with difficulty we could keep the canoes from filling with water altho' they were along the shore. We came too on the Stard side under a boald well timbered bank which sheltered us from the wind which had abated but not yet ceased.

**Clark** until near Sunset before Capt. Lewis and the party came up, they were detained by

the wind, which rose Soon after I left the boat from the NW & blew verry hard untill verry late in the evening.

**Gass** The morning was fine and we went on very well until 1 o'clock, when the wind blew so hard down the river, we were obliged to lie to for 3 hours, after which we continued our voyage. Encamped in a good harbour on the north on account of the wind, which blew very hard all night accompanied with some drops of rain.

**Ordway** a clear pleasant morning. The wind shifted in to the NW and blew hard against us. The wind rose so high that we could not go wit the cannoes without filling them with water. Detained us about 3 hours. The river has been verry crooked and bearing towards the South the most of the day. The Game is gitting pleantier every day—

**Whitehouse** This morning Clear pleasant weather. We set off Early, having the wind from the South the water in the River was at a stand in regad to its depth. In the night the dew fell, which was what we had not seen for a long time—

**Friday, April 19**

**Weather Diary**

wind violent. The trees have now put forth their leaves. The goosbury, current, servisbury, and wild plumbs are in blume.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a <sup>8</sup>	c	NW	56a	c	NW	-	-	-

8 Clark's Journal Codex I lists this temperature as "54 a."

**Daily Narrative Journals**

**Lewis** the wind blew So hard this morning from NW that we dared not to venture our canoes on the river— the wind detained us through the course of this day, tho' we were fortunate in having placed ourselves in a safe harbour.

**Clark** a blustering windey day, the wind So hard from the NW that we were fearfull of ventering our Canoes in the river. The Praries appear to green, the cotton trees bigin to leave, Saw some plumb bushes in full bloom

**Gass** A cloudy morning, with high wind.

**Ordway** Cloudy. The wind blew high from the Northward so that we were obleged to lay at our last nights harbour all day. The evening clear blustry & cold. Winds—



**Whitehouse** This morning we had the Weather dark and Cloudy— the Wind blowing hard from the North The water still at a stand, we remained here this day, the wind blowing so hard that we could make no headway—

**Saturday, April 20**

**Weather Diary**

wind violent.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c	NW	42a	c a s	NW	-	-	-

**Daily Narrative Journals**

**Lewis** the wind continued to blow tolerably hard this morning but by no means as violently as it did yesterday; we determined to set out and accordingly departed a little before seven. The wind blew so hard that I concluded it was impossible for the perogues and canoes to proceed and therefore returned and joined them about three in the evening. Capt. Clark informed me that soon after setting out, a part of the bank of the river fell in near one of the canoes and had very nearly filled here with water. That the wind became so hard and the waves so high that it was with infinite risk he had been able to get as far as his present station.

**Clark** wind a head from the NW. we set out at 7 oClock proceeded on, Soon after we Set out a Bank fell in near one of the canoes which like to have filled her with water, the wind became hard and waves So rough that we proceeded with our little canoes with much risque, our Situation was Such after Setting out that we were obliged to pass round th 1<sup>st</sup> Point or lay exposed to the blustering winds & waves. The wind Continued So hard that we were Compelled to delay all day. Several buffalow lodged in the drift wood which had been drowned in the winter in passing the river. This morning was verry cold, some Snow about 2 oClock from flying clouds, Some frost this morning & the mud at the edge of the water was frosted.

**Gass** had a cold disagreeable morning; rapid water and a strong wind. We were obliged again to lie too, on account of the wind

**Ordway** cloudy. The wind is not so high as it was yesterday this morning. We found it cold polling. The air chilley. The wind rose and blew same as yesterday so that we could hardly make any head way. Delayed som time the wind abated a little. We proceeded on the wind Shortly rose again and blew so hard that the canoes were near filling they took in considerable water. The Sand blew off the sand bars & beaches so that we could hardly see, it was like a thick fogg. High squawls of wind

& flights of round Snow this day. We took in some water in the Canoe I was in. The water came up to my Box so that a part of my paper Got wet.

**Whitehouse** wind blew so fresh from the North, that we could make no headway

## Expedition passes near present-day Williston, ND

Sunday, April 21

### Weather Diary

wind violent white frost last night—the earth friezed along the water’s edge.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NW	40a	c	NW	F	-	½

### Daily Narrative Journals

**Lewis** Set out at an early hour this morning...the wind tho’ a head was not violent. The wind blew so hard this evening that we were obliged to halt several hours.

**Clark** Se out early, the wind gentle & from the NW. The river being verry Crooked. In the evening the wind became a verry hard a head.

**Gass** a fine clear morning, but cold; there was a sharp frost. About 12 the wind again rose and was disagreeable, but we continued our voyage.

**Ordway** a hard white frost last night. Froze water in the buckets setting near the fire. A clear and pleasant morning, but verry chilly & cold. About 3 oClock clouded up cold the wind began blow as usal. A cool evening.

**Whitehouse** This morning we had pleasant Weather, in the night we had a frost, we sett out early, the Wind blowing from the Northwest. The Water in the River fell one Inch.<sup>9</sup>

<sup>9</sup> Whitehouse had two entries labeled April 20 and one for April 21. By looking at the Lewis & Clark Weather diary’s river rise/fall records, these dates have been adjusted to the 21<sup>st</sup> and 22<sup>nd</sup>.

**Monday, April 22**

**Weather Diary**

wind very hard greater part of the day—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f a c	W	40	f	NW	R	-	2

**Daily Narrative Journals**

**Lewis** Set out at an early hour this morning; proceeded pretty well untill breakfat, when the wind became so hard a head that we proceeded with difficulty even with the assistance of our toe lines. The white river...the water is much clearer than that of the Missouri.

**Clark** a verry cold morning some frost, we Set out...untill brackfast at which time the wind began to blow verry hard ahead, and Continued hard all day. The river rising a little.

**Gass** The wind was unfavourable to day, and the river here is very crooked.

**Ordway** clear and cold. Delayed again on acct. of the high wind. Saw a buffaloe calf which had fell down the bank & could not git up again. We helped it up the bank and it followed us a short distance (the river raised 4 Inches last & white frost) we have Seen a great number of dead buffaloe lying on each shore all the way from the little missourie R. We suppose that they Got drowned attempting to cross on the Ice last fall before it got Strong.

**Whitehouse** the Wind blew from the N East and the Water fell 2 Inches in the River <sup>1</sup>

**Tuesday, April 23**

**Weather Diary**

wind very hard greater part of the day— saw the first robbin. Also the brown Curloo

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	52	c	NW	R	-	2

**Daily Narrative Journals**

**Lewis** about nine AM the wind arose, and shortly after became so violent that we were unable to proceed, in short it was with much difficulty and some risk that I was enabled to get the canoes and perogues into a place of tolerably safety. We remained untill five in the evening when the wind abating in some measure, we reloaded and proceeded. These winds being so frequently repeated, become a serious source of detention to us—

**Clark** a cold morning, about 9 oClock the wind as usual rose from the NW and continued to blow verry hard untill late in the evening. The wind which had become violently hard, I joined Capt Lewis in the evening & after the winds falling which was late in the evening we proceeded on & encamped. The winds of this Countrey which blow with Some violence almost every day, has become a Serious obstruction in our progression onward, as we Cant move when the wind is high without great risque, and [if] there was no risque the winds is generally a head and often too violent to proceed.

**Gass** had a fine day; but the wind was ahead, and we were obliged to lie to about three hours.

**Ordway** a clear and pleasant morning. Not quite as cold as it has been for Several morning. The river verry crooked. The wind blew so hard that the large perogues Sailed in a bend where the wind came fair verry high the Small canoes took in some water. The large perogues Sailed verry fast. A short distanc we were obliged to halt the first safe place untill the wind abated which was about 3 hours. Dried the articles which was wet. Towards evening the wind abated and we proceeded on round a point and camped

**Whitehouse** This morning, we had Clear weather. We proceeded on about 3 Miles, when the Wind blew so fresh, that we had to come too, it being a head Wind from the North west—

**Wednesday, April 24**

**Weather Diary**

wind very hard this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	N	56	f	N	R	-	1

## Daily Narrative Journals

- Lewis** The wind blew so hard during the whole of this day, that we were unable to move. Notwithstanding that we were sheltered by high timber from the effects of the wind, such was it's violence that it caused the waves to rise in such manner as to wet many articles. Soar eyes is a common complaint among the party. I believe it originates from the immense quantities of sand which is driven by the wind from the sandbars of the river in such clouds that you are unable to discover the opposite bank of the river in many instances. The particles of this sand are so fine and light that they are easily supported by the air, and are carried by the wind for many miles, and at a distance exhibiting every appearance of a column of thick smoke. So penetrating is this sand that we cannot keep any article free from it; in short we are compelled to eat, drink, and breath it very freely.
- Clark** The wind rose last night and continued blowing from the N & NW, and Sometimes with great violence untill 7 oClock PM. As the wind was a head we could not move to day.
- Gass** This was a clear day, but the wind blew so hard down the river we could not proceed. While we lay here some of the men went to see some water at a distance which appeared like a river or small lake. In the afternoon they returned, and had found it only the water of the Missouri, which had run up a bottom.
- Ordway** Clear and cold. The wind high from the NW so that we had to delay here all this day. The woods got on fire.
- Whitehouse** This day we had Clear weather; but the Wind still blowing from the North West (ahead Wind) that we lay by, at the place we encamped the last night.

**Expedition sends advance party to confluence of the Missouri and Rochejhone [Yellowstone] Rivers in present-day North Dakota. Main party camps there on April 26.**

**Thursday, April 25**

### Weather Diary

wind very hard until 5 oClock PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	N	52a	f	NW	R	-	2

**Daily Narrative Journals**

**Lewis** The wind was more moderate this morning, tho' still hard; we set out at an early hour. the water friezed on the oars this morning as the men rowed. about 10 oclock AM the wind began to blow so violently that we were obliged to lye too. The wind had been so unfavourable to our progress for several days past, and seeing but little prospect of a favourable change; knowing that the river was crooked...believing that we were at no very great distance from the Yellow stone River; proceed by land...with a few men...to the entrance...and make the necessary observations. At 5 PM after I left him [Capt. Clark] the wind abated in some measure.

**Clark** The wind was moderate & ahead this morning. The morning cold, Some flying Clouds to be Seen, the wind from the N; ice collected on the ores this morning, the wind increased and became So violent about 1 oClock we were obliged to lay by. At 5 oClock the wind luled and we proceeded on and incamped.

**Gass** We set out as usual and had a fine day; but about 11 were obliged to halt again the wind so strong ahead. I remarked, as a singular circumstance, that there is now dew in this Country, and very little rain. Can it be owing to the want of timber? At 5 o'clock in the afternoon, we renewed our voyage

**Ordway** a clear cold morning. The river rose 2 inches last night The wind blew from the N Sailed some in a bend of the river. The perogues could go no further as the wind blew them a head so that they halted for it to abate on the N.S.

**Whitehouse** this morning, having fine clear weather; about 11 oClock AM we had to come too, on account of the Wind being a head & blowing hard. The dew at this place never falls; and it seldom Rains, this we were told, by an Indian Women that was with us

**Friday, April 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	S	63a	f	SE	R	-	3

**Daily Narrative Journals**

**Lewis** Capt. Clark measured these rivers just above their confluences; found the bed of the Missouri 520 yards wide, the water occupying 300. it's channel deep. The yellowstone river including it's sandbar, 858 yds. of which the water occupied 297 yards; the depest part 12 feet; it was falling at this time & appeared to be nearly at it's summer tide. ...the water of this river is turbid tho' dose not possess as much sediment as that of the Missouri. The clouds this morning prevented my observing the moon.

**Clark** last night was verry Cold. The Thermometer Stood at 32 above 0 this morning. I Set out at an early hour, as it was cold I walked on the bank. The river has been rising for Several days, & 3 inches last night. Yellow Stone...it is at this time falling, the Missouri rising. I saw maney buffalow dead on the banks...those animals either drouded in attempting to Cross on the ice dureing the winter or Swimming across to bluff banks where they Could not get out & too weak to return. We Saw several in this Situation.

**Gass** a fine day. The river Jaune is shallow, the Missouri is deep and rapid.

**Ordway** a Clear pleasant morning (at the Yellowstone River) Capt. Clark measured these two rivers to day and found the Missourie to be 337 yards wide only the water but at high water mark 529 yards the River Roshjone is 297 water, high water mark is 858 yards wide. The River Roshjone is not quite as rapid as the missourie

**Whitehouse** This morning we had a fine Clear weather. At 12 oClock AM...arrived at the River's mouth called Roshjone (Yellowstone). At this junction...the River Mesouri was 337 Yards wide; and very deep; and the River Roshjone at its mouth, 97 yards wide...Shallow....Clear and its current rapid—

**The Expedition passes the present-day North Dakota - Montana state line.**

**Saturday, April 27**

**Weather Diary**

wind very hard from 11 to 4 oClock

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	SW	64a	f	NW	F	-	2

**Daily Narrative Journals**

- Lewis** at 11 AM the wind became very hard from the NW insomuch that the perogues and canoes were unable either to proceed or pass the river to me. The wind abated about 4 PM and the party proceeded.
- Clark** wind moderate & a head, at 11 oClock the wind rose and continued to blow very hard a head from the NW untill 4 oClock PM, which blew the Sand off the Points in Such clouds as almost Covered us on the opposit bank, at 4 I Set out from my unpleasent Situation and proceeded on
- Gass** About 9 o'clock in the forenoon we renewed our voyage. The day was fine, but on account of a strong wind we were obliged at 1 to halt till 4
- Ordway** a clear and pleasant morning. About 12 oC. The wind rose so high from the NW and the Sand flew so thick from the Sand bars that we halted about 1 oClock, to wait untill the wind abates, about 4 oClock the wind abated the current swift
- Whitehouse** weather being clear and pleasant. Stopped at One oClock to dine....shortly after the Wind blew so hard a head, from the Westward that we were delayed from starting till 4 oClock PM. River Mesouri, having had a strong current against us

**Sunday, April 28**

**Weather Diary**

Vegetation has progressed but little since the 18<sup>th</sup> in short the change is scarcely perceptible.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	SE	63a	f	SE	F	-	1 ½

**Daily Narrative Journals**

- Lewis** Set out this morning at an early hour; the wind was favourable and we employed our sails to advantage.
- Clark** a fine day. River falling. Wind favourable from the SE and moderate
- Gass** had a fine day
- Ordway** clear and pleasant the wind had shifted to SE and blew gently So that we Sailed some part of the time
- Whitehouse** This day we had fine clear weather & pleasant The River Mesouri, was not so



high

**Monday, April 29**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NE	64a	f	E	F	-	1 ½

### Daily Narrative Journals

**Lewis** Set out this morning as the usual hour; the wind was moderate.

**Clark** Set out this morning as the usual hour; the wind was moderate & from the NE.

**Gass** had a clear morning. This forenoon we passed some of the highest bluffs I had ever seen

**Ordway** a clear pleasant morning.

**Tuesday, April 30**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NW	58a	f	SE	F	-	½

### Daily Narrative Journals

**Lewis** the wind blew hard all last night, and continued to blow pretty hard all day, but not so much, as to compell us to ly by.

**Clark** The wind blew hard from the NE all last night, we Set out at Sunrise, the wind blew hard the greater part of the day and part of the time favourable, we did not lie by to day on account of the wind.

**Gass** had a fine morning and went on very well

**Ordway** clear and pleasant we sailed a little in the bends of the River this afternoon—

**Whitehouse** this morning, having fine pleasant Weather.

# May 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition camped in eastern Montana between present-day Culbertson and Wolf Point.

Wednesday, May 1

#### Weather Diary <sup>1</sup>

wind violent from 12 OC. to 6 pM

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	E	46a	c a f	NE	F	-	1 ½

1 Reference: Coes, Volume III, pages 1272, 1288-1289; Moulton, Volume 4, pages 234-238; Thwaites, Volume 6, Part II, pages 189-191.

2 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** the wind being favourable...untill about 12 Ock. when the wind became so high that the small canoes were unable to proceed. One of them which seperated from us just before the wind became so violent, is now lying on the opposite side of the river, being unable to rejoin us in consequence of the waves, which during those gusts run several feet high. Here the wind compelled us to spend the ballance of the day.

**Clark** We Set out at Sun rise under a Stiff Breeze from the East, the morning Cool & Cloudy. The wind became verry Hard and we put too on the L. side, as the wind Continued with Some degree of violence and the waves too high for the Canoes we were obliged to Stay all day.

**Gass** a cool morning; and went on till 12 o'clock, when the wind rose so high, that our small canoes could not stand the waves.

**Ordway** a clear pleasant morning, but cold. The wind from the East. About 12 oClock the wind rose so high that the Small canoes could not go on without filling. We halted

at a bottom covered with timber on S.S. One of the canoes lay on the opposite Shore and could not cross the water ran so high. The wind continued so high that we delay and camped for the night.

**Whitehouse** a clear pleasant morning but cold. We set off at Sun rise, the wind from the East. We Sailed Some. About 12 oClock the wind rose So high that we were obliged to halt. I and one other stopped on the other side of the river on account of the wind and ware obliged to lay out all night without any blanket. It being verry cold I Suffered verry much.

**Thursday, May 2**

**Weather Diary**

snow 1 inch deep the wind continued so high from 12 oClock yesterday, untill 5 this evening that we were unable to proceed. The snow which fell last night and this morning one inch deep has not yet disappeared.— it forms a singular contrast with the trees which are now in leaf.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	s	NE	34a	c a s	NW	F	-	1

**Daily Narrative Journals**

**Lewis** the wind continued violent all night nor did it abate much of it's violence this morning, when at daylight it was attended with snow which continued to fall untill about 10 AM being about one inch deep, it formed a singular contrast with the trees and other vegetation which was considerably advanced. Some flowers had put forth in the plains, and the leaves of the cottonwood were as large as a dooler. The [water] friezed on the oars as they rowed. The wind dying at 5 PM we set out.

**Clark** The wind blew verry hard all the last night, this morning about Sunrise began to Snow, (The Thermomtr. At 28 abov o) and Continued untill about 10 oClock, at which time Seased, the wind Continued hard untill about 2 PM . The Snow which fell to day was about 1 In deep, verry extroadernaley Climate, to behold the tree Green & flowers Spred on the plain, & Snow an inch deep.

**Gass** At day break it began to snow; and the wind continued so high, we could not proceed until the afternoon. The snow did not fall more than an inch deep.

**Ordway** at day light it began Snowing & continued Snowing & blowing so that we did not Set off. About 3 oClock it let off Snowing. The wind shifted in to the West. The Snow lay on the edge of the Sand bars & Sand beaches where the wind had blew it up one foot deep, but on the hills it was not more than half an Inch deep. The air &

wind verry cold.

**Whitehouse** at day light it began to Snow & the wind blow hard So that we did not set off this morning. About 3 oClock PM the Wind bated, and it quit snowing. Proceeded on our Voyage—the wind shifted and blew from the West. The Snow lay on the edge of the Sand Bars, blown by the wind, it was 12 Inches deep. The air verry cold during the whole day.

**Friday, May 3**

**Weather Diary**

hard frost last night. At four PM the snow has not yet entirely disappeared.— the new horns of Elk being to appear.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	W	46a	c	W	F	-	1/4

**Daily Narrative Journals**

**Lewis** The morning being very cold we did not set out as early as usual; ice formed on a kettle of water 1/4 of an inch thick. The snow has melted generally in the bottoms, but the hills still remain covered. The wind continued to blow hard from the West but not so strong as to compel us to ly by.

**Clark** we Set our reather later this morning than usial owing to weather being verry cold, a frost last night and the Thermt. Stood this morning at 26 above 0 which is 6 degrees blow freeseing— The ice that was on the Kettle left near the fire last night was 1/4 of an inch thick. The Snow is all or nearly all off the low bottoms, the Hills are entirely Covered. the wind Continued to blow hard from the West, altho' not Sufficently So to detain us. As this Creek is 2000 miles up the Missouri we Call it the 2000 miles Creek. The greater part of the Snow is melted.

**Gass** though very cold and disagreeable, and a severe frost. The snow and green grass on the prairies exhibited an appearance somewhat uncommon. The cotton wood leaves are as large as dollars, notwithstanding the snow and such hard frost.

**Ordway** clear but verry cold for May. Saw the standing water froze over the Ice froze to ore poles as we poled where the sun Shined on us. A hard white frost last night. The ground covered with Snow. The wind rose high from the W about one. The wind verry high & cold.

**Whitehouse** This morning we had Clear weather, but very Cold for the Season; We set out about 7 oClock AM the Standing water froze last night, and the Water froze to our

Setting pole. We had a severe white frost last night, and the ground covr'd with Snow— The wind rose & blew hard from the West. The wind continued Cold during the whole day. IN the Evening, the Snow had melted away.

**Saturday, May 4**

**Weather Diary**

the black martin makes it's appearance. The snow has disappeared. Saw the first grasshoppers today.— there are great quantities of a small blue beatle feeding on the willows.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	W	48a	f a c	W	-	-	-

**Daily Narrative Journals**

**Lewis** We were detained this morning untill about 9 Ock. in order to repair the rudder....we then set out, the wind hard against us. I walked on shore this morning, the weather was more plesant, the snow has disappeared; the frost seems to have effected the vegetation much less than could have been expected. The leaves of the cottonwood the grass the box alder willow and the yellow flowering pea seem to be scarecely touched; the rosebushes and honeysuckle seem to have sustained the most considerable injury. At noon the sun so much obscured that I could not obtain his maridian Altitude.

**Clark** detained untill 9 oClock...the wind a head from the west. The river has been falling for Several days passed; it now begins to rise a little, the rate of rise & fall is from one to 3 inches in 24 hours.

**Gass** This day was more pleasant.

**Ordway** clear and moderate this morning the Snow is all melted off the hills.

**Whitehouse** This morning we had clear, pleasant weather

**Sunday, May 5**

**Weather Diary**

a few drops of rain only

Sunrise	4 PM	Missouri River

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	NW	62a	f a r	SE	R	-	1

### Daily Narrative Journals

**Lewis** a fine morning. The country is as yesterday beatfull in the extreme—

**Clark** the river rising & Current Strong.

**Gass** The morning was fine with some white frost.

**Ordway** Clear and pleasant. We Sailed considerable in the course of the day with an East wind.

**Whitehouse** Clear and pleasant weather

**Monday, May 6**

### Weather Diary

rain very inconsiderable as usual

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	E	61a	c a r	SE	R	-	2

### Daily Narrative Journals

**Lewis** The morning being fair and pleasant and wind favourable we set sale at and early hour. The rains in the spring of the year ( in a few days) suddonly melts the snow at the same time and causes for a few days a vast quantity of water which finds it's way to the Missouri through those channels; by reference to the diary of the weather &c it will be percieved that there is scarcely any rain during the summer Autumn and winter in this open country distant from the mountains. At noon the sun being obscured by clouds I was unable to observe Altitude; it continued cloudy the ballance of the day and prevented all further observation.

**Clark** a fine morning, wind from the NE. I believe those Streams to be Conveyance of the water of the heavy rains & melting Snows in the Countrey back &c. &c.

**Gass** We set sail with a fair wind and pleasant weather. At 12 a few drops of rain fell, but

it soon cleared up.

**Ordway** pleasant and warm. Sailed on under a gentle breeze from the East. Some Sprinkling rain, but did not last long.

**Whitehouse** clear pleasant and warm weather, a fair wind from the East, we Sailed on verry well. About 4 oclock, A light Sprinkling of rain, but did not last long.

**Tuesday, May 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	c	S	60a	f	NE	R	-	1 ½

**Daily Narrative Journals**

**Lewis** a fine morning. The drift wood begins to come down in consequence of the river's rising; the water is somewhat clearer than usual, a circumstance I did not expect on it's rise. At 11 AM the wind became so hard that we were compelled to ly by for several hours. Vegetation appears to have advanced very little since the 28<sup>th</sup> Ulto—we continue to see great number of bald Eagles.

**Clark** A fine morning, river rose 1 ½ inches last night, the drift wood beginning to run, the water Something Clearer than usial, the wind became verry hard,

**Gass** went on very well till 12 when it began to blow hard and being all under sail one of our canoes turned over. Fortunately the accident happened near the shore; and after halting three hours we were able to go again.

**Ordway** clear pleasant and warm. We set off eairly. The wind rose from the East. We Sailed verry fast untill about 12 oC. One of the canoes filled with water, but we got it Safe to Shore , and halted for the wind to abate

**Whitehouse** weather clear & pleasant. We set off eairly. The wind rose from the East, we set out sails. Sailing till about 12 oClock AM at which time the wind rose so high, that one our canoes filled with water....stopped on shore for the wind to about. About 4 oClock PM we set out again.

**Party arrives at the confluence of the Missouri and Milk Rivers southeast of**



**present-day Glasgow, MT.**

**Wednesday, May 8**

**Weather Diary**

rain inconsiderable a mear sprinkle the bald Eagle, of which there are great numbers, now have their young. The turtledove appears.

<b>Sunrise</b>			<b>4 PM</b>			<b>Missouri River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41a	c	E	52a	c a r	E	F	-	1/4

**Daily Narrative Journals**

**Lewis** Set out at an early hour under a gentle brieze from the East. A black cloud which suddonly spring up at SE, soon over shaddowed the horizon; at 8 AM it gave us a slight sprinkle of rain, the wind became much stronger but not so much so as to detain us. Examined the river [Milk River] I found it generally 150 yards wide....it is deep, gentle in it's courant...the water of this river possesses a peculiar whiteness, being about the colour of a cup of tea with the admixture of a tablespoonfull of milk. From the colour of it's water we call it Milk river.

**Clark** a verry black Cloud to the SW. We Set out under a gentle breeze from the NW. About 8 oClock began to rain, but not Sufficent to wet. The water of this river [Milk River] will justify the belief that it has its Source at a considerable distance, and waters a great extent of Countrey— we are willing to believe that this is the river the Minitarres Call the river which Scolds at all others.

**Gass** We were again very early under way in a cloudy morning; about 12 some rain fell; passed the Milk River there is a good deal of water in this river which is clear, and its banks beautiful.

**Ordway** it clouded up of a Sudden, and rained Some. We Sailed on under a fine breeze from the East.

**Whitehouse** Clouded up and rained shortly after we set off early. We found the current of the River to run very strong against us. Set our Sails and we proceeded on under a fine breeze from the East

**Thursday, May 9**

**Weather Diary**

The choke Cherry is now in blume.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	58a	f	W	R	-	3/4

**Daily Narrative Journals**

**Lewis** Set out at an early hour; wind being favourable we used our sails and proceeded very well. The river for several days has been as wide as it is generally near it's mouth, tho' it is much shallower. I begin to feel extremely anxious to get in view of the rocky mountains.

**Clark** a fine day, wind from the East. Came to a river...This river did not Contain one drop of running water...Those dry Streams which are also verry wide, I think is the Conveyance of the melted Snow, & heavy rains which is Said to Probable fall in from the high mountainious Countrey which is Said to be between this river & the Yellow Sone river— The Missouri keeps its width...water not So muddy & Sand finer

**Gass** had a fine day. The river more crooked

**Ordway** Clear and pleasant. The game is gitting so pleanty and tame in this country that Some of the party clubbed them out of their way. Passed Big Dry creek, it is 220 yards wide at its high water mark, but at this time the water is So low that the water all Sinques in the quick Sand.

**Whitehouse** This morning we had Clear pleasant Weather.

**Friday, May 10**

**Weather Diary**

rain but slight a few drops

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

38a	f a c	WNW	62a	c a r	NW	F	-	3/4
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**Daily Narrative Journals**

**Lewis** Set out at sunrise and proceeded but a short distance ere the wind became so violent that we were obliged to come too, which we did on the Lard side in a suddon or short bend of the river where we were in a great measure sheltered from the effects of the wind. The wind continued violently all day, the clouds were thick and black, had a slight sprinkle of rain several times in the course of the day.

**Clark** river fell 3/4 of an inch last night, wind from the NW we proceeded on but a short distance ere the wind became So violent we could not proceeded...the wind Continued all day. Several times in the course of the day We had some fiew drops of rain from verry black Clouds, no thunder or lightning latterly

**Gass** We set out early in a fair morning; but having gone five miles were obliged to halt and lye by during the day, on account of hard wind. Some small showers of rain occasionally fell.

**Ordway** a clear cold morning. The wind rose So high from the NW that obledged us to halt The wind rose verry high

**Whitehouse** We had clear and pleasant weather, the wind rose from the NW, we went about 4 miles, and halted for the Wind to abate, it blowing fresh The wind rose considerably high, accompanied with Squalls of Rain—

**Saturday, May 11**

**Weather Diary**

frost this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	NE	60a	c	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the courant strong; and the river very crooked; the banks are falling in very fast. I sometimes wonder that some of our canoes or perogues are not swallowed up by means of these immense masses of earth which are eternally precipitating themselves into the river. The wind blue very hard the forepart of last night but abated toward morning; it again arose in the after part of this day and retarded our progress very much.

- Clark** Wind hard fore part of last night. The latter part verry Cold a white frost this morning, the river riseing a little and verry Crooked. River rose 2 In
- Gass** The morning was fine.
- Ordway** a clear cool morning & white frost
- Whitehouse** a clear cold morning, a white frost this morning.

**Sunday, May 12**

**Weather Diary**

rain but slight

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SE	54a	c a r	NW	R	-	2

**Daily Narrative Journals**

- Lewis** Set out at an early hour; the weather clear and Calm. About 12 Oclock the wind veered about to the NW and blew so hard that we were obliged to Ly by the ballance of the day. About sunset it began to rain, and continued to fall a few drops at a time untill midnight; the wind blew violently all night—
- Clark** the morning Clear and Calm. About 12 oClock the wind becam Strong from the E. About half past one oClock the wind Shifted round to the NW and blew verry hard all the latter part of the day, which obliged us to Lay by— about Sunset it began to rain, and rained very moderately only a few drops at a time for about half the night, wind Continued violent all night.
- Gass** had a pleasant morning. At 1 we halted for dinner and a violent storm of wind then arose, which continued until night when some rain fell.
- Ordway** a clear pleasant & warm morning The wind rose high from the NW the detained us the remainder part of the day. Some Squawls of rain this evening—
- Whitehouse** We had a clear, pleasant warm morning The wind rose from the NW, and blew hard. The wind continuing to blow hard, detained us here the remainder of the day— In the evening we had some Squalls of Rain.

**Monday, May 13**

**Weather Diary**

rain but slight

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a r	NW	54a	f a c	NW	F	-	2 1/4

**Daily Narrative Journals**

**Lewis** The wind continued to blow so violently this morning that we did not think it prudent to set out. At 1 PM the wind abated. The courant reather stronger than usual and the water continues to become reather clearer.

**Clark** The wind Continued to blow hard untill one oClock PM to day at which time it fell a little as we Set out.

**Gass** The weather continued stormy, and a few drops of rain fell.

**Ordway** the wind blew verry hard all last night. Some Sprinkling rain and high wind this morning. About one oC. PM the wind abated So that we set off The afternoon pleasant.

**Whitehouse** The wind blew hard all last night, and this morning some Squalls of rain and high wind, which occasioned our not setting off Early— about 2 oClock PM the weather cleared off & became pleasant, and the wind abated— The current of the River running very swift

**Tuesday, May 14**

**Weather Diary**

white frost this morning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	52a	c	SW	F	-	1 3/4

## Daily Narrative Journals

**Lewis** Some fog on the river this morning, which is a very rare occurrence. Surface it so say, that the Perogue was under sail when a sudon squawl of wind struck her obliquely, and turned her considerably, the steersman allarmed, in stead of puting, her before the wind, lufted her up into it, the wind was so violent that it drew the brace of the squarsail out of the hand of the man who was attending it, and instantly upset the perogue and would have turned her completely topsaturva, had it not have been from the resistance mad by the oarning against the water.

**Clark** A verry Clear Cold morning, a white frost & some fog on the river. The Thermomtr Stood at 32 above 0, wind from the SW. We proceeded on verry well untill about 6 oClock a Squawl of wind Struck our Sale broad side and turned the perogue nearly over

**Gass** There was some white frost in the morning. About 12 the day became warm. Banks of snow were seen lying on the hills on the North side. About 4...a sudden gust of wind arose, which overset one of the periogues before the sail could be got down.

**Ordway** a hard white frost last night. Our mocassons froze near the fire. A clear and pleasant morning. It was verry warm or much warmer than it has been before this Spring. We saw some banks of Snow laying in the vallies at the N.S. of the hills. About 4 oClock the white peroque of the Captains was Sailing a long, there came a violent gust of wind from the NW which was to the contrary to the course they were sailing. It took the sail and before they had time to douse it turned the perogue down on one Side So that she filled with water, and would have turned over had it not been for the awning which prevented it. With much a diew they got the sail in and got the pirogue to shore

**Whitehouse** a hard white frost last night, so that our Mocasins froze near the fire last night. A clear and pleasant morning. Sergt. Gass who was out hunting, Saw Some banks of Snow on the N. Side of Some hills north of the river. Hoisted Sail as the wind blew fair. Shortly after we set off a Violent Storm came from a black Cloud, which lay to the Northwest, and the Wind rose and shifted suddenly to the Northwest. This wind took the sail of the Pettyauger and had it not been for the awning, and mast She would have turned up Side down. The Pettyauger filled full of Water, and with much trouble they got her to shore—

**Wednesday, May 15**

### Weather Diary

slight shower

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c a r	SW	54a	c	NW	F	-	3/4

### Daily Narrative Journals

**Lewis** as soon as a slight shower of rain passed over this morning, we spread the articles to dry which had got wet yesterday in the white perogue; tho' the day proved so cloudy and damp that they received but little benefit from the sun or air.

**Clark** Our medisons, Instruments, merchandize, Clothes, provisions &c. &c. which was nearly all wet we had put out to air and dry. The day being Cloud & rainy those articles dried but little to day— We see Buffalow on the banks dead, others floating down dead, and others mired every day, those buffalow either drown in Swimming the river or brake thro' the ice.

**Gass** We remained here all day to dry our baggage that had got wet. It was cloudy and unfavourable for the purpose and some rain fell.

**Ordway** cloudy. A Small Shower of rain about 11 oClock. Continued cloudy all day.

**Whitehouse** This morning we had Cloudy Weather. A Shower of rain coming on, which lasted about One hour, when it cleared off—

**Thursday, May 16**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c	SW	67a	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** The morning was fair and the day proved favourable to our operations; by 4 oClock in the evening our Instruments, Medicine, merchandize provision &c. were perfectly dryed.

**Clark** a morning fair, our articles all out to Dry. At 4 oClock we had everything that was

Saved dry.

**Gass** This was a fine day.

**Ordway** a heavy dew last night. A clear and pleasant morning.

**Whitehouse** a heavy dew fell last night, but a pleasant clear morning.

**Friday, May 17**

**Weather Diary**

the Gees have their young; the Elk being to produce their young, the Antelope and deer as yet have not.— the small species of Goatsucker or whiperwill begin to cry— the blackbirds both small and large have appeared. We have had scarcely any thunder and lightning. The clouds are generally white and accompanied with wind only

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NE	68a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** we were roused late at night by the Sergt. Of the guard, and warned of the danger we were in from a large tree that had taken fire and which leant immediately over our lodge. We had the loge removed, and few minutes after a large proportion of the top of the tree fell on the place the lodge had stood; had we been a few minutes later we should have been crushed to attoms. the wind blew so hard, that notwithstanding the lodge was fifty paces distant from the fire it sustained considerable injury from the burning coals which were thrown on it; the party were much harrassed also by this fire which communicated to a collection of fallen timber, and could not be extinguished.

**Clark** a fine morning, wind from the NW. Mercury at 60<sup>o</sup> a 0. River falling a little. River much narrower than below from 2 to 300 yards wide. We were roused late at night and warned of the danger of fire from a tree which had Cought... the wind blew hard and the dry wood Cought & fire flew in every direction, burnt our Lodge verry much...the whole party was much disturbed by this fire, which could not be extinguished &c.

**Gass** The morning was fine. The hills...some of them, which at a distance resembled ancient steeples.

**Ordway** A clear pleasant morning. Verry high hills and white knobs, which are washed by



rains.

**Whitehouse** a Clear pleasant morning

## Saturday, May 18

### Weather Diary

a good shower saw the wild rose blume the brown thrush or mocking bird has appeared.— had a good shower of rain today, it continued about 2 hours; this is the first shower that deserves the appellation of rain, which we have seen since we left Fort Mandan.— no thunder or lightning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	W	46a	c a r	NW	F	-	1

### Daily Narrative Journals

**Lewis** the wind blew hard this morning from the West. There are now but few sandbars, the river is narrow and current gentle.

**Clark** A windey morning, wind from the West. The after part of the day was Cloudy & at about 12 oClock it began to rain and continued moderately for about 1 ½ hours, not Sufficient to wet a man thro' his clothes; this is the first rain Since we Set out this Spring

**Gass** A cloudy morning. We had some showers of rain in the forenoon; hail in the afternoon; and a fine clear evening.

**Ordway** a clear warm morning. The Missourie is gitting clear and gravelly bottom & Shore a pleasant warm afternoon

**Whitehouse** a clear fine warm morning. About 10 oClock AM it clouded up and began to rain; and we had Several Small Showers. Here the Water of the Mesouri River, that had been muddy ever since we first entered it, began to get clear,, and the bottom that was muddy, is gravelly—

## Expedition's first sighting of the Little Rocky Mountains, MT

Sunday, May 19

Weather Diary

heavy fog this morning on the river

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	68a	f a c	SW	-	-	-

Daily Narrative Journals

**Lewis** This last night was disagreeably cold; we were unable to set out until 8 o'clock AM in consequence of a heavy fog, which obscured the river in such a manner that we could not see our way; this is the first we have experienced in any thing like so great a degree; there was also a fall of dew last evening, which is the second we have experienced since we have entered this extensive open country. On Capt. Clark's return...he saw a range of Mountains, bearing W. distant 40 or 50 miles. The NNE extremity of these mountains appeared abrupt. [The Little Rocky Mountains, MT] This afternoon the river was crooked, rapid and containing more sawyers than we have seen in the same space since we left the entrance of the river Platte.

**Clark** a very cold night, the mercury stood at 38 at 8 o'clock this morning, a heavy dew which is the 2d I have seen this spring. The fog (which was the first) was so thick this morning that we could not set out until the sun was about 2 hours up, at which time a small breeze sprung up from the E. which cleared off the fog & we proceeded on by means of the cord. I also saw a high mountain in a westerly direction, bearing SSW about 40 to 50 miles distant.

**Gass** The morning was foggy and there was some dew.

**Ordway** a heavy dew fell last night. We set off at 7 o'clock clear and pleasant.

**Whitehouse** a heavy dew fell last night, and this morning was clear and pleasant

**Expedition arrives at the confluence of the Missouri and Musselshell Rivers in central Montana.**

**Monday, May 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NE	76a	f	E	F	-	1

**Daily Narrative Journals**

**Lewis** river narrow and croked. At 11 AM we arrived at the entrance of a handsome bold river [Muscleshell]...is 110 yards in width...the waters is of a greenish yellow cast. The Missouri opposite to this point is deep, gentle in it's courant, and 222 yards in width. About 5 miles above this river...a handsome river of about fifty yards in width...we called it Sah-ca-gar-me-ah or bird woman's River [Sacagawea River], after our interpreter the Snake woman.

**Clark** a fine morning, wind from the NE. River falling a little.. Passed some verry swift water, river narrow and crooked ....the Missouri water is not so muddey as below, but retains nearly its usial cholour, and the sand principallly confined to the points

**Gass** had a fine morning. The water of the Missouri is becoming more clear. The water of the Musselshell is of a pale colour and the current is not rapid.

**Ordway** a clear pleasant morning the Missouri at the mouth of the (Mussel) Shell River is 222 yds wide with a small current....not so muddy as below but retains nearly the usal colour.

**Whitehouse** A Clear pleasant morning

**Tuesday, May 21**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	76a	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** a delightfull morning. The wind which was moderate all the fore part of the day continued to encrease in the evening, and about dark veered about to the NW and blew a storm all night, in short we found ourselves so invellped with clouds of dust and sand that we could neither cook, eat, nor sleep; and were finally compelled to remove our lodge about eight oClock at night to the foot of an adjacent hill where we were covered in some measure from the wind by the hills.

**Clark** a butifull morning, wind from the West, river falling a little. Wind which blew moderatly all the forepart of the day increased and about Dark Shifted to the NW and Stormed all night, Several loose articles were blown over board, our lodge & Camp which was on a Sand bar on the Std. Side & opposte the lower point of the Island we were obliged to move under the hills, the dust & Sand blew in clouds.

**Gass** had a fine morning; towards the middle of the day the wind blew hard

**Ordway** a butiful morning. Wind from the west. River falling a little. The wind which moderatly all the fore part of the day increased and about dusk Shifted to the NW and blew high & Stormed all night. Several loose articles were blown overboard the dust & Sand blew in clouds.

**Whitehouse** This morning we had clear and pleasant Weather. About 1 oClock the wind rose So high from the NW that we delayed about 2 hours and then proceeded on. Came about 15 miles....the wind rose very high and hard, Soon after we made Camp, and made the Sand fly So that it was very disagreeable. The most of the part moved back towards the hills. Some of our party that was out hunting Yesterday reported that they had seen, a high ridge of Mountains, which lay to the West, but appeared to be a very great distance from them. (The Little Rocky Mountains)

**Wednesday, May 22**

**Weather Diary**

the wind excessively hard all night— saw some particles of snow fall today it did not lye in sufficient quantity on the ground to be perceptible.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	c	NW	48a	c	NW	F	-	½

**Daily Narrative Journals**

**Lewis** The wind blew so violently this morning that we did not think it prudent to set out untill it had in some measure abated; this did not happen untill 10 AM. The river continues about the same width from 200 to 250 yds wide

**Clark** The wind continued to blow So violently hard we did not think it prudent to Set out untill it lulled a little, about 10 oClock we set out the morning cold. River falls about an inch a day. Maney of the Creeks which appear to have no water near ther mouths have Streams of running water higher up which rise & waste in the Sand or gravel. The water of those Creeks are So much impregnated with the Salt Substance that it cannot be Drank with pleasure.

**Gass** A cloudy morning. The wind blew so hard this morning, we did not get under way until 9 o'clock. The forenoon was cold and disagreeable, but the afternoon became more pleasant.

**Ordway** the wind continued to blow so violently hard we did not think it prudent to Set out untill it lulled a little about 11 oClock we set out the morning cold. River falls about an Inch a day. Many of the creeks which appear to have no water near their mouths have Streams running water high up which rise & waste in the Sand or gravel the water of those creeks are so much impregnated with the Salt Substance that it cannot be drank with pleasantness—

**Whitehouse** The wind blew hard all last night and continues blowing this morning till about 11 oClock AM when it abated. Cloudy. The day was chilly and Cold.

**Thursday, May 23**

**Weather Diary**

hard frost last night; ice in the eddy water along the shore, and the water friezed on the oars this morning. Strawburies in bloom. Saw the first king fisher.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	54a	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** the frost was severe last night, ice appeared along the edge of the water, water also friezed on the oars. The creeks...strongly impregnated with these salts that it is unfit for uce; all the wild anamals appear fond of this water; I have tryed it by way of experiment & find it moderately pergative, but painfull to the intestens in it's

operation. I am astonished how this animal as it does without water [Prairie Dog], particularly in a country like this where there is scarcely any rain during 3/4 of the year and more rarely any dew...in the Autumn when the hard frosts commence they close they close their burrows and do not venture out again untill spring. River more rappid. The musquetoos troublesome this evening, a circumstance I did not expect from the temperature of the morning. The Gees begin to lose the feathers of their wings and are unable to fly.

**Clark** a Severe frost last night, the Thrmotr. stood at the freesing point this morning i.e. 32 a 0. wind SW. the water freezes on the oars. Ice on the edge of the river. ...the river beginning to rise, and current more rapid than yesterday. The after part of this day was worm & the Misquitors troublesome.

**Gass** The morning was clear with a white frost, and ice as thick as window glass

**Ordway** a Severe frost last night. the Thurmomiter Stood at the freezing point this morning. W ind SW the water freezes on the ore Ice on the edge of the river. The after part of the day was warm & the Musquetoos troublesome. The river begining to rise & current more rapid than yesterday.

**Whitehouse** We had a cold frosty morning. The standing water was froze over, and cover'd with Ice

## Expedition enters the present-day Missouri Breaks National Monument, MT.

Friday, May 24

### Weather Diary

frost last night ice 1/8 of an inch thick

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	NW	68a	f	SE	R	-	3 ½

### Daily Narrative Journals

**Lewis** The water standing in the vessels freized during the night 1/8 of an inch thick, ice also appears along the verge of the river. The folage of some of the cottonwood trees have been entirely destroyed by the frost and are again puting forth other buds. About 9 AM when a fine breeze sprung up from the SE and enabled us though the ballance of the day to employ our sails to advantage; we proceed at a pretty good

pace notwithstanding the current of the river was very strong. The air is so pure in this open country that mountains and other elevated objects appear much nearer than they really are; these mountains do not appear to be further than 15 m.

**Clark** a Cold night. The water in the Small vessels frozed 1/8 of an inch thick, and the thermometer Stood this morning at the freesing point. At 9 oClock we had a Breeze from the SE which Continued all day. This Breeze afforded us good Sailing. The river rising fast, Current verry rapid.

**Gass** There was again some white frost this morning. The water is high, rapid and more clear.

**Ordway** a cold night. The water in the Small vessels froze 1/8 of an inch thick & the Thurmot. Stood this morning at the freezing point At 9 oClock we had a breeze of wind from the SE which continued all day this Breeze aforded us good Sailing the River rising fast current very rapid The cotton wood in this point is begining to put out a Second time the first being killed by the frost.

**Whitehouse** clear & pleasant weather. After 3 oClock...The wind began to blow from the SE, and we set all Sails— At camp...the leaves of these trees were killed by the frost—

**Saturday, May 25**

**Weather Diary**

saw the kingbird, or bee martin; the grouse disappear. Killed three of the bighorned antelopes.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	82a	f	SW	R	-	2

**Daily Narrative Journals**

**Clark** the morning Cool & pleasant, wind a head all day from the SW. I also think I saw a range of high mounts, at a great distance to the SSW but am not certain as the horizon was not clear enough to view it with Certianty. the Air of this quarter is pure and helthy. The water of the Missouri well tasted not quite So muddy as it is below, not withstanding the last rains has raised the river a little is less muddy than it was before the rain.

**Gass** The forenoon was pleasant. These hills are very much washed in general; they appear like great heaps of clay, washing away with every shower; with scarcely any herbs or grass on any of them.

**Ordway** the morning cool & pleasant wind a head all day from the SW the air of this country is pure & healthy the water of the Missouri fine and cool.

**Whitehouse** clear pleasant weather. About 3 o'clock the wind shifted to the Northwest and blew moderately— about 4 o'clock...the current of the River running very swift— it being so for these several days past

**Sunday, May 26**

**Weather Diary**

The last night was much the warmest we have experienced, found the covering of one blanket sufficient. The air is extremely dry and pure.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	80a	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis** ascended the river hills. As from this point I beheld the Rocky Mountains for the first time, I could only discover a few of the most elevated points above the horizon...these points of the Rocky Mountains were covered with snow and the sun shone on it in such manner as to give me the most plain and satisfactory view. while I viewed these mountains I felt a secret pleasure in finding myself so near the head of the heretofore conceived boundless Missouri; but when I reflected on the difficulties which this snowey barrier would most probably throw in my way to the Pacific, and the sufferings and hardships of myself and party in them, it in some measure is counterbalanced the joy I had felt in the first moments I gazed on them; but as I have always held it a crime to anticipate evils I will believe it a good comfortable road untill I am compelled to believe differently. This is truly a desert barren country and I feel myself still more convinced of it's being a continuation of the black hills.

**Clark** proceeded as yesterday wind from the SW. Ascended the high country...I could plainly see the Mountains on either Side which I saw yesterday...most S. Westerly of those Mountains there appeared to be Snow. We had a few drops of rain at dark— this Country may with propriety I think be termed the Deserts of America, as I do not conceive any part can ever be Settled, as it is deficient in water, Timber & too Steep to be tilled.

**Gass** a fine morning

**Ordway** wind from SW the waves roled for Some distance below (a rapid) we ascended it by the assistance of the chord & poles we had a few drops of rain at dark. This



country may with propriety be called the Deserts of North america for I do not conceive any part of it can ever be Setled as it is deficient of or in water except this river, & of timber & too Steep to be tilled.

**Whitehouse** a clear pleasant morning. Stream running so strong. Came to a rapid which had considerable fall.

**Monday, May 27**

**Weather Diary**

wind so hard we were unable to proceed in the early part of the day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	82a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** The wind blew so hard this morning that we did not sent out untill 10 AM. Great quantities of stone also lye in the river and garnish it's borders, which appears to have tumbled from the bluffs where the water rains had washed away the sand and clay in which they were imbedded. About midday it was very warm to this the high bluffs and narrow channel of the river no doubt contributed greatly.

**Clark** The wind blew hard from the SW which detained us untill about 10 oClock. This day verry worm—the river is Genly about 200 yards wide and Current very Swift to day and has a verry perceptible fall in all its Course— it rises a little.

**Gass** We have now got into a country which presents little to our view, but scenes of barrenness of desolation; and see no encouraging prospects that it will terminate. The grass is generally short on these immense natural pastures, which in the proper seasons are decorated with blossoms and flowers of various colours. The day was fine, but the wind ahead. The bed of the river is rocky.

**Ordway** the wind blew hard from the SW which detained us untill about 10 oClock this day verry warm.

**Whitehouse** This morning pleasant weather, but the wind high, from the Northwest. The current of the River running very swift. Passed verry high Steep mountains and cliffs Steep precipices. These mountains appear to be a desert part of the country. They wash by rains, but a little rain in this part. No diews like other parts but barron broken rich soil but too much of a desert to be inhabited, or cultivated. The Game became scarcer here...owing to there being no grass, or timber'd land for them to live in.

**Tuesday, May 28**

**Weather Diary**

a slight thundershower; the air was turbid in the forenoon and appeared to be filled with smoke; we supposed it to proceed from the burning of the plains, which we are informed are frequently set on fire by the Snake Indians to compell the antelopes to resort to the woody and mountanous country which they inhabit.— saw a small white and black woodpecker with a red head; the same which is common to the Atlantic states.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c	SW	72a	c & r	SW	R	-	½

**Daily Narrative Journals**

- Lewis** the weather dark and cloudy, the are smokey, had a few drops of rain. At 10 AM a few drops of rain again fell and were attended with distant thunder which is the first we have heard since we left the Mandans—
- Clark** a Cloudy morning Some fiew drops of rain and verry smokey, wind from the SW. at 1 oClock we had a few drops of rain and Some thunder which is the first thunder we have had since we Set out from Fort Mandan.
- Gass** had a fine morning
- Ordway** a cloudy morning. Some fiew drops of rain & Smokey wind from the SW. At 1 oClock we had a fiew drops of rain & Some Thunder which is the first Thunder we have had Since we Set out, from Fort Mandans
- Whitehouse** clear and pleasant weather. We had some thunder, and small showers of rain which lasted about 2 hour. Had pleasant afternoon.

**The party passes the confluence of the Missouri and Judith River in central Montana.**

Wednesday, May 29

Weather Diary

rained by little, some dew this morning.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c a r	SW	67a	r	SW	R	-	1

Daily Narrative Journals

**Lewis** soon after we landed it began to blow & rain, and there was no appearance of even wood enough to make our fires for some distance. Passed a handsome river...100 yds wide...it appeared to contain much more water than the Muscle-Shell...the water is clear...Cap C. who assended this R. much higher tan I did has thought proper to call it Judieths River. Gave each man a small dram. Notwithstanding the allowance of sperits we issued did not exceed ½ pn. Man several of them were considerably effected by it, such is the effects of abstaining for some time from the uce of sperituos liquors; they were all very merry—

**Clark** Soon after we Came too it began to rain & blow hard. A table Spoon full of water exposed to the air in a Saucer would avaporate in 36 hours when the mercury did not Stand higher than the temperate point [66<sup>0</sup> F or 55<sup>0</sup> F] in the heat of the day.

**Gass** had a fine morning. At 12 it became cloudy and began to rain. It rained a little all the afternoon.

**Ordway** passed a considerable rapid came to a bold running Stream. Soon after we came too it began to rain, and blew hard Some of the hunters who went out on the high land, Said it Snowed & hailed on the hills.

**Whitehouse** Cloudy weather this morning. About 3 oClock began to rain, the wind rose high & hard from the NW. Hunters returned & Said it Snowed and hailed on the hills back from the River. In the Evening we had rain.

Thursday, May 30

Weather Diary

the rain commenced about 4 Oclock in the evening, and continued moderately through the course of the night; more rain has now fallen than we have experienced since the 15<sup>th</sup> of September last.

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	c a r	SW	50a	r	SW	R	-	5

### Daily Narrative Journals

**Lewis** The rain which commenced last evening continued with little intermission until 11 this morning when we set out; the high wind which accompanied the rain rendered it impracticable to proceed earlier. More rain has now fallen than we have experienced since the 15<sup>th</sup> of September last. Many circumstances indicate our near approach to a country whose climate differs considerably from that in which we have been for many months. The air of the open country is astonishingly dry as well as pure. I found by several experiments that a table spoon of water exposed to the air in a saucer would evaporate in 36 hours when the mercury did not stand higher than the temperate point at the greatest heat of the day; My inkstand so frequently becoming dry put me on this experiment. I also observed the well seasoned case of my sextant shrunk considerably and the joints opened. The water of the river still continues to become clearer and notwithstanding the rain which has fallen it is still much clearer than it was a few days past. The bluffs were more steep than usual and were now rendered so slippery by the late rain that the men could scarcely walk. The wind was also hard against us. We had slight showers of rain through the course of the day, the air was cold and rendered more disagreeable by the rain. One of the party ascended the river hills and reported on his return that there was snow intermixed with the rain which fell on the heights

**Clark** The rain commenced yesterday evening, and continued moderately through the course of the night, more rain has now fallen than we have experienced Since the 15<sup>th</sup> of September last, the rain continued this morning, and the wind too high for us to proceed until about 11 o'clock at which time we were set out, and proceeded on with great labour. notwithstanding we proceeded on as well as we could wind hard from the NW. Some little rain at times all day. one man ascended the high Country and it was raining & Snowing on those hills, the day has proved to be raw and Cold.

**Gass** The forenoon was cloudy, with some rain. It rained a little all day.

**Ordway** the rain commenced yesterday evening & continued moderately through the course of the night. More rain has now fallen than we have experienced Since the 15<sup>th</sup> of September last, the rain continued this morning, and the wind too high for us to proceed, until about 11 o'clock at which time we set out the men could scarcely walk notwithstanding we proceeded as well as we could, wind hard from the NW. Some little rain at times all day. One man ascended the high country & it was raining & Snowing on those high hills, the day has proved to be raw and cold back from the river is tolerably level.

**Whitehouse** weather Cloudy and Rainey this morning, & the wind blowing high and hard from the NW. WE delayed setting off till 10 oClock, the weather still being very disagreeable working. The weather still continued Cold & Chilling with wind and rain just before 2 oClock.

**Friday, May 31**

**Weather Diary**

but little rain. The Antelope now bring forth their young. from the size of the young of the bighorned Antelope I suppose they bring forth their young as early at least at the Elk.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c a r	W	53a	c a r	SW	R	-	1 ½

**Daily Narrative Journals**

**Lewis** soon after we got under way it began to rain and continued untill meridian when it ceased but still remained cloudy through the ballance of the day. The obstructions of rocky points and riffles still continue as yesterday; at those places the men are compelled to be much in the water even to their armpits, and the water is yet very could, and so frequent are those point that they are one fourth of their time in the water. The hills and river Clifts which we passed today exhibit a most romantic appearance...horizontal stratas of white free-stone, on which the rains or water make nor impression. The water in the course of time in decending from those hills and plains on either side of the river trickled down the soft sand clifts and woarn it into a thousand grotesque figures, which with the help of a little immagination and an oblique view at a distance, are made to represent eligant ranges of lofty freestone buildings, haveing their pararpets well stocked with statuary; collumns of various sculpture both grooved and plain, are also seen supporting long galleries in front of those buildings; in other places on a much nearer approach and with the help of less immagination we see the remains or ruins of eligant buildings, some collumns standing and almost entire with their pedestals and capitals. As we passed on it seemed as if those seens of visionary inchantment would never have an end...So perfect indeed are those walls that I should have thought that nature had attempted here to rival the human art of masonry had I not recollected that she had first began her work. The river today has been from 150 to 250 yds. wide.

**Clark** a cloudy morning. Soon found it verry laborious as the mud Stuck to my mockersons & was verry Slippery. Soon after we got under way it began to rain and continued moderately untill about 12 oClock when it ceased, & Continued Cloudy the ballance of the day. The Hills and river Clifts of this day exhibit a most romantick appearance...in many places this Sand Stone appears like antient ruins

some like elegant buildings at a distance, some like Towers &c. &c. Remind us of Some of those large Stone buildings in the United States. As we passed on it Seemed as if those Seens of Visionary enchantment would never have an end; for here it is too that nature present to the view of the traveler vast ranges of walls of tolerable workmanship, so perfect indeed are those falls [walls] that I Should have thought that nature had attempted here to rival the human art of Masonry had I not recollected that She had first began her work. The river rises a little. The water is yet very cold. Little timber on the river to day. River less muddy than it was below.

**Gass** a cloudy morning. About 11 o'clock it began to rain slowly, and continued raining two hours, when it cleared up. The rocky peaks...appear like the ruins of an ancient city.

**Ordway** a Cloudy morning. It continued to rain moderately untill about 12 oClock when it ceased & continued cloudy. The Stones on the edges of the river continue to form very considerable rapids. We find them difficult to pass. The River rises a little it is from 150 to 250 yards wide

**Whitehouse** cloudy weather this morning. About 11 oClock AM it began to rain, and rained moderately for some time. The current of the River rain very strong, the whole of this day. In the Evening, the weather cleared off, and became pleasant.

# June 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is nearing the western edge of the Missouri Breaks and approaching the confluence of the Missouri and Marias Rivers.

Saturday, June 1

#### Weather Diary <sup>1</sup>

rained a few drops only

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	62a	c	-	R	-	1 ½

1 Reference: Coues, Volume III, pages 1272-73, 1289; Moulton, Volume 4, pages 346-349; Thwaites, Volume 6, Part II, pages 191-193.

2 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** the morning was cloudy and a few drops of rain. Capt. C who waked on shore today informed me...he observed large banks of pure sand which appeared to have been driven by the SW winds from the river bluffs and there deposited. A range of high Mountains appear to the SW at a considerable distance covered with snow, they appear to run Westerly [Probably the Highwood Mountains]. The river from 2 to 400 yards wide, courant more gentle and still becoming clearer. Some few drops of rain again fell this evening. The wind has been against us all day—

**Clark** a Cloudy morning. Wind to day from the SW. Som fiew drops of rain in the morning and also in the evening, flying Clouds all day.

**Gass** The morning was cloudy, but without rain. The water is not so rapid to day as usual, but continues high.

**Ordway** a Cloudy morning. The River from 2 to 400 yards wide & current more jentle that yesterday. But fiew bad rapids points to day. The river rising a little. Wind to

day from SW Some few drops of rain in the morning and also in the evening. Flying clouds all day.

**Whitehouse** a clear pleasant morning. About 2 o'clock...the wind rose and blew from the SE.

## **Expedition arrives at the confluence of the Missouri & Marias Rivers, MT.**

**Sunday, June 2**

### **Weather Diary**

<b>Sunrise</b>			<b>4 PM</b>			<b>Missouri River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	c a r	SW	68a	f	SW	-	-	-

### **Daily Narrative Journals**

**Lewis** The wind blew violently last night and was attended by a slight shower of rain; the morning was fair and we set out at an early hour. The current was strong tho' regular. The wind was hard and against us yet we proceeded with infinitely more ease than the two preceding days. A small shower of rain today but it lasted only a few minutes and was very moderate. Remain here until the morning, as the evening was favourable to make some observations.

**Clark** we had a hard wind and a little rain last night, this morning fair, we set out at an early hour, wind from the SW. Some little rain today wind hard a head. The current swift but regular. A fair night. We took some lunar observations of moon & stars

**Gass** a fine morning.

**Ordway** we had a hard wind & a little rain last night. This morning fair. Wind from SW some little rain today wind hard a head. The current swift but regular. A fair night.

**Whitehouse** a clear pleasant morning. About 12 o'clock the wind blew hard from the NW at this place, and the sky became cloudy— about 1 o'clock PM we had some small sprinkling of rain— the current is not so swift yesterday & today as it has been some time past.



**Monday, June 3**

**Weather Diary**

Cought the 1<sup>st</sup> White Chub, and a fish resembling the Hickory Shad in the Clear Stream

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	60a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** This morning early we passed over and formed a camp on the point formed by the junction of the two large rivers. An interesting question was now to be determined; which of these rivers was the Missouri. To mistake the stream at this period of the season, two months of the traveling season having now elapsed, and to ascend such stream to the rocky Mountain or perhaps much further before we could inform ourselves...to this end an investigation of both streams was the first thing to be done. Between the time of my AM and meridian Capt. C & myself stroled out to the hights in the fork of these rivers from whence we had an extensive and most inchanting view. The verdure perfectly clothed the ground, the weather was pleasant and fair, to the south we saw a range of lofty mountains which we supposed to be continuation of the S. Mountains, stretching themselves from SE to NW terminating abrubtly about S. West for us; these were partially covered with snow; behind these Mountains and at a great distance, a second and more lofty range of mountains appeared...where their snowey tops lost themselves beneath the horizon. We took the width of the two rivers, found the left hand or S. fork 372 yards and the N fork 20. The north fork is deeper than the other but it's courant not so swift; it's water run in the same boiling and roling manner which has uniformly characterized the Missouri throughout it's whole course so far; it's waters are of a whitish brown colour very thick and terbid, also characteristic of the Missouri; while the South fork is perfectly transparent runds very rappid but with a smoth unriffled surface. The North fork...I am confident that this river rises in and passes a great distance through an open plain country. Convinced I am that if it penetrated the Rocky Mountains to any great distance it's waters would be clearer unless it should run an immense distance. What astonishes us a little is that the Indians who appeared to be so well acquainted with the geography of this country should not have mentioned this river on wright hand if it be not the Missouri. I am equally astonished at their not mentioning the S fork which they must have passed in order to get to those large falls which they mention on the Missouri. The evening proved cloudy.

**Clark** the after part of the day proved Cloudy. Cloudy evening—

**Gass** The Rose (Teton) river is muddy and the current rapid.

**Ordway** the after part of the day proved Cloudy. Clark measured each river & found the one to the Right hand 186 yards wide & the left had fork 372 yards wide and rapid.

**Whitehouse** a fine fair clear morning. Some men went towards a mountain [perhaps the Highwoods] covred with Snow to the South of this place. The afternoon of this day proved Cloudy.

**Lewis & Clark depart with scouting parties to research up each fork.**

**Tuesday, June 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f a c	NE	61a	f	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** [Traveling up the Marias River] The Barn Mountin, a lofty mountain so called from it's resemblance to the roof of a large Bar, is a separate Mountain [Square Butte, MT] it was not yet twelve when we arrived at the river and I was anxious to take the Meridian Altd. of the sun but the clouds prevented my obtaining the observation. The part of the river we have passed is from 40 to 60 yds. wide, is deep, has falling banks, the courant strong, the water terbind. It rained this evening and wet us to the skin; the air was extremely could.

**Clark** [Traveling up the Missouri River] Some rain all the afternoon. The river is rapid

**Gass** We saw a mountain to the South about 20 miles off, which appeared to run East and West, and some spots of it resembling snow.

**Ordway** the day proved Cloudy. A fiew drops of rain towards evening & high cold wind from the North.

**Whitehouse** remained here tody. The weather was Cloudy. A fiew drops of rain towards evening, and the Wind rose high & cold from the NE.

Wednesday, June 5

Weather Diary

rained considerably some Snow fell on them mounts. Great numbers of the sparrows larks, Curloos and other small birds common to praries are now laying their eggs and seting, their nests are in great abundance. The large batt, or night hawk appears. The Turkey buzzard appears.— first saw the mountain cock near the entrance of Maria’s river.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	r	SW	42a	c a r	NE	F	-	3/4

Daily Narrative Journals

**Lewis** This morning was cloudy and so could that I was obleged to have recourse to a blanket coat in order to keep myself comfortable altho’ walking. The rain continued during the greater part of last night. The wind hard from NW. A large creek...some timber but not water, notwithstanding the rain; it is astonishing what a quantity of water it takes to saturate the soil of this country

**Clark** Some little rain & Snow last night. the mountains to our SE covered with Snow this morning. air verry cold & raining a little. The top of which I could plainly See a mountain to the South & W. covered with Snow at a long distance, the mountains opposit to us to the SE is also Covered with Snow this morning— some few drops of rain to day, the evening fair wind hard from the NE.

**Gass** Some light showers of rain fell in the night, and the morning was cloudy. About 7 we set out along the plains again, and discovered the mountain South of us covered with snow, that had fallen last night.

**Ordway** the wind blew high from the North all last night A Cloudy Cold windy morning.

**Whitehouse** The wind blew high during the last night from the NE, and we have a cold windy & cloudy morning.

Thursday, June 6

Weather Diary

rained hard the greater part of the day.—

Sunrise			4 PM			Missouri River		

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	c a r	NE	42a	r a r	NE	F	-	1 ½

### Daily Narrative Journals

**Lewis** I now became well convinced that this branch of the Missouri [Marias] had it's direction too much to the North for our rout to the Pacific. The forepart of the last evening was fair but in the latter part of the night clouded up and continued so with short intervals of sunshine untill a little before noon when the whole horizon was overcast, and I of course disappointed in making the observation which I much wished. The wind blew a storm from NE accompanied for frequent showers of rain; we were wet and very could. We continued our rout down the river only a few miles before the abbruptness of the clifts and their near approach to the river compelled us to take the plains and once more face the storm. It continues to rain and we have no shelter, an uncomfortable nights rest is the natural consequence—

**Clark** a Cloudy Cold raw day, wind hard from the NE. At 12 oClock...it began to rain and Continued all day. My Self and party much fatigued haveing walked constantly as hard as we Could march over a Dry hard plain

**Gass** Some light rain fell this afternoon.

**Ordway** a Cloudy Cold morning. The wind high from the North the hunters....saw a large mountain to the South of them covred with Snow A light Sprinkling of rain this afternoon.

**Whitehouse** a cold cloudy morning. The wind still blew cold from the NE. A light sprinkling of rain this forenoon and to day.

**Friday, June 7**

### Weather Diary

rained moderately all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c a r	SW	43a	r a r	SW	F	-	1 ½

### Daily Narrative Journals

**Lewis** It continued to rain almost without intermission last night and as I expected we had a most disagreeable and restless night. Our camp possessing no allurements, we left our watery beads at an early hour and continued our rout down the river [Marias]. It still continues to rain the wind hard from the NE and could. the ground remarkably slipry, insomuch that we were unable to walk on the sides of the bluffs where we had passed as we ascended the river. Notwithstanding the rain that has now fallen the earth of these bluffs is not wet to a greater depth than 2 inches; in it's present state it is precisely like walking over frozan grownd which is thawed to small debth and slips equally as bad. We continued our disagreeable march through the rain, mud and water untill late in the evening.

**Clark** rained moderately all the last night and Continus this morning, the wind from the SW off the mountains, the Thermometer Stood at 40<sup>o</sup> above 0. The rain Continue moderately all day. River falling

**Gass** It rained all day.

**Ordway** rained all last night. A rainy cold morning the wind NW rained moderately all day. Capt Lewis and his party did not return this evening we expect the reason is owing to the badness of the weather as it is muddy & Slippery walking

**Whitehouse** rained the greater part of last night. Cloudy and wet this morning. Rained moderately all day. Capt. Lewis & his party have not returned yet. We expect the reason is owing to the badness of the weather.

**Saturday, June 8**

**Weather Diary**

cleared off at 10 AM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41	r a r	SW	48a	f a r	SW	F	-	1 1/4

**Daily Narrative Journals**

**Lewis** It continued to rain moderately all last night, this morning was cloudy untill about ten oClock when it cleared off and became a fine day. When sun began to shine today these birds appeared to be very gay and sun most inchantingly. Some of the inhabitants of the praries also take reffuge in these woods at night or from a storm. T he whole of my party to a man except myself were fully peswaided that this river was the Missouri. I determined to give a named in honor of Miss Maria W- d. called it Maria's River. A noble river...one destined to become in my opinion an object of

contention between the two great powers of America and Great Britain. In addition to which it passes through a rich fertile and one of the most beautifully picturesque countries that I ever beheld.

**Clark** rained moderately all the last night & some this morning until 10 o'clock. Aired and dried our stores &c. The rivers at this point has fallen 6 inches since our arrival. At 10 o'clock cleared away and became fair—the wind all the morning from the SW & hard—the water of the South fork is of a reddish brown colour this morning the other river of a whitish colour as usual—the mountains to the South covered with snow. Wind shifted to the NE in the evening. Some rain in the evening. The left hand fork rose a little.

**Gass** A fine cool morning. About 10 o'clock AM the water of the South river, or branch, became almost of the colour of claret (reddish brown) and remained so all day. The water of the other branch has appearance of milk. About five o'clock in the afternoon the weather became cloudy and cold, and it began to rain. At dark the rain ceased.

**Ordway** the wind blew cold from the NW about 9 o'clock AM clear off pleasant. We saw the high mountains to the West. Our camp covered with snow the greater part of which has fallen within a few days. The South fork of the Missouri is high & of a yellow colour. The N fork is more white than common owing as we expect to the late rain which has melted the snow on the mountains. The wind blew from the East a light shower of rain this evening.

**Whitehouse** This morning we had cloudy weather, and the wind blew cold from the NW. Between 7 and 9 o'clock the weather cleared off, and became pleasant. We saw on the weather clearing away, a high mountain, lying to the West of us, which was covered with snow. The South fork of the Missouri is high & of a yellow colour today, and rose to a great height, the north fork more white and riffling than it was before, the cause of which, we expect, is owing to the rain that fell lately, and the snow melting in the mountains. The wind blew from the E toward evening with a light shower of rain—

**Sunday, June 9**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50	f	SW	62 <sup>3</sup>	f	SW	F	-	1

<sup>3</sup> Clark's Journal Codex I lists this temperature as "52 a."

**Daily Narrative Journals**

- Lewis** The Indian information also argued strongly in favour of the South fork. That the falls lay a little to the South of sunset from them. Cruzatte who had been an old Missouri navigator and who from his integrity knowledge and skill as a waterman...declared it as his opinion that the N fork was the true genuine Missouri and could be no other. Finding them so determined in this belief, and wishing that if we were in an error to be able to detect it and rectify it as so as possible it was agreed between Capt. C. and myself that one of us should set out with a small party by land up the South fork and continue our rout up it untill we found the falls or reached the snowy Mountains by which means we should be enabled to determine this question prety accurately.
- Clark** a fair morning, the wind hard from the SW. The river during the night fell 1 inch. Took some Luner observations.
- Gass** a fine morning. The water of the Missouri changed this morning to its former colour. The day was fine, but the wind blew hard from the northwest.
- Ordway** a clear pleasant morning. The wind rose high from the west all day. We had a light Shower of rain about 11 oClock at night.
- Whitehouse** a clear beautiful pleasant morning. The wind towards evening rose from the West. We had a frolick. We had a light Shower of rain late in the evening

**Monday, June 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	68a	f a r	SW	R	-	2

**Daily Narrative Journals**

- Lewis** The day being fair and fine we dried all our baggage and merchandize. We drew up the red perogue...secured and made her fast to the trees to prevent the high floods from carrying her off. Put my brand on several trees standing near her, and covered her with brush to shelter her from the effects of the sun. At 3 PM we had a hard wind from the SW which continued about an hour attended with thunder and rain. As soon as the shower had passed over we drew out our canoes. The night was cloudy with some rain.

**Clark** a fine day, dry all our articles. Branded several trees to prevent the Indians injuring her, at 3 oClock we had hard wind from the SW. Thunder and rain for about an hour after which we repaired & Corked the Canoes. The after noon or night Cloudy Some rain. river rising a little.

**Gass** about two it began to rain and blow we were obliged to desist. The rain continued only an hour

**Ordway** a beautiful pleasant morning. About 4 oClock PM we had a light Shower of rain which lasted about an hour. High wind. The evening pleasant.

**Whitehouse** A beautiful pleasant morning. About 4 oClock PM we had a light shower of Rain, & in the Evening it cleared up, & we had pleasant Weather—

**Tuesday, June 11**

**Weather Diary**

Capt. Lewis & 4 men Set out up the S. fork

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	66a	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fair morning, wind from the SW hard. The evening fair and fine wind from the NW. After night it became cold & the wind blew hard. Both rivers rising fast.

**Gass** A fine day.

**Ordway** a clear pleasant morning. The wind from the S West hard. The evening fair & fine wind from the NW after night became cold. High wind

**Whitehouse** a Clear pleasant morning. Capt. Lewis & party set out for the South Snowey Mountain.

**Wednesday, June 12**

**Weather Diary**

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	64	f a r	SW	-	-	-

### Daily Narrative Journals

**Lewis** the sun became warm, and I boar a little to the south in order to gain the river as well to obtain water to allay my thirst. From this hight we had a most beatifull and picturesk view of the Rocky mountains which wer perfectly covered with Snow and reaching from SE to the N of NW— they appear to be formed of several ranges each succeeding range riseing higher than the preceding one untill the most distant appear to loose their snowey tops in the clouds.

**Clark** last night was Clear and Cold, this morning fair. Wind from the SW. The interpreters wife verry Sick So much So that I move her into the back part of our Covered part of the Perogue which is Cool, her our situation being a verry hot one in the bottom of the Canoe exposed to the Sun— water verry swift. At 2 oClock PM a few drops of rain.

**Gass** The morning was fine. At 1 o'clock the weather became cloudy and threatened rain; at 2 there was a light shower, and the day became clear.

**Ordway** a clear pleasant morning. The current verry rapid.

**Whitehouse** a clear pleasant morning. The current verry Rapid.

## **Lewis' with a second scouting party arrives at the Great Falls of the Missouri, MT**

**Thursday, June 13**

### Weather Diary

Some dew this morng.

Sunrise			4 PM			Missouri River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	72	f	SW	R	-	3/4

<sup>4</sup> It appears observations were taken at the lower portage camp at Belt Creek, Montana until the upper portage camp at the White Bear Islands is established on June 23, 1805.

## Daily Narrative Journals

- Lewis** I overlooked a most beautiful and level plain of great extent or at least 50 or sixty miles; in this there were infinitely more buffalo than I had ever before witnessed at a view. I proceeded on this course...when my ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arise above the plain like a column of smoke which would frequently disappear again in an instant caused I presume by the wind which blew pretty hard from the SW...soon began to make a roaring too tremendous to be mistaken for any cause short of the great falls of the Missouri. Here I arrived about 12 O'clock...to gaze on this sublimely grand spectacle. Immediately at the cascade the river is about 300 yds. On my right forms the grandest sight I ever beheld...some what projecting rocks below receives the water in its passage down and brakes it into a perfect white foam which assumes a thousand forms in a moment sometimes flying up in jets of sparkling foam to the height of fifteen or twenty feet and are scarcely formed before large rolling bodies of the same beaten and foaming water is thrown over and conceals them. From the reflection of the sun on the spray or mist which arises from these falls there is a beautiful rainbow produced which adds not a little to the beauty of this majestically grand scenery. After writing this imperfect description, I again viewed the falls and was so much disgusted with the imperfect idea which it conveyed of the scene that I determined to draw my pen across it and begin again, but then reflected that I could not perhaps succeed better than penning the first impressions of the mind. I wished...that I might be enabled to give to the enlightened world some just idea of this truly magnificent and sublimely grand object which has from the commencement of time been concealed from the view of civilized man.
- Clark** a fair morning. Some dew this morning. Small stream...heads in a mountain to the SE...which at this time covered with snow, we call this stream Snow river [Shonkin Creek]. The river very rapid many shoals great numbers of large stones
- Gass** a fine morning. Some dew fell last night.
- Ordway** a beautiful pleasant morning. A heavy dew. Small river...about 50 yards wide....muddy colour and very rapid.
- Whitehouse** we had a clear & pleasant morning.

**Friday, June 14**

### Weather Diary

Capt. Lewis Discover the falls & Send back Joe Fields to inform me

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	74	f	SW	F	-	3/4

### Daily Narrative Journals

**Lewis** proceeded up the river about SW. I arrived at a fall of about 19 feet; the river is here about 400 yds. wide. [Crooked Falls]. I now thought that if a skillfull painter had been asked to make a beautifull cascade that he would most probably have presented the precise immagine of this one; nor could I for some time determine on which of those two great cataracts to bestoe the palm, on this or that which I had discovered yesterday; at length I determine between these two great rivals for glory that this was pleasingly beautifull, while the other sublimely grand. Still pursuing the river...I arrived at another cataract of 26 feet....the river near six hundred yards wide at this place [Eagle Falls]...this fall is certainly much the greatest I ever behald except those two which I have mentioned below. It is incomparably a greater cataract and a more noble interesting object than the celibrated falls of Potomac or Soolkin &c. From hence I overlook a most beatifull and extensive plain reaching from the river to the base of the Snowclad mountains to the S and SW. I passed through the plain...to medicine river [Sun River], found it a handsome stream, about 200 yds. wide with a gentle current, apparently deep, it's water clear...they had not the appearance of ever being overflown, a circumstance, which I did not expect so immediatly in the neighbourhood of the mountains, from whence I should have supposed, that sudden and immense torrants would issue at certain seasons of the year; but the reverse is absolutely the case. I am therefore compelled to believe that the snowey mountains yeald their warters slowly, being partially effected every day by the influence of the sun only, and never suddonly melted down by haisty showers of rain— The weather being warm I had left my leather over shirt and had woarn only a yellow flannin one.

**Clark** a fine morning. The Current excesevely rapid more So as we assend find great dificulety in getting the Perogue & canoes up in safety

**Gass** the morning was pleasant.

**Ordway** a fare pleasant morning. The current verry rapid all day. We came 10 miles to day through a verry rapid current.

**Whitehouse** a fare pleasant morning. The current verry rapid all day.

**Portage around the great falls to White Bear Islands begins on June 15 and they remain between the lower portage and upper portage camps until July 13 at present-day Great Falls, MT.**

**Saturday, June 15**

**Weather Diary**

The deer now begin to bring forth their young the young Magpies begin to fly. The Brown or grizzly bear begin to copulate.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	76	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** when I awoke from my sleep [nap] today I found a large rattlesnake coiled on the leaning trunk of a tree under the shade of which I had been lying at the distance of about ten feet from him. I find a very heavy dew on the grass about my camp every morning which no doubt proceeds from the mist of the falls, as it takes place no where in the plains nor on the hills river except here.

**Clark** a fair morning and warm. Proceeded on with great difficulty as the river is more rapid. We can hear the falls this morning very distinctly— river rises a little this evening.

**Gass** had the most rapid water I ever saw any craft taken through.

**Ordway** a clear pleasant morning. Passed through the rapidest water I ever Saw any craft taken through. The afternoon very warm.

**Whitehouse** a clear pleasant morning. Passed the rapidest water I ever Seen any crafts taken through. In the afternoon, it became very warm.

**Sunday, June 16**

**Weather Diary**

Some rain last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
64	c a r	SW	58	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis** a Sulpher Spring...this spring is situated about 200 yards from the Missouri on the NE side...the water is as transparent as possible strongly impregnated with sulpher...the water to all appearance is precisely similar to that of Bowyer's Sulpher spring in Virginia

**Clark** Some rain last night, a cloudy morning, wind hard from the SW

**Ordway** a Small Shower of rain and high wind from the west the fore part of last night.

**Whitehouse** we had a Showers of rain & high wind the fore past of the last night. This morning it cleared away & we had pleasant weather

**Sunday, June 17**

**Weather Diary**

the thermometer placed in the shade tree at the foot of the rappids. Capt Clark sets out to survey the river & portage

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	57	c	SW	F	-	1/2

**Daily Narrative Journals**

**Lewis** I found the Elk skins I had prepared for my boat were insufficient to compleat her, some of them having become dammaged by the water and being frequently wet...lyed in the sun to dry.

**Clark** a fine morning, wind as usial. Proceeded up the river passing a Sucession of rapids & Cascades to the Falls, which we had herd for Several miles makeing a dedly Sound, I beheld those Cateracts with astonishment. The whole of the water of this great river Confined in a Channel of 280 yards and pitching over a rock of 97 feet 3/4 of an, from the foot of the falls arrises a Continued mist. We Camped for the night which was Cold. The mountains in every derection has Snow on them.

**Ordway** a clear morning.

**Whitehouse** a cloudy morning.

**Monday, June 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c	SW	64a	f a c	SW	F	-	½

**Daily Narrative Journals**

**Lewis** the wind blew violently this evening, as they frequently do in this open country where there is not a tree to brake or oppose their force.

**Clark** arrived at the second great Cataract...this is one of the grandest views in nature and by far exceeds any thing I ever saw...the river is 473 yards wide...a continuel mist quite across the fall...proceeded...to the largest fountain or Spring I ever Saw, and doubt if it is not the largest in America Known, this water boils up from under the rocks near the edge of the river and falls imediately into the river 8 feet and keeps its Colour for ½ a mile which is emencely Clear and of a bluish Cast...a Considerable mist rises at this fall ocasionally, dined...opposite the mouth of the Medison River...and is 137 yards wide at its mouth. The Missouri above is 800 yards wide. I Saw the bear but the bushes was So thick that I could not Shoot him and it was nearly dark, the wind from the SW & Cool.

**Ordway** the day pleasant. The wind high from the west.

**Whitehouse** a fine pleasant day. After 12 oClock...the wind rose & blew high from the West.

**Tuesday, June 19**

**Weather Diary**

wind violent all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	70a	f	SW	F	-	½

**Daily Narrative Journals**

- Lewis**            The wind blew violently the greater part of the day.
- Clark**            the wind all this day blew violently hard from the SW off the Snowey mountains, Cool, in my last rout I lost a part of my notes which could not be found as the wind must have blown them to a great distance.
- Gass**             A fine day, but the wind very high.
- Ordway**          a clear pleasant morning. The wind verry high from NW.
- Whitehouse**    a clear cool morning. The wind had blown very hard during the last night. Continues verry high from the West and whole of this day.

**Thursday, June 20**

**Weather Diary**

wind still violent. Capt. Clark returns.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	c	SW	74a	f a r	SW	F	-	1/4

**Daily Narrative Journals**

**Clark**            a Cloudy morning, a hard wind all night and this morning. Soon after we set out it began to rain and continued a short time. the wind hard from the SW. A fair after noon. The Countrey above the falls & up the Medison river is leavel, with low banks, a chain of mountains to the west some part of which particuler those to the NW & SW are Covered with Snow and appear verry high--- We had a heavy dew this morning. The Clouds near those mountains rise Suddonly and discharge their Contents partially on the neighbouring Plains; the Same Cloud discharge hail alone in one part, hail and rain in another and rain only in a third all within the Space of a few miles; and on the Mountains to the South & SE of us Sometimes Snow. At present there is no Snow on those mountains; that which covered them a few days ago has all disappeared. the Mountains to the NW and West of us are Still entirely Covered are white and glitter with the reflection of the sun. I do not believe that the Clouds that pervale at this Season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit Snow which they Contain since we first saw them. I have thought it probable that these mountains might have derived their appellatoin of Shineing Mountains, from their glittering

appearance when the Sun Shines in certain directions on the Snow which Cover them.

Dureing the time of my being on the Plains and above the falls I as also my party repeatedly heard a nois which proceeded from a Direction a little to the N. of West, as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at the distance of 5 or six miles. I was informed of it Several times by the men. J. Fields particularly before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains yesterday near the most extrem SE bend of the River above the falls I heard this nois very distinctly, it was perfectly calm clear and not a Cloud to be Seen, I halted and listend attentively about two hour dureing which time I heard two other discharges, and took the direction of the Sound with my pocket Compass which was as nearly West from me as I could estimate from the Sound. I have not doubt but if I had leasure I could find from whence it issued. I have thought it probable that it might be caused by running water in Some of the caverns of those emence mountains, on the principal of the blowing caverns [Blowing Cave, Bath County, Virginia]; but in Such case the Sounds would be periodical and regular, which is not the Case with this, being Sometimes heard once only and at other times Several discharges in quick Succession. It is heard also at different times of the day and night. I am at a great loss to account for this Phenomenon. I well recollect hereing the Minitarees Say that those Rocky Mountains make a great noise, but they could not tell me the Cause, neither Could they inform me of any remarkable substance or situation in these mountains which would autherise a conjecture of a probable cause of this noise— it is probable that the large river just above those Great falls which heads in the derection of the noise has taken it's name Medicine River from this unaccountable rumbling Sound, which like all unaccountable thing with the Indians of the Missouri is Called Medicine. The Ricaras inform us of the black mountains making a Simalar noise &c. &c. and maney other wonderfull tales of those Rocky mountains and those great falls.

- Gass** A cloudy morning.
- Ordway** Some cloudy & cold for the Season. The wind continues high from the west off the mountains. A light Sprinkling of rain about noon. A light sprinkle of rain. The hunters...saw a chain of Mountains to the West Some of which perticular those to the NW and SW are covered with Snow, and appear to be verry high.
- Whitehouse** This morning we had Cloudy cold weather; and the wind continues high from the West. We had about Noon some light Squalls of rain and wind. We had small Showers of rain this afternoon. 1 mile above the fall...is the largest fountain or Spring, as they think it is the largest in america known. They Saw a chain of mountains to the west, some of which particular those to the NW & SW are covered with Snow & appear to be verry high. [probably the Lewis Range of the Rockies] Capt, Clark lost a part of his notes which could not be found, as the wind blew high and hard & took them off.



Friday, June 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	70a	c	SW	F	-	1/4

Daily Narrative Journals

- Lewis** The wind blew violently all day.
- Clark** a fine morning, wind from the SW off the mountains and hard. Cloudy afternoon.
- Gass** This morning was also fine, but there was a high wind.
- Ordway** a fine cool morning. the wind from the SW. off the mountains and hard.
- Whitehouse** a fine morning, the wind blew hard from the SW off the mountains.

Saturday, June 22

Weather Diary

wind not so violent. Thermometer removed to the head of the rapid and place in the shade of a tree.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	c	SW	54a	f	SW	F	-	1/2

Daily Narrative Journals

- Clark** a fine morning. Wind from the
- Ordway** a clear pleasant morning. the wind as usual. ...a light Sprinkling of rain. ...we are a little South of the Mandans but have had cold weather as yet. it must of course be a healthy county.
- Whitehouse** a fair pleasant morning. The wind as usual. West. We are at this place a little

South of the Mandan Villages, but as yet have experienced no very warm weather—

**Sunday, June 23**

**Weather Diary**

Sunrise			4 PM			Missouri River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SE	65a	c	SE	F	-	1/4

<sup>5</sup> It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

**Daily Narrative Journals**

**Lewis** during the late rains the buffaloe have troden up the prarie very much, which having now become dry the sharp points of earth as hard as frozen ground stand up in such abundance that there is no avoiding them. This is particulary severe on the feet of the men who have not only their own wight to bear in treading on those hacklelike points but have also the addition of the burthen which they draw

**Clark** a Cloud morning, wind from the SE.

**Gass** The morning was cloudy.

**Ordway** a cloudy morning. The wind from East. A light Sprinkling of rain. The hard ground in many places is So hard as to hurt our feet verry much. The emence numbers of buffalow after the last rain has trod the flat places in Such a manner as to leave them uneaven, and dried as hard as frozen Ground.

**Whitehouse** this morning the wind shifted to the east & became Cloudy an we had a light sprinkling of rain—

**Monday, June 24**

**Weather Diary**

slight rain last night & a heavy shower this evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	c a r	SE	74a	f a c	SW	F	-	

### Daily Narrative Journals

**Clark** a Cloudy morning. Some few drops of rain in the fore part of the day, at 6 o'clock a black Cloud arose to the NW, the wind shifted from the S to that point and in a Short time the earth was entirely Covered with hail, Some rain Succeeded, which Continud for about an hour very moderately on this Side of the river, without the earths being wet ½ an inch, the riveins on the opposit or NW Side discharged emence torrents of water into the river, & Showed evidently that the rain was much heavier on that Side, Some rain at different times in the night which was worm. Thunder without lightning accompanied the hail Cloudy.

**Gass** In the evening there was a very heavy shower of rain, at night the weather cleared up

**Ordway** a cloudy morning. A violent shower arose from the NW hard thunder caught us in a verry hard rain So that in a few minutes the ground was covered with water. So that we got a hearty drink of water in the holes & puddles & C. The rain continued about half an hour, at dusk we arived at the upper camp all wet and much fatigued. The wind was considerable assistance to us in the course of the day, as we were drawing the canoes the wind being Sufficently hard at times to move the canoe on the Trucks. This is Saleing on dry land in every Since of the word.

**Whitehouse** fair weather this morning. We proceeded across the prairie, the wind blowing steady from the SE, we hoisted a Sail in the largest canoe which helped us much. Towards evening when we were within 3 miles of the upper camp, up came a sudden and Violent thunder Shower & rained amazingly hard for about 15 to 20 minutes, in which time the water stood on the ground over our mockasons. Our water being all gone & the men very thirsty, they drank heartily, out of the puddles of water that lay in the plains—

**Tuesday, June 25**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	c a r	SW	72a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the river is about 800d yds. wide opposite to us above these islands, and has a very gentle current [White Bear Islands, upper portage camp]. It is worthy of remark that the winds are sometimes so strong in these plains that the men informed me that they hoisted a sail in the canoe and it had driven her along on the truck wheels. This is really sailing on dry land.

**Clark** a fair worm morning, Clouded & a few drops of rain at 5 oClock AM fair. I had a little Coffee for brackfast which was to me a riarity as I had not tasted any Since last winter. The wind from the NW & worm. This Countrey has a romantick appearance river inclosed between high and Steep hills. A powerfull rain fell on the party on their rout yesterday, Wet Some fiew articles, and Caused the rout to be So bad wet & Deep thay Could with dificuelty proceed. A fair after noon— it may be worthy of remark that the Sales were hoised in the Canoes as the men were drawing them and the wind was great relief to them being Sufficently Strong to move the Canoes on the Trucks, this is Saleing on Dry land in every Sence of the word

**Gass** A cloudy morning.

**Ordway** a cloudy morning. The day proved pleasant and warm the men much fatigued.

**Whitehouse** a cloudy morning. The weather cleared up about 10 oClock AM and the day proved pleasant and warm. The evening was clear and pleasant.

**Wednesday, June 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	78a	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis** The Musquetoës are extreemly troublesome to us.

**Clark** Some rain last night, this morning verry Cloudy. The wind from the NW verry worm. Flying Clouds, in the evening the wind Shifted round to the East & Blew hard, which is a fair wind for the two Canoes to Sail on the Plains across the portage.

**Gass** a fine morning. Captain Lewis measured the falls, found them in a distance of 17 miles 362 feet 9 inches. The first great pitch 98 feet, the second 19 feet, the third 47 feet 8 inches, the fourth 26 feet; and the number of small pitches amounting altogether to 362 feet 9 inches.

**Ordway** Some rain last night. This morning cloudy. The day proved fair.

**Whitehouse** We had some rain last night, and this morning verry cloudy. The weather cleared up at 9 oClock AM and the verry hot Sun beat down on us as the day proved fair. I took sick this evening I expect by drinking too much water when I was hot. I got bled &c. I had an opportunity of seeing the quantity of Buffalo as related; and I can without exaggeration say, that I saw more Buffalo feeding— at one time, than all the Animals I had ever seen before in my life time put together—

**Thursday, June 27**

**Weather Diary**

at 1 PM a black cloud which arose in the SW came on accompanied with a high wind and violent Thunder and Lightning; a great quantity of hail also fell during this storm which lasted about 2 ½ hours the hail which was generally about the size of a pigeon’s egg and not unlike them in form covered the ground to the debth of 1 ½ inches.— for about 20 minutes during this storm hail fell of an innomus size driven with violence almost incredible, when they struck the ground they would bound to the hight of ten to 12 feet and pass 20 or thirty before they touched again. (during the emence Storm I was with the greater part of the men on the portage the men Saved themselves, Some by getting under a Canoe others by putting Sundery articles on their heads two was kocked down & Seven with their legs & thighs much brused. - Clark’s notes) After the rain I measured and weighed many of these hail stones and found several weighing 3 ozs. and measuring 7 Inches in circumference; they were generally round and perfectly sollid. I am convinced if one of those had struck a man on the neaked head it would have knocked him down, if not fractured his skull.— Young blackbirds which are abundant in these Island are now beginning to fly

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	77	f a r & h t l <sup>6</sup>	SW	R	-	1 1/4

<sup>6</sup> Clark’s Journal Codex C lists this weather data as “f a r h.”

**Daily Narrative Journals**

**Lewis** at 1 PM a cloud arrose to the SW and shortly after came on attended with violent Thunder Lightning and hail &c. (see notes on diary of the weather for June). Soon after this storm was over Drewyer and J. Fields returned. They were about 4 miles above us during the storm, the hail was of no uncommon size where they were. Soon after the storm this evening the water on this side of the river became of a deep

crimson colour which I presume proceeded from some stream above and on this side. At 4 PM the party returned from the upper camp; Capt. C. gave them a drink of grog; they prepared for the labour of the next day. Soon after the party returned it began to rain accompanied by some hail and continued a short time; a second shower fell late in the evening accompanied by a high wind from the NW—

**Clark** a fair warm morning, wind from the SE and moderate. The warmest day we have had this year, at 4 PM the party returned...Soon after it began to hail and rain hard and continued for a few minutes & Ceased for an hour and began to rain again with a heavy wind from the NW. I refreshed the men with a drink of grog. The river beginning to rise a little the water is Coloured a rich brown, the Small Streams, discharges in great torrents, and partake of the Cholera of the earth over which it passes— a great part of which is light & of a redish brown. Several Buffalows passed drowned & dashed to pieces in passing over the falls. Cloudy all night, Cold.

**Gass** a fine morning. In the afternoon a dreadful hail storm came on, which lasted half an hour. Some of the lumps of ice that fell weighed 3 ounces, and measured 7 inches in circumference. The ground was covered with them, as white as snow. It kept cloudy during the evening and some rain fell.

**Ordway** a fair warm morning. a heavy dew last night. passed the upper falls which is a great catteract and look remarkable. passed the lower high falls which is the highest known except the falls of the Neagra. a hard Shower of rain and hail came on of a sudden So I got under a Shelving rock on one Side of the creek where I kept dry through the hardest of it. hard thunder. large hail the creek rose So high in a few minutes that I had to move from the dry place and proceeded on. the wind blew So high that the hail cut verry hard against me and I could hardly keep my feet. the rain has made it So muddy and Slippery, cloudy all night.

**Whitehouse** a fair clear warm morning. About 4 o'clock PM we had a hard shower of rain which made the Portage so Slippery

**Friday, June 28**

**Weather Diary**

Cat fish no higher

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	75	c a f	SW	R	-	2

**Daily Narrative Journals**

**Lewis** the river is now about nine inches higher than is was on my arrival. Portage creek had arisen considerably and the water was of crimson colour and illy tasted. Soon after his arrival [Clark during the morning] at willow run he experienced a hard shower of rain which was succeeded by a violent wind from the SW off the snowy mountains, accompanied with rain; the party being cold and wet, he administered the consolation of a dram to each.

**Clark** a fair morning, wind from the South. Set out passed the Creek which had rose a little and the water nearly red, and bad tasted [Portage Creek]. Soon after we halted we had a Shower, and at dark we expereinced a most dredfull wind from off the Snow Mountains to the SW accompd. with rain which continued at intervalles all night men wet. I refreshed them with a dram.

**Gass** a fine morning.

**Ordway** a fair morning. Wind from the South. The water is riseing and of a redish brown colour. Soon after we halted, we had a Shower and at dark we experienced a most dredful wind from off the Snow Mountains to the SW accompanied with rain which lasted nearly all night.

**Whitehouse** a fair clear morning, wind from the South, which continued the whole of this day

**Saturday, June 29**

**Weather Diary**

heavy gust of rain the morning and evening

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	r t & l	SW	77	f	SW	R	-	4 ½

**Daily Narrative Journals**

**Lewis** This morning we experienced a heavy shower of rain for about an hour after which it became fair. Not having seen the large fountain of which Cap. Clark spoke I determined to visit it today...passed through a level plain for about Six miles when I reached a brake of the river hills. Here we were overtaken by a violent gust of wind and rain from the SW attended with thunder and Litning. I expected a hail storm probably from this cloud and therefore took refuge in a little gully wher there were some broad stones with which I purposed protecting my head if we should have a repetition of the scene of the 27<sup>th</sup> but fortunately we had but little hail and that not

large; I sat very composedly for about an hour without shelter and took a copious drenching of rain; after the shower was over I continued my route to the fountain. ...nature seems to have dealt with a liberal hand for I have scarcely experienced a day since my first arrival in this quarter without experiencing some novel occurrence among the party or witnessing the appearance of some uncommon object. I think this fountain the largest I ever beheld, and the handsome cascade which it affords over some steep and irregular rocks in its passage to the river adds not a little to its beauty...it is about 25 yds. from the river...the water of this fountain is extremely transparent and cold...very pure and pleasant. After amusing myself about 20 minutes in examining the fountain I found myself so chilled with wet cloaths that I determined to return. I was astonished not to find the party yet arrived, but then concluded that probably the state of the prairies had detained them, as in the west state in which they are at present the mud sticks to the wheels in such manner that they are obliged to halt frequently and cleanse them. [Lewis describes the following flash flood episode repeating it using his literary prose. It is omitted to allow the full effect from Clark's discussion below.]

#### Clark

a little rain very early this morning after[wards] Clear, finding that the Prairie was So wet as to render it impossible to pass on to the end of the portage determined to Send back to the top of the hill...for remaining baggage...Soon after I arrived at the falls, I perceived a cloud which appeared black and threaten immediate rain, I looked out for a Shelter but Could see no place without being in great danger of being blown into the river if the wind Should prove as turbelant as it is at Some times. about 1/4 of a mile above the falls I obsd [observed] a Deep riveen in which was Shelveing rocks under which we took shelter near the river and placed our guns the compas &c. &c....which was very Secure from rain, the first Shower was moderate accompanied with a violent wind, the effects of which we did not feel, Soon after a torrent of rain and hail fell more violent than ever I saw before, the rain fell like one voley of water falling from the heavens and gave us time only to get out of the way of a torrent of water which was Poreing down the hill in the rivin with emence force tareing everything before it takeing with it large rocks & mud. I took my gun and Shot pouch in my left hand, and with the right Scrambled up the hill pushing the Interpreters wife (who had her child in her arms) before me, the Interpreter himself makeing attempts to pull up his wife by the and much Scared and nearly without motion— we at length retched the top of the hill Safe where I found my Servent in Serch of us greatly agitated, for our wellfar— before I got out of the bottom of the revein which was a flat dry rock when I entered it, the water was up to my waste & wet my watch, I Scrcely got out before it raised 10 feet deep with a torrent which [was] turrouble to behold, and by the time I reached the top of the hill, at least 15 feet water, I directed the party to return to the Camp at the run as fast as possible to get to our lode where Cloathes Could be got to Cover the Child whose Clothes were all lost, and the woman who was but just recovering from a Severe indisposition, and was wet and Cold, I was fearfull of a relaps. I caused her as also the others of the party to take a little Spirits, which my Servent had in a Canteen, which revived very much. On arrival a the Camp on the willow run— met the party who had returned in great Confusion to the run leaveing their loads in the Plain, the hail & wind being So large and violent in the plains, and them naked, they were much brused, and Some



nearly killed one knocked down three times, and other without hats or any thing on their heads bloodey & Complained verry much; I refreshed them with a little grog— Soon after the run began to rise and rose 6 feet in a few minites— I lost at the river in the torrent the large Compass, an eligant fusee [umbrella], Tomahawk Humbrallo, Shot pouch, & horn with powder & Ball, mockersons, & the woman lost her Childs Bear & Clothes bedding &c. — The Compass is a Series loss; as we have no other large one. The plains are So wet that we Can do nothing this evening particularly as two deep reveins are between ourselves & Load

**Gass** We had a very hard gust of wind and rain in the morning; but a fine forenoon after it. In the afternoon there was another heavy shower of rain, and after it a fine evening. Captain Lewis came to camp, but drenched with rain.

**Ordway** a little rain verry eairly this morning after clear & warm. We find that the prarie is So wet as to render it impossable to pass on the end of the portage. Saw a black cloud rise in the west which we looked for emediate rain we made all the haste possable but had not got half way before the Shower met us and our hind extletree broke in too we were obledged to leave the load Standing and ran in great confusion to Camp the hail being So large and the wind So high and violent in the plains, and we being naked we were much bruuzed by the large hail. Some nearly killed one knocked down three times, and others without hats or any thing about their heads bleading and complained verry much. [He then relates Clark's story above.] The plains are so wet that we could doe nothing this evening.

**Whitehouse** a little rain verry eairly this morning which lasted but for a short time, when the weather cleared off and it became pleasant. In the afternoon, there arose a storm of hard wind & rain; accompanied with amazing large hail at the upper camp. We caught several of the hail Stones which was measured & weighed by us, there were 7 inches in Surcumference and weighed 3 ounces— Captain Lewis made a small bowl of punch out of one of them. As luck would have it, we were all...Safe...the party that was at the upper camp, were under a good shelter, but we feel concerned about the men on the road with the baggage from the lower Camp—

**Sunday, June 30**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	76	f	SW	R	-	2 1/4

## Daily Narrative Journals

- Lewis** We had a heavy dew this morning which is a remarkable event. I being to be extremely impatient to be off as the season is now waisting a pace. Nearly three months have now elapsed since we left Fort Mandan and not yet reached the Rocky Mountains. I am therefore fully preswaded that we shall not reach Fort Mandan again this season if we even return from the ocean to the Snake Indians. The men complained much today of the bruises and wounds which they had received yesterday from the hail. Two men sent to the falls returned with the compass which they found covered in the mud...the other articles were irrecoverably lost. They found that part of the rivene in; which Capt. C. had been seting yesterday, filled with huge rocks. experienced a heavy gust of wind this evening from the SW after which it was a fair afternoon. More buffaloe than usual were seen about their camp; Capt. C. assured me that he believes he saw at least ten thousand at one view— I made several attempts to obtain Equal altitudes since my arrival here but have been uniformly defeated untill now by the flying clouds and storms in the evening—
- Clark** a fair morning. At 3 oClock a Storm of wind from the SW after which we had a clear evening. Great numbers of Buffalow in every direction, I think 10,000 may be Seen in a view.
- Gass** A fine day. The hail that fell on the 27<sup>th</sup> hurt some of the men very badly. Captain Clarke, the interpreter, and the squaw and child, had gone to see the spring at the falls; and when the storm began, they took shelter under a bank at the mouth of the run; but in five minutes there was seven feet water in the run; and they were very near being swept away. They lost a gun, an umbrella and a Surveyor's compass, and barely escaped with their lives.
- Ordway** a fair morning. This run has fallen a little. Last evening it was up to a mans waist at the crossing place where it was dry before the Showers, and verry riley and bad tasted at 3 oClock we had a Storm of wind from SW after which a fair evening.
- Whitehouse** a fair morning & pleasant. We are at the upper camp, looking out for the arrival of Captain Clark and his party, with the baggage &c. fearing that they must have suffered much by the hail—

# July 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition continued it's portage around the Great Falls of the Missouri.

Monday, July 1

#### Weather Diary <sup>1</sup>

wind hard during the grater part of the day.—

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f	SW	74a	f	SW	R	-	½

<sup>1</sup> Reference: Coues, Volume III, pages 1273, 1289-90; Moulton, Volume 5, pages 22-24; Thwaites, Volume 6, Part II, pages 193-195.

<sup>2</sup> It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

#### Daily Narrative Journals

**Lewis** the day has been warm and the Musquitoes troublesome of course

**Clark** the Day worm and party much fatigued. The wind hard from the SW— the hail which fell at Capt. Lewis Camp 27 Ins [June 27] was 7 Inches in circumfrance & waied 3 ounces, fortunately for us it was not So large in the plains, if it had we Should most certainly fallen victims to its rage as the men were mostly naked, and but few with hats or any covering on their heads.

**Ordway** the day warm and party much fatigued. The wind hard from the SW. The hail which fell at Capt. Lewis Camp was 7 Inches in Surcumference and weighed 3 oucnes. Fortinately for us it was not so large in the plains where we was. If it had we Should most certainly fallen victims to its rage as the most of the men were without hats or any thing on their heads and mostly neaked.

**Whitehouse** This morning pleasant and warm. About 3 oClock PM Captain Clarke & party arrived...they informed us that they were detained by the wet weather, and that they were out in the hail Storm but as luck would have it, the hail was not So big as that

which fell at the upper Camp. Captain Clarke was at the falls of the River, at the time the hail fell, and hunted a shelter for himself & party from the Rain & hail— This sheltering place, was in a deep Creek, without any Water in it, at the time it first began raining; he mentioned that the Creek rose so fast, they had scarcely time to get out, before the water was ten feet deep. The party that was hawling the crafts, had nearly all lost their lives, being naked and most without hats on, or any thing to cover them, they had no shelter & were Cut and bruised very much by the hail, and underwent, as much as Men could possibly endure; to escape with their lives—

**Tuesday, July 2**

**Weather Diary**

some rain just before sun rise

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	78a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** A shower of rain fell very early this morning. The wind hard from the SW all day. I think it possible that these almost perpetual SW winds proceede from the agency of the Snowey Mountains and the wide level and untimbered plains which streach themselves along their bases for an immense distance (ie) that the air comeing in contact with the snow is suddonly chilled and condenced, thus becoming heavier than the air beneath in the plains, where by the constant action of the sun on the face of an untimbered country there is a partial vacuum formed for it's reception. I have observed that the winds from this quarter are always the coldest and most violent which we experience, yet I am far from giving full credit to my own hypothesis on this subject; it hoever I find on the opposite side of these mountains that the winds take a contrary direction I shall then have more faith....completed my observation of Equal Altitudes today.

**Clark** Some rain at day light this morning, after which a fair morning. The Roreing of the falls for maney miles above us. Musquetors verry troublesom to day, day worm. Wind to day as usial from the SW and hard all the after part of the day, those winds are also Cool and generally verry hard.

**Gass** a fine morning.

**Ordway** Some rain at day light this morning after which a fair morning. The day warm.

**Whitehouse** Some rain at day light this morning, and it then cleared up, and we had clear pleasant

fair weather.

**Wednesday, July 3**

**Weather Diary**

slight rain in the evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a <sup>3</sup>	f	SW	74a	c a f & r	SW	-	-	-

3 Lewis' Journal Codex P & Clark's Codex I lists this temperature as "56."

**Daily Narrative Journals**

**Lewis** at 10 Ock AM we had a slight shower which scarcely wet the grass. The current of the river looks so gentle and inviting that the men all seem anxious to be moving upward as well as ourselves.

**Clark** a fine morning. Wind from the SW. At 1 oClock began to rain. A Small Shower at 1 oClock which did Scercely wet the grass— The water tolerably clear and Soft in the river, Current jentle and bottoms rising from the water; no appearance of the river rising more than a few feet above the falls, as high up as we have yet explored. The winds has blown for Several days from the SW I think it possible that those almost perpetial SW winds, proceed from the agency of the Snowey mountains and the wide leavel and untimbered plains which Streach themselves along their borders for an emence distance, that the air comeing in Contact with Snow is Suddenly chilled and condensed, thus becoming heavier than the air beneath in the plains, it glides down the Sides of those mountains and decends to the plains, where by the constant action of the Sun on the face of the untimbered country there is a partial vacuum formed for it's reception. I have observed that the winds from this quarter is always the Coaldest and most violent and most violent which we experience, yet I am far from giveing full credit to this hypothesis on this Subject; if I find however on the opposit Side of these mountains that the winds take a contrary direction I Shall then have full faith. The winds take a contrary direction in the morning or from the mountains on the west Side.

**Gass** a fine morning. We had a light shower of rain (in early afternoon)

**Ordway** a clear pleasant warm morning.

**Whitehouse** A clear pleasant morning. We had a light sprinkling Shower of rain in the afternoon.

Thursday, July 4

Weather Diary

heavy dew this morning. slight sprinkle of rain at 2 PM.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	Sw	76a	f a r	SW	F	-	1/4

Daily Narrative Journals

**Lewis**

we all believe that we are now about to enter on the most perilous and difficult part of our voyage, yet I see no one repining; all appear ready to met those difficulties which wait us with resolution and becoming fortitude. We had a heavy dew this morning. The clouds near these mountains rise suddonly and discharge their contents partially on the neighbouring plains; the same cloud will discharge hail along in one part, hail and rain in another, and rain only in a third, all within the space of a few miles; and on the Mountains to the SE of us sometimes snow. At present there is no snow on those mountains; that which covered them when we first saw them and which has fallen on them several times since has all disappeared. The Mountains to the NW & W of us are still entirely covered are white and glitter with the reflection of the sun. I do not believe that the clouds which prevail at this season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit snow only for there has been no preceptible deminution of the snow which they contain since we first saw them. I have thought it probable that these mountains might have derived their appellation of shining Mountains, from their glittering appearance when the sun shines in certain directions on the snow which covers them.

Since our arrival at the falls we have repeatedly witnessed a nois which proceeds from a direction a little to the N of West as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at a distance of three miles. I was informed of it by the men several times before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains the other day I heard this noise very distinctly, it was perfectly calm clear and not a cloud to be seen. I halted and listened attentively about an hour during which time I heard two other discharges and took the direction of the sound with my pocket compass. I have no doubt but if I had leasure I could find from whence it issued. I have thout it probable that it might be caused by runing water in some of the caverns of those immense mountains, on the principal of the blowing caverns; but in such case the sound would be periodical & regular, which is not the case with this, being sometimes heard once only and at other times, six or seven discharges in quick succession. It is heard also at different seasons of the day and night. I am at a loss to account for this phenomenon. Our work being at an end this evening, we gave a drink of sperits, it being the last of our stock, and some of them appeared a little sensible of it's effects. The fiddle was plyed and they danced very merrily untill 9 in

the evening when a heavy shower of rain put an end to that part of the amusement tho' they continued their mirth with songs and festive jokes and were extremely merry untill late at night.

**Clark** A fine morning, a heavy dew last night. A black Cloud came up from the SW and rained a few drops. I employ my Self drawing a Copy of the river to be left at this place for fear of Some accident in advance. The party amused themselves danceing untill late when a Shower of rain broke up the amusement. The climate about the falls of the Missouri appears to be Singular Cloudy every day (Since our arrival near them) which rise from defferent directions and discharge themselves partially in the plains & mountains, in some places rain other rain & hail, hail alone, and on the mountains in Some parts Snow. A rumbling like Cannon at a great distance is heard to the west if us; the Cause we Can't account.

**Gass** A fine day. We drank the last of our spirits in celebrating the day, and amused ourselves with dancing till 9 o'clock at night, when a shower of rain fell and we retired to rest.

**Ordway** a beautiful clear pleasant warm morning. Last in the evening we had a light Shower of rain but did not last long—

**Whitehouse** This morning we had Clear weather. We amused ourselves with frolicking, dancing &ca. untill 9 of 10 oClock PM in honor of the day. About that time, we had a slight shower of Rain, but it soon cleared away & we had fine weather—

**Friday, July 5**

**Weather Diary**

heavy shower of rain and hail last evening at 9 PM. some thunder & lightning

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a h & r <sup>4</sup>	SW	72a	f	SW	F	-	½

<sup>4</sup> Lewis' Journal Codex P lists this weather data as "f h & r" & Clark's Codex I lists this as "h & r."

**Daily Narrative Journals**

**Clark** a fine morning and but little wind, worm and Sultrey at 8 oClock—

**Gass** a fine morning.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning

**Saturday, July 6**

**Weather Diary**

wind high all day. A heavy wind from the SW attended with rain about he middle of last night. about day had a violent thunderstorm attended with Hail and rain. the Hail Covered the ground and was about the Size of Musquet balls. I have Seen only one black bird killed with the hail, and am astonished that more have not Suffered in a similar manner as they are abundant, and I Should Suppose the hail Sufficiently heavy to kill them.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	c a h r t & l	SW	74a	f a c	SW	F	-	1/4

**Daily Narrative Journals**

**Lewis** In the course of last night had several showers of hail and rain attended with thunder and lightning. About day a heavy storm came on from the SW attended with hail rain and a continued roar of thunder and some lightning. The hail was as large as musket balls and covered the ground perfectly. We had some of it collected which kept very well through the day and served to cool our water. These showers and gusts keep my boat wet in dispite of my exertions. After the hail and rain was over this morning we dispatched 4 hunters

**Clark** a heavy wind from the SW and Some rain about mid night last, at day light his morning a verry black Cloud from the SW, with a Contained rore of thunder & Some lightning and rained and hailed tremendously for about ½ an hour, the hail was the Size of a musket ball and Covered the ground. This hail & rain was accompan. by a hard wind which lasted for a fiew minits. Cloudy all the forepart of the day, after Part Clear.

**Ordway** verry hard Showers of rain and hail through the course of last night, hard Thunder & lightning, at day light this morning a hard shower came up of a Sudden attended with high wind & large hail one of the men Saved a Small tin kittle full of the hail which did not all disolve through the day. The morning cloudy. A part of the day clear. Light Showers of rain in the afternoon. The wind high from the west.

**Whitehouse** verry hard Showers of Rain & hail, through the course of last night. Hard Thunder. At day light a hard shower of rain, thunder & large hail; one of the men gethered a Small kittle full of the hail which he kept most part of the day, without melting. The morning continued cloudy. In the afternoon it cleared up with some light showers of rain.



Sunday, July 7

Weather Diary

a Shower at 4 PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c a f	SW	77a	r a c	SW	F	-	1/4

Daily Narrative Journals

- Lewis** The weather warm and cloudy therefore unfavourable for many operations. We have no tents; the men are therefore obliged to have recourse to the sails for shelter from the weather and we have not more skins than are sufficient to cover our baggage when stowed away in bulk on land. Many of the men are engaged in dressing leather to cloath themselves. Ther leather cloathes soon become roton as they are much exposed to the water and frequent wet. We had a light shower of rain about 4 PM attended with some thunder and lightning. The musquetoos are excessively troublesome to us. I have prepared my composition which I should have put on this evening but the rain prevented me.
- Clark** A Warm day, wind from the SW. Cloudy as usial. Some rain in the after part of the day.
- Gass** The morning was fine. In the evening some few drops of rain fell
- Ordway** a clear pleasant morning. The day warm. I the afternoon Some Thunder A light shower of rain.
- Whitehouse** A clear pleasant morning. They proved warm. Before 4 oClock PM we had some Thunder and a light Shower of Rain.

Monday, July 8

Weather Diary

I finish taking the hight of the falls of the Missouri

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	78a	f a r	SW	F	-	1/4

### Daily Narrative Journals

**Lewis** day being warm and fair. The mountains which ly before us from the South, to the NW still continue covered with snow. Slight rain this afternoon.

**Clark** A worm morning, flying Clouds. Some rain this evening after a verry hot day— the mountains which are in view to the South & NW are Covered with Snow.

**Gass** a fine morning.

**Ordway** a clear pleasant morning. Some Thunder and light Showers this afternoon. The River falling.

**Whitehouse** A clear pleasant morning. We had this Evening some Thunder and light sprinkling of rain, &c.

**Tuesday, July 9**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	SW	76a	c a r	NW	F	-	1/4

### Daily Narrative Journals

**Lewis** The morning was fair and plesant. Men loaded canoes...just at this moment a violent wind commenced and blew so hard that we were obliged to unload the canoes. again; a part of the baggage in several of them got wet before it could be taken out. The wind continued violent untill late in the evening. The buffaloe had principally deserted us, and the season was now advancing fast. I therefore relinquished all further hope of my favorite boat and ordered her to be sunk in the water. [Lewis' experimental iron framed, Elk skin covered boat. The Iron frame being made at Harper's Ferry and transported all the way the upper portage camp location.]

**Clark** a clear worm morning, wind from the SW. This falire of our favourate boat was a great disapointment to us.

**Gass** a fine morning, and heavy dew. In the afternoon a storm of wind, with some rain came on from the north west, and we had again to unload some of our canoes, the waves ran so high. After the storm we had a fine evening.

**Ordway** a beautiful pleasant morning. Soon after we got the canoes loaded Thunder and high wind came on So that we had to unload again.

**Whitehouse** a beautiful morning. In the afternoon, Soon after we got the canoes loaded, there came up a Violent Storm of wind & Thunder. The waves dashed over the canoes to such a height, so that all hands were employed to unload them as quick as possible—

### Wednesday, July 10

#### Weather Diary

wind hard all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f a r	SW	66a	F	SW	-	-	-

#### Daily Narrative Journals

**Lewis** the wind blew very hard the greater part of the day. Sergt. Ordway proceeded up the river about 5 miles when the wind became so violent that he was obliged to ly by untill late in the evening when he again set out with the canoes.

**Clark** a fair windey day, wind hard the most of the day from the SW— rained modderately all last night (by Showers). The Canoes did not arrive as I expected, owing to the hard wind which blew a head in maney places.

**Gass** a fine cool morning.

**Ordway** a clear morning. Then the wind arose So high that we were obleged to lay by untill towards evening. Late in the afternoon the wind abated a little So we proceeded on within about 3 miles of the upper camp.

**Whitehouse** a clear pleasant morning. We proceeded on about 8 miles when the wind rose so Great and high that we were obleged to lay by untill the evening. The wind then abated and we went on untill dark.

### Thursday, July 11

**Weather Diary**

wind hard all day

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	70a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** this evening a little before the sun set, I heard two other discharges of this unaccountable artillery of the Rock Mountains proceeding from the same quarter that I had before heard it. I now recollected the Minnetares making mention of the noise which they had frequently heard in the Rocky Mountains like thunder; and which they said the mountains made; but I paid no attention to the information supposing it either false or the phantom of a superstitious imagination. I have also been informed by the engages that the Panis and Ricaras give the same account of the Black mountains which lye West of them. This phenomenon the philosophy of the engages readily accounts for; they state it to be the bursting of the rick mines of silver which these mountains contain. The three other canoes did not arrive untill late in the evening in consequence of the wind and the fear of wetting their loads which consisted of articles much more liable to be injured by moisture...Capt C. had the canoes unloaded and ordered them to float down in the course of the night to my camp, but the wind proved so high after the night that they were obliged to put too 8 miles above and remain untill morning.

**Clark** a fair windey morning, wind SW.

**Ordway** a clear morning. The wind verry high from the NW which obliged us to lay at Camp untill late in the afternoon. Towards evening the wind abated So that we went on and arrived at Capt. Clarks camp. We floated about 8 miles and the wind rose So high that drove us to Shore So we landed untill morning.

**Whitehouse** a clear morning, but the high wind which oblegded us to lay at our Camp untill late in the afternoon. Towards evening the wind abated a little so that we went on. A party of 4 men set out to float back to the lower camp at night, but the wind rose so high, that they were forced to lay by till morning—

**Friday, July 12**

**Weather Diary**

wind violent all day.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	74a	f	SW	F	-	1/4

**Daily Narrative Journals**

**Lewis** I feel excessively anxious to be moving on. The canoes were detained by the wind until 2 PM.

**Clark** a fair windey morning, wind from the SW. The wind hard all day.

**Gass** a fine morning.

**Ordway** a clear morning. The wind as usual. The wind rose so high that one canoe filled with water the other 2 took in water the waves high but with difficulty we got down to Camp about noon. The wind continues very high all day—

**Whitehouse** a clear morning. The wind blew high and hard from the NW. The wind continued to blow so high and hard that one of the canoes filled and the other two took in water. The wind continued to blow high and hard during this day.

**Expedition leaves the upper portage camp and continues their journey up the Missouri River.**

**Saturday, July 13**

**Weather Diary**

Wind violent in the latter part of the day

Sunrise			4 PM			Missouri River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	SW	76a	f	SW	F	-	1/4

<sup>5</sup> River observations once again change daily as the Expedition is again moving up the Missouri River. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

### Daily Narrative Journals

**Lewis** This morning being calm and Clear I had the remainder of our baggage embarked in the six small canoes and maned them with two men each. I now bid a cheerfull adue to my camp. Proceeded up the river about 5 miles when the wind became so violent that two of the canoes shiped a considerable quantity of water and they were compelled to put too...and clense the canoes of water. About 5 PM the wind abated. It is impossible to sleep a moment without being defended against the attacks of these most tormenting of all insects.

**Clark** a fair Calm Morning, verry Cool before day— at 9 oClock, the wind rose and blew hard from the SE the greater part of the day.

**Gass** A fine day, but high wind.

**Ordway** clear and calm this morning. About 5 miles...the wind rose so high that 2 of the canoes took water.

**Whitehouse** a clear, calm pleasant morning. Proceeded on this morning abt. 5 miles...then the wind rose so high that obledged us halt untill the middle of the afternoon. When the wind abated we went on about 7 mls further

**Sunday, July 14**

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	f	SW	78a	c a r	SW	-	-	-

**Daily Narrative Journals**

- Lewis** This morning was calm fair and warm. The grass and weeds in this bottom are about 2 feet high; which is much greater hight than we have seen them elsewhere this season. Had a slight shower at 4 PM this evening.
- Clark** a fine morning, Calm and warm. Some rain this afternoon. All prepareing to Set out on tomorrow.
- Gass** a fine morning. In the afternoon some rain fell but we continued to work at the canoes
- Ordway** the morning clear and pleasant. Abotu 4 oClock PM we expencerenced a Small Shower of rain. Warm. The weeds and Grass in this bottom is as high as a mans knees but the Grass on the high plains & praries is not more than 3 Inches high not time in this Season.
- Whitehouse** the morning clear, calm and pleasant. About 4 oClock PM we had a Small Shower of rain & very warm. The weeds and grass in this bottom is as high as a mans knees, but the grass on the high land is not more than 3 inches high.

**Monday, July 15**

**Weather Diary**

Set out from our upper camp above the falls

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	76a	f	SW	F	-	1 1/2

**Daily Narrative Journals**

**Lewis** At 10 AM we once more saw ourselves fairly under way much to my joy and I believe that of every individual who compose the party. We have not passed Fort Mountain on our right it appears to be about ten miles distant. [Square Butte]. From it's figure we gave it the name of fort mountain. The prickly pear is now in full blume and forms one of the beauties as well as the greatest pests of the plains. The sunflower is also in blume and is abundant. The river is from 100 to 150 yds. wide. on the banks of the river there are many large banks of sand much elivated above the plains on which they ly and appear as if they had been collected in the course of time from the river by the almost incessant SW winds; they always appear on the sides of the river opposite to those winds—

- Clark** rained all the last night, I was wet all night. This morning wind hard from the SW.  
**Gass** After a night of heavy rain, we had a pleasant morning. The snow appears to have melted from all the mountains in view.
- Ordway** rained the greater part of last night. A clear morning. The wind high from the NW. The current very gentle & river smooth since we left the falls.
- Whitehouse** rained the greater part of last night. This morning was clear, but the wind blowing high and hard from the NW. The current very gentle since we came above the falls and clear

**Tuesday, July 16**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
53a	f	SW	80a	f	SW	F	-	3/4

**Daily Narrative Journals**

- Lewis** We had a heavy dew last night. Early this morning we passed about 40 little booths formed of willow brushes to shelter them from the sun; they appeared to have been deserted about 10 days; we supposed that they were snake Indians. Came to a rapid [Probably the later Half-Breed, or Lone Pine Rapids]...the current of the Missouri below these rapids is strong for several miles, tho' just above there is scarcely any current, the river very narrow and deep, about 70 yds. wide. The mosquitoes are extremely troublesome this evening and I have left my bier, of course suffered considerably, and promised in my wrath that I never will be guilty of a similar peice of negligence while on this voyage—
- Clark** a fair morning after a very cold night, heavy dew the river is not so wide as below from 100 to 150 yards wide & Deep Crowded with Islands & Crooked. the current of the river from the Madison river to the Mountain is gentle, bottoms low and extensive.
- Gass** a fine morning. The water became more rapid; but the current not so swift as below the falls.
- Ordway** a clear pleasant morning. The current Swift towards evening.
- Whitehouse** a clear pleasant morning. The current begin to git Swifter.



Wednesday, July 17

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	81a	f	SW	F	-	1 1/2

Daily Narrative Journals

- Clark** took a Medn. Altitude & we took Some Luner Observations &c. The river confined in maney places in a verry narrow Chanel from 70 to 120 yards wide.
- Gass** the morning was fine and pleasant.
- Ordway** a clear morning. Came to a verry bad rapid. The River is about 100 yards wide.
- Whitehouse** a clear morning. The current verry rapid, and river Crooked, and only about 100 yard wide.

Thursday, July 18

Weather Diary

Sunrise			4 PM			Missouri River <sup>6</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	84a	f	SW	-	-	-

<sup>6</sup> Clark Journal Codex I lists that the river fell one-half inch.

Daily Narrative Journals

- Lewis** passed the entrance of a considerable river...it's current is rapid and water extreamly transparent...in honour of the Secretary of war calling it Deaborn's River. The river [Missouri] somewhat wider than yesterday and the mountains more distant from the river and not so high.
- Clark** a fine morning.

**Gass**            The morning was fair

**Ordway**        a clear pleasant morning.

**Whitehouse**    a clear pleasant morning.

**Expedition enters what Lewis names “The Gates of the Rocky Mountains,” MT.**

**Friday, July 19**

**Weather Diary**

Thunder Storm ½ after 3 PM

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	68a	c a h & r	SW	F	-	½

**Daily Narrative Journals**

**Lewis**            the current has been strong all day. The river deep and from 100 to 150 yds., wide. This evening we entered much the most remarkable cliffs that we have yet seen. Every object here wears a dark and gloomy aspect. Several fine springs burst out at the waters edge from the interstices of the rocks. From the singular appearance of this place, I called it the gates of the rocky mountains. Musquetoos less troublesome than usual. We had a thundershower today about 1 PM which continued about an hour and was attended with som hail.

**Clark**            a find morning.

**Gass**            a fine morning. About 1 o'clock we had thunder, lightning and rain, which continued an hour or two, and then the weather became clear.

**Ordway**        a clear pleasant morning. This curious looking place (we entered) we call the gates of the Rocky Mountains. About one oClock PM we had a Thunder Shower which lasted about one hour a little hail attended it

**Whitehouse**    a clear pleasant morning. The current swift and water clear. About 1 oClock PM we had a Thunder Shower which lasted 1 hour. Shortly after we camped we had a light Sprinkling Shower of rain this evening.

Saturday, July 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f a r	SW	60a	f	NW	-	-	-

Daily Narrative Journals

**Lewis** currant strong. Having lost my post Meridian Observation for Eq. Altitudes in consequence of a cloud which obscured the sun for several minutes about that time, I had recourse to two altitudes of the sun with Sextant.

**Clark** a fine morning.

**Gass** a fine morning. About 2 o'clock came to a level plain on the north side, from which we saw a strong smoke rising. The river is very crooked in general

**Ordway** a clear morning

**Whitehouse** a clear morning. The current verry rapid.

**Main party passes just east of the present-day Capitol of the State of Montana, Helena.**

Sunday, July 21

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NW	67a	f	NW	F	-	½

Daily Narrative Journals

**Lewis** the current strong...the river is not now so deep but reather wide and much more

rapid. The grass near the river is lofty and green that of the hill sides and high open grounds is perfectly dry and appears to be scorched by the heat of the sun. This valley is bounded by two nearly parallel ranges of high mountains which have their summits partially covered with snow. The musquetoës were equally as troublesome to them as to ourselves this evening; tho' some hours after dark the air becomes so cold that these insects disappear.

**Clark** a fine morning. I observed on the highest pinecals of Some of the mountains to the West Snow lying in Spots Some Still further North are covered with Snow and cant be Seen from this point. The Winds in those mountains are not Settled generally with the river, to day the wind blow hard from the West at the Camp.

**Gass** a pleasant morning. At noon....the wind blew very hard and some drops of rain fell.

**Ordway** a clear morning. The grass in the valley and on the hills look dry and pearched up. The River divides in many channels and full of Islands and Spreads about a mile wide. The current swift.

**Whitehouse** a clear morning. The wind high from the NW.

**Monday, July 22**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NW	80a	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** Onions...this appears to be a valuable plant inasmuch as it produces a large quantity to the squar foot and bears with ease the rigor of this climate. Killed an otter which sunk..The water was about 8 feet deep yet so clear that I could see it at the bottom; I swam in and obtained it by diving. I placed my thermometer in a good shade as was my custom about 4 PM and after dinner set out without it and had proceeded near a mile before I recollected it I sent Sergt. Ordway back for it, he found it and brought it on. The murcury stood at 80 a. 0. This is the warmest day except one which we have experienced this summer.

**Clark** a fine morning, wind from the SE. The last night verry cold, my blanket being Small I lay on the grass & Covered with it.

**Gass** We embarked early, the weather being pleasant. We saw to day several banks of

snow on a mountain west of us. (Elkhorn Mountains)

**Ordway** a clear morning. Capt. Lewis forgot his Thermometer where we dined. I went back for it. It Stood in the heat of the day at 80 degrees above 0, which has only been up to that point but once before this Season as yet.

**Whitehouse** A clear pleasant morning. Capt, Lewis forgot his Thermometer which he had hung in a Shade. It Stood this day at 80 degrees above 0. The current very rapid and a pleasant country.

**Tuesday, July 23**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	80a	c	SW	F	-	½

**Daily Narrative Journals**

**Clark** a fair morning, wind from the South.

**Gass** A cloudy morning.

**Ordway** a little cloudy the current swift

**Whitehouse** This morning cloudy. The current very rapid.

**Wednesday, July 24**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	90a	f	SW	F	-	¾

**Daily Narrative Journals**

**Lewis** the current very strong. The mountains still continue high and seem to rise in some places like an amphitheater one rang above another as they recede from the river untill the most distant and lofty have their tops clad with snow...I fear every day that we shall meet some considerable falls or obstruction in the river notwithstanding the information of the Indian woman to the contrary who assures us that the river continues much as we see it. I can scarcely form an idea of a river runing to great extent through such a rough mountainous country without having it's stream intersepted by some difficult and gangerous rappids or falls.

**Clark** a fine day, wind from the NW. The river much like it was yesterday. The mountains on either Side appear like the hills had fallen half down & turned Side upwards [Lombard thrust fault crosses here] the bottoms narrow and no timber a few bushes only.

**Gass** The morning was fine

**Ordway** a clear pleasant morning. The current swift. The Swift water continues some bad rapids which it is with difficulty we passed over them.

**Whitehouse** a clear pleasant morning. The current still verry rapid and strong all day.

**Expedition spends July 25 through July 30 at the Three Forks of the Missouri.**

**Thursday, July 25**

**Weather Diary**

Snow appears on the mountains ahead.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	86a	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** two rapids near the large spring we passed this evening were the worst we have seen since that we passed on entering the rocky mountains.

**Clark** a fine morning we proceeded on a few miles to the three forks of the Missouri. Those three forks are nearly of a Size, that North appears to have the most water and

must be Considered as the one best calculated for us to ascend. Middle fork is quit as large about 90 yds. wide. The South fork is about 70 yds wide. The forks appear to be verry rapid. On the North Side the Indians have latterly Set the Prarie on fire, the Cause I Can't account for. The day verry hot. About 6 to 8 miles up the North fork a Small rapid river falls in on the Lard Side which affords a great Deel of water and appears to head in the Snow mountains to the SW. musquetors verry trouble Som untill the mountain breeze Sprung up, which was a little after night.

**Gass** a fine morning.

**Ordway** a clear morning. We discover Mountains a head which have Spots of Snow on them. Passed a large dry plain on S side. Bad rapids.

**Whitehouse** A clear pleasant morning. Discovered mountains lying ahead of us, which appear to have Snow on them, if not Snow it must be verry white Clay or rocks. Several bad rocky rapids.

**Friday, July 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	82a	c a r	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** current strong with frequent riffles on entering this open valley I saw the snowclad tops of distant mountains before us. This morning Capt. Clark...proceeded up the river about 12 miles to the top of a mountain ...The day being warm and the road unshaded by timber he [Clark] suffered excessively with heat and the want of water. He returned down the mountain...here Charbono was very near being swept away by the current and cannot swim, Capt. C. however risqued him and saved his life.

**Clark** proceeded to top of a mountain...much fatigue...we came to a Spring of excessively Cold water, which we drank reather freely of as we were already famished; not with Standing the precautions of wetting my face, hands & feet, I Soon felt the effects of the water. We Contind. thro a Deep Vallie without a Tree to Shade us Scorching with heat. a few drops of rain this evening

**Gass** the morning was fine. Before 4 o'clock....while we remained here it became cloudy and some rain fell

**Ordway** a clear morning. The current verry Swift. We can discover high mountains a head,

with Snow on them. The River wide and full of islands. Passed over several bad rapids.

**Whitehouse** a clear morning. We find that we have not entered the 2<sup>nd</sup> chain of Mountains but can discover very high white topped mountains. The wind blew hard since 10 AM and at 2 oClock & a light Sprinkling of rain.

**Saturday, July 27**

**Weather Diary**

a considerable fall of rain unattended with Lightning. ....

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c	SW	80a	c a r	SW	F	-	3/4

**Daily Narrative Journals**

**Lewis** We set out at an early hour and proceeded on but slowly the current still so rapid that the men are in continual state of their utmost exertion to get on, and they begin to weaken fast from this continual state of violent exertion. The limestone appears to be of an excellent quality of deep blue colour when fractured and a light led colour when exposed to the weather. We arrived at 9 AM at the junction of the SE fork of the Missouri and the country opens suddonly to extensive and beatifull plains and meadows which appear to be surrounded in every direction with distant and lofty mountains. From the E to S between the SE and middle forks a distant range of lofty mountains rose their snow-clad tops above the irregular and broken mountains which lie adjacent to this beautifull spot. A range of high mountains at a considerable distance appear to reach from South to West and are partially covered with snow. My principal consolations are that from our present position it is impossible that the SW fork can head with the waters of any other river but the Columbia

**Gass** had a pleasant morning. There is very little difference in the size of the 3 branches. About 9 o'clock...we halted here, it began to rain and continued 3 hours. In the evening the weather became clear and we had a fine night.

**Ordway** a clear morning. The current Swift as usual. About 9 oClock we arived at the three forks of the Missourie, which is in open view of the high Mountains covered in Some places with Snow. We had a Shower of rain this afternoon.

**Whitehouse** a clear morning. Current rapid as yesterday. At 9 oClock AM we arrived at the Three Forks of the Mesouri River which is in a wide valley in open view of high Mountains which has white Spots on it which has the appearance of Snow. We had



showers of rain that continued till the evening.

**Sunday, July 28**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a r	SW	90a	f	SW	F	-	½

**Daily Narrative Journals**

**Lewis** the day proved warm...our leather lodge when exposed to the sun is excessively hot. In the evening about 4 O'Clock the wind blew hard from the South West and after some little time brought on a Cloud attended with thunder and Lightning from which we had a fine refreshing shower which cooled the air considerably; the showers continued with short intervals untill after dark.

**Clark** a very worm day untill 4 oClock when the wind rose & blew hard from the SW, and was Cloudy, The Thermometr. Stood at 90<sup>0</sup> above 0 in the evening a heavy thunder Shower from the SW which continud at intervalles untill after dark

**Gass** As this was a fine day, the men were employed in airing the baggage. From this valley we can discover a large mountain with snow on it, towards the southwest.

**Ordway** a foggy morning, but clear after. Towards evening we had a fine Shower of rain Some Thunder attended it which cooled the air verry much.

**Whitehouse** We has some fog early this morning, but it cleared away at Sun rise, & the weather was pleasant. In the evening we had a fine shower of rain, accompanied with Thunder, which cooled the Air, & made it very pleasant.

**Monday, July 29**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f a r	N	82a	f	NE	R	-	½

### Daily Narrative Journals

**Lewis** we see a great abundance of fish in the stream some of which we take to be trout, but they will not bite at any bate we can offer them.

**Clark** a fair morning, wind from the North

**Gass** a fine day.

**Ordway** a clear pleasant morning. The day warm. The wind from the East. the width of the three Rivers at the forks we allow the North fork to be about 60 yards, the middle fork the Same, the South forks not So wide nor large. All appear rapid but not verry deep.

**Whitehouse** a clear pleasant morning. The day proved verry warm since 9 oClock AM the wind from the East.

**Tuesday, July 30**

### Weather Diary

Set out from 3 forks

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SE	80a	f	SE	-	-	-

### Daily Narrative Journals

**Lewis** the night was cool but I felt very little inconvenience from it as I had a large fire all night.

**Clark** the river very rapid & Sholey

**Gass** This branch (Jefferson) is about 60 yards wide and 6 feet deep, with a rapid current.

**Ordway** a fine pleasant morning. The River crooked rapid and full of islands & C.  
**Whitehouse** a clear pleasant morning. They day warm, but verry pleasant. The current verry swift & rapids common.

**Expedition now embarks up the Jefferson River [West Fork of the Missouri River], MT.**

**Wednesday July 31**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	92a	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** Capt. Clark and party...their detention had been caused by the rapidity of the water and the circuitous route of the river. The river...from 90 to 120 yd. wide

**Clark** a fair Morning.

**Gass** a fine cool morning with dew.

**Ordway** a fine morning. the current swift. We dined under a handsom Shady grove of cotton timber under the hills of the Mountains to or left which has heaps of Snow on the tops & sides of it. The day very warm

**Whitehouse** a fine morning, the current rapid. Wed dined about 1 oC, under a delightful Grove of cotton timber on L. Side under the mountain which has large heaps of Snow on it. The day verry warm.

# August 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition has moved up the Jefferson Fork of the Missouri River and is just east of present-day Whitehall, Montana.

Thursday, August 1

#### Weather Diary <sup>1</sup>

Sunrise			4 PM			Jefferson River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	91a	f	SW	F	-	½

1 Reference: Coues, Volume III, pages 1273-74, 1290; Moulton, Volume 5, pages 180-182; Thwaites, Volume 6, Part II, pages 195-196.

2 River observations were taken on the Jefferson Fork of the Missouri. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis** about 2 PM much exhausted by the heat of the day. Our rout lay through the steep and narrow valleys of the mountains exposed to the intense heat of the midday sun without shade and scarcely a breath of air.

**Clark** a fine day. The water Swift & very Sholey. The river so rapid that the greatest exertion is required by all to get the boats on. Wind SW. Murckery at sun rise 50<sup>0</sup>  
Ab. 0

**Gass** a fine morning.

**Ordway** a fine morning. The current swift.

**Whitehouse** a clear pleasant morning. We also saw Snow on the Mountains, a short distance to the South of our Camp—

**Friday, August 2**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	NW	81a	f	NW	F	-	½

**Daily Narrative Journals**

**Lewis** we resumed our march this morning at sunrise, the weather was fair and wind from NW. Found the current very rapid about 90 yards wide and wait deep, this is the first time that I ever dared to make the attempt to wade the river. The tops of these mountains are yet covered partially with snow, while we in the valley are nearly suffocated with the intense heat of the mid-day sun; the nights are so cold that two blankets are not more than sufficient covering.

**Clark** a fine day. The wind from the SW. We proceeded on with great difficulty from the rapidity of the current & rapids.

**Gass** The morning was fine. In the middle of the day it was very warm in the valley, and at night very cold; so much so that two blankets were scarce a sufficient covering. On each side of the valley there is a high range of mountains, which run nearly parallel, with some spots of snow on their tops.

**Ordway** a fine pleasant morning. The River is now Small crooked Shallow and rapid. The day warm.

**Whitehouse** a fine pleasant morning. The river is now small crooked Shallow and rapid.

**Saturday, August 3**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NE	86a	f	NE	F	-	½

**Daily Narrative Journals**

- Lewis** ...they passed a handsome little stream on Lard. which is form of several large springs which rise in the bottoms and along the base of the mountains with some little rivulets form the melting snow. In the evening they passed a very bad rappid where the bed of the river is formed entirely of solid rock and encamped on an island just above.
- Clark** a fine morning, wind from the NE. The river more rapid and Sholey than yesterday. Passed a bold Stream which heads in the mountains to our right and the dreaon of the minting Snow in the Montn. on that side are in View— the Greater portion of the Snow on this mountain is melted...no wood being near the Snow.
- Gass** A fine cool morning. The night was disagreeably cold.
- Ordway** a clear morning. Passed verry rapid water. The mountains a Short distance South of us Some Spots of Snow on it. The day pleasant and warm. Passed a large Spring run which is made by the Snow on the Mountains and runs from the foot of the Mo. through a Smooth plain.
- Whitehouse** a clear morning. The day proved pleasant & warm.

**Sunday, August 4**

**Weather Diary**

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	92a	f	S	F	-	½

**Daily Narrative Journals**

- Lewis** passed a bould runing creek about 12 yard wide and the water could and remarkably clear. The middle fork...its water is much warmer than that of the rappid fork and somewhat turbid, from which I concluded that it had it's source at a greater distance in the mountains and passed through an opener country than the other. [Forks of the Jefferson River]
- Clark** a fine morning cool. Murcury at Sun rise 39 a. 0
- Gass** a fine morning.
- Ordway** a clear morning. The rapids continue. Some of the mountains near the River has

been burned by the natives Some time ago. The pine timber killed. The cotten timber in some of the R. bottoms killd. & dry also.

**Whitehouse** a clear cool morning. Some of the mountains on the South side of the River has had the Grass burned off from them & the Timber killed on them, some time ago.

**Monday, August 5**

**Weather Diary**

Sunrise			4 PM			Jefferson River <sup>3</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SE	79a	f	SE	F	-	½

<sup>3</sup> This is the last entry in the Weather Diary for Missouri River rise and fall. No explanation is given as to why they stopped. They are located at the Big Hole River near present-day town of Twin Bridges. They had followed up that river a short distance before returning to the Jefferson River. Since the river was becoming so shallow and observation changes were so minimal, it could be assumed that they decided that the remarks were no longer necessary.

**Daily Narrative Journals**

**Lewis** the mountains put in close on both sides and arose to great height, partially covered with snow.

**Clark** a Cold Clear morning, the wind from the SE. The river Streight & much more rapid than yesterday. 4 oClock PM Murcury 49 ab. 0

**Ordway** a clear cool morning. passd. rapids as usual. the wind cold from the South. Passed over rapids covred with Slippery Small Stone and gravel. Passed over rapids worse than ever it is with difficulty & hard fatigue we git up them Some of which are allmost perpinticular 3 or 4 feet in a Short distance. About 7 oC. PM cloud up high wind it appears this little Stream is verry high, but has been high by the Snow melting off the Mountains. It is now falling a little.

**Whitehouse** a clear cool morning. The wind blew cold from the South. At 1 PM clouded up. Wind high. We expect this little Stream is high from the Snow melting on the mountains. It appears it has lately been higher, but is now falling a little.

**Tuesday, August 6**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	71a	c	SW	-	-	-

### Daily Narrative Journals

**Lewis** We believe that the NW or rapid fork is the dane (drain) of the melting snows of the mountains.

**Clark** a Clear morning, Cool, wind from the SW. This evening Cool...a Violent wind from the NW accompanied with rain which lasted half an hour. Wind NW.

**Ordway** a clear morning.

**Whitehouse** a clear morning. After 4 o'clock PM...and some time after we had a small Shower of rain.

**Wednesday, August 7**

### Weather Diary

Thunder shower last evening from the NW. The river which we are now ascending is so inconsiderable and the current so much on a Stand that I relinquished paying further attention to it's State.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c a r	SW	80a	c	SW	-	-	-

### Daily Narrative Journals

**Lewis** the morning being fair we spread our stores to dry at an early hour. We had a shower of rain which continued about 40 minutes attended with thunder and lightning. This shower wet me perfectly before I reached the camp. The clouds continued during the night in such manner that I was unable to obtain any lunar observations.

**Clark** a fine morning. At 5 o'clock a thunder Storm from the NW accompanied with rain which lasted about 40 minutes—



- Gass** We remained here during the forenoon, which was fair and clear. In the evening a heavy cloud came up, and we had hard thunder with lightening and rain. The weather cleared (early evening), and we had a fine night.
- Ordway** a clear morning. The morning cool, but the day warm. We had Thunder Showers this afternoon, attended with high winds.
- Whitehouse** a clear cool morning. This day was very warm & the party was much troubled with large horse flies— the rapids not So bad. We had Thunder Showers & high winds this afternoon.

**Thursday, August 8**

**Weather Diary**

a thunder Shower last evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f a r	SW	82a	c a f	SW	-	-	-

**Daily Narrative Journals**

- Lewis** We had a heavy dew this morning. The evening again proved cloudy much to my mortification and prevented my making any lunar observations. The Indian woman recognized the point of a high plain to our right...this hill she says here nation calls the beaver's head from a conceived remblance of it's figure to the head of that animal.
- Clark** wind from the SW. The Thermometer at 52 a 0 at Sunrise.
- Gass** a pleasant morning. The river is very crooked in this valley.
- Ordway** a clear cold morning. A heavy diew. The prarie is covred with grass which is high in places. The day warm. On the River, which is verry crooked but not So rapid as below, and only 25 yards wide, and verry crooked
- Whitehouse** a clear cold morning. Saw a little Snow on the knobs & mountains which lay but a short distance from us. The day proved warm & pleasant.

**Friday, August 9**

**Weather Diary**

Encamped below the Forks Jeffersons River    Set out on a part of discovery

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	NE	78a	c	SW	-	-	-

**Daily Narrative Journals**

**Lewis**            the morning was fair and fine. The current of the river increasing in rapidity towards evening. In the evening it clouded up and we experienced a slight rain attended with some thunder and lightning. The musquetoës very troublesome this evening.

**Clark**            a fine morning, wind from the NE. in the evening Clouded up and a few drops of rain

**Gass**            a fine morning with some dew. The river is narrow and very crooked

**Ordway**        a clear cool morning. The wind high from SE. Some Thunder. Saw Snow on the Mountains Some distance a head. Some showers passed over.

**Whitehouse**   a clear cool morning. The wind high from the SE. Some Thunder in the afternoon. Saw Snow on the Mountains Some distance a head. In the evening we had some Showers of rain accompanied with Thunder with passed round or over. We all expect that we are near the head Waters or source of the Mesouri River, as the River, here is growing much narrower that it was.

**Expedition passes present-day Dillon, MT.**

**Saturday, August 10**

**Weather Diary**

rain Commenced at 6 PM and continued Showery through out the night. Musqueters bad.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	c a r f & l	SW	68a	t l & r	SW	-	-	-

### Daily Narrative Journals

**Lewis** The mountains do not appear very high in any direction tho' the tops of some of them are partially covered with snow. This convinces me that we have ascended to a great high since we have entered the rocky Mountains, yet the ascent has been so gradual along the vallies that it was scarcely perceptible by land. I do not believe that the world can furnish an example of a river runing to the extent which the Missouri and Jefferson's rivers do through such a mountainous country and at the same time so navigable as they are.

**Clark** Some rain this morning at Sun rise and Cloudy. At 4 oClock a hard rain from the SW accompanied with Hail Continued half an hour, all wet, the men Sheltered themselves from the hail with bushes. River narrow, & Sholey but not rapid.

**Gass** a fine morning. At 1 o'clock we halted t dine, when a shower of rain came on with thunder and lightening, and continued an hour, during which some hail fell.

**Ordway** a clear pleasant morning. A hard Thunder Show arose of rain and large hail which lasted nearly an hour.

**Whitehouse** a clear pleasant morning. About 1 oClock...had a hard Thunder Shower of large hail and rain.

### **Tuesday, August 11**

#### Weather Diary

heavy Dew last evening

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	c a r & j	NE	70a	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** Discovered an Indian on horseback...he suddonly turned his horse about, gave him a

whip leaped the creek and disappeared...we now set out on the track of the horse...halted...cooked breakfast....before we had finished our meal, a heavy shower of rain came on with some hail which continued about 20 minutes and wet us to the skin, after this shower we pursued the track of the horse but as the rain had raised the grass which he had trodden down it was with difficult that we follow it.

**Clark** A Shower of rain this morning at Sun rise, Cloudy all the morning wind from the SW. the river shallow and rapid. Passed a large Island which I call the 3000 miles Island.

**Gass** This morning was cloudy and we did not set out until after breakfast. About 2 some rain fell.

**Ordway** a wet rainy morning. The day warm. We Saw high Mountains a head some distance large Spots of Snow on them.

**Whitehouse** a cool cloudy morning & some Rain. They turned warm & large flies became very troublesome. We see mountains, lying a head of us some Short distance; which appear very high, and large spots of snow on them.

**Lewis’ advanced party crosses the Continental Divide at Lemhi Pass, Montana-Idaho state line.**

**Monday, August 12**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f a r & j	W	72a	f a r a h	NW	-	-	-

**Daily Narrative Journals**

**Lewis** two miles below McNeal had exultingly stood with a foot on each side of this little rivulet and thanked his god that he had lived to bestride the mighty & heretofore deemed endless Missouri. After refreshing ourselves we proceeded on to the top of the dividing ridge from which I discovered immense ranges of high mountains still to the West of us with their tops partially covered with snow. Here I first tasted the water of the great Columbia river.

**Clark** We Set out early (Wind NE). The weather Cool.

**Gass** A few drops of rain fell to day.

**Ordway** a clear morning. The current verry rapid. Some of these rapids is deep and dangerous to pass up. We had a hard Thunder Shower rained some time.

**Whitehouse** A clear morning. The current verry rapid. About 2 oClock PM a hard Thunder Shower arose rained hard a Short time.

## Tuesday, August 13

### Weather Diary

very cold last night. Passed the dividing ridge to the waters of the Columbia river.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a f	NW	70a	f a r	NW	-	-	-

### Daily Narrative Journals

**Lewis** [Meets the Shoshones] the sun was verry warm and no water at hand. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.

**Clark** a verry Cool morning. The Thermometer Stood at 52 a 0. All the fore part of the day Cloudy. At 8 oClock a mist of rain

**Gass** A cloudy morning. The weather was cold during the whole of this day.

**Ordway** Cloudy. The current rapid. In the afternoon the current more gentle.

**Whitehouse** Cloudy. The current of the river running very rapid

## Wednesday, August 14

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f a r	NW	76a	f	NW	-	-	-

### Daily Narrative Journals

**Lewis** [Indian Chief describes route to Clearwater River, Lewis notes the following] the next part of the journey of the rout was about 10 days through a dry and parched sandy desert...the sun had now dried up the little pools of water which exist through this desert plain in the spring season and had also scorched all the grass.

**Clark** a Cold morning, wind from the SW. Thermometer Stood at 51<sup>0</sup> a 0, at Sunrise the morning being cold and men Stiff. I deturmind to dealy & take brackfast...we set out at 7 oClock. River verry Crooked and rapid. Stream on the Stard. Side which head in a mountain to the North on which there is Snow.

**Gass** The morning was clear and cold.

**Ordway** a clear cold morning. The water is verry cold. The wind high from SW the current continued rapid all day.

**Whitehouse** a clear cold morning. Water in the river is clear and Cold.

**Thursday, August 15**

### Weather Diary

remarkably cold this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43a <sup>4</sup>	f	SE	74a	f	SW	-	-	-

<sup>4</sup> Clark's Journal Codex I lists this temperature as "52 a."

### Daily Narrative Journals

**Lewis** [on Horse Prairie Creek near present-day Grant, MT] the Cove is called Shoshone Cove. The grass being birned on the North side of the river we passed over...as I came up this cove.

**Clark** a Cool windey morning, wind from the SW.

**Gass** a fine morning. The river meanders The water is very cold and severe and disagreeable to the men, who are frequently obliged to wade and drag the canoes

**Ordway** clear & cold this morning. We passed Several bad rapids.

**Whitehouse** a cold clear morning. The river shallow.

## Main Party establishes Camp Fortunate at present-day Clark Reservoir, MT.

**Friday, August 16**

### Weather Diary

Capt Lewis Join with the Snake Indians at the forks

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	70a	f	SW	-	-	-

### Daily Narrative Journals

**Clark** as this morning was cold and the men fatigued Stiff and Chilled...detained till 7 o'clock. The Therm. Stood at 48<sup>o</sup> at Sunrise, wind SW. The water excessively cold.

**Gass** we proceed through rapid water, the river is very narrow, crooked and shallow.

**Ordway** a clear morning but very cold. The Thermometer Stood at 47<sup>o</sup>. The water So cold that we delayed untill after we took breakfast. We find the current Swift the river Shallow. The water not So Swift above the bad rapid.

**Whitehouse** a clear but very cold morning. The thermometer stood at 47<sup>o</sup> the river water So cold that we delayed untill after breakfast

**Saturday, August 17**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NE	76a	f	SW	-	-	-

### Daily Narrative Journals

- Lewis** the nights are very cold and the sun excessively hot in the day.
- Clark** a fair Cold morning, wind SW. The Thermometer at 42 a. 0 at Sunrise, set out at 7 oClock
- Gass** a fine morning. The water so shallow
- Ordway** a clear cold morning. We have been cold this Several nights under 2 blankets or Robes, over us. A little white frost. The air chilley & cold.
- Whitehouse** a clear cold morning. The weather was so cold last night, that our party had to lay under 2 buffalo robes each in order to keep themselves warm. Some frost this morning.

### Sunday, August 18

#### Weather Diary<sup>5</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	c	SW	78a	r	SW	-	-	-

- <sup>5</sup> Clark takes at least twelve men in an advanced party to the Salmon River to view if it is navigatable and build canoes if it is between August 18, 1805 through August 29, 1805 when the return back up the Salmon and meet the main party near Tendoy, Idaho. It appears he copied the Weather Diary information when he returned from the scouting trip. But his daily narrative remarks as well as Sergeant Gass' are separated from Lewis and the main group.

### Daily Narrative Journals

- Lewis** [his birthday] ...resolved in future, to redouble my exertions and at least indeavour to promote those two primary objects of human existence, by giving them the aid of that portion of talents which nature and fortune have bestoed on me; or in future, to live for mankind, as I have heretofore lived for myself—



**Ordway** a clear morning. We had Showers of Rain this afternoon.  
**Whitehouse** a clear morning. We had some Showers of rain this afternoon—

**Daily Narrative Journals - Clark Scouting Party**

**Clark** the fore part of the day worm, at 12 o'clock it became hasey with a mist of rain, wind hard from the SW and Cold which increased untill night. The rain Seased in about two hours.

**Gass** a fine morning. At three o'clock this afternoon there was a violent gust of wind, and some rain fell. In about an hour the weather became clear, and very cold, and continued cold all night.

**Monday, August 19**

**Weather Diary**

ice on Standing water 1/8 of an inch thick.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f a r	SW	71a	f a r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the frost which perfectly whitened the grass this morning had a singular appearance to me at this season.

**Ordway** a clear cold morning. A white frost & the grass Stiff with frost it being disagreeably cold. The day pleasant & warm. Light showers of rain this evening.

**Whitehouse** a cold morning. A white frost this morning. A clear pleasant day. We had a shower of rain about 3 o'clock PM which lasted but a few minutes.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** A verry Cold morning, Frost to be seen

**Gass** A fine morning, but cold. At 1 o'clock we dined at the head spring of the Missouri and Jefferson river. A bout 5 miles south of us we saw snow on top of a mountain, and in the morning there was a severe white frost, but the sun shines very warm

where we now are. It is not more than a mile from the head spring of the Missouri to the head of one of the branches of the Columbia.

**Tuesday, August 20**

**Weather Diary**

hard frost last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r <sup>6</sup>	SW	74a	f	SW	-	-	-

6 Clark's Journal Codex C list this weather data as "f."

**Daily Narrative Journals**

**Ordway** a clear cold morning.

**Whitehouse** a clear cold morning. A white frost.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Frost last night

**Gass** A fine cool frosty morning.

**Wednesday, August 21**

**Weather Diary**

ice ½ an inch thick on standing water. Most astonishing difference between the hight of the Murcury at Sunrise and at 4 PM today there was 59° and this in the Space of 8 hours, yet we experience this wonderfull transicion without feeling it near so Sensibly as I should have expected.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	SE	78a	f	E	-	-	-

**Daily Narrative Journals**

**Lewis** This morning was very cold. The ice 1/4 of an inch thick on the water which stood in the vessels exposed to the air. Some wet deerskins that had been spread on the grass last evening are stiffly frozen. The ink feizes in my pen. The bottoms are perfectly covered with frost, insomuch that they appear to be covered with snow. notwithstanding the coldness of the last night the day has proved excessively warm.

**Ordway** the ground is covered with a hard white frost. The water which stood in the Small vessells froze 1/4 of an Inch thick, a little. Some Deer Skins which was spread out we last night are froze Stiff this morning. The Ink freezes in my pen now the Sun just ariseing clear and pleasant this morning

**Whitehouse** We had a hard white frost this morning. The water that stood in small Vessells froze, and some Deer Skins which was spread out wet last night, froze Stiff this morning, & the Ink froze in the pen at Sun rise; the morning was clear & got pleasant. At 8 oClock AM some of the party found Ice in some standing water 1/4 of an inch thick

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Frost last night. I shall in justice to Capt. Lewis who was the first white man ever on this fork of the Columbia Call this Louis's river [Salmon River]. The Westerley fork of the Columbia River is double the Size of the Easterley fork & below those forks the river is about the Size Jeffersons River near its mouth or 100 yards wide, it is very rapid & clear

**Gass** at this place the river is about 70 yard wide (Salmon River near Carmen, ID)

**Thursday, August 22**

**Weather Diary**

Snow yet appears on the summits of the mountains.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	70a	f	E	-	-	-

**Daily Narrative Journals**

**Ordway** a white frost and cold as usal.

**Whitehouse** a white frost & cold as usual in the morning. The morning clear and got pleasant.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** mountains verry Steap high & rocky, the assent of three was So Steap that it is incredible to describe the rocks in maney places.

**Gass** The morning was fine, with a great white frost. We proceeded down the river; but with a great deal of difficulty; the mountains being so close, steep and rocky. The river here is about 80 yards wide, and a continual rapid but not deep (Salmon River above Shoup, Idaho)

**Friday, August 23**

**Weather Diary**

white frost this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	E	72a	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the season is now far advanced to remain in these mountains as the Indians inform us we shall shortly have snow; the salmon have so far declined that they are themselves haistening from the country. The bends of the river are short and the currant beats from side to side against the rocks with great violence. The river is about 100 yds. wide and so deep that it cannot be foarded but in a few places. The sides of the mountains are very steep, and the torrents of water which roll down their sides at certain seasons appear to carry with them vast quantities of the loose stone into the river. This view was terminated by one of the most lofty mountains, Capt. C. informed me, he had ever seen which was perfectly covered with snow.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** [Salmon River] Current So Strong that is dangerous crossing the river. 100 yards wide. The mountains Cloe and is perpendicular Clift on each Side, and Continues

for a great distance and that the water runs with great violence from one rock to the other on each Side foaming & roeing thro rocks in every direction, So as to render the passage of any thing impossible. The Hills or mountains were not like those I had Seen but like the Side of a tree Streight up— The Torrents of water which came down after a rain carries with it emence numbers of those Stone into the river.

**Gass** We proceeded down the river through dreadful narrows, where the rocks were in some places breast high, and no path or trial of any kind.

**Saturday, August 24**

**Weather Diary**

Set out with the Indians and pack horses for the Columbia river

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	f	SE	76a	f a r	SE	-	-	-

**Daily Narrative Journals**

**Lewis** I had now the inexpressible satisfaction to find myself once more under way with all my baggage and party. after we encamped we had a slight shower of rain.

**Ordway** a clear cold morning. We had a Small Shower of rain

**Whitehouse** a clear cold morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** marked my name on a pine Tree. Every man appeared disheartened from the prospects of the river.

**Gass** had a pleasant morning. The river at this place is so confined by the mountains that it is not more than 20 yard wide and very rapid. The water is so rapid and the bed of the river so rocky, that going by water appeared impracticable; and the mountains so amazingly high, steep and rocky, that it seemed impossible to go along the river by land.

**Sunday, August 25**

**Weather Diary**

white frost this morning,

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r	SE	65a	c	SE	-	-	-

**Daily Narrative Journals**

**Lewis** This morning while passing through the Shone cove Frazier fired his musquet at some ducks in a little pond at the distance of about 60 yards from me; the ball rebounded from the water and pased within a very few feet of me. This part of the cove on the NE side of the Creek has lately been birned by the Indians as a signal on some occasion.

**Ordway** a clear morning. Some frost.

**Whitehouse** a clear morning a little light frost last night.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Mountain to our right...Pine timber which is thick on that side

**Gass** a fine morning.

**Main party crosses the continental divide at Lemhi Pass, Montana-Idaho state line and proceeds down the Lemhi and Salmon Rivers and then starts up the north fork of the Salmon River.**

**Monday, August 26**

**Weather Diary**

hard white frost and some ice on standing water this morning arrived with baggage and party on the Columbia river at 5 PM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31a	f	SE	45a	f	SE	-	-	-

### Daily Narrative Journals

**Lewis** This morning was excessively cold; there was ice on the vessels of water which stood exposed to the air nearly a quarter of an inch thick. We soon arrived at the extreme source of the Missouri; here I halted a few minutes, the men drank of the water and consoled themselves with the idea of having at length arrived at this long wished for point. From hence we proceeded to a fine spring on the side of the mountain [west side]...here I halted to dine and graze our horses, there being fine green grass on that part of the hillside which was moistened by the water of the spring while the grass on the other parts was perfectly dry and parched with the sun. [Lewis ponders Indian women birthing process] — if a pure and dry air, an elevated and cold country is unfavourable to childbirth, we might expect every difficult incident to that operation of nature in this part of the continent. — The tops of the high and irregular mountains which present themselves to our view on the opposite side of this branch of the Columbia are yet perfectly covered with snow; the air which proceeds from those mountains has an agreeable coolness and renders these parched and South hillsides much more supportable at this time of the day it being now about noon.

**Ordway** a clear cold morning. The water in the Small vessells froze. We Set out at Sunrise and proceeded on with out big coats on and our fingers ackd with the Cold. Saw considerable of Snow on the mountain near us which appear but little higher than we are. It lies in heaps and a cold breeze always comes from these mountains.

**Whitehouse** a clear morning, we find it verry cold and a heavy frost every morning. The water froze a little in the Small Vessells. Crossed a high ridge between the Mesouri and Calumbian River. Saw high mountains to the SW with Some Spots of Snow on them.

### Daily Narrative Journals - Clark Scouting Party

**Clark** a fine morning.

**Gass** a pleasant morning.

**Tuesday, August 27**

**Weather Diary**

hard frost white this morning. on the Columbian waters (Clark).

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SE	56a	f	SE	-	-	-

**Daily Narrative Journals**

**Ordway** a beautiful pleasant morning. Snow now lying a Short distance to the South of us on the broken mountains.

**Whitehouse** a beautiful pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** Some frost this morning.

**Gass** A fine morning with frost

**Wednesday, August 28**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	SW	66a	f	SW	-	-	-

**Daily Narrative Journals**

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning. Some Spots of Snow continues to lay on the mountains a few miles to the South of us.



**Daily Narrative Journals - Clark Scouting Party**

**Clark** a frost this morning.

**Gass** The morning again was pleasant. I found the weather very cold for the season.

**Thursday, August 29**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	68a	f	SW	-	-	-

**Daily Narrative Journals**

**Ordway** a clear pleasant morning. They find that the mountains are So bad that we cannot follow the river by land and the river So rapid and full of rocks that it is impossible for crafts to pass down.

**Whitehouse** a clear pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

**Clark** a Cold morning Some frost. The Wind from the South.

**Gass** There was a severe white frost this morning.

**Friday, August 30**

**Weather Diary**

Set out with the party by land at 2 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c	NE	59a	c	NE	-	-	-

**Daily Narrative Journals**

**Clark** a fine Morning.

**Ordway** a fine morning.

**Whitehouse** a clear pleasant morning.

**Saturday, August 31**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c a r	NE	58a	c a r & h	NE	-	-	-

**Daily Narrative Journals**

**Clark** A fine morning. The wind hard from the SW. This day warm and Sultrey. Praries or open Valies on fire in Several places— The Countrey is Set on fire for the purpose of Collecting the different bands

**Ordway** a fare morning. The River bottoms narrow and verry much dried up.

**Whitehouse** a fine morning

# September 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition starts towards the Lost Trail Pass along the North Fork of the Salmon River near a future mining called named Gibbonsville, Idaho.

Sunday, September 1

#### Weather Diary <sup>1</sup>

Service berries dried on the bushes abundant and very fine. black colour.

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	NW	67a	c	NW	-	-	-

1 Reference: Coues, Volume III, pages 1274-75; Moulton, Volume 5, pages 240-243; Thwaites, Volume 6, Part II, pages 196-198.

2 There is no record of river rise or fall during this month.

#### Daily Narrative Journals

**Clark** a fine morning. Some rain to day at 12 and in the evening which obliges us to Continu all night.

**Gass** a fine morning. At noon some rain fell, and the day continued cloudy. At 3 o'clock....we halted the weather became cloudy, and considerable quantity of rain fell.

**Ordway** Cloudy. In the afternoon we had Several Shower of rain and a little hail. Several Small Showers of rain this evening—

**Whitehouse** a fine clear morning. We stopped and camped about 3 hours before night on account of its raining. We passed across several large Creeks, the water of which was very Cold. During this afternoon we had several small Showers of rain—

Monday, September 2

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c a r	NE	60a	c a r h	NE	-	-	-

Daily Narrative Journals

- Clark** a Cloudy Morning, rained Some last night. Camped. Some rain at night
- Gass** The morning was cloudy. In the afternoon we had a good deal of rain, and the worst road (if road it can be called) that was ever travelled.
- Ordway** a cloudy wet morning. This is a verry lonesome place.
- Whitehouse** a wet cloudy morning.

**Expedition crosses over the Lost Trail Pass, Idaho-Montana state line.**

Tuesday, September 3

Weather Diary

Choke Cherries ripe and abundant.

Sunrise <sup>3</sup>			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c a r	NE	52a	c a r	NE	-	-	-

<sup>3</sup> The Daily Narrative Journals note that the Expedition's last thermometer was broken during an accident this day as they proceeded up the Lost Trail pass. However, the Weather Dairy does not record this until September 6, 1805 in the remarks section which appears to be after the fact. Temperature observations are noted for two additional days in the Weather Diary, but the readings may be suspect. No further temperature observations are recorded for the rest of the journey.

Daily Narrative Journals

- Clark** a Cloudy morning. we assended after crossing Several Steep points & one

mountain, but little to eat at dusk it began to Snow, at 3 o'clock some Rain. The last mountains we had passed to the East Covered with Snow. We met with a great misfortune, in having our last Thermometer broken by accident. This day we passed over immense hills and some of the worst roads that ever horses passed, our horses frequently fell. Snow about 2 inches deep when it began to rain which terminated in a Sleet

**Gass** The morning of this day was cloudy and cool. We halted for dinner....we staid here about two hours, during which time some rain fell, and the weather was extremely cold for the season. This was not the creek our guide wished to have come upon; and to add to our misfortunes we had a cold evening with rain.

**Ordway** Several Small Showers of rain. So we lay down wet hungry and cold.

**Whitehouse** We had a cloudy morning & set out as usual. We crossed a dividing ridge [Lost Trail Pass]. At dark it began to rain hard, We lay down to sleep being wet, hungry & Cold. Saw Snow on the tops of some of these mountains this day.

**Wednesday, September 4**

**Weather Diary**

ice one inch thick.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	r a s	NE	34a	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a verry cold morning every thing wet and frozed, we detained untill 8 o'clock to thaw the covering for the baggage &c &c. Ground covered with Snow. I was the first white man who ever wer on the water of this river [The Bitterroot River]

**Gass** A considerable quantity of snow fell last night, and the morning was cloudy.

**Ordway** the morning clear, but very cold. The ground covred with frost. Our moccasins froze. The mountains covred with Snow. the Snow over our mockasons in places. The air on the mountains verry chilley and cold. Our fingers aked with the cold.

**Whitehouse** the morning clear but verry cold. Our mockersons froze hard. The mountains covred with Snow. The Snow lay on the mountain So that it stuck to our mockisons  
The air verry cold our fingers aked with the cold.

Thursday, September 5

Weather Diary

Ground Covered with Snow.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
17a	c a s	NE	29a	c a r & s	NE	-	-	-

Daily Narrative Journals

**Clark** a Cloudy morning

**Gass** This was a fine morning with a great white frost.

**Ordway** a clear cold morning. The Standing water froze a little. A hard white frost this morning.

**Whitehouse** a clear cold morning. The Standing water we had in our small Vessells froze a little last night.

Friday, September 6

Weather Diary

Thermometer broke by the Box strikeing against a tree in the Rocky Mountains

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	r	NE	-	-	-

Daily Narrative Journals

**Clark** Some little rain. Rained contd. untill 12 oClock. rained this evening

**Gass** A cloudy morning. About 12 o'clock some rain fell

**Ordway** a clear cold morning. Light Sprinkling of rain, through the course of this day—

**Whitehouse** a clear cold morning. Light Sprinklings of rain through the course of the day.

**Saturday, September 7**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** A Cloudy & rainie Day. The Vallie from 1 to 3 miles wide the Snow top mountains to our left, open hilley Countrey on the right.

**Gass** We set out early in a cloudy cool morning. 12 o'clock...some rain fell. Some rain fell in the afternoon

**Ordway** a cloudy cold morning. High mountains a little to the Lard. Side which is covered thick with Snow. We had Several Showers of rain.

**Whitehouse** a cloudy cold morning. The high mountains...Several Small Showers of rain in the course of the day.

**Sunday, September 8**

**Weather Diary**

Mountains Covered with Snow to the SW a singular kind of Prickly Pears.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning. The wind from the NW & Cold. The foot of the Snow mountains approach the River on the left Side. Some Snow on the mountain to the

right also. A hard rain all the evening we are all Cold and wet.

**Gass** The morning was wet had a cold, wet disagreeable afternoon

**Ordway** cloudy and cold. Saw Snow on the mount to our left. High barron hills to our right. The wind cold from the NW & Showers of rain, and a little hail. The mountains are rough on each side and are covred with pin and on the tops of which are covered with Snow.

**Whitehouse** cloudy and verry chilley and cold. Saw Snow on the Mountains to our left. The wind from NW & the Air chilley and cold. The Snow lays thick on the mountains a little to our left....the tops of which are covered with Snow and at places appear to lay thick.

### Party arrives at Travelers Rest, near present-day Lolo, MT.

Monday, September 9

#### Weather Diary

arrived at travelers rest Creek

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	f a r	NE	-	-	-

#### Daily Narrative Journals

**Lewis** as our guide informes that we should leave the river at this place and the weather appearing settled and fair I determined to halt the next day rest our horses and take some scestial Observations. We called this Creek Travellers rest.

**Clark** a fair morning. Day fair, wind NW. The foot of the Snow toped mountains approach near the river.

**Gass** The morning was fair, but cool. The nigh snow-topped mountains are still in view on our left. The Flathead River (Bitterroot River) is 100 yards wide.

**Ordway** Cloudy. The Snow continues on the Mont. each side of this valley.

**Whitehouse** a cloudy cold morning, wind blew from the NW. The Snow continues on the Mountains on both sides of the valley. The afternoon pleasant, but the Snow Still continues on the Mountains as usul.



Tuesday, September 10

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

Daily Narrative Journals

**Lewis**            The morning being fair I sent out all the hunters

**Clark**            a fair morning.    The day proved fair

**Gass**             We remained here all this day, which was clear and pleasant.

**Ordway**          a fair morning.    The day warm.

**Whitehouse**    a clear pleasant morning, and the weather moderate, not So cold as usual. As our road [next] leads over a mountain to our left, our Captains conclude to Stay here this day to take observations, and for the hunters to kill meat to last us across the mountains and for our horses to rest, etc....the day continued to grow warm, but the Snow does not melt on the mt. a Short distance from us...The snow on the Mountains have the appearance of the Middle of winter.

**Expedition starts over the Bitterroot Mountains on the Lolo Trail from September 11 until the 22.**

Wednesday, September 11

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fair morning, wind from the NW. nothing killed this evening hills on the right high & rugged, the mountains on the left high & Covered with Snow. The day Verry worm.

**Gass** This was a fine morning.

**Ordway** a clear pleasant morning.

**Whitehouse** a beautiful pleasant morning. The snow on the mountains about 1 miles to the SW of us does not melt but verry little.

**Thursday, September 12**

**Weather Diary**

Mounts to our left Covered with Snow

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NE	-	-	-

**Daily Narrative Journals**

**Clark** a white frost, Set out at 7 oClock. Creek of fine clear water. The road through this hilly Country is verry bad passing over hills & thro' Steep hollows, over falling timber &c &c.

**Gass** a fine morning.

**Ordway** a fair morning.

**Whitehouse** a white frost, and clear pleasant morning. Saw high Mountains to the South of us covered with Snow, which appears to lay their all the year round.

**Party passes across the Lolo Pass, Montana-Idaho state line.**

**Friday, September 13**

**Weather Diary**

a hot Spring

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	r	NE	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning. The after part of the day Cloudy. Passed Several Springs [Lolo Hot Springs]...I tasted this water and found it hot & not bad tasted. I found this water nearly boiling hot at the places it Spouted from rocks. I put my finger in the water, at first could not bare it in a Second— Those springs come out in maney places. Some mountains in view to the SE & SW Coverd with Snow.

**Gass** A cloudy morning. We came to a most beautiful warm spring, the water of which is considerably above blood-heat; and I could not bear my hand in it without uneasiness. (At Lolo Hot Springs, Montana)

**Ordway** cloudy.

**Whitehouse** Cloudy weather. The day proved very pleasant.

**Saturday, September 14**

**Weather Diary**

killed and eat a colt, Snowed rained & hailed to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r & s <sup>4</sup>	SW	-	-	-

<sup>4</sup> Lewis' Journal Codex P & Clark's Codex I lists this weather data as "c a r."

**Daily Narrative Journals**

**Clark** a Cloudy day in the Valies it rained and hailed, on the top of the mountains Some

Snow fell. Rained, Snowed & hailed the greater part of the day all wet and Cold. Crossed a verry high Steep mountain for 9 miles to a large fork from the left which appears to head in the Snow topped mountains Southerly and SE. Camped. The rain

**Gass** We set out early in a cloudy morning. I saw service-berry bushes hanging full of fruit; but not yet ripe, owing to the coldness of the climate on these mountains. Encamped for the night, as it rained and was disagreeable travelling.

**Ordway** a little Thunder hail and rain. Saw high Mountains covred with Snow and timber—

**Whitehouse** A cloudy morning. We had towards evening Several light small Showers of rain and a little hail. Several severe claps of Thunder. Saw high mountains. A little to the South of us, which are covred with Snow.

**Sunday, September 15**

**Weather Diary**

no water we are obliged to Substitute the coald Snow to boil our Colt.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a l & s <sup>5</sup>	SW	-	s	SW	-	-	-

5 Lewis' Journal Codex P & Clark's Codex I lists this weather data as "c a s."

**Daily Narrative Journals**

**Clark** ...here the road leaves the river to the left and assends a mountain winding in every direction to get up the Steep assents & to pass the emence quantity of falling timber which had [been] falling from dift. Causes I e fire & wind and has deprived the greater part of the Southerly Sides of this mountain of its green timber. Several horses slip...my portable desk broken...Some others verry much hurt, from this point I observed a range of high mountains Covered with Snow from SE to SW with Their top bald or void of timber. We could find no water and Concluded to Camp and make use of the Snow e found on the top to cook the remns. Of our Colt & make our Supe. evening verry Cold and Cloudy. From this mountain I could observe high ruged mountains in every direction as far as I could see. Encamped on the top of the mountain near a Bank of old Snow about 3 feet deep lying on the Northern side of the mountain. We melted the Snow to drink

**Gass** Encamped on a high mountain...there was no water, but a bank of snow answered as a substitute.

**Ordway** cloudy. We found Some Spots of Snow so we camped on the top of the Mountain and melted Some Snow. This Snow appears to lay all year on this Mount.

**Whitehouse** This morning we had Cold weather & cloudy. We followed on the ridge of the Mountain & went over several high knobs on it, where the Wind had blown down most of the timber on them. On top of the mountain...some Spots of Snow. We encamped on a top ridge of the Mountain, where we found plenty of Snow, which appear to have lain here all year.

**Monday, September 16**

**Weather Diary**

Snow commenced about 4 oClock AM and continued untill night. It is about 7 inches deep. Ice one inch thick. The Snow fell on the old Snow 4 inches deep last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** began to Snow about 3 hours before Day and continued all day The Snow in the morning 4 inches deep on the old Snow, and by night we found it from 6 to 8 inches deep. I walked in front to keep the road and found great difiuelty in keeping maney places the Snow had entirely filled up the track and obliged me to hunt Several minits for the track. As 12 oClock we halted on the top of the mountain to worm & dry our Selves. The pine, which are So covered with Snow, that is passing thro them we are continually covered with Snow, I have been wet and as cold in every part as I ever was in my life, indeed I was at one time fearfull my feet would freeze in the thin Mockirsons which I wore. Men all wet cold and hungary. To describe the road of this day would be a repitition of yesterday expt the Snow which made it much wors to proseed as we had in maney places to drect our Selves by the appearence of the rubbings of the Packs against the trees which have limbs quiet low and bending downwards

**Gass** Last night about 12 o'clock it began to snow. We renewed our march early, though the morning was very disagreeable, and proceed over the most terrible mountains I ever beheld. It continued snowing untill 3'oclock PM. The snow fell so thick, and the day was so dark, that a person could not see to a distance of 200 yards. In the night and during the day the snow fell about 10 inches deep.

**Ordway** when we a woke this morning to our great Surpize we were covred with Snow, which had fell about 2 Inches deep the later part of last night, & continues a cold Snowey

morning. Could Scarsely keep the old trail for the Snow. About one oClock finding no water we halted and melted Some snow and eat or drank a little more soup. Saw considerable of old snow The Snow is now about 4 inches deep on a levl. The clouds So low on the Mount that we could not See any distance no way. It appeared as if we have been in the clouds all this day.

**Whitehouse** When we awoke this morning to our great Surprize we were covred with Snow, which had fallen about 2 Inches the latter part of last night, & [it] continues a verry cold Snow Storm. Could hardly See the old trail for the Snow. The Snow fell so fast that it is now in common 5 or 6 Inches deep & where old Snow remained it was considerably deeper. We mended up our mockasons. Some of the men without Socks, wrapped rags on their feet, and loaded up our horses and Set out without anything to eat, and proceeded on. It has quit Snowing this evening, but continues very chilley and cold.

**Tuesday, September 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** Cloudy morning. One oClock PM at which time we Set out the falling Snow & snow falling from the trees which kept us wet all the after noon. Snow on the Knobs, no Snow in the vallies. The after part of the day fare. Road emencely bad as usial, no Snow in the hollers all the high knobs of the mounts Covered.

**Gass** It was a fine day with warm sunshine, which melted the snow very fast on the south sides of the hills, and made the travelling very fatiguing and uncomfortable. We continued over high desert mountains.

**Ordway** Cloudy and cold. The afternoon clear and pleasant & warm. The Snow melted fast.

**Whitehouse** cloudy and cold. Set out about Noon, the Snow lay heavy on the timber. In the afternoon the weather cleared away & then it became clear & warm. The snow melted so that the water Stood in the trail over our mockasons in Some places & in some places it was very Slippy

**Wednesday, September 18**

**Weather Diary**

hard black frost this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** used the snow for cooking—

**Clark** The want of provisions together with the difficulty of passing those immense mountains dampened the spirits of the party which induced us to resort to some plan of reviving their spirits. A fair morning, cold. From the top of a high part of the mountain at 20 miles I had a view of an immense plain and level country to the SW & West at a great distance [on top of Sherman Peak looking at prairies towards Grangeville & Lewiston ID]

**Gass** This was a clear cold frosty morning. About 12 we passed a part where the snow was off, and no appearance that much had lately fallen. At 3 we came to snow again, and halted to take some soup, which we made with snow water, as no other could be found. We see now prospect of getting off these desert mountains yet, except the appearance of a deep cove on each side of the ridge we are passing along.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning. Melt a little snow as we found not water to make a little port soup. The weather moderated, & the snow melted a little. The mountains appear a head of us as far as we can see & continue much further than we expected—

**Thursday, September 19**

**Weather Diary**

rose raspberry ripe and abundant. Snow is about 4 inches deep.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

- Lewis** this plain appeared to be about 60 miles distant.
- Clark** passed...two high mountains, ridges and through much falling timber. As we descend the mountain the heat becomes more proseptable every mile.
- Gass** last night was disagreeably cold. About 8 this morning....the sun shining warm and pleasant. The snow is chiefly gone except on the north points of the high mountains.
- Ordway** a clear morning.
- Whitehouse** a clear pleasant morning. The ground was covered with Snow & froze.

**Friday, September 20**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	Sw	-	f	SW	-	-	-

**Daily Narrative Journals**

- Lewis** our road was much obstructed by fallen timber particularly in the evening. Saw the hucklebury.
- Gass** day was fine
- Ordway** a cold frosty morning
- Whitehouse** a cold frosty morning.

**Saturday, September 21**

**Weather Diary**

I arrive at the Flat head Camp of 200 lodges in a Small prarie



Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. The day proved warm. The weather very warm after descending into the low Country—

**Gass** The morning was pleasant

**Ordway** a clear pleasant morning.

**Whitehouse** a Clear pleasant morning. On Some of the ridges the timber has been killed by fire and fell across the trail So that we had Some difficulty to git a long the trail.

**Expedition leaves the Bitterroot Mountains down onto the Weippe Prairie, ID.**

**Sunday, September 22**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. A very warm day. Some few drops of rain this evening.

**Gass** This was a fine warm day. in the evening arrived in a fine large valley

**Ordway** a clear pleasant morning. and white frost.

**Whitehouse** a clear pleasant morning. A white frost.

Monday, September 23

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** Hot day. At dark a hard wind from the SW accompanied with rain which lasted half an hour.

**Gass** The morning was warm and pleasant. About dark a shower of rain fell.

**Ordway** a fair morning. Had a Thunder Shower this evening.

**Whitehouse** a clear pleasant morning. We had a Shower of rain attended with Thunder this evening.

Tuesday, September 24

Weather Diary

a thunder cloud last evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l <sup>6</sup>	SE	-	f a r <sup>7</sup>	SE	-	-	-

<sup>6</sup> Lewis' Journal Codex P lists this weather data as "f."

<sup>7</sup> Lewis' Journal Codex P & Clark's Codex I lists this weather data as "f."

Daily Narrative Journals

**Clark** a fine morning. Hot day.

**Gass** The morning was fine. In the evening we arrived at the camp of our hunters on a river about 100 yards broad, a branch of the Columbia River (Clearwater River).

**Ordway** a clear morning. We Set out and proceeded on the day warm. Towards evening we came down on a fork of Columbia River. (Clearwater)

**Whitehouse** a clear pleasant morning. The day warm.

**Wednesday, September 25**

**Weather Diary**

I proceed to the forks worm day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a verry hot day. Calculated to build Canoes, as we had previously deturmined to proceed on by water.

**Gass** A fine, pleasant warm morning. The climate here is warm; and the heat to day was as great as we had experienced at any time during the summer. The water also is soft and warm, and perhaps causes our indisposition more than any thing else.

**Ordway** a fair morning. This river is about 60 yards wide.

**Whitehouse** a fine morning. The fork of the Columbia we are now one is about 60 yards wide, and generally very deep.

**Expedition stops to build canoes for their journey to the Pacific Ocean and establishes Canoe Camp, near Orofino, ID.**

**Thursday, September 26**

**Weather Diary**

Form a Camp at the forks

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** this day proved verry hot.

**Gass** The morning was fine.

**Ordway** a clear pleasant morning. Several of the party Sick with a relax by a Sudden change of diet and water as well as the change of climate also.

**Whitehouse** clear and pleasant morning. Several of the men Sick with the relax, caused by a Suddin change of diet and water as well as the Climate Changed a little also.

**Friday, September 27**

### Weather Diary

day very warm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** the day verry hot.

**Gass** A fine warm morning. The river below the fork is about 200 yards wide, the water is clear as crystal, from 2 to 5 feet deep, and abounding with salmon of an excellent quality.

**Ordway** a fair morning.

**Whitehouse** a fine fair pleasant morning.

Saturday, September 28

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** this day proved very warm and Sultry

**Gass** We had a pleasant morning

**Ordway** a clear morning.

**Whitehouse** This morning we had clear fine pleasant weather.

Sunday, September 29

Weather Diary

3/4 of the party Sick. Day very hot

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** a Cool morning, wind from the SW. The after part of the day warm.

**Gass** A fine day

**Ordway** a fair morning.

**Whitehouse** A fair and pleasant morning.

**Monday, September 30**

**Weather Diary**

Great numbers of Small Ducks pass down the river. hot day

<b>Sunrise</b>			<b>4 PM</b>			<b>River</b>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. Cool

**Gass** The weather continued pleasant.

**Ordway** a fair morning.

**Whitehouse** Fair and pleasant weather this morning.

# October 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is at Canoe Camp on the Clearwater near present-day Orofino, Idaho.

Tuesday, October 1

#### Weather Diary<sup>1, 2</sup>

*Note* from the 1<sup>st</sup> to 7<sup>th</sup> of octr. we were at the mouth of the Chopunnish river makeing Canoes to Decend the Kooskooske.

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, page 1275; Moulton, Volume 5, pages 364-366; Thwaites, Volume 6, Part II, pages 198-199.

2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of October.

#### Daily Narrative Journals

**Clark** a cool morning, wind from the NE and East. Worm evening

**Gass** This was a fine pleasant warm day.

**Ordway** a clear pleasant morning.

**Whitehouse** a fair fine clear morning.

Wednesday, October 2

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	-	-	-	-	-

Daily Narrative Journals

**Clark** day excessively hot in the river bottom, wind North

**Ordway** a fair morning.

**Whitehouse** a fair and pleasant morning.

Thursday, October 3

Weather Diary

The easterly winds which blow immediately off the mountains are very cool until 10 a.m. when the day becomes very warm and the winds shift about

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a fair cool morning, wind from the East.

**Ordway** a clear morning.

**Whitehouse** a fair and very pleasant morning.



Friday, October 4

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** This morning is a little cool, wind from off the Eastern mountains. The after part of this day verry warm.

**Gass** a white frost, afterwards a fine day.

**Ordway** a fair morning.

**Whitehouse** a fair morning.

Saturday, October 5

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cool morning, wind East for a Short time, wind is always a Cool wind

**Ordway** a clear cool morning. A little white frost.

**Whitehouse** a fair clear cool frosty morning.

Sunday, October 6

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cool Easterly wind which Spring up in the latter part of the night Continues untill about 7 or 8 oClock AM. The winds blow cold from a little before day untill the Suns gets to Some hight from the Mountains East as they did from the mountains at the time we lay at the falls of the Missouri from the West. The river below this forks is Called Kos kos kee, it is Clear rapid with Shoals or Swift places—

**Ordway** a pleasant morning.

**Whitehouse** a clear pleasant morning. A raft Seen floating down the River with Several Indians on it.

**Expedition resumes its journey and uses canoes to proceed via the river system, the first of which is the Kooskooskee River [present-day Clearwater River], ID.**

Monday, October 7

Weather Diary

*Note* from the 7<sup>th</sup> to the 16<sup>th</sup> octr. We were decending Kooskooske & Lewises river, the 17<sup>th</sup> 18 at the mouth of Lewis River.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

**Clark** The after part of the day cloudy

**Gass** a pleasant morning. About 3 o'clock in the afternoon we began our voyage down the river, and found the rapids in some places very dangerous.

**Ordway** a clear morning. Some part of the River is deep and current gentle & C.

**Whitehouse** a fair clear weather and a pleasant morning. Some places the water is deep & and the current is gentle. The Evening proved cloudy.

**Tuesday, October 8**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning

**Gass** a fine morning. Several rapids. Water was not more than waist-deep.

**Ordway** a fair morning. Passed Some cliffs of rocks and barron hills on each side. The waves roared over the rocks.

**Whitehouse** a fair day. The day proved warm.

**Wednesday, October 9**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The morning Cool as usual the greater part of the day proved to be Cloudy, which was unfavourable for drying our things &c. which got wet yesterday. The wet articles not Sufficiently dried to pack up obliged us to delay another night

**Gass** We stayed here during the whole of this day, which was very pleasant.

**Ordway** a fair morning, and warm.

**Whitehouse** a fair and pleasant morning.

**Expedition arrives at the confluence of the Kooskooskee and Lewis’s River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID. They also cross the state line from Idaho into Washington.**

**Thursday, October 10**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. a verry worm day. Worm night— I think Lewis’s [Snake] River is about 205 yards wide, the Koos koos ke River about 150 yards wide and the river below the forks about 300 yards wide. The water of the South fork is a greenish blue, the north as clear as cristial. We came to on the Stard. Side below with a view to make some luner observations, the night proved Cloudy and we were disapointed—. The Indians...winter hunting the dear on Snow Shoes in the plains

**Gass** We had a fine morning. the southwest branch very large, and of a goslin-green colour. The wind blew so hard we could not proceed.

**Ordway** a clear morning. We Set out eairly and proceed on down passed over a number of bad rapids. About 4 oClock PM we came to the Columbia River this great Columbia River is about 400 yards wide and afords a large body of water and of a greenish colour. We went down it a short distance and the wind blew so high from NW

**Whitehouse** a fair and pleasant morning. About 5 o'clock PM we arrived at the forks of the Columbian river. The wind blew so high from the west that we camped on the north side. This river is about 400 yards wide, and a greenish colour.

**Friday, October 11**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	E & SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning, wind from the East. The after part of the day the wind from the SW and hard. The day warm.

**Gass** a fine morning; proceeded on

**Ordway** a clear morning. The country is barren and broken. Some high plains. No timber. Passed over some rapids where the waves roiled high.

**Whitehouse** fair and clear weather a pleasant morning. Some rapid water but the current mostly gentle.

**Saturday, October 12**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E & SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** a fair cool morning, wind from the East. In the afternoon the wind Shifted to the SW and blew hard. the wind blew hard this evening—
- Gass** a fine morning.
- Ordway** a fair morning. Bad rocky rapid.
- Whitehouse** a clear pleasant morning. The current swift in Some places, but gentle in general. After 12 oClock...the wind rose hard and blew from the west.

**Sunday, October 13**

**Weather Diary**

rained moderately from 4 to 11 AM to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** rained a little before day. A windey dark rane y all the morning, a hard wind from the SW untill 9 oclock, rain continued moderately untill near 12 oClock. the rained Seased & wind luled. This must be a verry bad place in high water. Wind hard from the SW in the evening and not very cold.
- Gass** This was a cloudy wet morning, and we did not set out till 11 o'clock. In the afternoon the weather cleared and we had a fine evening.
- Ordway** a rainy morning. High wind. Rapids The current swift
- Whitehouse** a rainy wet morning which delayed us untill about 10 oClock AM. The wind hard a head. Between 2 and 3 oClock PM the weather became clear and pleasant.

**Monday, October 14**

**Weather Diary**

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** a verry Cold morning, Set out at 8 oClock, wind from the West and Cool untill about 12 oClock When it Shifted to the SW. All wet we had every articles exposed the Sun to dry on the Island, our loss in provisions is verry Considerable. The wind this after noon from the SW as usial and hard.

**Gass** a fine clear cool morning.

**Ordway** a clear cold morning. The wind high NW the current rapid. Bad rocky rapid The country continues barron and broken in places &.C.

**Whitehouse** A clear cold morning, the wind blowing hard and high ahead of us from the West. Very bad Rocky rapid, it being the worst rapid that we had passed in this River.

**Tuesday, October 15**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** a fair morning after a Cold night. Some frost this morning and Ice. A high point to the west. Plain wavering.

**Gass** This day was fine, clear and pleasant. This river in general is very handsome, except at the rapids, where it is risking both life and property to pass; and these rapids, when the bare view or prospect is considered distinct from advantages of navigation, may add to its beauty, by interposing variety and scenes of romantick grandeur where there is so much uniformity in the appearance of the county.

**Ordway** a clear cold morning. The current very rapid.

**Whitehouse** clear cool weather this morning.

**Expedition arrives at the confluence of the Lewis's River [present-day Snake River] & Columbia Rivers, near present-day Pasco [Tri-Cities], WA.**

**Wednesday, October 16**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cool morning. haveing taken Diner Set out and proceeded on Seven miles to the junction of this river and the Columbia which joins from the NW.

**Gass** a fine morning. Having gone 21 miles we arrived at the great Columbia river, which comes in from the northwest.

**Ordway** towards evening we arived at the big forks. The large River which is wider than the Columbia River comes in from a northerly direction. No timber. Not a tree to be Seen as far as our Eyes could extend.

**Whitehouse** a pleasant morning. Towards evening we arived at the forks of the river, which came from a northly direction and is larger than this Columa. R.

**Thursday, October 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**



- Clark** This morning after the Luner observations, the old chief came down. This river is remarkably Clear and Crouded with Salmon in maney places. The number of dead Salmon on the Shores & floating in the river is incrediabile to say. The Cause of the emence numbers of dead Salmon I can't account for. – at this Season they have only to collect the fish Split them open and dry them on their Scaffolds on which they have great numbers. No wood to be Seen in any direction— Those people as also those of the flat heads which we had passed on the koskoske and Lewis's rivers are Subject to Sore eyes, and maney are blind of one and some of both eyes. This misfortune must be owing to the reflections of the Sun &c. on the waters in which they are continually fishing during the Spring Summer & fall, & the Snows dureing the, winter Seasons, in this open counrey where the eye has no rest. The roughfs are nearly flat, which proves to me that rains are not common in this open country.
- Gass** The Columbia here is 860 yards wide, the Kimooeenum (Snake River) is 475 yards wide at the junction.
- Ordway** a clear pleasant morning. Saw a great quantity of sammon....a great number lay dead on the Shores which the Indians had gixed.
- Whitehouse** We had a clear and pleasant morning. The columbia River is more Smooth and the current gentle

**Expedition starts its final leg of the journey as they proceed down the Columbia River from the confluence of the Snake River. During this day they begin their parallel journey along the border of present-day Oregon and Washington state line [which is the Columbia River].**

**Friday, October 18**

**Weather Diary**

*Note* from the eighteenth to the twenty-second of October descending the Great Columbia to the falls.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cold morning faire & wind from SE. Distance across the Columbia 960 3/4 yds...Ki-moo-e im 575 yds. At 4 Oclock we Set out down the Great Columbia. No timber in view. Saw a mountain bearing SW Conocal form, Covered with Snow [probably Mount Hood]

**Gass** a fine day. At one we proceeded on down the Great Columbia, which is a very beautiful river.

**Ordway** a clear pleasant morning. Capt. Clark measured Columbian River and the Ki mo e nem (Snake) Rivers and found the Columbia to be 860 yards wide, and the (Snake) to be 475 yard wide at the forks. Proceeded down the Columbia....we passed over Several rapids.

**Whitehouse** a clear pleasant morning. Columbia 860 yards wide and ki-moo-e-nem River 475 yards wide at the forks. Columbia...verry wide from a half a mile to three forths wide and verry Smooth & pleasant.

**Saturday, October 19**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** I assended a high clift about 200 feet above the water...from this place I discovered a high mountain of emence hight covered with Snow, this must be one of the mountains laid down by Vancouver, as seen from the mouth of the Columbia River, from the Course which it bears which is West I take it to be Mt. St. Helens [probably Mt. Adams], destant about 156 miles, a range of mountains in the Derection crossing a conical mountain SW topped with snow.

**Gass** The morning was clear and pleasant, with some white frost.

**Ordway** a clear cold morning. We discovered a verry high round mountain a long distance down the River which appears to have Snow on the top of it.

**Whitehouse** A clear cold morning. We discovered a high hill or mountn a long distance down the River which appears to have Snow on it. We found the day pleasant

Sunday, October 20

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a very cold morning, wind SW. The river to day is about 1/4 of a mile in width. The current much more uniform than yesterday or the day before.

**Gass** A fine clear frosty morning.

**Ordway** a clear frosty morning. The River Smooth. Passed many rapid places of water.

**Whitehouse** a clear frosty morning.

Monday, October 21

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a very Cold morning, we Set out early, wind from the SW. The Conocil mountain is SW....high and the top covered with Snow.

**Gass** a fine morning.

**Ordway** a clear cold morning. Passed a number of bad rocky rapids where the River is nearly filled with high dark coloured rocks

**Whitehouse** A clear cold morning.

**Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.**

**Tuesday, October 22**

**Weather Diary**

*Note* from the twenty-second to the twenty-ninth about the Great Falls of the Columbia river.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning, calm and fare. Portage of 457 yards & down a Slide...of the Great falls...of the Columbia

**Gass** The morning was fine. came to the first falls or great rapids

**Ordway** a fair morning. A short distance (from a large river) below we came to the first falls of the Columbia River.

**Whitehouse** A clear pleasant morning. A mist rises contiually from the falls...the first falls of the Columbia River. the water falling in such an immense quantity, makes a roaring that can be heard several miles below it.

**Wednesday, October 23**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning.

**Gass** A pleasant day. The high water mark below the falls is 48 feet, The reason of this rise in the water below the falls is, that for three miles down, the river is so confined by rocks (being not more than 70 yards wide) that it cannot discharge the water, as fast as it comes over the falls,

**Ordway** a clear pleasant morning. The height of these falls...in all is 37 feet eight Inches

**Whitehouse** a clear pleasant morning.

**Expedition portages by the Long and Short Narrows at the present-day The Dalles, OR.**

**Thursday, October 24**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a fine fare morning, after a beautiful night. Below those falls are Salmon trout and great numbers of the heads of a Species of trout Smaller than the Salmon. Narrow chanel of 45 yards wide. Those narrows the water was agitated in a most Shocking manner boils Swell & whorl pools, we passed with great risque... Those narrows was the whorls and Swills ariseing from the Compression of th water...notwithstanding the horrid appearance of this agitated gut Swelling, boiling & whorling in every direction.

**Gass** a fine morning.

**Ordway** a clear pleasant morning. The current rapid

**Whitehouse** a clear cool morning. The current verry rapid.

Friday, October 25

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

Daily Narrative Journals

**Clark** A Cold morning. Came to...a Creek which falls in on the Lard Side and head up towards the high Snow mountain to the SW.

**Ordway** a fair morning. The River gitting Smoth. The country timbred back a little from the River.

**Whitehouse** a clear & pleasant morning.

Saturday, October 26

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a fine morning. The river has rose nearly 8 Inches to day and has every appearance of a tide, from what Cause I can't say— as the tides cannot effect the river here as there is a falls below, I conjecture that the rise is owing to the wind which has Set up the river for 24 hours past. All our articles we have exposed to the Sun to Dry

**Gass** a fine morning.

**Ordway** a clear pleasant morning. the River raised considerable this afternoon.

**Whitehouse** a clear pleasant morning. The river began to raise about 4 oClock PM and raised Several Inches, the cause of which we think that the tide Swels a little up to this place. Called the long narrows of Columbia River.

**Sunday, October 27**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a verry windy night and morning from the west and hard. The wind verry high. The wind increased in the evening and blew verry hard from the Same point W. Day fair and Cold—

**Gass** This was a fine clear morning, but the wind blew very hard up the river, and we remained here all day. The wind blew hard all this day.

**Ordway** fair morning. The wind high from the west. The waves roled verry high—

**Whitehouse** a clear morning, but the wind blew high from the west., which continued so the whole of this day.

**Monday, October 28**

**Weather Diary**

a Violent wind a moderate rain commenced at 4 oClock PM and continued untill 8 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a f	NW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cool windey morning. Wind from the West. Set out at 9 oClock AM. The wind rose and we were obliged to lie by about 1 mile below. The wind which is the cause of our delay, does not retard the motions of those people at all, as their canoes are calculated to ride the highest waves. Wind blew hard accompanied with rain all the evening, our Situation not verry good one for an encampment, but such as it is we are obliged to put up with, the harbor is a Safe one, we encamped on the Sand, wet and disagreeable.

**Gass** Just before day light there was a shower of ran; but at sunrise the morning was fine and clear. Went about 4 miles...here we stayed about an hour and proceeded again for about a mile, when we were compelled to stop on account if the wind, which blew so hard ahead that we were unable to continue our voyage. In the course of the day there were some showers of rain.

**Ordway** rained hard the later part of last night. Cleared up this morning. We then went on a Short distance further the wind rose so high NW that obledged us to halt on the Lard. Side under Some cliffs of rocks. A little rain this evening.

**Whitehouse** the wind Seased the later part of last night; when it began to rain and rained moderately untill morning, then cleared off. About 9 oClock AM the wind rose again & blew westward. We continued on our way a short distance further down the river, when the Wind rose so high from the Westward, & the waves ran also so high, that our officers thought it dangerous and not safe to proceed. We had Several Squalls of wind which were high during this day.

**Tuesday, October 29**

**Weather Diary**

rained moderately all day. Saw the first large Buzzard or Voultur of the Columbia.

*Note* from the 29<sup>th</sup> of Octr. to the 3<sup>rd</sup> of Novr. in passing through the western mountains below falls.

*Note* the balance of Novr. and December between the Mountains & Pacific Ocean.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-



**Daily Narrative Journals**

- Clark** a Cloudy morning wind from the West but not hard. A good Situation for winter quarters if game can be had is just below Sepulchar rock on the Lard Side. The falls mountain [Mount Hood] covered with Snow is South. Here the mountains are high on each Side, those to the Lard. Side has Some Snow on them at this time, more timber than above and of greater variety.
- Gass** We embarked early in a cloudy morning. In the evening we discovered a high mountain to the south, not more than five miles off, covered with snow (Mt. Hood). We have here still water; and the breadth of the river is from three quarters to a mile.
- Ordway** a cloudy morning. The current gentle. Saw Snow on a mountain on the Lard Side—
- Whitehouse** a cloudy cool morning. We proceeded on in the gentle current. We saw mountains lying on the South side of the River; a distance back from it; Covered with timber, which had Snow lying on them.

**Wednesday, October 30**

**Weather Diary**

rained moderately all day. arrived at the Grand rapids. Saw a different Species of ash.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** A cool Cloudy morning. moderate rain all the last night. Rained moderately all day we are wet and cold. The day proved Cloudy dark and disagreeable with Some rain all day which kept us wet. Rained all the evening, a wet disagreeable evening. This part of the river resembles a pond partly dreaned leaving many Stumps bare both in & out of the water, current about 1 mil pr. Hour. Saw 4 Cascades caused by Small Stream falling from the mountains on the Lard. Side, a remarkable circumstance in this part of the river is, the Stumps of pine trees are in maney places are at some distance in the river, and gives every appearance of the rivers bing damed up below from Some cause which I am not at this time acquainted with, the current of the river is also verry jentle and about 3/4 of a mile in width. Examine the Shute and river below.
- Gass** The morning was cloudy. It rained hard all day.

**Ordway** a cloudy morning. The River wide and Strait the current gentle. The after part of the day rainy and foggy. A number of the Savages came to our Camp and Signed to us that they were Surprized to See us they thought we had rained down out of the clouds.

**Whitehouse** cool and cloudy morning. The river verry Strait and wide current gentle. The after part of the day rainy and foggey. These savages were Surprized to See us they Signed to us that they thought we had rained down out of the clouds. Continued raining. The rain continued the greater part of this night—

**Expedition portages past the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam.**

**Thursday, October 31**

**Weather Diary**

Som rain last night and this morning.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloudy rainy disagreeable morning. At a mile lower is a verry Considerable rapid at which place the waves are remarkably high. I could not See any rapids below for in the extent of my view which was for a long distance down the river, which from the last rapids widened and had every appearance of being effected by the tide— This great Shute or falls is about ½ mile with the water of this great river Compressed within the Space of 150 paces...water passing with great velocity forming & boiling in the most horriable manner. The Shute, must be the Cause of the rivers daming up to Such a distance above, where it Shows Such evidant marks of the Common current of the river being much lower than at the present day.

**Gass** The morning was cloudy.

**Ordway** Cloudy. This Shoote is full of rocks and roles verry high waves &.C. The after part of the day pleasant.

**Whitehouse** This morning was cool & Cloudy. About 9 oClock AM the weather cleared off and

became pleasant.

# November 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition camped near the Cascades of the Columbia River (The Great Shute) near present-day Bonneville Dam.

Friday, November 1

#### Weather Diary<sup>1, 2</sup>

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	-	-	-	-	-

- 1 Reference: Coues, Volume III, pages 1275, 1290; Moulton, Volume 6, pages 99-101; Thwaites, Volume 6, Part II, pages 198-200.
- 2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.
- 3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.
- 4 No river observations were made during the month of November.

#### Daily Narrative Journals

**Clark** A very Cool morning, wind hard from the NE

**Gass** We had a cool frosty morning. We carried down our baggage...we could not go into the water, without uneasiness on account of the cold.

**Ordway** a fair morning. The wind high from the NE and cold.

**Whitehouse** a clear morning. The wind rose high from the NE and cold.

**Expedition proceeds into the initial tidal water of the lower Columbia River system.**

Saturday, November 2

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The river wider and bottoms more extensive. River about 2 miles wide. The ebb tide rose here about 9 Inches, the flood tide must rise here much higher.

**Ordway** a fair morning. The river got more Smooth the current gentle wide and Strait. Saw a number of Spring runs flowing from the high cliffs and Mountains. Some of which falls off about 100 feet perpendicular.

**Whitehouse** a clear morning but cool. The Riv. got Smooth the current very gentle &c. The river wide and Strait the remainder of the day. Great number of springs runs, and Springs flowing from the high cliffs and mountains and fell off down 100 feet or more.<sup>5</sup>

5 Mention of these falls may be the Multnomah and other falls in Multnomah County, Oregon.

**On November 3 and 4 the party moves by present-day Portland, OR, but does not see the confluence of the present-day Willamette and Columbia Rivers.**

**Sunday, November 3**

**Weather Diary**

a thick fog which continued until meridian cleared off and was fair the remainder of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a fog	NE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The fog so thick this morning we did not think it prudent to Set out...we could not see a man 50 Steps off, this fog detained us untill 10 oClock at which time we Set out. The water rose 2 Inches last night the effects of tide. The water Shallow for a great distance from shore. The fog continued thick untill 12 o'clock

**Gass** The morning was foggy. At 9 we proceed on ,but could not see the country we were passing, on account of the fog, which was very thick till noon when it disappeared, and we had a beautiful day. We see the high point of a mountain covered with snow, in about a southeast direction from us. (Mt. Hood)

**Ordway** a foggy morning. We perceive the tide rise and fall a little at this place. We saw the round mountain some distance a head which we expect is the Same which was discovered by Lieut. Hood and is called Hoods Mountain.

**Whitehouse** a foggy morning & we delayed setting out till about 9 oClock AM. The fog So thick this morning that we cannot See more than one hundred yards distance. Agreeable to all calculations it cannot be more than two hundred miles from this to the ocean. We then set out abt. 9oC. and proceeded on the fog continued So thick that we could Scarsely See the Shores or Islands. We Saw a high round mountain on the Lard Side which we expect is the Same we Saw abo. the great falls and the Same that Lieut. Hood gave an account off. ( it is nearly covd. with Snow). River verry wide better than a mile in general. About 2 oClock PM...the weather now got clear & pleasant.

**Monday, November 4**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloudy cool morning, wind from the west. Tide rose last night 18 inches perpdicular at Camp. High tide at 6 o'clock pm. Verry worm. Saw Mount Hellen (Mt. St. Helens)...it is emensely high and covered with Snow, rising in a kind of Cone perhaps the highest pinecal from the common leavel in america. The river here is 1 ½ miles wide, and current jentle.

**Gass** a fine morning. The tide raised the water last night 2 feet. In the evening we saw Mount Rainy (Mt. St. Helens) It is a handsome point of a mountain, with little or

no timber on it, very high, and a considerable distance off this place.

**Ordway** cloudy. The tide Ebbs and floes abt. 3 feet at this place discovered a high round mountain some distance back from the River on the Stard side which is called mount rainy— (probably Mt. St. Helens)

**Whitehouse** This morning was cold, foggy & cloudy. . We are now tide way, the tide fell during last night 2 feet perpendicular, and is on the rise this morning. The river wider.

## Tuesday, November 5

### Weather Diary

Commenced raining at 2 PM and continued to rain with intervalles throughout the day. Saw 14 Garter Snakes.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r c r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Rained all the after part of the last night, rain continues this morning. We are all wet Cold and disagreeable, rain Continues & encreases. My feet and legs cold. I saw 17 Snakes to day on a Island, but little appearance of Frost at this place. Here the river is about one and a half miles wide The day proved Cloudy with rain the greater part of it, we are all wet cold and disagreeable. I Saw but little appearance of frost in this valley which we call Wap-pa-too Columbia

**Gass** Some rain fell last night about 2 o'clock, and the morning was cloudy. We proceed on in the afternoon, during which some rain and a little hail fell. Here the tide rises and falls 4 feet.

**Ordway** hard rain the later part of last night. We had several small showers of rain

**Whitehouse** it began to rain about one oClock last night and continued to rain till day light. This morning was Cloudy. Found the river run very strait, & grew wider. We had frequent small showers of rain. This evening continued Rainey. The river was about 1 miles wide at this place.

Wednesday, November 6

Weather Diary

rained the greater part of the day moderately.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** a cold (cool) wet rany morning. Wind high a head. Cloudy with rain all day, we are all wet and disagreeable

**Gass** We set out early in a cloudy morning after a disagreeable night of rain.

**Ordway** Several Showers of rain in the course of last night. The wind rose from the west towards evening so that the waves run high.

**Whitehouse** Several Showers of rain in the course of last night. The tide Ebbs & flows abt. 3 feet pertular. This morning was cloudy & wet. We also passed several small springs. Towards evening we had the Wind blowing hard from the Westward & the Waves ran very high.

**Expedition moves into the Columbia River estuary and proceeds to the mouth and interface with the Pacific Ocean between November 7 and December 6, 1805.**

Thursday, November 7

Weather Diary

Thick fog this morning which Continued untill 11 AM. Cleared off and was fair until meridian, Several havy Showers dureing the evening

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a fog <sup>6</sup>	SW	-	-	-	-	-	-

<sup>6</sup> Clark's Journal Codex I lists this weather data as "r a r fog."



**Daily Narrative Journals**

- Clark** a Cloudy fogey morning, a little rain. We delayed 1 ½ hour & set out the tide being up one of our Canoes Separated from us this morning in the fog. The rain continued untill 9 oclock moderately. Several marshey Islands towards the Lard Side the Shape of them I can't See as the river is wide and day foggey. The fog So thick we could not See across the river. rain Continud. moderately all day our Small Canoe which got Separated in the fog this morning joined us this evening. We are in view of the opening of the Ocian, which Creates great joy. Some high mountains to the S.W. on the top of one is Snow. *Ocian in View!* O! The joy. Great joy in camp we are in View of the Ocian, this great Pacific Octean which we been So long anxious to See. and the roeing or noise made by the waves brakeing on the rocky Showers (as I Suppose) may be heard distinctly
- Gass** a foggy morning. At this place the river is about 3 miles wide
- Ordway** a foggy cool morning.
- Whitehouse** a cool foggy morning. These Islands were Marshy & were covered with Grass, & had Water laying in different parts of them.

**Friday, November 8**

**Weather Diary**

rained moderately

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy morning Some rain and wind Cloudy and disagreeable all the day. After dinner we took the advantage of the returning tide & proceeded on to the 2<sup>nd</sup> point, at which place we found the Swells too high to proceed. The Swells Continued high all the evening river wide & at this place too Salt to be used for drink. here we found the Swells or Waves so high that we thought it imprudent to proceed; we landed unloaded and drew up our Canoes. Some fine rain all day at intervals, we are all wet and disagreeable, as we have been for Several days past, and our present Situation a verry disagreeable one in as much as we have not leavel land Sufficent for an encampment and for our baggage to lie cleare of the tide. The Seas

roled and tossed the Canoes in such a manner this evening that Several of our party were Sea sick. Ocian 4142 Miles from the Mouth of *Missouri* R.

**Gass** The morning was cloudy, and there was a hard wind from the east. We had to coast round (a bay), as the wind raised the waves so high we could go no other way. The waves ran so high we were obliged to lie to, and let the tide leave our canoes on dry ground. In crossing the bay when the tide was out, some of our men got sea sick, the swells were so great. The whole of this day was wet and disagreeable

**Ordway** a Cloudy morning. The waves high tossed us abt. We can see along distance a head We expect we can See the mo. of the Columbian River. We bet it appears a long distance off. The waves roled So high that we were obledged to land on the Same Shower Stard. Side and took great pains to keep the canoes from filling with water. The river water is gitting so brackish that we cannot drink of it at full tide. The evening rainy—

**Whitehouse** This morning we had cool cloudy weather. Shortly after the wind rose & blew from the SE very hard, & the River got so rough, that we were tossed very much in our Canoes. Entered into a Bay, or wide place about 7 Miles wide, which continued as far as our Eyes could discern. Found the waves running so high, that we were obliged to land about 3 oClock. We found the River water at this place brackish.

**Saturday, November 9**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	S	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The tide of last night did not rise Sufficiently high to come into our camp, but the Canoes which was exposed to the mercy of the waves &c. which accompanied the returning tide, they all filled and with great attention we Saved them untill the tide left them dry. wind Hard from the South, and rained hard all the fore part of the day, at 2 oClock P M the flood tide came in accompanied with emence waves and heavy winds, floated the tree and Drift which was on the point on which we Camped and tossed them about in such a manner as to endanger the canoes verry much. Our camp entirely under water dureing the hight of the tide, every man as wet as water could make them all the last night and to day all day as the rain continued all day, at 4 oClock P M the wind Shifted about to the SW and blew with great violence

imediately from the Ocean for about two hours, notwithstanding the disagreeable Situation of our party all wet and cold (and one which they have experienced for Several days past) they are chearfull and anxious to See further into the Ocian, The water of the river being too Salt to use we are obliged to make use of rain water. At this dismal point we must Spend another night as the wind & waves are too high to proceed. The rain Continud all day—

**Gass** The morning was windy, rainy and disagreeable, and we were obliged to remain at Cape Swell (Grays Bay) all day. We had no fresh water, except what rain we caught by the putting out our vessels. We remained here all night, and the rain continued.

**Ordway** rained hard the greater part of last night, and the wind rose so high NW that we had to unload the canoes in the night. This morning wet rained the most part of the day and the wind So high up the River that Caused the tide to raise much higher than common So we had to move our loads and some of the Camps further from Shore.

**Whitehouse** It rained the greater part of last night, & the Wind blew very hard from the SE, which caused the Waves to run so very high, that all hands...employed unloading canoes...The morning we had wet weather & rainy, & it rained the most part of this day— The wind continued high, which caused the tide to rise, much higher than a common tides.

**Sunday, November 10**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained verry hard the greater part of the last night & continues this morning, the wind has luled and the waves are not high. We loaded our canoes and proceeded on. About 12 o'clock the wind rose from the NW and the swells become so high, we were compelled to return about 2 miles to a place where we could unload our canoes. We are all wet also our bedding and maney other articles. We are all employed untill late drying our bedding. We are all wet the rain haveing continued all day

**Gass** We had a rainy morning, but the wind was not so high as it had been yesterday. Proceeded on....where we found swells so high, the wind having risen, that we could not proceed any further. After we had been here about 2 hours, it became calm, and

we loaded our canoes again, but could not get around the point, the swells were still so high. It rained hard all night, and was very disagreeable. The water is become very salt.

**Ordway** considerable of rain fell last night. A rainy morning. The waves not So high as yesterday. Continued raining hard abt. noon the wind rose So high that obliged us to turn back from a point of rocks and roe about 2 miles back into a cove. The wind contind. So high that we could not proceed.

**Whitehouse** We had rain the greater part of last night & a wet rainy morning, but the Waves did not run so high as they did Yesterday. We continued on our way, it raining hard on us, 'till about noon; when it ceased. The wave then ran so high that we had to turn back and went up river about 2 miles.

**Monday, November 11**

**Weather Diary**

rained all day with wind

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A hard rain all the last night, dureing the last tide the logs on which we lay was all on float, ....about 12 oClock 5 Indians came down in a canoe, the wind verry high from the SW with most tremendous waves brakeing with great violence against the Shores, rain falling in torrents, we are all wet as usial – and our Situation is truly disagreeable one; the great quantities of rain which has loosened the Stones on the hill Sides and the Small ones fall on us. Rained all day.. The tide was 3 hours later to day than yesterday and rose much higher.

**Gass** The morning was wet and the wind still blowing, so that we could not proceed. still had enough, as we have not tents, or coverings to defend us, except our blankets and some mats we got from the Indians, which we punt on poles to keep off the rain. It continued raining and blowing all day; and at 4 o'clock in the afternoon the tide was so high that we had to leave our lodges, until it got lower in the evening.

**Ordway** rained hard the greater part of last night. A rainy wet morning. Our Robes all wet as we have no Shelter that will keep the rain from us. The wind continued so high that we did not attempt to move this day. These Savages went in their canoe across the River in the high waves.

**Whitehouse** It rained hard the greater part of last night, which made it very disagreeable to us all. The greater part of our Men had nothing to Shelter them from the rain, & were obliged to lay down in it, & their Cloathes were wet through. This morning continued wet & rainy, the wind was high, & the swell in the river ran verry high, & we did not attempt to move from this place—

**Tuesday, November 12**

**Weather Diary**

violent wind from the SW acompanied with Hail thunder and lightning, the Claps of Thunder excessively loud and Continued form 3 to 6 AM. Cleared off a Short time & rained untill 12 oClock  
 Cleared off an hour and rained again. (Lewis) the rain has been pretty generally falling Since the 7<sup>th</sup> inst. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r t & l	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A Tremendious wind from the SW about 3 oClock this morning with Lightineng and hard claps of Thunder, and Hail which Continued untill 6 oClock a.m. in intervals when it became light for a Short time, then the heavens became sudenly darkened by a black cloud from the SW and rained with great violence untill 12 oClock, the waves tremendous brakeing with great fury against the rocks and trees on which we are encamped. our Situation became Seriously dangerous.

It would be distressing to a feeling person to See our Situation, at this time all wet and colde with our bedding &c. also wet, in a Cove Scercely large enough to Contain us, our Baggage in a Small holler about ½ mile from us, and Canoes at the mercey of the waves & drift wood. It was clear at 12 for a short time, I observed the Mountains on the opposit Side was covered with snow— I observe great numbers of Sea guls, flying in every direction— Rain Continued

**Gass** A cloudy wet morning, after a terrible night of rain, hail, thunder and lightning. The rain still continued, and the river remained very rough.

**Ordway** a hard Storm continued all last night, and hard Thunder lightning and hail this morning. We Saw a mountain on opposite Shore covered with Snow. The rain continued hard all day.

**Whitehouse** We had a hard storm the greater part of last night, & hard thunder, lightning, & hail

this morning. We saw a high mountain which lay on the opposite to where we were encamped covered with snow. The rain continued hard during the most part of this day.

**Wednesday, November 13**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some intervals of fair weather last night, rain and wind continue this morning. ...trees very high & thick Cannot determine the precise course of the winds. Rain all day moderately, I am wet &c.&c. The Hail which fell 2 nights past is yet to be Seen on the mountains. The rain continuing and weather proved So cloudy that I could not See any distance. The rain continue all day. The tides at every flud come in with great swells brakeing against the rocks & drift trees with great fury— if we were to have cold weather to accompany the rain which we have had for this 6 or 8 days passed we must eneviatilbly Suffer very much as Clothes are Scerce with us.

**Gass** This was another disagreeable rainy day at 9 o'clock in the forenoon it became a little more calm than usual

**Ordway** hard rain continued all last night a rainy morning. As the wind continues So high that obledges us to stay—

**Whitehouse** The storm continued & hard rain during last night, and this morning rainy disagreeable weather. Our Buffalo robes are getting rotten, and the most part of our baggage were wet. We have a very disagreeable time of it, the most part of our Men having slept in the rain, ever since this storm began, & are continually wet. The waves continued high & the Storm continued during the whole of this day.

**Thursday, November 14**

**Weather Diary**

a blustery rainy day

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	-	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** rained all the last night without intermission, and this morning wind blows verry hard, but our Situation is Such that we cannot tell from what point it comes. one of our canoes is much broken by the waves dashing it against the rocks in high tide. The rain &c. which has continued without a longer intermition than 2 hours at a time for ten days past has distroyd. the robes and rotted nearly one half of the fiew clothes the party has, perticularley the leather clothes if we have cold weather before we can kill & Dress Skins for clothing the bulk of the party will Suffer verry much. The rain Continue all day. Rained as usial all the evening, all wet and disagreeable Situated.

**Gass** We expected last night to have been able to proceed on this morning, but the rain continued, and the river still remained rough, and we are therefore obliged to lie by. 3 men returned...as the swells ran so high that they could not possibly get the canoe along. The weather continued wet, and the most disagreeable I had ever seen.

**Ordway** the Storm continues, and obledges us to Stay in this disagreeable harbour with nothing but pounded Sammon to Eat.

**Whitehouse** We had considerable quantity of rain during last night, & this morning we had wet rainy weather. About 10 oClock AM the weather cleared off, & in the afternoon it became tolerable calm weather.

**Friday, November 15**

### Weather Diary

The after part of this day fair and calm for the first time since the 5<sup>th</sup> instant. and no rain move our encampment.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Rained all the last night at intervalles of sometimes of 2 hours, This morning it became calm & fair, I prepared to set out at which time the wind sprung up from the SE and blew down the River & in a few minits raised such swells and waves brakeing on the Rocks at the Point as to render it unsafe to proceed. The sun shown untill 1 oClock P.M. which gave an oppertunity for use to dry some of our bedding & examine our baggage.

The rainy weather continued without a longer intermition than 2 hours at a time, from the 5<sup>th</sup> in the mornig. untill the 16<sup>th</sup> is eleven days rains, and the most disagreeable time I have experenced confined on a tempiest coast wet, Scerce Provisions, and torrents of rain poreing on us all the time—, where I can neither git out to hunt, return to a better situation, or proceed on; in this situation have we been for Six days past, fortunately the wind luled and the river became calm about 3 oClock we loaded in great haste and set out passed the blustering Point below which is a sand beech. The waves became very high Evening fare & pleasant.

**Gass** This morning the weather appeared to settle and clear off, but the river remained still rough. About 1 o'clock when the water became more calm we loaded and set out from our disagreeable camp. Went about 3 miles into a bay and halted on a sand beach, in full view of the ocean, at this time more raging than pacific.

**Ordway** a wet morning. About 10 oClock AM cleared off the after part of the day calm and pleasant.

**Saturday, November 16**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	WSW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Cool the latter part of the last night this morning Clear and butifull. The Sea is fomeing and looks truly dismal to day, from the wind which blew hard to day from the SW. The evening proved Cloudy and I could not take any Luner observations. On the Lard side...a pinical of which is now covered with Snow or hail,

**Gass** This was a clear morning and the wind pretty high. We could see the waves, like small mountains, rolling out in the ocean, and pretty bard in the bay. We are now at



the end of our voyage, which has been completely accomplished according to the intention of the expedition, the object of which was to discover a passage by the way of the Missouri and Columbia rivers to the Pacific Ocean; notwithstanding the difficulties, privations and dangers, which we had to encounter, endure and surmount. The day being clear we got our baggage dried

**Ordway** a clear cool morning.

**Whitehouse** A clear cool morning. We are now in plain view of the *Pacific Ocean*. The waves rolling, & the surf roaring very loud. We are now of opinion that we cannot go any further with our Canoes, & think that we are at an end of our Voyage to the Pacific Ocean, and as soon as discoveries necessary are made, that we shall return a short distance up the River & provide our Selves with Winter Quarters.

**Sunday, November 17**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	E	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A fair cool morning wind from the East. The tides rises at this place 8 feet 6 inches and comes in with great wave brakeing on the Sand beech on which we lay with great fury

**Gass** We had a fine pleasant clear morning.

**Ordway** a clear morning.

**Whitehouse** This morning we had clear pleasant weather.

**Monday, November 18**

**Weather Diary**

Cloudy .... (Lewis) I proceed the Ocean. (Clark)

Sunrise			4 PM			River		
---------	--	--	------	--	--	-------	--	--

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A little Cloudy this morning. here I found Capt. Lewis name on a tree, I also engraved my name, & by land the day of the month and year, as also Several of the men. Some rain in the after part of the night. Men appear much Satisfied with their trip beholding with estonishment the high waves dashing against the rocks & this emence Ocian.

**Gass** The morning was cloudy.

**Ordway** Cloudy. Set out in order to go down and see the passiffic ocean. —towards evening we arived at the Cape disapointment on the Sea Shore. Went over a bald hill where we had a handsom view of the ocean.

**Whitehouse** We had a cloudy morning.

**Tuesday, November 19**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** I arose early this morning from under a Wet blanket caused by a Shower of rain which fell in the latter part of the the last night. raing. ...it Comenced raining and continued moderately untill 11 oClock A M.

**Gass** We had a cloudy, rainy morning

**Ordway** cloudy a light Sprinkling of rain the later part of last night

**Whitehouse** A cloudy morning.

**Wednesday, November 20**

**Weather Diary**

rained moderately from 6 AM. (Lewis) On the 20<sup>th</sup> until 1 PM the 21<sup>st</sup> after which it became Cloudy without rain (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain last night. The Morning Cleared up fare and we proceeded on. The tide being out we walked home on the beech—

**Gass** We had a fine clear morning. This day continued clear and pleasant throughout.

**Ordway** a fair morning.

**Whitehouse** A clear pleasant morning.

**Thursday, November 21**

**Weather Diary**

rained all last night until 1 PM and Cleared away and was Cloudy without rain

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A cloud morning. the Wind blew hard from the SE which with the addition of the flood tide raised very high waves which broke with great violence against the shore throwing water into our camp the fore part of this day Cloudy Mornng. dark & Disagreeable, a Suprising Climent. We have not had One cold day Since we passed below the last falls or great Shute & Some time before. The Climent is temperate, and the only change we have experienced is from fair weather to rainy windey weather— at 12 oClock it began to rain and continud all day moderately. Some

wind from the SE Waves too high for us to proceed on our homeward bound journey.

**Gass** A cloudy morning. The wind blew so violent to day, and the waves ran so high, that we could not set out on our return, which it is our intention to do as soon as the weather and water will permit. The season being so far advanced, we wish to establish our winter quarters as soon as possible. The night was very wet and disagreeable.

**Ordway** a cloudy and a little rain.

**Whitehouse** A cloudy morning, and a light sprinkling of rain fell. The swell in the River rain so high that it detain'd us, at our Camp from going up the River again, to look our for Winter Quarters, which our officers intended as soon as the Weather would permit, and the Season of the Year advancing made it absolutely necessary that it should be the case— The Season of the Year, is generally cold at this place, but at the present time it was very pleasant. The evening was rainy

**Friday, November 22**

**Weather Diary**

rained all day wind violent from the SE (Lewis) The wind violent from the SSE throwing water of the R over our Camp and rain continued all day. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SSE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A moderate rain all the last night with wind, a little before Day light the wind which was from the SSE blew with Such Violence that we wer almost overwhelmed with water blown from the river, this Storm did not sease at day but blew with nearly equal violence throughout the whole day accompaned with rain. O! how horriable is the day— waves brakeing with great violence against the Shore throwing the Water into our Camp &c. all wet and Confind to our Shelters. The Storm Continued all day with equal violence accompaned with rain.

**Gass** This was a rainy and stormy morning. The wind blew very hard from the south, and the river was rougher than it has been since we came here. At noon the tide was higher than common. The rain and wind continued all day violent.

**Ordway** a hard Storm arose the later part of last night and continues raining and the wind high

from the SW the waves rolled so high and the tide raised much higher than common. Dashed one of our canoes against the logs and was near Splitting it before we got it out. Damaged it and obliged us to move some of our Camps—

**Whitehouse** A hard Storm arose in the course of last night accompanied with Rain, & it continued raining very hard & the wind High from the So West. This caused the tide of flood to rise much higher, than it commonly did at this place. The Swell ran also to an amazing height. We had also to move some of our Camps, the water being all round them & a rising. It continued raining hard all day—

**Saturday, November 23**

**Weather Diary**

rained all last night to day Cloudy

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A calm Cloudy morning, a moderate rain the greater part of the last night. Rained at intervalles all day. I marked my name the day & year on a Alder tree.

**Gass** The weather was somewhat cloudy but more calm. In the evening the weather cleared and we had a fine night.

**Ordway** Still continues rainy and high wind

**Whitehouse** We had a hard wind blowing the greater part of last night, & it rained powerfully. This morning it moderated, both with regard to Wind & Rain. The evening was pleasant

**Sunday, November 24**

**Weather Diary**

rained moderately for a Short time this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A fare morning. This day proved to be fair which gave us an oppertunity of drying our wet articles. ....advantages of being near the Sea Coast one most Striking one occurs to me i'e, the Climate which must be from every appearance much milder than that above the 1<sup>st</sup> range of mountains (where the climate must be more Severe— ). The Indians are Slightly Clothed and give an account of but little Snow, and the weather which we have experienced Since we arrived in the neighbourhood of the Sea Coast has been verry warm, and maney of the fiew days past disagreeably So. if this Should be the Case it will most Certainly be the best Situation of our naked party dressed as they are altogether in leather.

**Gass** The morning was fine with some white frost. As this was a fine clear day, it was thought proper to remain here in order to make some observations, which the bad weather had before rendered impossible. At the head of the bay the river is 3 miles and 660 yards wide. At night, the party were consulted by the Commanding Officers, as to the place most proper for winter quarters; and the most of them were of opinion, that it would be best, in the first place, to go over to the south side of the river, and ascertain whether good hunting ground could be found there.

**Ordway** a clear pleasant morning. A white frost. The Calumbian River at this place is three miles 660 yards wide. Our officers conclude with the opinion of the party to cross the River and look out a place for winter quarters

**Whitehouse** A white frost this morning, & the weather clear & pleasant. The river Columbia at this place is 3 miles from the Sea & 660 Yards wide. Our officers went out and took down Notes on several remarkable points &ca. which they could not before have done, on account of the badness of the weather. In the evening our Officers had the whole party assembled in order to consult which place would be the best, for us to take up Winter Quarter at. The greater part of our Men were of opinion; that it would be best, to cross the River...

**Monday, November 25**

### Weather Diary

Some Showers of rain last night

Sunrise	4 PM	River
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	ESE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** A fin day. The Swells too high to cross the river. The evening Cloudy the Winds of to day is generally ESE Mt. St. Hilians Can be Seen from the mouth of this river.

**Gass** The morning was pleasant, though cloudy, with a white frost.

**Ordway** a clear pleasant morning. Attempt to cross the river but the waves so high that the canoes were near filling. So we turned back to Shore again.

**Whitehouse** We had a clear pleasant morning. Up river 9 miles...attempted to cross it, but the Waves ran so high that we found it impracticable.

**Tuesday, November 26**

### Weather Diary

rained all day with Some hard Showers. the wind not so violent as it has been for Sevral days past. (Lewis) Some rain on the morning of the 23<sup>rd</sup> and night of the 24<sup>th</sup> instant. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	ENE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Cloudy and some rain this morning from 6 oClock. Wind from the ENE. We had rain all the day all wet and disagreeable. We found much difficuelty in precureing wood to burn, as it was raining hard, as it had been the greater part of the day.

**Gass** The morning of this day was cloudy and wet. The whole of the day was wet and unpleasant

**Ordway** a Cloudy wet morning. The day rainy and cold.

**Whitehouse** A cloudy wet morning, & we set out early. We continued on still down the River;

the day being wet, cold and very disagreeable.

**Wednesday, November 27**

**Weather Diary**

violent wind and hard all day. Campd. At Pt. William (Lewis) rained moderately all day a hard wind from the SW which compelled us to lie by on the isthmus of point William on the South Side. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** Rain all the last night and this morning it Continues moderately— The Swells became high and rained so hard we Concluded to halt and dry our Selves, Soon after our landing the wind rose from the East and blew hard accompanied with rain, this rain obliged us to unload & draw up our Canoes. The water at our Camp Salt that above the isthmus fresh and fine—
- Gass** a wet morning; coasted round, and turned a sharp cape (Tongue Point) about a mile; when we found swells running so high that we had to halt. Had a very wet night.
- Ordway** rained all last night. We could perceive a considerable of current in the River. The waves ran So high that obledged us to halt at an old fishery. Hard rain.
- Whitehouse** A rainey wet morning & cold. The Rain continued hard all this day—

**Thursday, November 28**

**Weather Diary**

a tremendous Storm from the NW in the after part of the day. rained all last night and to daye. (Lewis) The wind which was from the SW Shifted in the after part of the day to the NW and blew a Storm which was tremendous. rained all the last night and to day without intermission. (Clark)



Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW & NW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Wind Shifted about to the SW and blew hard accompanied with hard rain. Rained all the last night. Wind to high to go either back or forward. This is our present Situation,! truly disagreeable. About 12 oClock the wind Shifted about to the NW and blew with great violence for the remainder of the day at maney times it blew for 15 ro 20 minits with Such violence that I expected every moment to See trees taken up by the roots. Many were blown down. Those Squals were Suckceeded by rain, !O how Tremendious is the day. This dredfull wind and rain Continued with interuales of fair weather all the latter part of the night. O! How disagreeable is our Situation dureing this dreadful weather.

**Gass** We had a wet windy morning. It rained all day; an we had here no fresh water, but what was taken out of the canoes as the rain fell.

**Ordway** a hard Storm. The wind high from the N. West. Hard rain all day—

**Whitehouse** We had a very heavy Storm during the whole of last night, & the wind blowing hard from the Westward this morning. It rained the greater part of this day. The Wind rose from the North West & became a perfect storm

**Friday, November 29**

### Weather Diary

rained all last night hard, and to day moderately I decend with 5 men in a canoe to examine the Country.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Lewis** The wind being so high the party were unable to proceed with the perogues. It rained upon us by showers all day. Encamped at an old Indian hunting lodge

which afforded us a tolerable shelter from rain, which continued by intervalles throughout the night—

**Clark** Blew hard and rained the greater part of the last night and this morning much more moderate. The waves Still high and rain Continues. The Swells and waves being too high for us to proceed down in our large Canoes, in Safty— The winds are from Such points that we cannot form our Camp So as to prevent the Smoke which is emencely disagreeable, and painfull to the eyes.

**Gass** The weather continues cloudy and wet. There were some showers of rain and hail during the day.

**Ordway** Showery and Some hail in the course of the day.

**Whitehouse** It rained very hard all last night, & continued showery this morning. The weather continued showery & some hail fell during this day—

### Saturday, November 30

#### Weather Diary

rained and hailed with short intervalles throughout the last night, Some thunder and lightnige.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & h	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Lewis** cloudy morning. It rained but little on us today tho' it was cloudy generally— Wind from the NE.

**Clark** Some rain and hail with intervalles of fair weather for the Space of one or two hours at a time dureing the night untill 9 oClock this morning, at which time it Cleared up fair and the Sun Shown.

**Gass** This was a fair day. The whole of the day was fair, pleasant and warm for the season.

**Ordway** the after part of the day clear.

**Whitehouse** We had several hard showers of rain, & some hail fell during last night, and this morning after day light it cleared off.

# December 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is at the mouth of the Columbia River near Astoria, Oregon searching for a location to establish winter camp.

Sunday, December 1

#### Weather Diary<sup>1, 2</sup>

rained last night and Some this morning.

Sunrise <sup>3</sup>			4 PM			River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, pages 1275, 1290-91; Moulton, Volume 6, pages 148-151; Thwaites, Volume 6, Part II, pages 198, 200-201.

2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of Decmber.

#### Daily Narrative Journals

**Lewis** Cloudy morning wind from the SE.

**Clark** Cloudy windey morning wind from the East. The Wind rose so high that I could not proceed. Began to rain hard at Sun Set and Continud. The Sea which is imedeately in front roars like a repeeted roling thunder. The emence Seas and waves which breake on the rocks & Coasts to the SW & NW roars like an emence fall at a distance, and this roaring has continued ever Since our arrival in the neighbourhood of the Sea Coast which has been 24 days Since we arrived in Sight of the Great Western; (for I cannot Say Pacific) Ocian as I have not Seen one pacific day Since my arrival in its vicinity, and its waters are forming and petially (perpetually) breake with emenc waves on the Sands and rocky Coasts, tempestous and horiable.

**Gass** The whole of this day was cloudy.

**Ordway** a cloudy morning.

**Whitehouse** A dark cloudy morning. We had in the course of this day a little rain, & all anxiously waiting for the arrival of Captain Lewis.

### Monday, December 2

#### Weather Diary

rained all the last night and untill meridian cloudy the remained of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** Cloudy with some little rain this morning. The evening....fair moon Shineing night—

**Gass** The day was agin cloudy and wet. In the evening the weather became clear, and we had a fine night.

**Ordway** a Cloudy wet morning.

**Whitehouse** A cloudy wet morning.

### Tuesday, December 3

#### Weather Diary

rained all the last night & to day untill meridian and became fair &c. (Lewis) fair from 12 to 2 PM rained all the last night & this morning. Rained the night of the 1<sup>st</sup> and morning of the 2 and Cloudy the remainder of the day. rained at intervalles the night of the 2d instant with constant hard and Sometimes violent winds. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	E	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** a fair windey morning wind from the East. Wind Continues to blow. I marked my name on a large pine tree imediately on the isthmus William Clark December 3<sup>rd</sup> 1805. By Land from the U. States in 1804 & 1805— Some rain this afternoon and evening.
- Gass** The morning was foggy. The greater part of the day was fair, but in the evening it clouded over and rained again.
- Ordway** Cloudy
- Whitehouse** This morning cloudy.

**Wednesday, December 4**

**Weather Diary**

rained all day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

- Clark** Some little rain all the last night, this morning the rain and wind increased from the SE. a Spring tide to day rose 2 feet higher than Common flood tides and high water at 11 oClock. Hard wind from the SE this afternoon Hard wind from the South this evening. Rained moderately all day and the waves too high for me to proceed in Safty to the bay as I intended.
- Gass** We had a cloudy rainy morning. The river was so rough we could not set with the canoes. The rain continued all day.
- Ordway** a rainy wet morning. Continued Storming & high wind all day—
- Whitehouse** A rainey wet morning. The day continued Rainey, the Wind blew hard & the weather was stormy.

**Thursday, December 5**

**Weather Diary**

rained all last night and today I return to Capt Clark (Lewis) rained yesterday, last night, and moderately to day; all day wind violent in the after part of the day. .... (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some hard showers of rain last night, this morning Cloudy and drisley, in the bay the Shower appear harder. High water to day at 12 oClock this tide is 2 inches higher than that of yesterday. All our Stores again wet by the hard Showers of last night. Capt. Lewis’s long delay below has been the cause of no little uneasiness on my part for him, 1000 conjectures has crouded into my mind respecting his probably Situation & Safty— rained hard. The repeeted rains and hard winds which blows from the SW renders it impossible for me to move with loaded Canoes along an unknown Coast we are all wet & disagreeable; Rain continued all the after pt. of the day accompanied with hard wind from the SW which provents our moveing from this Camp.

**Gass** Again we had a wet stormy day, so the men were unable to proceed with the canoes. There is more wet weather on this coast, than I ever new in any other place; during a month, we had three fair days’ and there is no prospect of a change.

**Ordway** rainy dissagreeable weather.

**Whitehouse** We had hard rain & stormy weather; which was very disagreeable. It continued raining the whole of this day—

**Friday, December 6**

**Weather Diary**

rained last night and all day to day wind no violent in the after part of the day fair in the eving. (Lewis) rained all last night and to day untill 6 oClock at which time it Clear’d away and became far. the winds also Seased to blow violent. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** The wind blew hard all the last night with moderate rain, the waves very high, This morning the wind which is Still from the SW increased and rain continued all day, about Dusk the wind Shifted to the North and it Cleared up and became fair weather. The high tide of today at 12 oClock is 13 inches higher than yesterday.

**Gass** We had another wet morning At noon it rained very hard, and the tide flowed so high, that in some part of our camp the water was a foot deep; we had therefore to remove to higher ground. In the afternoon it still continued it still to rain hard.

**Ordway** about noon the Storm arose and the tide raised about 2 feet higher than common so that the water came in to our Camp So that we moved our Camps to higher ground. The Storm cont. all day.

**Whitehouse** A rainy disagreeable morning, & the Wind continued high. About 1 oClock PM it blew a storm, and the tide rose about 2 feet perpendicular higher, than it had been, since we are at this place, & over flowed some of our Camps, which obliged us to move them to higher ground, than they were first at; the Storm still continued, & the Rain extinguish'd our fires, & made it exceedingly disagreeable to us. Towards evening the Weather cleared up, & it became a little more pleasant,

**After traveling back up river, the party crosses and searches for a suitable location for winter quarters. The Expedition established Fort Clatsop on December 7, 1805 and remain here for winter quarters until they leave on March 23, 1806. This site is near present-day Astoria, OR. Calculated milage by William Clark using dead reckoning place the distance from St. Louis to the mouth of the Columbia River at 4, 162 miles. He was within 40 miles of the actual distance. (Duncan and Burns, 1997, 159; Ambrose, 1998, 175)**

**Saturday, December 7**

**Weather Diary**

rained from 10 to 12 and at 2 PM leave Pt. William (Lewis) last night fair day leave Point William a hard wind from the NW and a Shower of rain at 2 PM. (Clark)

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** some rain from 10 to 12 last night, this morning fair. We proceeded on against the tide the waves verry high. This day fair except about 12 oClock the wind became hard from the NE and some rain which lasted 2 hours and cleared away.

**Gass** About 12 last night the rain ceased and we had a fine clear morning. The swells being too high here to land we went two miles further

**Ordway** the morning clear. The waves ran verry high. The hunters...no meat...the distance so great and the weather so bad that they brought no meat. The waves roled verry high. The River [Lewis and Clark River] is about 100 yds wide at this place but the tide water extends further up.

**Whitehouse** This morning clear & cold. The wind rose, & the wind caused the Waves to rise also. The Waves ran so high, that we could not land. Wet set off, the Waves running verry high—

**Sunday, December 8**

### Weather Diary

Cloudy after a moderate rain last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r <sup>5</sup>	NE	-	-	-	-	-	-

<sup>5</sup> Clark's Journal Codex I lists this weather data as "c."

### Daily Narrative Journals

**Clark** a Cloudy morning. Some rain this evening. We made a Camp of the Elk Skin to keep off the rain which Continued to fall

**Gass** We had a fine fair morning, with some white frost. In the evening, it began to rain again. The country towards the south is mountainous at some distance off, and there is some snow on the mountains.



**Ordway** one canoe taken away from the landing by the tide last night. A hard white frost this morning and cold.

**Whitehouse** We had a hard white frost & cold, & windy morning. The latter part of the day was cold & cloudy, & in the Evening we had a little Rain & high Wind from the North East—

**Monday, December 9**

**Weather Diary**

cloudy and rained moderately untill 3 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	NE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained all the last night we are all wet. In the evening it began to rain with a tremendous storm and Continud accompanied with a Violent wind from the SW until 10 oClock PM—

**Gass** The morning was cloudy and wet. It continues cloudy and wet all day.

**Ordway** rained the greater part of last night rained hard all day found the canoe which the tide took off the other night.

**Whitehouse** We had rain the greater part of last night, & it continued raining this morning.

**Tuesday, December 10**

**Weather Diary**

a violent wind last night 6 to 9 PM. river fast with rain. rained all day. (Lewis) rained all day and the air cool I return from the Ocean a violent wind last night from the SW rained the greater part of the night of the 8<sup>th</sup> and all day the 9<sup>th</sup> int. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

-	r	NE	-	-	-	-	-	-
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**Daily Narrative Journals**

**Clark** a Cloudey rainey morning. I proceeded on to my Camp thro a heavy Cold rain. The day was Cloudy I could not See distinctly— rained nearly all day

**Gass** We had another wet cloudy morning; and all hands were employed at work notwithstanding the rain.

**Ordway** rained hard the most of the day

**Whitehouse** It rain'd the most part of this day.

**Wednesday, December 11**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained all the last night moderately. The rain continued moderately all day.

**Gass** This day was so cloudy and wet.

**Ordway** rained the greater part of the day.

**Whitehouse** A wet morning & the party continued cutting logs... It continued raining the greater part of this day—

**Thursday, December 12**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some moderate showers of rain at intervals all last night and to day.

**Gass** This morning was cloudy without rain Some rain fell in the evening.

**Whitehouse** It was cloudy the whole of this day.

**Friday, December 13**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some showers of light rain last night, and to day several very hard Showers.

**Gass** We had a cloudy, but fine morning. The day continued cloudy and some rain fell in the evening.

**Ordway** cloudy & rain

**Whitehouse** We had rain & Cloudy weather, during the whole of this day.

**Saturday, December 14**

**Weather Diary**

rained moderately all last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** a cloudy day & rained moderately. All our last supply of Elk has Spoiled in the repeated rains which has been fallen ever Since our arrival at this place, and for a long time before, Scerce one man in Camp can bost of being one day dry Since we landed at this point

**Gass** In the course of the day a good deal of rain fell; the weather here still continues warm, and there has been no freezing, except a little white frost.

**Ordway** continues wet and rainy.

**Whitehouse** This day we had moderate Rain.

**Sunday, December 15**

**Weather Diary**

rained all last night and untill 8 AM to day after which it was Cloudy all day. (Lewis) rained at Short intervalles from the 10<sup>th</sup> instant untill 8 AM to day I with 16 men Set out after meat. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Cloudy all Day. Some rain in the evening. Serjt. Ordway, Colter, Colins, Whitehouse & McNeal Staid out all night without fire and in the rain—

**Gass** The morning was cloudy. Some light showers fell during the day.

**Whitehouse** We had cloudy weather. We were obliged to stay out during the Night. It rained all that night & the wind blew very cold & being without fire, we suffered considerably both from the Rain & wind.

### Monday, December 16

#### Weather Diary

rained all the last night. air Cold wind violent from the SW accompanied with rain.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** Rained all the last night. We covered our selves as well as we could with elk skins & set up the greater part of the night, all wet, I lay in water very cold, a most dreadful night the rain continues, with Tremendous gusts of wind. The winds violent from the SE. With some risk proceeded on thro high waves in the river, a tempestuous disagreeable day. Trees falling in every direction, whorl winds, with gusts of rain Hail & Thunder, this kind of weather lasted all day, Certainly one of the worst days that ever was!

**Gass** This was a wet morning with high wind. The men who were out...had a very bad night, as the weather was stormy and a great deal of rain fell. Notwithstanding this, a serjeant and four men, who had got lost, lay out all night without fire. The whole of the day was stormy and wet.

**Ordway** rained hard all last night and cold we Suffered with wet & cold all last night. Hard rain and high wind.

**Whitehouse** It rained very hard during this day. We had hard Rain & some hail in the afternoon also.

### Tuesday, December 17

#### Weather Diary

rained all last night and to day untill 9 AM when we had a Shower of hail for an hour and Cleared off.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & h	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some rain last night and a continuation of it this morning. The fore part of this day rained hailed and blew hard, the after part of the day fair & Cool. The mountain which lies SE about 10 miles distant is covered with Snow on its top which is rugged and uneven.

**Gass** This was another cloudy day, with some light showers of rain and hail.

**Ordway** a little Snow and hail fell last night and continues this morning.

**Whitehouse** We had during last night some Snow & hail & it continued the same this morning. A little snow remained on the pine trees the whole of this day.

Wednesday, December 18

### Weather Diary

rained Snowed and hailed at intervals all the last night and to day until meridian.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r s h	SE	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** rained and Snowed alternately all the last night, and Spurts (gusts) of Snow and Hail Continued until 12 o'clock, which has chilled the air, Cold disagreeable Dreadful day, the wind hard and unsettled. At 12 the Hail and Snow Ceased, and the after part of the day was Cloudy with Some rain.

**Gass** Snow fell last night about an inch deep, and the morning was stormy. In the middle of the day the weather became clear, and we had a fine afternoon.

**Ordway** cloudy and rain. A little hail and frozen rain & cold—

**Whitehouse** This day was cloudy with some Rain. The day grew very cold, & some hail fell.

**Thursday, December 19**

**Weather Diary**

rained [and hailed] last night and Several Showers of Hail and rain to day. the air Cool.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r & c	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain with intervalles of fair weather last night, this morning Clear & the wind from the SW. The after part of the Day Cloudy with Hail and rain.

**Gass** This was a fine clear cool morning; and we expected to have some fair pleasant weather, but at noon it became cloudy again and began to rain.

**Ordway** rained all last night, and continues hard this mornng.

**Whitehouse** It rained hard all last night, & continued the same this morning.

**Friday, December 20**

**Weather Diary**

Some rain and hail last Night the rain Contd. untill 10 AM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r h	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Some rain and hail last night and this morning it rained hard untill 10 oClock. The after part of the day Cloudy with Several Showers of rain—

**Gass** The morning was cloudy and wet— about 10 o'clock the weather became clear; but before night it rained as fast as before.

**Ordway** cloudy and rain. About 10 o'clock cleared off, but rained again before evening—

**Whitehouse** A Cloudy wet morning, & continued so the whole of this day. We continued on building our huts, notwithstanding the badness of the weather—

**Saturday, December 21**

**Weather Diary**

rained last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained as usual all the last night and contd. moderately all day to day without any intermission.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** Still continues raining by we Still kept at work finishing our huts to make ourselves comfortable &C—

**Whitehouse** A cloudy wet dy as usual, but rather warm.

**Sunday, December 22**

**Weather Diary**

rained last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-



**Daily Narrative Journals**

**Clark** rained Continued all the last night and to day without much intermition. We discover that part of our last Supply of meat is Spoiling from the womph [warmth] of the weather not withstanding a constant Smoke kept under it day and night.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** high wind all last night. The weather rainy warm & wet.

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Monday, December 23**

**Weather Diary**

rained all last night and moderately to day with Several Showers of Hail accompanied with hard Claps of Thunder and Sharp Lightning. (Lewis) rained 21 & 22 all day & night (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r h & l	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained without intermition all the last night and to day with Thunder and some Hail the morning and evening with rain this day.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** nothing extraordinary hapened more than common this day—

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Tuesday, December 24**

**Weather Diary**

rained at intervalles last night and to day.

Sunrise			4 PM			River		

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some hard rain at Different times last night, and moderately this morning and the rest of the day without intermission. A hard rain in the evening.

**Gass** had occasional rain and high winds but the weather continued warm

**Ordway** hard rain as usual.

**Whitehouse** Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Wednesday, December 25**

### Weather Diary

rained at intervalles last night and to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	SW	-	-	-	-	-	-

### Daily Narrative Journals

**Clark** Some rain at different times last night and Showers of hail with intervalles of fair Starr light. worm Day. The day proved Showerey wet and disagreeable.

**Gass** Was another cloudy wet day. had occasional rain and high winds but the weather continued warm

**Ordway** rainy & wet. Disagreeable weather. We all moved in to our new Fort. We expect this to be the last winter that we will have to pass in this way—

**Whitehouse** We had hard rain & Cloud weather as usual.

Thursday, December 26

Weather Diary

rained with violent wind all last night and to day with Hard Claps of thunder & Sharp Lightning.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a t & l	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** rained and blew hard with great violence SE last night, some hard claps of Thunder, The rain continued as usual all day and wind blew hard from the SE.

**Gass** cloudy with rain

**Ordway** we found that our huts Smoked by the high winds and hard Storms hard rain continues as usual—

**Whitehouse** We had Stormy weather the whole of this day. It rain'd most part of this day—

Friday, December 27

Weather Diary

rained moderately last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

Daily Narrative Journals

**Clark** rained last night as usual and the greater part of this day. worm weather. Elk meet nearly Spoiled; & this accident of Spoiled meet, is owing to wormth & the repeated rains, which cause the meet to tante before we Can get it from the woods. Musquestors troublesom

**Gass** cloudy with rain

**Ordway** hard rain all day—

**Whitehouse** It continued raining hard during the whole of this day. ...a large fish was drove by the Wind & waves on the shore near to where their lodges were...

### Saturday, December 28

#### Weather Diary

rained moderately last night and to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

#### Daily Narrative Journals

**Clark** rained as usual the greater part of the last night, and this morning rained and the wind blew hard from the SE. This day is verry worm, and rained all day without intermition.

**Gass** cloudy with rain

**Ordway** Capt. Lewis...three men got ready to go with a canoe to See the whail as we expect it is, but the wind and Storm arose So high that they could not go.

**Whitehouse** This morning it rained & the wind was so high, that it prevented us from going to see the Whale.

### Sunday, December 29

#### Weather Diary

rained moderately last night and to day until 7 AM after Cloudy the remained of the day wind hard from the SE (Lewis) rained moderately without much intermition from the 26<sup>th</sup> until 7 AM this morning hard wind from the SE. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** rained last night as usual, this morning cloudy without rain, a hard wind from the SE. The wind has proved too high as yet for him to Set out in Safety. I have the Satisfaction to Say that we had but little rain in the Course of this day, only not as much as would wet a person. But hard wind and Cloudy all day but very light rain.

**Gass** This was a cloudy morning, but a fair day succeeded

**Ordway** a fair day.

**Whitehouse** This day was fine clear pleasant weather, the first fair day we had for a long time past.

**Monday, December 30**

**Weather Diary**

Hard wind & rain last night. to day tolerably fair.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** Hard wind and Some rain last night. This morning fair and the Sun Shown for a Short time. This day proved the fairest and best we have had Since our arrival at this place, only 3 Showers of rain this whole day, Wind the fore part of the day. Cloudy nearly all day, in the evening the wind lulled and the fore part of the night fair and clear.

**Gass** Heavy shower of rain fell last night, but the morning was fair, and we had some sunshine, which happens very seldom; light showers of rain fell during the day.

**Ordway** a fair morning and a little Sun shine which is very uncommon at this place.

**Whitehouse** We had several showers of Rain during last night, and this morning was fair; and the Sun shone a little which was very uncommon to us—

**Tuesday, December 31**

**Weather Diary**

rained last night and moderately all day to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

**Daily Narrative Journals**

**Clark** A fair night. Last night was Cloudy and Some rain, this day proved cloudy and Some Showers of rain to day. The fore part of this night fair and clear.

**Gass** Another cloudy morning

**Ordway** a cloudy morning. We built a box for the centinel to Stand in out of the rain

**Whitehouse** A cloudy morning.

## Section 5

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# Weather Diary and Narrative Journals Relating to Weather, Water & Climate

NOAA's National Weather Service  
2003-2006 Lewis & Clark Corps of Discovery Bicentennial

# 1806

## January 1, 1806 to September, 30 1806

Wet and disagreeable were the motto of the Corps of Discovery during the winter of 1805-1806 at Fort Clatsop. Endless days of mist, drizzle, rain, thunder and lightning punctuated by three weeks of snow and freezing temperatures resulted in a dreary stay along the Oregon coast. The party occupied their time hunting and boiling ocean water to obtain much needed salt. The Captains spent the hours translating journal entries, visiting neighboring Indian nations and Clark led a small contingent to the Ocean to view a whale. Anxiously wanting to return home with news of their exploits, the Corps set out from Fort Clatsop on March 23, 1806 and proceeded up the flood swollen Columbia River. Missed during their foggy, rainy descent, Clark toured up the Multnomah (Willamette) River reaching a point near modern-day Portland, Oregon. The rapid early Spring waters and strong Columbia River Gorge winds created difficulties for the Corps. Near the Dalles, Oregon, the party purchased horses and traveled by land to the confluence of the Columbia and Walla Walla Rivers. Instead of returning up the Snake River, they followed an overland Indian trail along the Walla Walla River to the confluence of the Snake and Clearwater Rivers.

The Expedition proceeded overland past present-day Lewiston/Clarkston, and Canoe Camp into the heart of the Nez Perce Nation. Finding deep snow in the Bitterroot Mountains, the Indian Chiefs explained that the earliest attempt at the Lolo Trail would be after the flood waters of the Clearwater reduced for at least five days. On June 10 they moved out of the

Clearwater Valley and started up the Lolo Trail. Excessive snowpack from the numerous winter storms produced depths between 10 to 18 feet. The party retreated and made a second attempt on June 25. Safely over the Bitterroots by the end of June, the Expedition split into two parties. Lewis led one group back to the Great Falls of the Missouri and then a smaller party to scout the Marias River. Lewis' party rejoined the larger group below the falls near the end of July and proceeded down the Missouri to rendezvous with Clark at the confluence of the Yellowstone River. Clark took the other party back to the supplies left at the headwaters of the Missouri (Jefferson River) and then proceeded to the Yellowstone River and followed it back to the Missouri. Rainy and thunderstorm laden afternoons plagued the Corps during the summer of 1806. Both parties re-united east of Williston, ND on August 12 and reached the Mandan Villages on August 14. Staying only a couple of days, the party said goodbye to Interpreter Charbonneau, his wife Sacagawea and son 'little Pomp' and Expedition member John Colter, and proceeded down the Missouri. Moving at times 60, 70 and 80 miles a day, the Expedition passed Souix City, Iowa on September 4 and paid respects to the only Expedition member to die, Sergeant Charles Floyd. Returning to the sultry mid-section of America, the Corps passed Kansas City on September 15. Just as it had bid them farewell in May of 1804, the rains greeted their return to the confluence of the Missouri and Mississippi and on to St. Louis that last travel day of September 23, 1806.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1806. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)



# January 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition established Fort Clatsop on December 7, 1805 near present-day Astoria, Oregon and remain here for winter quarters until they leave on March 23, 1806 on their return trip back to St. Louis and the United States of America.

Wednesday, January 1

#### Weather Diary<sup>1</sup>

sun visible for a few minutes about 11 AM. the changes of the weather are exceedingly suddon. sometimes tho' seldom the sun is visible for a few moments the next it hails & rains, then ceases, and remains cloudy the wind blows and it again rains; the wind blows by squalls most generally and is almost invariably from SW these visicitudes of the weather happen tow three or more times half a day. Snake seen 25<sup>th</sup> Decembr.

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	r a c	S	-	-	-

1 Reference: Coues, Volume III, pages 1276, 1291-92; Moulton, Volume 6, pages 258-262; Thwaites, Volume 6, Part II, pages 202-205.

2 No data for rivers was recorded while the party was camped at Fort Clatsop.

#### Daily Narrative Journals

**Clark** This morning proved cloudy with moderate rain, after a pleasant worm night during which there fell but little rain— Some fiew Showers of rain in the Course of this day. Cloudy all the day.

**Gass** The year commenced with a wet day; but the weather still continues warm; and the ticks, flies and other insects are in abundance, which appears to us very extraordinary at this season of the year, in a latitude so far north.

**Ordway** a pleasant morning.

**Whitehouse** The Morning was pleasant. The Winters here are not very Cold, & the ground has not as yet been cover'd with Snow this Winter.

Thursday, January 2

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	r	SW	-	-	-

Daily Narrative Journals

**Clark** A cloudy rainy morning after a wet night. The day proved Cloudy and wet.

**Gass** This was a cloudy wet day

**Ordway** rained the greater part of last night and continues this morning.

**Whitehouse** It rained the greater part of last night, and continued to rain hard this morning. We had hard Showers of rain during this whole day.

Friday, January 3

Weather Diary

the sun visible for a few minutes only. The thunder and lightning of the last evening was violent. a Singular occurrence for the time of year. the loss of my Thermometer I most sincerely regret. I am confident that the climate here is much warmer than in the same parallel of Latitude on the Atlantic Ocean tho' how many degrees is now out of my power to determine. Since our arrival in this neighbourhood on the 7<sup>th</sup> of November, we have experienced one slight white frost only which happened on the morning of the 16<sup>th</sup> of that month. we have yet seen no ice, and the weather so warm that we are obliged cure our meat with smoke and fire to save it. we lost two parcels by depending on the air to preserve it, tho' it was cut in very thin slices and sufficiently exposed to the air.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r h t & l	SW	-	c a r h f	SW	-	-	-

Daily Narrative Journals

- Clark** The Sun rose fair this morning for the first time for Six weeks past, the Clouds Soon obscure it from our view, and a Shower of rain Suckceeded— last night we had Sharp lightening a hard thunder Suckceeded with heavy Showers of hail, and rain, which Continud with intervalles of fair moon Shine dureing the night.
- Gass** The weather is still cloudy and wet. Rain still continued
- Ordway** hard Thunder hail and rain the greater part of last night.
- Whitehouse** We had hard thunder, hail & Rain the greater part of last night, & light showers of rain this morning.

**Saturday, January 4**

**Weather Diary**

the sun visible about 2hours

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & h	SW	-	r a f & r	SE	-	-	-

**Daily Narrative Journals**

- Gass** The morning was wet.
- Ordway** Small Showers of rain and hail as usal.
- Whitehouse** We had small showers of rain & some hail this morning. The Rain continued the greater part of this day—

**Sunday, January 5**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	r	SE	-	-	-

**Daily Narrative Journals**

**Gass** This was a very wet day. I, however, notwithstanding the cold, stript and swam to the raft, brought it over and then crossed on it in safety. The rain and wind continued so violent that we agreed to stay at these camps all night.

**Ordway** a wet rainy morning.

**Whitehouse** A wet rainy morning.

**Monday, January 6**

**Weather Diary**

the sun shown about 5 hours this evening & it continued fare during the night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f	E	-	-	-

**Daily Narrative Journals**

**Lewis** The humidity of the air has been so excessively great.

**Clark** all last night rained without intermition, & the morning. Soon after I arrived in the Bay the wind Sprung up from the NW and blew So hard and raised waves so high that we were obliged to put into a Small Creek Short of the village. The evening a butifull Clear moon Shiney night, and the 1<sup>st</sup> fair night which we have had for 2 months

**Gass** We had a fair morning and the weather cleared up, after two months of rain, except 4 days.

**Ordway** about 9 oClock AM cleared off pleasant and warm.

**Whitehouse** About 7 oClock the Weather cleared off, & became warm & pleasant which continued during the whole of this day—

Tuesday, January 7

Weather Diary

it clouded up just about sunset, but shortly after became fare.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c a r <sup>3</sup>	SE	-	-	-

3 Clark's Journal Codex I lists this weather data as "c a f."

Daily Narrative Journals

**Lewis** this is the first day during which we have had no rain since we arrived at this place. Nothing extraordinary happened today—

**Clark** Some frost this morning. I hesitated a moment & view this emence mountain the top of which (apd) was obscured in the clouds.

**Gass** Another fine day.

**Ordway** clear and pleasant. Contn. Clear all day which is a very uncommon thing at this place.

**Whitehouse** We had a clear pleasant night, & still continues so this morning; which is rare to be met with at this place at this Season of the Year.

Wednesday, January 8

Weather Diary

lost my PM obstn. for Equal Altitudes.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c a f	SE	-	-	-

Daily Narrative Journals

**Lewis** In the consequence of the clouds this evening I lost my PM observation for Equal

Altitudes, and from the same cause have not been able to take a single observation since we have been at this place.

**Clark** The last night proved fair and Cold wind hard from the SE. a fine morning wind hard from the SE. The high tide obliged me to delay untill late before the tide put out. A fair night wind blew from the SE.

**Gass** Another fine day.

**Ordway** a clear warm morning—

**Whitehouse** A fine warm morning.

**Thursday, January 9**

**Weather Diary**

began to rain at 10 PM and continued all night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	Sw	-	c a f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning wind NE. Day Clouded up. Day proved fine. Rained the greater part of the night.

**Gass** fair and pleasant. during the night some rain fell.

**Ordway** rained the greater part of lat night but cleared off pleasant this morning, and continues warm

**Whitehouse** It rained the greater part of last night The Weather cleared off this morning & became warm & pleasant.

**Friday, January 10**

**Weather Diary**

Various flies and insects now alive and in motion.

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	Sw	-	c a f	SW	-	-	-

### Daily Narrative Journals

**Clark** arrived at the fort, wet and Cold at 9 oClock PM. I arrived at the Canoes about Sunset, the tides was Comeing in.

**Gass** The morning was fine

**Ordway** a clear pleasant day.

**Whitehouse** A Clear pleasant day. ...several small Indian Villages...which lived on the Whales that were thrown ashore by the Waves, in tempestuous Weather.

**Saturday, January 11**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	c a r	SW	-	-	-

### Daily Narrative Journals

**Lewis & Clark** this morning the Sergt. Of the guard reported the absence of our Indian Canoe, on enquiry we found that those who came in it last evening had been negligent in securing her and the tide in the course of the night had taken her off.

**Gass** Pleasant

**Whitehouse** And this morning, we had pleasant weather. We had rain towards night—

**Sunday, January 12**

**Weather Diary**

cool this morning but no ice nor frost at midday sand flies and insects in motion the wind from any quarter off the land or along the NW Coast causes the air to become much cooler. every species of waterfowl common to this country at any season of the year still continues with us.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NW	-	c	NW	-	-	-

**Daily Narrative Journals**

**Ordway** a fair morning.

**Whitehouse** A Clear pleasant Morning.

**Monday, January 13**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** The bay in which this trade is carried on is spacious and commodious, and perfectly secure from all except the S and SE winds, these however are the most prevalent and strong winds in the Winter season.

**Clark** The Bay in which this trade is Carried on is Spacious and Commodious, and perfectly Secure from all except the S and SE winds and those blow but Seldom the most prevalent & Strong winds are from the SW and NW in the winter season.

**Gass** The weather changed and we had a cloudy wet day

**Ordway** rained hard all last night and continues this morning.



**Whitehouse** It rained during the whole of last night and continues Raining this morning.

**Tuesday, January 14**

**Weather Diary**

weather perfectly temperate I never experienced a winter so warm as the present has been.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE <sup>4</sup>	-	c a r	S	-	-	-

<sup>4</sup> Clark's Journal Codex I lists this wind direction as "NW."

**Daily Narrative Journals**

**Lewis & Clark**

This morning the Sergt. of the Guard reported the absence of one of the large perogues, it had broken the chord by which it was attached and the tide had taken it off....found her. We now directed three of the perogues to be drawn up out of reach of the tide.

**Gass** The morning was pleasant

**Ordway** the tide water took away one of our canoes but we Soon found it again

**Whitehouse** A fine pleasant morning.

**Wednesday, January 15**

**Weather Diary**

Saw several insects, weather warm, we could do very well without fire, I am satisfied that the murcury would stand at 55 a 0.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	SE	-	r a r	S	-	-	-

**Daily Narrative Journals**

**Lewis** we had determined to send out two hunting parties today but it rained so incessantly that we postponed it.

**Clark** rained hard all day.

**Gass** wet throughout

**Ordway** rained hard the greater part of the day.

**Whitehouse** It rained hard, & we had stormy weather

**Thursday, January 16**

**Weather Diary**

wind hard this morning rained incessantly all night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	r a r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** ...every one appears content with his situation and his fare. It is true that we could even travel now on our return as far as the timbered country reaches, or to the falls of the river; but further it would be madness for us to attempt to precede until April, as the Indians inform us that the snows lie knee deep in the plains of Columbia during the winter, and in these plains we could scarcely get as much fuel as would cook our provision as we descended the river; and even were we happily over the plains and again in the woody country at the foot of the Rocky Mountains we could not possibly pass that immense barrier of mountains on which the snows lie in winter to the depth in many places of 20 feet; in short the Indians inform us that they are impracticable until about the 1<sup>st</sup> of June, at which time even there is an abundance of snow but a scanty subsistence may be obtained for the horses. We should not therefore forward ourselves on our homeward journey by reaching the rocky mountains. Early than the 1<sup>st</sup> of June, which we can easily effect by setting out from hence on the 1<sup>st</sup> of April.

**Gass** wet throughout

**Ordway** the rain & Storm high wind continues as usual.

**Whitehouse** It rained hard, & we had stormy weather

Friday, January 17

Weather Diary

rained incessantly all night, insect in motion

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c	SW	-	-	-

Daily Narrative Journals

**Gass** some cloudy, but about 10 o'clock they disappeared and we had a fine day

**Whitehouse** It continued stormy all last night, and this morning Wet & rainy.

Saturday, January 18

Weather Diary

rained very hard last night

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	c a r	SW	-	-	-

Daily Narrative Journals

**Gass** Last night was very dark; and early in it rain came on and continued all night. This day is also wet.

**Ordway** hard rain all last night, and continues as usual.

**Whitehouse** It rained hard all last night, & still continued the same this morning. It continued Raining during the whole of this day.

**Sunday, January 19**

**Weather Diary**

rained the greater part of last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	S	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Gass** morning was fair with flying clouds; but in the evening it began to rain again.

**Ordway** moderate Showers of rain.

**Whitehouse** This morning we had moderate showers of rain

**Monday, January 20**

**Weather Diary**

rained greater part of night wind hard

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	r a r	SW	-	-	-

**Daily Narrative Journals**

**Gass** It rained hard all day. The evening was so wet and stormy.

**Ordway** rainy and wet.

**Whitehouse** Wet & rainy weather during the whole of this day. Nothing material occurred worth mentioning.

**Tuesday, January 21**

**Weather Diary**

wind hard this morning contued all day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Gass** rain

**Ordway** Cloudy and rain.

**Whitehouse** A Cold cloudy day with Rain.

**Wednesday, January 22**

**Weather Diary**

wind violent last night & this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Clark** Some rain this day at intervales—

**Gass** rain. I saw some amazingly large trees of the fir kind; they are from 12 to 15 feet in diameter.

**Ordway** a hard Storm of rain and verry high wind. We had a disagreeable time of it.

**Whitehouse** A hard storm of Wind & Rain. A very disagreeable time of it.

Thursday, January 23

Weather Diary

the sun shown about 2 h in the fore noon when the sun is said to shine ore the weather fair it is to be understood that it bearly casts a shaddow, and that the atmosphere is haizy of a milkey white colour.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r h t & l <sup>5</sup>	SW	-	c a f	SW	-	-	-

5 Clark's Journal Codex I lists this weather data as "c a r t & l."

Daily Narrative Journals

**Gass** We had a fine clear cool morning the day continued pleasant until about 4 o'clock in the afternoon, when the weather became cloudy, and it began to rain.

**Ordway** a little Thunder and hail in the course of last night high wind & C—

**Whitehouse** We had during last night thunder & some hail Showers. It rained & we had high wind during this day—

Friday, January 24

Weather Diary

this morning the snow covered the ground and was cooler than any wether we have had, but no ice

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & s	SE	-	c a r h & s	E	-	-	-

Daily Narrative Journals

**Clark** The nativs of this neighbourhood ware no further Covering than a light roabe, their feet legs & every other part exposed to the frost Snow & ice & c.

**Gass** At daylight some snow fell, and there were several snow showers during the day. The Indians were barefooted notwithstanding the snow on the ground; and the

**Ordway** evening was so bad we permitted them to stay in the fort all night. a light Snow fell the later part of last night. Several Showers of rain and hail this morning.

**Whitehouse** Last night we had a light snow, which hardly made the ground white, & some showers of rain & hail fell during this day.

**Saturday, January 25**

**Weather Diary**

the ground covered with snow this morning 1/2 inch deep ice on the water in the canoes 1/4 of an inch thick. it is now preceptably colder than it has been this winter.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h a r h & s	NE	-	c a r h & s	NE	-	-	-

**Daily Narrative Journals**

**Gass** The morning was cloudy and some showers of snow fell in the course of the day; and in the night it feel to the depth of 8 inches.

**Ordway** froze a little last night, and a little more Snow fell intermixet with hail. Continues Squawly this morning.

**Whitehouse** We had snow during last night & it continued snowing lightly this morning. The ground had froze a little.

**Sunday, January 26**

**Weather Diary**

at 4 PM last evening the snow was one Inch deep at sunrise this morning 4 1/2 (Clark has 4 3/4 written down) inches deep icesickles of 18 Inches in length hanging to the eves of the houses. colder than it has been the snow this evening is 4 3/4 inches deep, the icesickles of 18 inches in length continued suspended from the eves of the houses during the day. it now appears something like winter for the first time this season.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a h & s	NE	-	c a s	NE	-	-	-

### Daily Narrative Journals

**Lewis & Clark**

(evergreen huckleberry) this shrub retains it's virdure very perfectly during the winter and is a beautifull shrub.

**Gass**

some light showers during the day, but the evening the weather cleared up and it began to free hard. This is the first freezing weather of any consequence we have had during the winter.

**Ordway**

considerable of Snow fell in the course of last night and continues this morning, and cold freezing weather the Snow is this evening about 5 Inches deep on a level—

**Whitehouse**

During last night we had considerable Snow & it continued snowing this morning. The weather was cold & freezing & the Snow lay on the ground during this day 5 Inches deep on a level It continued Snowing 'till the Evening.

**Monday, January 27**

### Weather Diary

the sun shone more bright this morning than it has done since our arrival at this place. the snow since 4 PM yesterday has increased to the debth of 6 Inches, and this morning is perceptibly the couldest that we have had. I suspect the Murcury would stand at about 20<sup>0</sup> above naught' the breath is perceptible in our room by the fire.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a s	NE	-	f	NE	-	-	-

### Daily Narrative Journals

**Lewis & Clark**

a county almost inaccessible from the fallen timber, brush and sink-holes, which were now disgused by the snow.



**Gass** This was a clear cold frosty morning, and the snow about 9 inches deep. Where the sun shone on it during the day, a considerable quantity melted; but these places were few as the whole face of the country near this is closely covered with fire timber.

**Ordway** froze hard last night a clear cold morning

**Whitehouse** It froze hard during last night, & this morning was clear & cold.

**Tuesday, January 28**

**Weather Diary**

last night exposed a vessel of water to the air with a view to discover the debth to which it would friez in the course of the night, but unfortunately the vessel was only 2 inches deep and it freized the whole thickness; how much more it might have frozen had the vessel been deeper is therefore out of my power to decide. it is the coldest night that we have had, and I suppose the murcury this morning would have stood as low as 15<sup>0</sup> above 0.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** the badness of the weather and the difficulty of the road had caused their delay. The Elk had been killed just before the snow fell which had covered them and so altered the apparent face of the county that the hunters could not find the Elk

**Gass** A clear cold morning, and the weather continued cold all day. About half of our men were employed in bringing home meat; and it was found a very cold uncomfortable business.

**Ordway** a clear cold morning, and freezing hard.

**Whitehouse** A Clear cold morning, & freezing weather. I got during this day my feet severely frost bit—

Wednesday, January 29

Weather Diary

not so could, water in a vessel exposed to the [air] during the night freized 3/8ths of an inch only.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

Daily Narrative Journals

**Lewis & Clark**

*Sac a commis* - this shrub is an evergreen, the leaves retain their viridure most perfectly through the winter even in the most rigid climate as on lake Winnipic. The frost appears to take no effect on it.

**Gass**

We had a cold clear morning; and the day continued clear throughout.

**Ordway**

froze hard last night a clear cold morning. We do nothing except git wood for our fires &C.

**Whitehouse**

It froze very hard during last night, & this morning was clear cold weather.

Thursday, January 30

Weather Diary

the weather by no means as could as it has been snow feell about one inch deep

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	s a s	N	-	c a s	W	-	-	-

Daily Narrative Journals

**Lewis & Clark**

the Clatsops - they never wear leggins or mockersons which the mildness of this climate I presume has rendered in a great measure unnecessary

- Gass** the weather was cloudy and not so cold as the day before; and some snow fell.
- Ordway** Cloudy and cold. Some fine Snow fell this morning. The evening clear and cold—
- Whitehouse** This day Cold & Cloudy, & some Snow fell, in the fore part of this day. In the Evening we had clear cold weather.

**Friday, January 31**

**Weather Diary**

this morning is pleasant, the night was clear and cold. notwithstanding the cold weather the Swan white Brant geese & ducks still continue with us; the sandhill crane also continues.— the brown or speckled brant are mostly gone some few are still to be seen the Cormorant loon and a variety of other waterfowls still remain. The Winds from the Land brings us cold and clear weather while those obliquely along either coast or off the Oceans bring us warm damp cloudy and rain weather. the hardest winds are always from the SW.

The blue crested Corvus bird has already began to build it's nest. their nests are formed of small sticks; usually in a pine tree.—

Great numbers of Ravens, and a Small black Crow are continually about us. The pale yellow streaked and dove coloured robin is about, also the little brown vireo or fly-catcher which is a little larger than the humming bird.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

- Lewis & Clark** Sent a party of eight men up the river this morning to renew their search for Elk and also to hunt; they proceeded but a few miles before they found the river so obstructed with ice that they were obliged to return.
- Gass** This was a clear cold morning.
- Ordway** a clear cold freezing morning. Six men set out a hunting took a canoe found Ice in the River so that they turned back.
- Whitehouse** A Clear cold morning with frost. Sergt. Gass & party returned, & informed us that the River was frozen across a short distance up it & that they could not proceed—

# February 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained at their winter quarters at Fort Clatsop near present-day Astoria, Oregon during February 1806.

Saturday, February 1

#### Weather Diary <sup>1</sup>

the weather by no means as could as it was tho' it freized last night

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

1 Reference: Coues, Volume III, pages 1276-77, 1292-93; Moulton, Volume 6, pages 362-365; Thwaites, Volume 6, Part II, pages 205-207.

2 No data for rivers was recorded while the party was camped at Fort Clatsop.

#### Daily Narrative Journals

**Lewis & Clark**

This morning 5 went to find the Elk which had been killed some day since, and which could not be found in consequence of the snow.

**Gass**

We had a fine clear cold morning.

**Ordway**

a clear cold morning.

**Whitehouse**

A clear cold morning.;

Sunday, February 2

#### Weather Diary

the bald Eagle still remains.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c a s	SW	-	-	-

### Daily Narrative Journals

**Gass** The morning was pleasant and the weather more moderate. About the middle of the day it began to thaw and in the evening rain.

**Ordway** the weather moderate. In the afternoon cloudy & a little Snow— but not any worth mentioning.

**Whitehouse** We had a clear morning, & the day was moderate. In the evening it was cloudy & a little Snow fell—

**Monday, February 3**

### Weather Diary

the snow fell about half an inch, but the rain which succeeded soon melted it at 9 AM the sun shone. the rain which fell in the latter part of the night froze and formed a slight incrustation on the snow which fell some days past, and also on the boughs of the trees &c. yesterday it continued fair until 11 AM when the wind veered about to SW and the horizon was immediately overcast with clouds, which uniformly takes place when the wind is from that point.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s & r	NW	-	c a f	NE	-	-	-

### Daily Narrative Journals

**Lewis & Clark**

the winds was so high that they were unable to set out until a little before sunset, when they departed; at 10 PM they returned excessively cold and informed us that they could not make land on this side of the bay nor get into the creek in consequence of the tide being out and much lower than usual.

**Gass** Some light showers of rain fell in the course of the night; and this day is still somewhat wet and cloudy.

**Ordway** a little frozen rain. Six men set out with a canoe after the meat, but the wind So high that obledged them to return

**Whitehouse** We had a little frost, & the weather has moderated since Yesterday. Six men went out...but soon returned the wind being too high for them to proceed. In the evening they attempted it again, but the tide was so low that they could not get near the Shore

**Tuesday, February 4**

**Weather Diary**

the last night clear and could the Netul frozen over in several places. all the waterfowls before innumrated still continue with us. the bird which resembles the robbin have now visited us in small numbers saw two of them yesterday about the fort; they are gentle.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Gass** This was a fine clear morning. This day continued throughout clear and pleasant.

**Ordway** a clear pleasant morning. Tide high—

**Whitehouse** A Clear pleasant morning. We had a very high tide this day.

**Wednesday, February 5**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

I sent sergt. Gass and party of men over; the tide being in, they took advantage of a little creek...recovered our Indian Canoe, so long lost and much lamented.

**Gass** clear cool day

**Ordway** a beautiful pleasant morning.

**Whitehouse** We had a beautiful pleasant cool morning.

**Thursday, February 6**

**Weather Diary**

very cold last night think it reather the coldest night that we have had. cloudy at 9 AM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c	SW <sup>3</sup>	-	-	-

3 Clark's Journal Voorhis No. 2 lists this wind direction as "NW."

**Daily Narrative Journals**

**Gass** We had a cool fair morning. 10 of us had to camp out, with the assistance of the elk skins and our blankets, we lodged pretty comfortable, though the snow was 4 or 5 inches deep.

**Whitehouse** This morning we had pleasant weather.

**Friday, February 7**

**Weather Diary**

continued cloudy all night a little snow at 10 AM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	c	SW	-	-	-

### Daily Narrative Journals

**Gass**            The morning was fair. It rained hard and we had a disagreeable night.

**Ordway**        hard rain & C—

**Whitehouse**    The weather continued pleasant. A short time after dark we had a hard Rain—

### Saturday, February 8

#### Weather Diary

it was principally rain which fell since 4 PM yesterday, it has caused the snow to disappear the rain of the last night has melted down the snow which has continued to cover ground since the 24<sup>th</sup> of January; the feeling of the air and other appearances seem to indicate, that the rigor of the winter have passed; it is so warm that we are apprehensive that our meat will spoil, we therefore cut it in small peices and hang it seperately on sticks. Saw a number of insects flying about. the small brown flycatch continues with us. this is the smallest of all the American birds except the humming bird.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s r & h	SW	-	c a f r h & s	SW	-	-	-

### Daily Narrative Journals

**Gass**            About noon there were showers of rain and hail

**Ordway**        rained verry hard all last night we had several showers of hail this evening.

**Whitehouse**    It rained very hard the greater part of last night; the Men that went after the meat had a very disagreeable time of it. We had several small showers of rain & hail in the Evening.



**Sunday, February 9**

**Weather Diary**

principally rain which has fallen

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & h	SW	-	c a r & h	SW	-	-	-

**Daily Narrative Journals**

**Gass** We had a fine morning; but in the course of the day we had sometimes sunshine, and sometimes showers of rain.

**Ordway** Several Showers of hail in course of the day.

**Whitehouse** We had small showers of rain during this day

**Monday, February 10**

**Weather Diary**

Snow covered the ground this morning disappeared before evening. sun shown 2 hours

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r h & s	N	-	c a f & c	SW	-	-	-

**Daily Narrative Journals**

**Gass** A light snow fell last night, the morning was pleasant

**Ordway** a fair morning. A little Snow fell last night.

**Whitehouse** We had some Snow fell during last night and this morning the weather was clear & pleasant.

Tuesday, February 11

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f & c	SW	-	r a f & r	SW	-	-	-

Daily Narrative Journals

**Gass** This was a fine morning. We went out to hunt and remained out until the 17<sup>th</sup> during which time there was a great deal of heavy rain, and the weather changeable and disagreeable— During one of the most disagreeable nights, myself and another lay out in our shirts and overalls, with only one elk-skin to defend us from a violent night's rain. Our shirts and overalls being all of leather made it the more disagreeable

**Ordway** the after part of the day rainy.

**Whitehouse** We had a fine clear day. The latter part of the day was rainy—

Wednesday, February 12

Weather Diary

it rained the greater part of last night.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r & c	SW	-	r a c & r	SW	-	-	-

Daily Narrative Journals

**Ordway** continues raining.

**Whitehouse** This day was rainy & wet.

**Thursday, February 13**

**Weather Diary**

Wind very hard last evening and all night

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Ordway** cloudy and rain.

**Whitehouse** It rained the greater part of last night, and this morning was cloudy.

**Friday, February 14**

**Weather Diary**

very small quantity of snow fell last night not enough to cover the ground somewhat colder this morning. the sun shown only a few moments.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f & s	SW	-	r a r f & r	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** I completed a map of the Countrey through which we have been passing from the Mississippi at the Mouth of Missouri to this place. We now discover that we have found the most practicable and navigable passage across the Continent of North America. We discovered that there were no salmon in the Flathead river.

**Ordway** the morning warm and Showers of rain through the course of this day—

**Whitehouse** This morning was warm, & we had showers of rain during the whole of this day—

**Saturday, February 15**

**Weather Diary**

fair most of last night hard frost this morning. the ground white with it. The robbin returned and were singing which reminded me of spring. some other small birds passed on their flight from the South, but were so high that we would not distinguish of what kind they were. the robbin had left this place before our arrival in November.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & f	S	-	c a r & f	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

Bratton informed that the cause of Sergt. Pryor's delay was attributeable to the winds which had been so violent for several days as to render it impossible to get a canoe up the creek. The SW winds are frequently very violent on the coast when we are but little sensible of them at Fort Clatsop. (Eastern Columbia Valley) no rain scarcely ever falls in these plains and the grass is short and but thin.

**Ordway** a fair day.

**Whitehouse** A clear morning.

**Sunday, February 16**

**Weather Diary**

but a small quantity of snow nearly all dissolved by morning with the succeeding rain. at 11 AM it became fair and the insects were flying about. at ½ after 12 O'Clock it again clouded up and began to rain.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a s & f	SW	-	r a f & r	SW	-	-	-

**Daily Narrative Journals**

**Ordway** hard rain in the course of last night.  
**Whitehouse** We had hard rain during last night

**Monday, February 17**

**Weather Diary**

the hail and snow covered the ground this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r h & s	SW	-	r a f h s & r	SW	-	-	-

**Daily Narrative Journals**

**Gass** The day was stormy

**Ordway** a little Snow fell this afternoon.

**Whitehouse** during last night some Snow fell. This Morning the weather clear.

**Tuesday, February 18**

**Weather Diary**

wind violent greater part of the day and all night

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & h	SW	-	r a r & h	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** Sergt. Gass returned and reported that the waves ran so high in the bay that he could not pass to the entrance of the creek.

**Gass** The morning of this day war cloudy. The weather was so stormy, we could not get round the bay, and we all returned to the fort.

**Ordway** we found the wind so high at the bay that we had to return to the Fort. Had Several Squalls of wind & rain.

**Whitehouse** This morning clear & pleasant weather. The party that were going to the Salt Camp on arriving at the bay, found the wind blowing so hard, that they returned to the fort— We had several squalls of wind attended with rain in the course of this day—

**Wednesday, February 19**

**Weather Diary**

wind violent all day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	r a r	SW	-	-	-

**Daily Narrative Journals**

**Gass** The day was very wet and stormy

**Ordway** a hard Storm of wind and rain. The frozen rain beat in our faces very hard. Sand flew & waves rold.

**Whitehouse** We had a hard Storm of Rain & high Wind, blowing from the SW. We proceeded on about half way, when the Storm was so high in the Priari, & on the Coast, that we could not proceed without suffering by the Sand blowing in our faces— and the Rain that fell froze & cut our faces likewise. We crossed a Creek, which took us middle deep, which benumbed & Chilled the party very much. We came to an Old deserted Indian hut, in which we made a fire. We staid at this place all night in expectation of the weather being better by morning—

**Thursday, February 20**

**Weather Diary**

wind violent all night and the greater part of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r	SW	-	-	-

### Daily Narrative Journals

**Gass** This was a cloudy morning. The Indians hats are made of cedar bark and silk grass...they keep the rain out. But little rain fell to day

**Ordway** the wind continued verry high from the SW we Set out eairly and proced. on along the coast facing the wind the Sand cut our faces waided a creek rapid curret the waves roles verry high and white froth flying &C. (At the Salt Works, near Seaside, Oregon)

**Whitehouse** The wind still continued very high, blowing from the SW. The wind fell a little.

**Friday, February 21**

### Weather Diary

the wind continues high this morning & untill evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	SW	-	r a c & r	SW	-	-	-

### Daily Narrative Journals

**Lewis & Clark** Drewyer and Collins went in pursuit of some Elk, the tracks of which Collins had discovered yesterday; but it rained so hard that they could not pursue them by their tracks and returned unsuccessfull.

**Gass** had a very unpleasant day, as it rained hard during the whole of it

**Ordway** when we got half way Set in to Storming & rained verry hard & the wind blew so high that we could not cross the creek in a canoe and waided across and got to the fort about half past 12 oClock the day verry disagreeable and Stormey &C.

**Whitehouse** A Cloudy morning. The party from the Salt works...had come about half way, when

it set in to raining very hard, and the wind blew so hard, that they could not cross the Creek in the Canoe. This party had to wade this Creek. It continued raining very hard which occasioned that party to hurry on & they walked very fast till they arrived at the fort, which was half past 12 o'clock AM.

**Saturday, February 22**

**Weather Diary**

the wind scarcely perceptible

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE	-	c a f		NE -	-	-

**Daily Narrative Journals**

**Gass** This was a fine clear day.

**Ordway** a fair morning.

**Whitehouse** We had a pleasant morning, but cool.

**Sunday, February 23**

**Weather Diary**

heavy frost this morning. at eleven AM it clouded up and continued so all day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	c a f	SW	-	-	-

**Daily Narrative Journals**

**Gass** clear and pleasant

**Ordway** a fair morning.



**Whitehouse** A pleasant morning.

**Monday, February 24**

**Weather Diary**

the wind became hard this evening. much warmer this morning than usual. the aquatic and other birds heretofore enumerated continue with us still. the Sturgeon and a small fish like the Anchovey begin to run. they are taken in the Columbia about 40 miles above us. the anchovey is exquisitely fine.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f & c	SW	-	r a c & r	S	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

we purchased all the articles which these people brought us; we suffered these people to remain all night as it rained, the wind blew most violently and they had their women and children with them.

**Gass**

the morning was cloudy and at 10 o'clock it began to rain hard. The rain continued with high stormy wind; and we suffered the Indians to remain in the fort all night.

**Ordway**

Cloudy

**Whitehouse**

This morning we had Cloudy weather.

**Tuesday, February 25**

**Weather Diary**

the wind violent all night and this morning continued until late in the evening when it ceased.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	S	-	r a r	S	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** It continued to rain and blow so violently that there were no movement of the party today. I am mortified at not having it in my power to make more celestial observations since we have been at Fort Clatsop, but such has been the state of the weather that I have found it utterly impracticable—

**Gass** The rain continued and the weather was story. About 10 o'clock the natives went away, though it continued to rain very fast.

**Ordway** a hard Storm of wind and rain. I feel a little better. The Storm contnd' thro the course of the day—

**Whitehouse** This morning a hard Storm of wind arose accompanied with Rain. The storm continued during the whole of this day—

**Wednesday, February 26**

**Weather Diary**

at 9 AM it clouded up again

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE	-	c a f & r	S	-	-	-

**Daily Narrative Journals**

**Gass** had a fair morning

**Ordway** the morning fair.

**Whitehouse** A pleasant morning & Clear weather.

**Thursday, February 27**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	r a r	SW	-	-	-

**Daily Narrative Journals**

**Gass** cloudy wet day  
**Ordway** a rainy wet morning.  
**Whitehouse** We had a rainy wet morning.

**Friday, February 28**

**Weather Diary**

it rained constantly during the last night. the sun shown about 9 AM partially a few minutes saw a variety of insects in motion this morning some small bugs as well as flies. A brown fly with long legs about half the size of the common house fly was the most common. this has been the first insect that appeared it is generally about the sinks or filth of any kind. The yellow and brown flycatch has returned. It is a very small bird with a tail as long proportiably as a Sparrow.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r r r	SW	-	c a c & f	SW	-	-	-

**Daily Narrative Journals**

**Gass** This was a foggy morning, and the afternoon cloudy. The greater part of this day was fair and pleasant.  
**Ordway** rained very hard the greater part of last night.  
**Whitehouse** It rained the greater part of last night & this day proved wet & Rainey.

# March 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Clatsop near present-day Astoria, Oregon until they leave on March 23, 1806 on their return trip back to St. Louis and the United States of America.

Saturday, March 1

#### Weather Diary<sup>1</sup>

The clouds interfered in such manner that no observations could be made this morning.— a great part of this day was so warm that fire was unnecessary, notwithstanding it's being cloudy and raining.

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & c	SW	-	r a c & r	SW	-	-	-

1 Reference: Coues, Volume III, pages 1277, 1293-94; Moulton, Volume 7, pages 42-48; Thwaites, Volume 6, Part II, pages 208-211.

2 No data for rivers was recorded while the party was camped at Fort Clatsop.

#### Daily Narrative Journals

**Gass** had a cloudy wet morning.

**Ordway** a fair morning. The day Showery and wet.

**Whitehouse** A pleasant morning. The afternoon proved Showery & wet.

Sunday, March 2

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	S	-	r a c & r	S	-	-	-

Daily Narrative Journals

**Gass** This day was also wet.

**Ordway** a rainy morning.

**Whitehouse** This morning rainey & Wet.

Monday, March 3

Weather Diary

rained and the wind blew hard all night. Air perfectly temperate.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	S	-	c a r	S	-	-	-

Daily Narrative Journals

**Gass** It rained all this day

**Ordway** hard rain all last night. A rainy wet day.

**Whitehouse** We had hard rain all last night, & this morning it sill continued the same, & lasted during the whole of this day.

**Tuesday, March 4**

**Weather Diary**

rained constantly most of the night. Saw a Snail, this morning, they are very large.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	S	-	r a r	S	-	-	-

**Daily Narrative Journals**

**Gass** It rained all this day

**Ordway** rained hard all last night and continues all this day.

**Whitehouse** It rained hard all last night, & continued the same during the whole of this day.

**Wednesday, March 5**

**Weather Diary**

the air is considerably colder this mornng but nothing like freizing.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	c a r	S	-	-	-

**Daily Narrative Journals**

**Clark** a high mountain [Saddle Mountain] is Situated S 60<sup>0</sup> W about 18 miles from Fort Clatsop on which there has been Snow Since Nov.

**Gass** About 12 o'clock last night, the rain ceased, and we had a fine morning.

**Ordway** a fair morning.

**Whitehouse** a pleasant morning.

**Thursday, March 6**

**Weather Diary**

altho' it is stated to be fair this morning the sun is so dim that no observations can be made Saw a spider this morning, tho' the air ir perceptably colder than it has been since the 1<sup>st</sup> inst.— at 9 AM it clouded up and continued so the ballance of the day. Even the Easterly winds which have heretofore given us the only fair weather which we have enjoyed seem now to have lost their influence in this respect.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	c a f	SE	-	-	-

**Daily Narrative Journals**

**Gass** This day continued fair throughout.

**Ordway** a fair morning

**Whitehouse** We had a pleasant morning

**Friday, March 7**

**Weather Diary**

Sudden changes & frequent, during the day, scarcely any two hours of the same discription. the Elk now being to shed their horns. a bird of a scarlet colour as large as a common pheasant with a long tail has returned, one of them was seen today near the fort by Capt. Clark's black man, I could not obtain a view of it myself.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r & h	SE	-	r a f r h c & f	SE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** The wind was so high that Comowol did not leave us untill late this evening.



**Gass** This was a wet morning, and some shower fell occasionally during the day.

**Ordway** a little hail last night and Showers of hail and rain this morning.

**Whitehouse** A Rainey wet morning

### Saturday, March 8

#### Weather Diary

the ground covered with hail and snow this morning, air cool but not freizing.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h & r a h r & s	S	-	r a r & h	SE	-	-	-

#### Daily Narrative Journals

**Gass** Some snow fell last night, and the morning was stormy and disagreeable.

**Ordway** we had Showers of hail and rain last night and continues this morning the day cold and Showery—

**Whitehouse** We had showers of hail during last night; and we have Showers of Rain & hail this morning.

### Sunday, March 9

#### Weather Diary

Snow and hail 1 inch deep this morning air Still cold more so than yesterday but not freizing

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	s & h a r s & h	SW	-	r a h & r	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

Sergt. Pryor and the fishing party not yet arrived, suppose they are detained by the winds.

**Gass**

There were some light showers of snow this afternoon, but during the greater part of it, the sun shone clear and warm.

**Ordway**

a little snow & hail this morning and cold.

**Whitehouse**

This morning we had Snow & hail

**Monday, March 10**

**Weather Diary**

Snow nearly disappeared by this morning. the air considerably warmer.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	s & r a h r & s	SW	-	f a r h & s	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

About 1 PM it became fair and we sent out two parties of hunters. It blew hard all day.

**Gass**

changeable weather with snow showers

**Ordway**

Showers of hail and a little Snow intermixed High winds & C.

**Whitehouse**

We had Showers or rain, with Snow and hail. The wind blew hard this day.

**Tuesday, March 11**

**Weather Diary**

snow 1 inch deep this morning air cold but no ice. some insects seen in the evening in motion I attempted to make an observation for Equal Altitudes but the PM obsevt. was lost in consequence of clouds. it became cloudy at 1 AM and rained attended with some hail at six PM it became fair and

the wind changing to NE it continued fair during the night. the snow had all disappeared by 4 PM this evening.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r h & s	SE	-	f a r & h	SE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

Sergt. Pryor...the wind had prevented his going to the fishery on the opposite side of the river.

**Gass**

The weather was nearly the same as yesterday

**Ordway**

a little Snow fell last night.

**Whitehouse**

We had during last night some Snow & this morning we have fair Weather.

**Wednesday, March 12**

**Weather Diary**

white frost this morning and ice on the pools of standing water.— it being fair in the morning I again attempted Equal Altitudes but it be came cloudy 3 PM and continued so during the day. (Lewis) without any rain (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NE	-	c a f	NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

The Whale...tho I believe it is much more frequently killed by running on the rocks of the Coast to the SSW in violent Storms, and thrown on different parts of the Coast by the winds and tide—

**Gass**

the morning was pleasant; but towards the evening the day became cloudy.

**Ordway** a white frost. Clear and cold.  
**Whitehouse** A fair morning.

**Thursday, March 13**

**Weather Diary**

slight frost this morning. A little rain fell in the latter part of the night. Saw a number of insects in motion; among others saw for the first time this spring and winter a downy black fly about the size of the common house fly. the plants begin to appear above the ground, among others the rush of which the natives eat the root. and the plant, the root of which resembles in flavor the sweet potato also eaten by the natives.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** took equal altitudes to day this being the only fair day for Sometime past.  
**Gass** the morning was fine.  
**Ordway** a fair cold morning. High winds.  
**Whitehouse** A Clear cold morning. I took two Men & a canoe...to purchase fish...the wind blew so hard that I was forced to return with them to the fort.

**Friday, March 14**

**Weather Diary**

yesterday and last night were the most perfectly fair wether we have seen at this place

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	NE	-	c	NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

The Indians tell us that the Salmon begin to run early in the next month.

**Gass**

We had a fine morning. While out to day I saw a number of musquitoes flying about.

**Ordway**

Cloudy

**Whitehouse**

This morning was Cloudy.

**Saturday, March 15**

**Weather Diary**

the temperature of the air is perfectly pleasant without fire.— became fair at 8 AM.— the sorrel with an oval, obtuse and ternate leaf has now put forth it's leaves. some of them have nearly obtained their growth already. The birds were singing very agreeably this morning particularly the common robin.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a c	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Gass**

There was a fine pleasant morning.

**Ordway**

a fair morning.

**Whitehouse**

A pleasant morning

**Sunday, March 16**

**Weather Diary**

wind hard greater part of the day. The Anchovey has ceased to run; the white salmon trout have succeeded them. The weather so warm that the insects of various speceis are every day in motion.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a f & c	SW	-	c a f c r	SW	-	-	-

### Daily Narrative Journals

**Lewis & Clark**

Drewyer and party did not return...we suppose he was detained by the hard winds of today.

**Gass** Last night it became cloudy and began to rain; and the rain has continued all day—

**Ordway** a rainy wet morning. Rained the greater part of the day.

**Whitehouse** A Rainey wet morning.

**Monday, March 17**

### Weather Diary

rained all night. Air somewhat colder this morning. frequent and sudden changes (“showers” - Clark) in the course of the day.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	r a f h a s & r <sup>3</sup>	SW	-	-	-

<sup>3</sup> Clark’s Journal Codex J lists this weather data as “r a f h s & r.”

### Daily Narrative Journals

**Lewis & Clark**

we have had our perogues prepared for our departure, and shal set out as soon as the weather will permit. The weather is so precarious that we fear by waiting untill the first of April that we might be detained several days longer before we could get from this to the Cathlahmahs as it must be calm of we cannot accomplish that part of our rout.

**Gass** it rained occasionally during the whole of the day.

**Ordway** Showers of rain intermixed with Snow. Showery all day.

**Whitehouse** A Cloudy day, and showery.

**Tuesday, March 18**

**Weather Diary**

frequent showers through the day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	SW	-	r a f r & h	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

the frequent showers rain in the course of the day prevented the Canoes drying Sufficient to pay them even with the assistance of fire—

**Gass**

The weather was much like that of yesterday, and some hail fell in the course of the day.

**Ordway**

a Showery morning of rain and hail.

**Whitehouse**

We had showers of rain, some hail & thunder this morning

**Wednesday, March 19**

**Weather Diary**

frequent and suddon changes during the day wind not so hard as usual.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r & h a c r & h	SW	-	r a f r & h	SW	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** It continued to rain and hail today in such a manner that nothing further could be done to the canoes. ...the dress of the man (indian) consists of a small robe ....a mat is sometimes temporarily thrown over the shoulders to protect them from rain. They have no other article of clothing whatever neither winter nor summer. It continued to rain so constantly today that Sergt. Pryor could not pitch his canoes—

**Gass** the morning was stormy, some hard showers of hail fell and it continued cloudy through the day.

**Ordway** hard Showers of rain intermixed with Snow and hail.

**Whitehouse** We had a fair morning. In the afternoon we had showery disagreeable weather.

**Thursday, March 20**

**Weather Diary**

rained all day without intermission.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r & h	SW	-	r	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

It continued to rain and blow so violently today that nothing could be done towards forwarding our departure. ...but the rain rendered our departure so uncertain that we declined this measure for the present. nothing remarkable happened during the day. We have yet Several days provisions on hand, which we hope will be Sufficient to Serve us dureing the time we are we are compell'd by the weather to remain at this place—

**Gass** The whole of this day was wet and disagreeable. We intended to have set out today on our return, but the weather was too bad.

**Ordway** rained hard the grater part of last night and continues this morning. So we are only waiting for good weather to Start.

**Whitehouse** A Rainey wet day. We are now waiting for fair weather in Order to make a Start to the United States.



**Friday, March 21**

**Weather Diary**

rained all night at 9 AM wind changed to NE and the rain ceased (“a short time” - Clark). Cloudy the ballance of the day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Gass** We had a cloudy wet morning.

**Ordway** rained hard all last night, and continues this morning.

**Whitehouse** It rained hard all last night & contined the same this morning.

**Saturday, March 22**

**Weather Diary**

rain continued without intermission greater part of the night. Air temperate. The leaves and petals of the flowers of the green Huckleburry have appeared. Some of the leaves have already obtained 1/4 of their size.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	r a c & r	SW & NE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark** the air is perfectly temperate, but it continues to rain in such a manner that there is no possibility of getting our canoes completed in order to Set out on our homeward journey.

**Gass** We had a cloudy wet morning.

**Ordway** continues rainy.

**Whitehouse** It continued raining. We are all getting in readiness so start which we expect if the weather permits will be tomorrow—

**The Expedition leaves Fort Clatsop, the Pacific Ocean and the mouth of the Columbia River on March 23, 1806 and begins their long journey back to St. Louis, Louisiana Territory, United States of America.**

**Sunday, March 23**

**Weather Diary**

it became fair at 12 Ock. and continued cloudy and fair by intervaes without rain till night

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	f a c & r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the wind is pretty high but it seems to be the common opinion that we can pass point William— at 1 PM we bid a final adieu to Fort Clatsop. The wind was not very hard—

**Clark** This morning proved So raney and unceratain that we were undetermined for Some time whether we had best set out & risque the river which appeared to be riseing or not. the rained seased and it became fair about Meridian, at which time we loaded our canoes & at 1 P.M. left Fort Clatsop. not withstanding the repeated fall of rain which has fallen almost Constantly Since we passed the long narrows...indeed we have had only days fair weather since that time. and proceeded on, thro' Meriwethers Bay, there was a Stiff breese from the SW which raised Considerable Swells around Meriwethers point which was as much as our canoes could ride.

**Gass** There was a cloudy wet morning— The afternoon was fair.

**Ordway** this morning proved so rainy and uncertain that our officers were undetermined for Some time whether they had best Set out & risque the (wind) which appeared to be riseing or not. The rained Seased and it became fair about meridian at which time we loaded our canoes & at 1 PM left Fort Clatsop on our homeward bound journey. Notwithstanding the reputed fall of rain which has fallen continually Since we passed

the long narrows on the Novr last, indeed we have had only days fair weather since that time. There was a stiff breeze from the SW which raised considerable Swells around Merewethers Point.

**Whitehouse** It rained very hard, during the whole of last night. This morning it still continued raining, & the Weather appeared very uncertain. About 12 oClock AM it ceaased raining; & the weather became Clear & pleasant, & we loaded our Canoes, & got every thing in readiness to ascend the Columbia River. At 1 oClock we embarked...we went around a point of land called by our officers Merryweather point (Astoria, OR) when the wind rose & blew hard from the South West, & the waves ran very high.. We proceeded on, & passed another point of land called point William (Tongue Point).

**Monday, March 24**

**Weather Diary**

at 9 AM it became fair and continued fair all day and greater pt. of the night. The brown bryery shrub with a broad pinnate leaf has began to put forth it's leaves. The pole-cat Colwort, is in blume. Saw the blue crested fisher. Birds are singing this morning. The black Alder is in blume.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	SW	-	f a c	NW & SW	-	-	-

**Daily Narrative Journals**

**Lewis** the tide being out this morning we found some difficulty in passing through the day below the Cathlahmah village. The night was cold tho' wood was abundant

**Gass** After a bad night's rest, on account of the rain, 15 men went out to hunt. The morning was fair

**Tuesday, March 25**

**Weather Diary**

cold this morning, but no ice nor frost. The Elder, Gooseberry, & honeysuckle are not putting fourth their leaves. The nettle and a variety of other plants are now springing up. The flower of the broad leafed thorn is nearly blown. Several small plants in blume.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	SE	-	r a c & r	SE	-	-	-

### Daily Narrative Journals

**Lewis** The morning being disagreeably cold. Continued on the south coast of the river against the wind and strong current, out progress was of course but slow. I observe that the green bryer ...retains it's leaves all winter— the wind in the evening was very hard.

**Clark** Last night and this morning are cool wend hard a head and tide going out. The winds in the evening was very hard, it was with some difiuelty that we Could find a Spot proper for an encampment.

**Gass** had a fair morning. Around 12 o'clock halted, the wind and tide being both against us. When the tide began to rise we went on again. Later in the afternoon the wind rose and blew very hard accompanied with rain, notwithstanding we proceeded on till night

**Ordway** the winds hard a head and tide against us so we delayed untill 1 oClock PM at which time we set out

**Whitehouse** the wind & tide being against us, We had to delay at our encampment, untill 1 oClock PM

**Wednesday, March 26**

### Weather Diary

cold and rainy last night. Wind hard this morning fair at 9 AM Cloudy at 1 PM (“and cleared off at 1 PM” - Clark) The humming bird has appeared. Killed one of them and found it the same with those common to the United States.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NW	-	c a f & c	SE	-	-	-

**Daily Narrative Journals**

- Lewis & Clark**      The wind blew so hard this morning that we delayed until 8 AM.
- Gass**              After a disagreeable night's rain, and wind, we continued on our voyage.
- Ordway**          the wind ran high last night and the tide rose higher than common and came in under my blankets before I awoke and obliged me to move twice.
- Whitehouse**      The wind & tide rose very high during last night. The water raised so much that it obliged several of our party to move their Camps.

**Thursday, March 27**

**Weather Diary**

blew hard about noon. Rained greater part of the day. The small or bank martin appeared today, saw one large flock of them. Waterfowl very scarce, a few Comorant, geese, and the redheaded fishing duck are all that are to be seen. The red flowering currant are in blume, this I take to be the same speceis I first saw in the <waters of the columbia>, Rocky Mountains; the fruit is a deep purple berry covered with a gummy substance and not agreeably flavoured. There is another speceis uncovered with gum which I first found on the waters of the Columbia about the 12<sup>th</sup> of August last.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c	SE	-	r a c & r	SE	-	-	-

**Daily Narrative Journals**

- Lewis**              But as the weather would not permit us to dry our canoes in order to pitch them we declined their friendly invitation, and resumed our voyage at 12 Ock. The Coweliskee is 150 yards wide, is deep The night as well as the day proved cold wet and excessively disagreeable.
- Clark**              a rainey disagreeable night rained the greater part of the night. Proceeded on...the wind rose and the rain became very hard Soon after we landed The night as well as the day proved Cold wet and excessively disagreeable.
- Gass**              There was a cloudy wet morning.
- Ordway**          rain commenced this morning and continued thro the day.
- Whitehouse**      This morning early it commenced raining, which continued during the whole of this

day. We have still hard rain this evening.

**Friday, March 28**

**Weather Diary**

rained by showers greater part of last night frequent showers in the course of the day. This evening we saw many swan passing to the North as if on a long flight. vegetation is not by several days as forward here as at Fort Clatsop when we left that place. The river rising fast, the water is turbed; the tide only swells the water a little, it does not stop the current. It is now within 2 feet of it's greatest hight. (Lewis) which appears to increas as we assend. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	N	-	f a f & r	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

at ½ after ten AM it became fair. Pitched our canoes. We determined to remain this evening and dry our beding baggage &c. the weather being fair.

**Gass**

The morning was cloudy. It rained at intervals during the day. The Columbia river is now very high, which makes it more difficult to ascend.

**Ordway**

rained the greater part of last night. They day proved Squawley high winds &C.

**Whitehouse**

It continued raining the greater part of last night. The remainder of this day was Squally & the wind high.

**Saturday, March 29**

**Weather Diary**

frequent showers through the night. Very cold this morning.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & f	S	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Lewis** the river rising fast

**Clark** the morning was very cold wind Sharp, and keen off the rainge of Mountains to the East Covered with snow. The river is now riseing very fast and retards our progress very much. Crossed the mouth of the Chah-wa-nahi-ooks River which about 200 yards wide and a great portion of water into the columbia at this time it being high.

**Gass** The morning was pleasant with some white frost

**Whitehouse** We set out early this morning & proceeded on, the Columbia River being very high & the current running very swift.

**Between March 30 and April 6 the party stays in the vicinity of present-day Portland, OR. Captain Clark leads a small party up the Multnomah River [present-day Willamette River].**

**Sunday, March 30**

**Weather Diary**

at 10 AM (Clark lists this as PM) it became fair and continued so weather moderately warm. Saw a leather winged bat the grass is about 16 Inches high in the river bottoms. The frogs are now abundant and are crying in the swamps and marshes.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	S	-	f a c	SW	-	-	-

**Daily Narrative Journals**

**Lewis** we had a view of mount St. helines and Mount Hood. The 1<sup>st</sup> is the most noble looking object of it's kind in nature. Both of these mountains are perfectly covered with snow; at least the parts of them which are visible.

**Clark** we made 22 miles only to day the wind and a Strong current being against us all day, with rain. Discovered a high mountain SE Covered with Snow which we call Mt. Jefferson.

**Gass** The morning was fair with some dew. The river is very high, overflowing all its banks.

**Ordway** The river still rising & is now So high that the tide has no effect to be perceived at this time considerable of drift wood floating down the river. Saw mount rainey (Mt. St. Helens) and Mount Hood which is very white with Snow &C.

**Whitehouse** The River still continuing rising, and is so high, that the tide has no Effect, as high up the River as where we now are. We saw a considerable quantity of drift wood floating down the River. We say this day Mount Rainey [probably Mt. St. Helens] & Mount hood; they appeared white & was covered with Snow—

**Monday, March 31**

**Weather Diary**

The Summer or wood duck has returned. Butterflies and Several Species of insects appear. Musquitoes are troublesome this evening Encamp opposit quick San River The Summer Dick has returned I saw Several to day in a small pond. This evening the Musquetors were very troublesom this evening, it is the first time they have been so this Spring. The waterfowls are much plentyer about the entrance of quick Sand river than they were below. Observed a species of small wild onion growing among the moss of the rocks, they resemble the Shives of our gardins and grow remarkably close together forming a perfect tuft; they are quite as agreeably flavoured as the Shives.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the water is very clear. Saw a summer duck or wood duck....this is the same with those of our country and is the first I have seen since I entered the rocky mountains last summer—

**Clark** the Columbia is at present on a Stand.

**Gass** This was a beautiful clear morning

**Ordway** a clear pleasant morning. The wind rose from the Southward. The waves high.

**Whitehouse** A clear pleasant morning.



# April 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is camped near the Sandy River east of present-day Portland, OR.

Tuesday, April 1

#### Weather Diary <sup>1</sup>

at 6 PM last evening it became cloudy. Cottonwood in blume. From the best opinion I could form of the State of the Columbia on the 1<sup>st</sup> of April it was about 9 feet higher than when we decended it in the beginning of November last. The rising and falling of the river as set down in the diary is that only which took place from sunsetting to sunrise or thereabouts it being the time that we usually remain at our encampments.—

Sunrise			4 PM			Columbia River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	SE	-	c a f	SE	R	-	1

- 1 Reference: Coues, Volume III, pages 1278, 1294-95; Moulton, Volume 7, pages 191-195; Thwaites, Volume 6, Part II, pages 212-214.
- 2 River rise and fall observations begin again during the trip up the Columbia River. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

#### Daily Narrative Journals

**Lewis & Clark**

The last evening and this morning were so cloudy that I could neither obtain any Lunar observations nor equal altitudes— it was so cloudy at the time of this observation that cannot vouch for any great accuracy—

**Gass**

We had a cloudy morning

**Ordway**

we discovred yesterday the top of a high white Mountain some distance to the Southward our officers name it Mount Jefferson.

**Whitehouse** we saw a high mountain laying a great distance off to the Southward of us, which appeared to be covered with snow. Our Officers named this Mountain Jefferson Mountain.

**Wednesday, April 2**

**Weather Diary**

heavy dew last night. Cloudy all night.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	c a f	SE	F	-	1/8

**Daily Narrative Journals**

**Lewis** the night and morning being cloudy I was again disappointed in making the observations I wished

**Clark** Multnomah had fallen 18 inches from it's greatest annual height. from the entrance of this river, I can plainly See Mt. Jefferson which is high and covered with snow SE Mt. Hood East, Mt. St. Helians a high humped Mountain [Mount Adams] to the East of Mt. St. Helians. The current of the Multnomar is jentle as that of the Columbia glides Smoothly with an eavin surface, and appears to be Sufficently deep for the largest Ship.

**Ordway** the after part of the day clear and pleasant.

**Whitehouse** The great River is called by the natives the Mult-no-mack...it is 500 yard wide at its mouth. The Indian guide that was with us, told us that it heads Near the head Waters of the California. The guide also mentioned...that the Tide water runs up it to a falls which is 40 feet high.<sup>3</sup>

<sup>3</sup> This is the final entry of the known journal writings of Joseph Whitehouse.

**Thursday, April 3**

**Weather Diary**

a slight rain about day light this mornng.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r	W	F	-	3 ½

### Daily Narrative Journals

**Clark** The water had fallen in the course of last night five inches [Multnomah River]. I set out and proceeded up a short distance and attempted a second time to fathom the river with m y cord of 5 fathom but could find no bottom. the mist was So thick that I could See but a short distance up this river.

**Gass** it rained so hard we could not dry the meat

**Ordway** a foggy morning. Slight Showers of rain n the course of the day. Indians inform us of a verry large River & is 500 yd wide and is Supposed to head with the waters of the California (Willamette)

**Friday, April 4**

### Weather Diary

the rains have been very slight.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r	SW	F	-	4 ½

### Daily Narrative Journals

**Lewis & Clark** this evening being fair I observed time and distance

**Gass** a cloudy morning. Captain Clarke found a large river (Willamette River), 500 yards wide; and its source supposed to be near the head waters of some of the rivers, which fall into the gulph of California.

**Ordway** the after part of the day pleasant.

**Saturday, April 5**

**Weather Diary**

rain but slight, air colder than usual this morning.—

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a f & c	SW	F	-	2 ½

**Daily Narrative Journals**

**Lewis & Clark**

This morning was so cloudy that I could not obtain any lunar observations with Aquila as I wished. The weather has been so damp that there was no possibility of pounding the meat as I wished— Observed Magnetic Azimuth and altitude of the sun with Circumferenter and Sextant. Immediately after this observation the sun was suddenly obscured by a cloud and prevented my taking Equal Alitudes. I therefore had recourse to two altitudes in the evening which I obtained as the sun happened to shine a few minutes together through the passing cloudys.

**Gass** The weather was pleasant.

**Sunday, April 6**

**Weather Diary**

this is the most perfectly fair day we have seen for a Some time musquetoos troublesome this evening the cottonwood has put forth its leaves begin to assume a green appearance at a distance. The sweet willow has not yet generaly birst it's budscales wile the leaves of the red and broad leafed willow are of some size; it appears to me to be the most backward in vegetating of all the willows. The narrow leafed willow is not found below tide water on this river.—

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SW	-	f	SW	F	-	1

**Daily Narrative Journals**

**Lewis** from the appearance of a rock near which we were encamped on the 3<sup>rd</sup> of November

last I could judge better of the rise of the water than I could at any point below. I think the flood of this spring has been about 12 feet higher than it was at that time; the river is here about 1 ½ miles wide; it's general width from the beacon rock which may be esteemed the head of tide water, to the marshey island is from one to 2 miles tho' in many places it is still wider. It is only in the fall of the year when the river is low that the tides are perceptible as high as the beacon rock. Mount Jefferson bears SE this is a noble mountain...is a regular cone and is covered with eternal snow.

**Gass** We had a fine morning, with some fog

**Ordway** a clear pleasant morning.

**Monday, April 7**

**Weather Diary**

the air temperate, bird singing, the pizmire, flies, beetles, in motion.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	R	-	½

**Daily Narrative Journals**

**Lewis & Clark** the day has been fair and weather extremely pleasant.

**Gass** This was a pleasant day, but cloudy.

**Ordway** a fair morning. The musquetoos trouble us a little &C.

**Tuesday, April 8**

**Weather Diary**

wind commenced at 5 AM (Clark lists this as PM) and continued to blow most violently all day. Air temperate the male flowers of the cottonwood are falling. The goosbury has cast the petals of it's flowers, and it's leaves obtained their full size. The Elder which is remarkably large has begun to blume. Some of it's flowerets have expanded their corollas. The serviceburies, chokecherris, the growth which resembles the beach, the small birch and grey willow have put fourth their leaves.—

Sunrise			4 PM			Columbia River		
---------	--	--	------	--	--	----------------	--	--

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	E	R	-	1 ½

### Daily Narrative Journals

**Lewis** The wind blew so violently this morning that we were obliged to unlode our perogues and canoes, soon after which they filled with water. The wind continued without intermission to blow violently all day.

**Clark** This morning about day light I heard a Considerable roeing like wind at a distance and in the Course of a Short time wavs rose very high which appeared to come across the river and in the course of an hour become so high that we were obliged to unload the canoes, at 7 oClock A.M. the winds Sueded and blew so hard and raised the Wave So emensely high from the N.E. and tossed our canoes against the Shore in such a manner as to render it necessary to haul them up on the bank, finding from the appearance of the winds that it is probable that we may be detained all day. ....in the evening late an old man his Son & Grand Son and their wives &c. came down dureing the time the waves raged with great fury. ....the wind continued violently hard all day, and threw our canoes with such force against the shore that one of them split before we could get it out. The Wind Continued violently hard all day—

**Gass** This was a fine morning, but the wind blew so hard from the north-east, that it was impossible to go on; and about 8 o'clock the swells ran so high, that we had to unload our canoes, and haul some of them out of the water to prevent their being injured. Some of the men are complaining of rheumatick pain; which are to be expected from the wet and cold we suffered last winter, during which from the 4<sup>th</sup> of November 1805 to the 25<sup>th</sup> of March 1806, there were not more than twelve days in which it did not rain, and of these but six were clear.

**Ordway** a fair morning. The wind raised so high a head that in Stead of our setting our as we intended had to unload our canoes. The waves ran high and filled them with water &C. The River rises a little the wind continued high all day &C.

**Expedition proceeds into the inland most tidal water of the lower Columbia River system and begins their assent above the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam between April 9 and 12.**

Wednesday, April 9

Weather Diary

the wind lulled a little before day, and became high at 11 AM continued til dark the vining honeysuckle has put forth shoots of several inches the dogtoothed violet is in blume as is also both the speeis of the mountain holley, the strawburry, the bears claw, the cowslip, the violet, common striped; and the wild cress or tongue grass.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	f	W	-	-	-

Daily Narrative Journals

**Lewis** We passed several beautiful cascades which fell from a great height over the stupendous rocks...the most remarkable of these cascades falls about 300 feet perpendicularly over a solid rock into a narrow bottom of the river on the south side [probably Multnomah Falls]. The evening being far spent and the wind high raining and very cold we thought best not to attempt the rapids this evening. The fir has been lately injured by a fire near this place

**Clark** the wind high and a rainy disagreeable evening. ...evening wet & disagreeable

**Gass** The morning was pleasant. In the afternoon the weather became cloudy and some rain fell.

**Ordway** a fair morning and calm commenced raining hard & high winds from NW the River much higher at this time than it was last fall when we passed down. Some Spots of Snow is now on the tops of these Mountains Near the River.

Thursday, April 10

Weather Diary

some snow fell on the river hills last night. Morning cold, slight showers through the day.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	c a r	SW	R	-	1

**Daily Narrative Journals**

**Lewis & Clark** in crossing the River which at this place is not more than 400 yards wide we fell down a great distance owing to the rapidity of the Current.

**Gass** during the night some showers of rain fell.

**Ordway** rained hard the greater part of last night. A cloudy & Showery morning. Soon came to bad rapids where we had to two one canoe up at a time.

**Friday, April 11**

**Weather Diary**

cold raining night the geese are yet in large flocks and do not yet appear to have mated. What I have heretofore termed the broad leafed ash is now in blume. The fringetree has cast the corolla and it's leaves have nearly obtained their full size. The sac a commis is in blume.—

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	W	-	c a r	SW	R	-	2

**Daily Narrative Journals**

**Lewis** As the tents and skins which covered both our men and baggage were wet with the rain which fell last evening, and as it continued still raining this morning we concluded to take our canoes first to the head of the rapids, hoping that by evening the rain would cease and afford us a fair afternoon to take our baggage over the portage. These rapids are much worse than they were fall when we passed them...the water appears to be (considerably) upwards of 20 feet higher than when we decended the river. ...I observe snow-shoes in all the lodges of the natives above the Columbean vally.

**Clark** rained the greater part of the last night and continued to rain this morning, as the Skins and the Covering of both the mend and loading were wet we determined to take the Canoes over first in hopes that by the evening the rain would Sease and afford us a fair afternoon. Vegetation is rapidly progressing.

**Gass** We had a cloudy morning.

**Ordway** rained the greater part of the last night and continues this morning.



Saturday, April 12

Weather Diary

cold. Snow on the mountains through which the river passes at the rapids. The duckinmallard which bread in this neighbourhood is now laying it's eggs,— vegetation is rapidly progressing in the bottoms tho' the snow of yesterday and today reaches within a mile of the base of the mountains at the rapids of the Columbia.—

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	r a c & r	W	R	-	2

Daily Narrative Journals

**Lewis** It rained the greater part of last night and still continued to rain this morning. ...it contineud to rain by showers all day, as the evening was rainy cold and far advance and ourselves wet we determined to remain all night.

**Clark** rained the greater part of the last night, and this morning untile 10 AM. The rain Continued at intervalles all day. Mountains are high on each Side and Covered with Snow for about 1/3 of the way down.

**Gass** This morning was wet. It rained at intervals all day; and upon the very high mountains on the south side of the river, snow fell and continued on the trees and rocks during the whole of the day.

**Ordway** a rainy wet morning.

Sunday, April 13

Weather Diary

cold rainy night. Rained by showers through the day. Wind hard.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	W	-	c a r & f	W	R	-	2 ½

**Daily Narrative Journals**

**Lewis** departed...on south side of the river the wind being too high to pass over the entrance of Cruzatts river [Wind River]. Capt. C. informed me that the wind detained him several hours a little above Cruzatt’s river.

**Clark** ...the wind rose and raised the ways to Such a hight that I could not proceed any further. Walked...the wind had lulled. At ½ passed 2 PM Set out and proceeded on

**Gass** There was a cloudy morning. Passed Crusatte’s River (Wind River), when the wind rose so high we could not go on, so we halted. In 3 hours...the wind fell and we went on

**Ordway** the current swift. The wind rose So high that obledged us to halt at this bottom where we expected to find our hunters. The day proved fair the wind cold and Snow laying low on the Mountains near the River.

**Monday, April 14**

**Weather Diary**

wind arrose at 8 AM and contined hard all day. Service bury in blume.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	f	W	R	-	1

**Daily Narrative Journals**

**Lewis & Clark** at 9 AM the wind arrose and continued hard all day but not so violent as to prevent our proceeding. The river from the rapids as high as the commencement of the narrows is from ½ to ¾ of a mile in width, and possesses scarcely any current. The mountains through which the river passes nearly to the sepulchre rock, are high broken, rocky, partially covered with fir white cedar, and in many places exhibit very romantic seenes. Some handsome cascades are seen on either hand tumbling from the stupendious rocks of the mountains into the river. We find the trunks of maney large pines Standing erect as they grew, at present in 30 feet of water; at the lowest water of the river maney of those trees are in 10 feet water.

**Gass** The morning was fine with some fog. The wind blew hard from the southwest and the weather was clear and cool, but there has been no frost lately, except on the tops of the hills.

**Ordway** about noon the wind rose so high from the NW that we came too at a village. Soon

&C Mount Hood appears near the River on the South Side which is covd. thick with Snow & very white the wind high we delayed about 2 hours and proceed. on the wind continued aft and high So we run fast.

**Expedition portages around the Long and Short Narrows at the present-day The Dalles, OR.**

**Tuesday, April 15**

**Weather Diary**

wind blew tolerably hard today after 10 AM observed the Curloo and prarie lark.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	f	W	-	-	-

**Daily Narrative Journals**

**Gass**            The morning was fair.

**Ordway**        a clear pleasant morning.

**Wednesday, April 16**

**Weather Diary**

morning unusually warm. vegetation rapidly progressing.— at the rock fort camp saw the prarie lark, a speceis of the peawee, the blue crested fisher, the partycoloured corvus, and the black pheasant. A speceis of hiasinth native of this place blumed today, it was not in blume yesterday.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SW	-	f	SW	F	-	2

**Daily Narrative Journals**

**Lewis** a great portion of that extensive tract of country to the S and SW of the Columbia and it's SE branch [Snake River], and between the same and the waters of the California must be watered by the Multnomah river— [Willamette River]

**Gass** This was a pleasant day.

**Ordway** a clear pleasant morning.

**Thursday, April 17**

**Weather Diary**

weather warm; the sweet willow & white oak begin to put forth their leaves

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c a f	SW	F	-	2

**Daily Narrative Journals**

**Lewis** even at this place which merely on the border of the plains of Columbia the climate seems to have changed the air feels dryer and more pure. The earth is dry and seems as if there had been no rain for a week or ten days. The plain is covered with a rich virdure of grass and herbs from four to nine inches high and exhibits a beautifull seen particularly pleasing after having been so long imprisoned in mountains and those almost impenetrably thick forrests of the seacoast.

**Clark** altho' the night was cold they could not rase as much wood as would make a fire.

**Gass** This was a fine morning.

**Ordway** a beautiful warm morning.

**Friday, April 18**

**Weather Diary**

rain but slight. Wind very hard all day—

Sunrise	4 PM	Columbia River
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SW	-	f	SW	F	-	1

### Daily Narrative Journals

**Lewis** the long narrows are much more formidable than they were when we descended them last fall [the Dalles, OR]

**Gass** We had fine weather, and all set out from this place, and proceeded with great difficulty and danger to the foot of the long narrows.

**Ordway** a clear cool morning.

**Saturday, April 19**

### Weather Diary

raind, moderate showers, very cold snow on the tops of the low hills

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c	SW	F	-	3

### Daily Narrative Journals

**Clark** This morning early some rain. Several showers of rain in the after part of to day, and the SW wind very high. There was great joy with the natives last in consequence of the arrival of the Salmon. They informed us that those fish would arrive in great quantities in the Course of about 5 days.

**Gass** The morning was cloudy Some light showers of rain fell in the afternoon In the evening the weather cleared up and we had a fine night.

**Ordway** a clear cold morning. A little Snow fell on the hills last night.

Sunday, April 20

Weather Diary

weather cold. Rain slight snow on the hills adjacent— wind violent. Some frost this morning.

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r <sup>4</sup>	SW	-	c a r	SW	F	-	2 ½

4 Clark's Journal Voorhis No. 3 lists this weather data as "c a r."

Daily Narrative Journals

**Lewis** some frost this morning.

**Clark** This morning very Cold the western mountains Covered with Snow. At night when they [Indians} wish a light they burn dry Straw & Some few Small dry willows. Wind hard all day cold from NW.

**Gass** This was a pleasant morning with some white frost.

**Ordway** a clear cold morning.

**Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.**

Monday, April 21

Weather Diary

heavy frost this morning. Remarkably cold last night

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	E	F	-	2

Daily Narrative Journals

**Lewis** I ordered all the spare poles, paddles and the ballance of our canoe put on the fire as

the morning was cold.

**Clark** a fair Cold morning.

**Gass** This was another pleasant morning with some white frost. About 3 in the afternoon we arrived at the great falls of the Columbia

**Ordway** a clear cold morning.

**Tuesday, April 22**

**Weather Diary**

night cold the day warm

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	W	F	-	1

**Daily Narrative Journals**

**Lewis** as one of our canoes was passing...we hailed them and ordered them to come over but the wind continued so high that they could not join us untill after sunset ...the nights are cold and days warm.

**Clark** I assended a high hill [possibly Haystack Butte, WA] from which I could plainly See the range of Mountains which runs South from Mt. Hood as far as I could See. I also discovered the top of Mt. Jefferson which is Covered with Snow and is S 10° W. Mt. Hood is S 30° W. The range of mountains are Covered with Timber and also Mt. Hood to a certain hite The range of mountains has Snow on them. Here we observed our 2 Canoes passing up on the opposit Side and the Wind too high for them to join us. The air I find extreemly Cold which blows Continularly from Mt. Hoods Snowey regions.

**Gass** This was a pleasant morning and high wind. We proceeded on about 3 miles, when the wind became so violent, that we could not proceed any further, and halted an unloaded our canoes. Having remained here two hours....we proceeded on though the wind was high and river rough.

**Ordway** a clear pleasant cold morning. The wind so high from the NW that the canoes being on the opposite Side of the river could not cross

Wednesday, April 23

Weather Diary

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	E	-	f	NE	F	-	4

Daily Narrative Journals

**Lewis** the river is by no means as rapid as when we descended or at least not obstructed with those dangerous rapids the water at present covers most of the rocks in the bed of the river.

**Clark** the river is by no means as rapid as it was at the time we descended.

**Gass** We had a cloudy morning.

**Ordway** the day warm.

Thursday, April 24

Weather Diary

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	F	-	2

Daily Narrative Journals

**Lewis & Clark** the winds which set from Mount Hood or in a westerly direction are much more cold than those from the opposite quarter. There are now no dews in these plains, and from the appearance of the earth there appears to have been no rain for several weeks—

**Gass** The weather was pleasant.



**Ordway** a clear cool morning.

Friday, April 25

Weather Diary

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	F	-	2

Daily Narrative Journals

**Gass**            The morning was pleasant.

**Ordway**        a clear cool morning.

Saturday, April 26

Weather Diary

the sweet willow has put forth its leaves. The last evening was cloudy it continued to threaten rain all night but without raining. The wind blew hard all night. The air cold as it is invariably when it sets from the westerly quarter.—

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NW	-	f	NE	F	-	2 ½

Daily Narrative Journals

**Lewis & Clark**        we covered ourselves partially (perfectly) this evening from the rain by means of an old tent.

**Gass**            had a fine morning.

**Ordway**        the day warm. Saw considerable of Snow on the mountains to the South & S East.

**Expedition reaches the confluence of the Walla Walla and Columbia Rivers having passed the state line between Oregon - Washington. After resting a couple of days**

they proceed by land on April 30 towards the Kooskooskee [Clearwater] River.

Sunday, April 27

Weather Diary

had a shower of rain last night

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	f	NW	F	-	1 ½

Daily Narrative Journals

**Gass**            The morning was cloudy with some light showers of rain. Some light showers of rain fell at intervals during the day.

**Ordway**        a little rain fell the latter part of last night.

Monday, April 28

Weather Diary

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a t	SW	-	f	NE	F	-	2

Daily Narrative Journals

**Lewis & Clark**        I at length urged that there was no wind blowing and that the river was consequently in good order to pass our horses and goods

**Gass**            The morning was pleasant. From this place we can discover a range of mountains (Blue Mountains) covered with snow, in a southeast direction and about fifty miles distant. In the evening the weather was cloudy, and it thundered and threatened rain, a few drops of which fell.

**Ordway**        a clear pleasant morning.

Tuesday, April 29

Weather Diary

Sunrise			4 PM			Columbia River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NW	-	f	NW	F	-	1

Daily Narrative Journals

**Lewis & Clark**

The Wallahwallah River discharges it's self into the Columbia on it's South Side 15 miles below the entrance of Lewis's River (Snake), or the S.E. branch. this is a handsome Stream about 4 ½ feet deep and 50 yards wide. The water is Clear. the Indians inform us that it has it's source in the range of Mountains in view of us to the E. and SE. Those mountains are Coverd with Snow at present tho' do not appear high. They [Indians] insisted on our dancing this evening but it rained a little the wind blew hard and the weather was cold, we therefore did not indulge them—

**Gass** The day was fair.

Wednesday, April 30

Weather Diary

rain slight.

Sunrise			4 PM			Columbia River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NW	-	f a c	NW	F	-	2

<sup>5</sup> Here ends the river rise and fall observation data for the Columbia River.

Daily Narrative Journals

**Lewis & Clark**

this stream...Wallah wallah...it is deep and has a bold current. There are many large banks of pure sand which appear to have been drifted up by the wind to the hight of 15 to 20 (20 or 30) feet.

**Gass**            This was a cloudy morning

**Ordway**        chillely and cold.

# May 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

After traveling overland this day, the Expedition camped near present-day Waitsburg, WA.

Thursday, May 1

#### Weather Diary<sup>1</sup>

had a pretty hard shower last night. Cold morning.— having left the river we could no longer observe it's state; it is now declining tho' it has not been as high this season by five feet as it appears to have been the last spring. The indians inform us that it will rise higher in this month, which I presume is caused by the snows of the mountains.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c	SW	-	-	-

<sup>1</sup> Reference: Coues, Volume III, pages 1278-79, 1295-96; Moulton, Volume 7, pages 318-322; Thwaites, Volume 6, Part II, pages 215-218.

#### Daily Narrative Journals

**Clark** Small portion of rain which fell last night Caused the road to be much furmer and better than yesterday. The morning Cloudy and Cool.

**Gass** Some rain fell during the night, and the morning continues cloudy.

**Ordway** Saw a timbred county a long distance to the SE & Mount of Snow.

Friday, May 2

#### Weather Diary

cold this morning, some dew.

Sunrise	4 PM	River

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NE	-	f	SW	-	-	-

### Daily Narrative Journals

#### **Lewis &**

**Clark** a branch falls in on the S side which runs south towards the SW mountains which appear to be about 25 miles distant low yet covered with snow.

**Gass** We continued our journey up this branch, and saw to our right a range of high hills covered with timber and snow...encamped on the north fork, the creek having two forks....the south fork is the largest, and from its course is supposed to issue from those snow-topped hills on our right.

**Ordway** a clear cold morning. High hills to our right covered with timber and partly covered with Snow. We crossed the branch in several places where it was 3 feet deep.

**Saturday, May 3**

### Weather Diary

rained last night and snows & hailed this morning. The air cold and wind hard. The mountains to our right seem to have experienced an increase of their snow last evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a h r & s	SW	-	c a r h & s	SW	-	-	-

### Daily Narrative Journals

#### **Lewis &**

**Clark** here we encamped in small grove of cottonwood tree which in some measure broke the violence of the wind. it rained, hailed, snowed & blowed with Great Violence the greater portion of the day. it is fortunate for us that this storm was from the SW and of course on our backs. the air was very cold. The SW Mountains appear to become lower...they are Covered with timber and at this time Snow.

**Gass** We had a wet uncomfortable morning. The wind was very high this forenoon, and rather cold for the season; with some rain. The wind continued to blow hard and some snow showers fell in the afternoon.

**Ordway** a little rain the later part of last night, and continues Showery and cold a little hail & Snow intermixed. The wind blew verry high and cold Showers of hail & rain before noon considerable of Snow fell on the high hills Since yesterday. We had considerable of hail & verry high winds. The air is very cold—

**Expedition arrives at the confluence of the Kooskooskee and Lewis's River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID which they also cross the state line from Washington into Idaho.**

**Sunday, May 4**

**Weather Diary**

heavy white frost this morning ice 1/6 of an inch thick on standing water. (Lewis) thick on Standing water. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a h	SW	-	c a r & h	SW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

Collected our horses and set out early; the morning was cold and disagreeable. The lands though which we passed today are fertile consisting of a dark rich loam...the SW mountains are covered with snow at the present nearly to their bases. the evening was cold and disagreeable, and the natives crouded about our fire in great numbers insomuch that we could scarcely cook or keep ourselves warm.

**Gass** We had a severe frost last night; and the morning was cold and clear.

**Ordway** a hard frost & verry cold this morning.

**Monday, May 5**

**Weather Diary**

hard frost this morning ice 1/8 of an inch thick on vessels of water

Sunrise	4 PM	River
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Gass** We had a fine morning.

**Ordway** a white frost and verry cold this morning.

**Tuesday, May 6**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a c & r	NE	-	f a r	NE	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** The Kooskooske river [Clearwater] may be safely navigated at present All the rocks of the sholes and rapids are perfectly covered; the current is strong, the water clear and cold. This river is riseing fast. The natives have a considerable salmon fishery up Colter's Creek [Potlach River]. Had a small shower of rain this evening—

**Gass** There was a cloudy wet morning;

**Ordway** a rainy wet morning.

**Wednesday, May 7**

**Weather Diary**

the KoosKooski is rising water cold and clear.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	NE	-	f	SW	-	-	-

### Daily Narrative Journals

#### **Lewis &**

**Clark** The spurs of the rocky mountains which were in view from the high plain to day were perfectly covered with snow. The Indians inform us that the snow is yet so deep on the mountains that we shall not be able to pass them untill after the next full moon or about the first of June; others set the time at a more distant period. this unwelcom inteligence to men confirmed to a diet of horse-beff and roots, and who are as anxious as we are to return to the fat plains of the Missouri, and thence to our native homes. This evening was cold as usual—

**Gass** This was a fine morning

**Ordway** a fair morning. Saw the rocky mountains covered with Snow.

**Thursday, May 8**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

### Daily Narrative Journals

**Gass** The morning of this day was pleasant. Here some of the natives came to our camp, and informed us, that we could not cross the mountains for a moon and a half; as the snow was too deep, and no grass for our horses to subsist on.

**Ordway** a fair morning.

**Friday, May 9**

**Weather Diary**

Musquetors troublesom

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f a c	W	-	-	-

**Daily Narrative Journals**

**Lewis** the climate appears quite as mild as that of similar latitude on the Atlantic coast if not more so and it cannot be otherwise than healthy; it possesses a fine dry pure air. The grass and many plants are now upwards of knee high. I have no doubt but this tract of country if cultivated would produce in great abundance every article essentially necessary to the comfort and subsistence of civillized man. The situation of our camp was a disagreeable one in an open plain; the wind blew violently and was cold. At seven PM it began to rain and hail, at 9 it was succeeded by a heavy shower of snow which continued untill the next morning—

**Clark** the wind blew hard from the SW. accompanied with rain untill from 7 oClock untill 9 P.M. when it began to Snow and Continued all night.

**Gass** There was a cloudy morning

**Ordway** the evening cold rainy & windy—

**Saturday, May 10**

**Weather Diary**

Snow was 8 inches deep this morning. It began to rain and hail about sunsetting this evening which was shortly after succeeded by snow. It continued to fall without intermission untill 7 AM and lay 8 inches deep on the plain where we were. The air was very keen. A suddon transition this. Yesterday the face of the country had every appearance of summer. After none AM the sun shown but was frequently obscured by clouds which gave us light shower of snow. In the after part of the day the snow melted considerably but there was too great a portion to be disipated by the influence of one day's sun.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & s	SW	-	f a s	SW	-	-	-

### Daily Narrative Journals

**Lewis** This morning the snow continued falling ½ after 6 AM when it ceased, the air keen and cold, the snow 8 inches deep on the plain. I was surprised to find on descending the hills of Commearp Cr. to find that there had been no snow in the bottoms of that stream. It seems that the snow melted in falling and descended here in rain while it snowed on the plains. The hills are about six hundred feet high about one fourth of which distance the snow had descended and still lay on the sides of the hills. The noise of their women pounding roots reminds me of a nail factory.

**Clark** the air keen and cold the snow 8 inches deep on the plain. we collected our horses and set out for the village of the Chief with a flag, and proceeded on through an open plain. the road was slipry and the Snow Cloged and caused the horses to trip very frequently. the mud at heads of the streams which we passed deep and well supplied with the Car mash [camass].

**Gass** At dark last night the weather became cloudy and it rained about an hour, when the rain turned to snow, and it continued snowing all night. In the morning the weather became clear. Where we are lying in the plains the snow is about five inches deep; and amidst snow and frost we have nothing whatever to eat. When we were about half way down the hill there was not a particle of snow nor the least appearance of it.

**Ordway** the wind fell and the rain turned to Snow Some time last night the Snow fell 6 Inches deep & continues chilly & cold this morning, & we had not any thing to eat. In the evening...the snow is gone in this bottom but lyes on the high plains & hills We are now as near the mountains as we can git untill such times as the Snow is nearly gone off the mountains as we are too eairly to cross.

**Sunday, May 11**

### Weather Diary

the Crimson haw is not more forward now at this place than it was when we lay at rock fort camp in April.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	f a c	SW	-	-	-

### Daily Narrative Journals

**Lewis** after this council was over we amused ourselves with shewing them the power of magnetism, the spy glass, compass, watch, air-gun and sundry other articles equally novel and incomprehensible to them. About 3 PM Drewyer arrived with 2 deer which he had killed. He informed us that the snow still continued to cover the plain.

**Clark** Some little rain last night.

**Gass** This was a fine clear morning

**Ordway** a fair morning.

### **Monday, May 12**

#### Weather Diary

the natives inform us that the salmon have arrived at the entrance of the KoosKooskie in great numbers and that some were caught yesterday in Lewis's river opposite to us many miles above the entrance of that river. From this village of the broken arm Lewis's river is only about 10 miles distant to the SW.— the natives also inform us that the salmon appear [much] many days sooner in Lewis's river above the entrance of the Kooskoske than they do in that stream.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** [Chief said] that the snow was yet so deep in the mountain if we attempted to pass we would certainly perish, and advised us to remain untill after the next full moon when the said the snow would disappear and we could find grass for our horses—

**Clark** a fine morning

**Gass** We had another fine morning

**Ordway** a clear pleasant morning.

Tuesday, May 13

Weather Diary

formed a camp on the Kooskooske

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

Daily Narrative Journals

**Clark** A fine morning I administered to the sick and gave directions. In the evening we tried the Speed of Several of our horses.

**Gass** We had a fine morning with white frost.

**Ordway** a clear frosty morning.

**Expedition halts at Camp Chopunnish in the Kooskooske River [Clearwater] valley as they await the winter snows to melt in the upper reaches of the Bitterroot Mountains. They remain at this site near present-day Kamiah, ID from May 14 through June 10.**

Wednesday May 14

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

Daily Narrative Journals

**Lewis** The morning was fair. The river is 150 yds. wide at this place and extremely rapid. Tho' it may be safely navigated at this season, as the water covers all the rocks which lie in it's bed to a considerable debth. [near Kamiah, ID]

**Clark** a fine day.

**Gass** The morning was pleasant with some white frost.

**Ordway** a clear frosty morning.

**Thursday, May 15**

**Weather Diary**

the Kooskoske rising fast, the water is clear and cold.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	f a c	NW	-	-	-

**Daily Narrative Journals**

**Lewis** the party formed themselves very comfortable tents...made perfectly secure as well from the heat of the sun as from rain. About noon the sun shines with intense heat in the bottoms of the river. The air on the top of the river hills, or high plains forms a distinct climate, the air is much colder, and vegetation is not as forward by at least 15 or perhaps 20 days. The rains which fall in the river bottoms are snows on the plain. At the distance of fifteen miles from the river on the Eastern border of this plain the Rocky Mountains commence and present us with winter at its utmost extremity. The snow is yet many feet deep even near the base of these mountains; here we have summer spring and winter within the short space of 15 to 20 miles—

**Clark** some men sick...the Cause of those disorders we are unable to account for. Their diet and sudden Change of Climate must contribute. the greater part of our Security from the rains &c. is the grass which is formed in a kind of ruff So as to turn the rain Completely and is much the best tents we have. as the days are warm &c. we have a bowry made to write under which we find not only comfortable but necessary, to keep off the intense heat of sun which has great effect in this low bottom. On the high plains off the river the climate is entirely different cool, Some Snow on the north hill Sides near the top and vegetation near 3 weeks later than in the river bottoms, and the rocky Mountains immediately in view covered several say 4 to 5 feet deep with Snow. here I beheld three different Climates within a few miles.

**Gass** This was a fine morning, and some hunters went out early. The rest of the party were engaged in making places of shelter, to defend them from the stormy weather. Here we expect to remain a month before we can cross the mountains.

**Ordway** a fair morning.

**Friday, May 16**

**Weather Diary**

last night was uncommonly warm river rising fast. Say 9 inches

Sunrise			4 PM			Clearwater River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	c a r	SE	R	-	6

<sup>2</sup> River observations did not begin until they had stopped in the Nez Perce County on the KoosKooskie River (Clearwater). As in previous observations of river rise and fall, the river was probably measured at the sunrise observation providing a 24-hour reading. These observations continued until they left for the Lolo Trail on June 10, 1806.

**Daily Narrative Journals**

**Clark** a cloudy morning with Some rain which continued untill Meridean at interavles, but very moderately.

**Gass** The morning was cloudy and some rain fell; but in about two hours it cleared away and we had a fine day.

**Ordway** a light rain in the fore part of the day. The after part pleasant.

**Saturday, May 17**

**Weather Diary**

rained hard the great part of the night wet the Chronometer by accedent. River rise 11 inches. The indians caught 3 salmon at their village on the Kooskooskee above our camp some miles. They say that these fish are now passing by us in great numbers but they cannot be caught as yet because those which first ascend the river do not keep near shore; they further inform us that in the course of a few days the fish run near the shore and then they take them with their skimming neitts in great numbers. Rained untill 12 Ock. by intervails.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SE	-	c a r	SE	R	-	10 3/4



## Daily Narrative Journals

**Lewis** It rained the greater part of the last night and this morning untill 8 Ock. The water passed through flimzy covering and wet our bed most perfectly in shot we lay in the water all the latter part of the night. Unfortunately my chronometer which for greater security I have woarn in my fob for ten days past, got wet last night; it seemed a little extraordinary that every part of me breechies which were under my head, should have escaped the moisture except the fob where the time peice was. I opened it and found it nearly filled with water which I carefully drained out exposed it to the air and wiped the works as well as I could with dry feathers after which I touched them with a little bears oil. Several parts of the iron and steel works were rusted a little which I wiped with all the care in my power. I set her to going and from her apparent motion hope she has sustained no material injury— it rained moderately the greater part of the day and snowed as usual on the plain. Sergt. Pryor informed me that it was shoe deep this morning when he came down. It is somewhat astonishing that the grass and a variety of herbacious plants which are now from a foot to 18 inches high on these plains sustain no injury from the snow or frost. I am pleased at finding the river rise so rapidly, it now doubt is attributeable to the melting snows of the mountains; that icy barrier which seperates me from my friends and Country, from all which makes life esteemable— patience, patience—

**Clark** rained moderately all the last night and this morning untill, we are wet. The little river on which we are encamped rise Sepriseingly fast. the rains of last night unfortunately wet the Crenomuter in the fob of Capt. L. breaches, which has never before been wet Since we Set out on this expedition. Her works were cautiously wiped and made dry by Capt. L. and I think she will receive no injury from this misfortune &c. rained moderately all day. at the same time Snowed on the mountains which is in the SE of us. The fiew worm days which we have had has melted the Snows in the Mountains and the river has rose considerably. that icy barrier which separates me from my friends and Country, from all which makes life estimable, is yet white with the Snow which is maney feet deep. I frequently Consult with the nativs on the subject of passing this tremendous barier which now presents themselves to our view for great extent. they all appear to agree as to the time those Mountains may be passed which is about the middle of June. Sergt. Pryor informs me that the snow on the high plains from the river was shoe deep this morning when he came down. At the distance of 18 miles from the river and on the Eastern border of the high Plain the Rocky Mountain commences and presents us with Winter here we have Summer, Spring and winter in the short space of twenty or thirty miles.

**Gass** We had a cloudy wet morning and some light rain all day. Two hunters...said it snowed on the hills, when it rained at our camp in the valley.

**Ordway** rained the greater part of last night and continues this morning.

Sunday, May 18

Weather Diary

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	c	SE	R	-	2

Daily Narrative Journals

**Lewis** shortly after dark it began to rain and continued raining moderately all night. The air was extremely cold and disagreeable and we lay in the water as the preceding night—

**Clark** Cloudy morning. The evening Cloudy, Soon after dark it began to rain and rained moderately all night—

**Gass** The morning was cloudy, but without rain

**Ordway** cloudy.

Monday, May 19

Weather Diary

rained hard last night and untill 8 AM

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SE	-	c a r	SE	F	-	4

Daily Narrative Journals

**Lewis** It continued to rain this morning untill 8 Ock. when it became fair.

**Clark** Rained this morning untill 8 oClock when it Cleared off and became fair—

**Gass** We had a cloudy wet morning. The day was fair during the whole of the afternoon.

**Ordway** a light rain. About noon cleared off pleasant & warm.  
**Tuesday, May 20**

**Weather Diary**

rained violently the great part of the night. Air raw and cold. A nest of the large blue or sand hill crain was found by one of our hunters. The young were in the act of leaving the shell. The young of the partycoloured corvus begin to fly.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NW	-	c a r	SE	R	-	2

**Daily Narrative Journals**

**Lewis & Clark**

it rained the greater part of last night and continued this morning untill noon when it cleared away about an hour and then rained at intervals untill 4 in the evening. Our covering is so indifferent that Capt. C. and myself lay in the water the greater part of last night. The hunters wounded a bear and deer...they were unable to pursue them and the snow which fell in the course of the night and this morning had covered the blood and rendered all further pursuit impracticable. Cruzatte...informed us that it was snowing on the plain while it was raining at our camp in the river bottom. Cloudy &c.

**Gass**

We again had a very wet morning. It continued raining till about noon, when we had fair weather with some sunshine. The hunters said it also snowed on the hills today, while it rained out our camp. In the evening there were some light showers.

**Ordway**

rained all last night and continues this morning, but Snows on the hills. Rained the greater part of the day—

**Wednesday, May 21**

**Weather Diary**

the air is remarkably dry and pure it has much the feeling and appearance of the air in the plains of the Missouri.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f a c	SE	F	-	1

**Daily Narrative Journals**

**Lewis** It rained a few hours this morning. As our tent was not sufficient to shelter us from the rain we had a lodge constructed...it is perfectly secure against the rain sun and wind and affords us much the most comfortable shelter we have had since we left Fort Clatsop.

**Clark** Rained this morning. as our tent is not Sufficient to keep off the rain we are Compelled to have Some other resort for a Security from the repeeted Showers which fall. we have a small half circular place made and covered with grass which makes a very secure shelter for us to sleep under. ...which is but a Scanty dependance for roots to take us over those Great snowey Barriers (rocky mountains) which is and will be the Cause of our Detention in this neighbourhood probably untill the 10 or 15 of June. they are at this time Covered with snow. The plains of the high Country above us is also covered with Snow.

**Gass** There was a cloudy morning. At 10 o'clock the weather became clear, and in the evening was cold.

**Ordway** continues rainy & wet.

**Thursday, May 22**

**Weather Diary**

air colder this morning than usual White frost tho' no ice. Since our arrival in this neighbourhood on the 7<sup>th</sup> inst. all the rains noted in the diary of the weather were snows on the plain and in some instances it snowed on the plains when only a small mist was perseptable in the bottoms at our camps. (The high plains are about 800 feet higher than the small bottoms on the river and creeks.)

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	F	-	2

**Daily Narrative Journals**

**Lewis** A fine morning.

**Clark** a fine day we expose all our baggage to the Sun to air and dry ...this day proved to be fine fair which afforded us an oppertunety of drying our baggage which had got a little wet.

**Gass** We had a fine clear morning with some white frost.

**Ordway** a clear cold frosty morning.

Friday, May 23

Weather Diary

the air is cold in the morning but warm through the day. Some dew each morning.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW & SE	F	-	1 1/2

Daily Narrative Journals

**Clark** a fair morning. The hunters...inform us that the high lands are very cold with snow which has fallen for every day or night for Several past.

**Gass** We again had a fine morning

**Ordway** clear & pleasant.

Saturday, May 24

Weather Diary

air remarkably pleasant all day.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	F	-	1

Daily Narrative Journals

**Lewis** this day has proved warmer than any of the proceeding since we have arrived here—

**Clark** a fine morning. This day proved to be very worm.

**Gass** This was another fine morning.

**Ordway** a clear pleasant warm day.

Sunday, May 25

Weather Diary

rained moderately the greater part of last night and until a little before sunrise. Thunder

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & t	NW	-	f	NW	R	-	9 1/2

Daily Narrative Journals

**Lewis &**

**Clark** It rained the greater part of last night and continued until 6 AM our grass tent is impervious to the rain.

**Clark** rained moderately the greater part of last night and this morning until 6 A.M.

**Gass** There was a cloudy morning, and some light showers of rain fell. The weather became clear and we had a fine evening.

**Ordway** a Thunder Shower early this evening.

Monday, May 26

Weather Diary

the sun shone warm today, but the air was kept cool by the NW breezes

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	f	NW	R	-	6

Daily Narrative Journals

**Lewis** Had frequent showers in the course of the last night. One of our men saw a salmon in the river today. The river still rising fast and snows of the mountains visibly diminish.

**Clark** Some Small Showers of rain last night, and continued Cloudy this morning until 7 AM when it Cleared away and became fair and warm. the [river] rising very fast and Snow

appear to melt on the Mountains.

**Gass** This day was fine and pleasant

**Ordway** clear & pleasant. The river rising Our hunters returned the creek being so high they did not go to where was any hunting

**Tuesday, May 27**

**Weather Diary**

the dove is cooing which is the signal as the indians inform us of the approach of the salmon. The snow has disappeared on the high plains and seems to be diminishing fast on the spurs and lower region of the Rocky Mountains.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	r a f r t l	SE	R	-	6 1/2

**Daily Narrative Journals**

**Clark** A cloudy morning. Up Collin's Creek...that Stream Still continue So high that they could not pass it—

**Gass** The morning was fair and pleasant. In the afternoon some rain fell

**Ordway** had a hard Thunder Shower

**Wednesday, May 28**

**Weather Diary**

had several heavy thunder showers in course of last evening and night. The river from sunrise yesterday to sun rise this morning raised 1 ft 10 Incs.— drift wood runing in considerable quantities and current incredibly swift tho' smooth.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t l	SE	-	c a f r t & l	SE	R	-	11



**Daily Narrative Journals**

**Clark** This Country would from an extensive Settlement; the Climate appears quit as mild as that of a Similar latitude on the Atlantic Coast; & it cannot be otherwise than healthy; it possesses a fine dry pure air. The Chiefs...would let us know before we left them. that the Snow was yet so deep in the Mountains that if we attempted to pass, we would Certainly perish, and advised us to remain untill after the next full Moon when the Snow would disappear on the South hill sides and we would find grass for our horses—

**Gass** There was a cloudy foggy morning

**Ordway** Some spots of Snow & falling timber. Had a hard Thunder Shower.

**Thursday, May 29**

**Weather Diary**

frequent and heavy showers attended by distant thunder through the night. The river raised 6 inches in the course of yesterday and 1 foot 5 I. in the course of the last night. It is now as high as there are any marks of it's having been in the spring 1805.— at 10 AM it arrived at it's greatest hight having raised 1 ½ inches from sunrise to that time. In the ballance of the day it fell 7 inches. The native inform us that it will take one more rise before it begins finally to subside for the season and then the passage of the mountains will be practicable.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r & t	SE	-	c a r	NW	R	1	5

**Daily Narrative Journals**

**Lewis &**

**Clark** We would have repeated the sweat today hd not been cloudy and frequently raining—

**Gass** The morning was cloudy and wet, and the river is rising very fast; which gives us hope that the snow is leaving the mountains. At 10 o'clock the river ceased rising and the weather became clear.

**Ordway** rained the greater part of last night. A rainy morning. We...descended the worst hills we ever saw a road made down. (They went to where the Salmon & Snake Rivers meet)

Friday, May 30

**Weather Diary**

rain slight last night. The river continued to fall until 4 AM having fallen 3 I by that time since sunrise. It now was at a stand until dark having which it began again to rise.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f	SE	F	-	6

**Daily Narrative Journals**

**Lewis &**

**Clark** very strong current. I sent Sergt. Pryor and a party over with the indian canoe in order to raise and secure ours but the depth of the water and the strength of the current baffled every effort.

**Gass** The morning was fine, with a little fog. The river is so high that the trees stand some distance in the water.

Saturday, May 31

**Weather Diary**

within 3 Inches of its greatest height on the 29<sup>th</sup> inst. and fell a little after which it rose again. The river rose 13 inches last night and continues to rise fast. From sunset on the 31<sup>st</sup> of May until sunrise on the 1<sup>st</sup> of June it rose Eighteen inches and is now as high as any marks of its having been for several years past. A heavy thunder cloud passed around us last evening about sunset. Some rain fell in the fore part of the night only.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	SE	-	f	SE	R	1	1

**Daily Narrative Journals**

**Gass** We had a fine clear morning with a heavy dew. In the evening the weather became cloudy, and we had some rain with sharp thunder and lightning.

**Ordway** the Toomonamah river (Salmon) which is about 150 yards wide here. They (Indians) took us over a verry bad hill down on to the (Salmon) river

# June 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition continued to wait for the winter snows to melt in the upper reaches of the Bitterroot Mountains at Camp Chopunnish along the Kooskooskee River [Clearwater]. They remain at this site near present-day Kamiah, ID from through June 10.

Sunday, June 1

#### Weather Diary<sup>1</sup>

about dark last evening had a slight rain from a heavy thunder cloud which passed to the E & NE of us.

Sunrise			4 PM			Clearwater River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l	SE	-	f a c	NW	R	1	6

<sup>1</sup> Reference: Coues, Volume III, pages 1279-80, 1296-97; Moulton, Volume 8, pages 68-74; Thwaites, Volume 6, Part II, pages 218-220.

<sup>2</sup> River rise and fall observations were taken on the KoosKooskie River (Clearwater). As in previous observations of river rise and fall, the river was probably measured at the sunrise observation providing a 24-hour reading. These observations continued until they left for the Lolo Trail on June 10, 1806.

#### Daily Narrative Journals

**Gass** We had a fine morning after some light showers of rain during the night.— Since last evening the river rose eighteen inches.

Monday, June 2

#### Weather Diary

have slept comfortably for several nights under one blanket only. The river from sunrise until 10 AM yesterday raised 1 ½ inches; from that time until dark fell 4 ½, and in the course of last night raised again 8 inches as stated in the diary. The Indians inform us that the present rise of the river is the greatest which it annually takes, and that when the water now subsides to about the height it was

when we arrived here the mountains will be passable. I have not doubt but that the melting of the mountain snows in the beginning of June is what causes the annual inundation of the lower part of the Missouri from the 1<sup>st</sup> of the Middle of July.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a c	NW	-	f a c	SE	R	-	8

### Daily Narrative Journals

**Lewis** in order to prepare in the most ample manner in our power to meet that wretched portion of our journey, the Rocky Mountain, where hungar and cold in their most rigorous forms assail the wairied traveller; not any of us have yet forgotten our sufferings in those mountains in September last, and I think it probably we never shall. Sergt. Ordway & party returned from The East fork of Lewis's river they discribe as one continued rapid about 150 yds wide its banks are in most places solid and perpendicular rocks, with rise to a great hight; it's hills are mountains high. On the tops of some of those hills which they passed, the snow had not entirely disappeared, and the grass was just springing up.

**Clark** McNeal and York were sent on a tradeing voyage over the river this morning. having exhosted all our Merchindize we were obliged to have recourse to every Subterfuge in order to prepare in the most ample manner in our power to meet that wretched portion of our journey, the Rocky Mountains, where hungar and Cold in their most rigorous form assail the wairied traveller; not any of us have yet forgotten our sufferings in those mountains in September last, I think it probable we never shall. Both forks above the junction of Lewis's river appear to enter a high Mountainious Country.

**Gass** The morning was cloudy.

**Ordway** a fair morning. Found the river (Clearwater) very high indeed.

### **Tuesday, June 3**

#### Weather Diary

The weather has been much warmer for five days past then previously, particularly the mornings and nights.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f & c	SE	-	c a f	SE	R	-	6

**Daily Narrative Journals**

**Lewis &**

**Clark** I begin to lose all hope of any dependance on the Salmon as this river will not fall sufficiently to take them before we shall leave it, and as yet I see now appearance of their runing near the shores as the indians inform us they would in the course of a few days. I find that all the salmon which they procure themselves they obtain on Lewis's river [Snake River].

**Gass** This was a cloudy morning with a few drops of rain; and there were some light showers during the forenoon at intervals. The river rises in the night, and falls in the day time; which is occasioned by the snow melting by the heat of the sun on the mountains, which are too distant for the snow water to reach this place until after night.

**Ordway** clouded up and Sprinkled a little rain.

**Wednesday, June 4**

**Weather Diary**

rained greater part of last night but fell in no great quantity---- yesterday the water was at it's greatest hight at noon, between which and dark it fell 15 inches and in the course of the night raised 1 1/2 inches as stated in the diary. From the indian information the river will now subside and may therefore be said to have been at it's greatest annual hight on the 3<sup>rd</sup> inst. at noon.—

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f a c	NW	R	-	1 1/2

**Daily Narrative Journals**

**Gass** It rained slowly almost all last night, and for some time this morning. The river fell considerably yesterday, and in the night rose only an inch and a half. The afternoon was clear and pleasant.

**Ordway** rained the greater part of last night a wet morning

**Thursday, June 5**

**Weather Diary**

last night was colder than usual but no frost.— the river fell 3 ½ inches in the course of the day and raised 4 I. Last night as stated in the diary. This fluctuating state of the river no doubt is caused by the influence of the sun in the course of the day on the snows of the mountains; the accession of water thus caused in the day dose not reach us untill night when it produces a rise in the river.— the wild rose is in blume. The river fell 10 Ins. in the course of the day.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	R	-	4

### Daily Narrative Journals

**Clark** The river falls in course of the day and rises Some at night as will be Seen by the remarks in the Diary of the weather. This most probably is the melding of the Snows dureing the day &c.

**Gass** There was a fine pleasant morning with heavy dew. An Indian, came with our four hunters, who had been part of the way over the mountains; but found the road too bad and the snow too deep to cross; so we are obliged to remain where we are sometime longer.

**Ordway** a fair morning. The Indians inform us that one of them had set out some days past to cross the mountains if possable but Soon after dark he returned to our Camp and informed us that he went over one mountain and in attempting to cross a creek which was high and rapid his horse fell and hurt hm so he turned back to wait untill the water falls. The river kooskee is falling fast.

**Friday, June 6**

### Weather Diary

in the course of the last night the river raised a little but fell by morning 1 inch lower that what it stood at last evening. The seven bark and the yellow vining honeysuckle are just in blume. A few of the does have produced their young. Strawberries ripe near the river.— (Lewis) hot sultry day (Clark)

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	F	1	0

**Daily Narrative Journals**

**Lewis** The Kooskooske is about 160 Yds. wide at this place and discharges a vast body of water; notwithstanding it high state the water remains nearly transparent, and it's temperature appears to be quite as cold as that of our best springs.

**Gass** The morning was pleasant

**Ordway** a fair morning.

**Saturday, June 7**

**Weather Diary**

rain but slight both last evening and today. But little hail tho' large. The river fell three inches last night and 7 yesterday. The goose berries fully grown also the servis berry.

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NW	-	c a f r & h	NW	F	-	3

**Daily Narrative Journals**

**Gass** We had a cloudy morning with a few drops of rain. Went to a village and while we were going some snow fell.

**Ordway** cloudy & light Showers of rain intermixed with hail & Snow. The air cold.

**Sunday, June 8**

**Weather Diary**

river fell 8 In. in the course of yesterday 7 last night

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	c a f	NW	F	-	7

**Daily Narrative Journals**



**Gass**      There was a pleasant morning.    Several natives....are of opinion we cannot cross the mountains for some time yet.

**Monday, June 9**

**Weather Diary**

river fell 9 In. yesterday (Lewis) & 3 ½ last night (Clark)

Sunrise			4 PM			Clearwater River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	f a c	NW	F	-	3 1/2

**Daily Narrative Journals**

**Lewis** the river has been falling for several days and is now lower by near six feet than it has been; this we view as a strong evidence that the great body of snow has left the mountains, though I do not conceive that we are as yet losing any time as the roads is in many parts extremely steep rocky and must be dangerous if wet and slippery; a few days will dry the roads and will also improve the grass—

**Clark** The flat head river is Still falling fast and nearly as low as it was at the time we arrived at this place. This fall of water is what the natives have informed us was a proper token for us. When the river fell the Snows would be Sufficiently melted for us to Cross the Mountains. The greater length of time we delayed after that time, the higher the grass would grow on the Mountains—

**Gass** This was a fine pleasant day

**Expedition leaves the Kooskooskee River and moves up onto the Weippe Prairie, ID and then starts their journey over the Bitterroot Mountains on the Lolo Trail but on June 17 must retrograde due to a high snowpack [their first of the journey] and begin again on June 25.**

**Tuesday, June 10**

**Weather Diary**

do fell 5 ½ in. course of yesterday having left the river today I could not longer keep it's state; it appears to be falling fast and will probably in the course of a few days be as low as when we first arrived there. It is now about 6 feet lower than it has been.

Sunrise			4 PM			Clearwater River <sup>3</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	F	-	1

<sup>3</sup> They left the river valley at this point to begin their journey towards the Bitterroot Mountains. This ends observations along the Clearwater River.

### Daily Narrative Journals

**Clark** we intend to delay a few days....by which time we Calculate that the Snows will have melted more off the mountains and the grass raised to a sufficient hight for our horses to live.

**Ordway** clear & pleasant.

**Wednesday, June 11**

### Weather Diary

at the quawmash flats

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

### Daily Narrative Journals

**Gass** We had a fine morning with some white frost.

**Ordway** clear and pleasant.

**Thursday, June 12**

### Weather Diary

slight sprinkle of rain in the forepart of the night.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t l	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** the days are now very warm and the Musquetoes our old companions have become very troublesome.

**Gass** We had a fine lovely morning with a heavy dew.

**Ordway** a clear pleasant morning.

**Friday, June 13**

**Weather Diary**

the days for several past have been warm, the Musquetoes troublesome

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	c a f	NW	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** we directed the meat to be cut thin and exposed to dry in the sun.

**Gass** There was a fine morning. In the evening the weather became cloudy.

**Ordway** a fair morning.

**Saturday, June 14**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** ...we have now been detained near five weeks in consequence of the snows; a serious loss of time at this delightful season for traveling. I am still apprehensive that the snow and the want of food for our horses will prove a serious imbrassment to us as at least four days journey of our rout in these mountains lies over hights and along a ledge of mountains never intirely destitute of snow. every body seems anxious to be in motion, convinced that we have not now any time to delay if the calculation is to reach the United States this season; this I am detirmined to accomplish if within the compass of human power.

**Clark** we expect to Set out early, and Shall proceed with as much expedition as possible over those Snowy tremendous mountains which has detained us near five weeks in this neighbourhood waiting for the Snows to melt Sufficent for us to pass over them. And even now I Shudder with the expectation with great dificueltes in passing those Mountains, form the debth of Snow and the want of grass Sufficent to Subsist our horses as about 4 days we Shall be on the top of the Mountain which we have every reason to believe is Covered with Snow the greater part of the year.

**Gass** We had a cloudy morning.

**Sunday, June 15**

**Weather Diary**

it began to rain at 7 AM and contined by showers untill 5 PM

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NW	-	r a f & r	NW	-	-	-

**Daily Narrative Journals**

**Lewis** it rained very hard in the morning and after collecting our horses we waited for it to abait, but as it had every appearance of a settled rain we set our at 10 AM. The rains have rendered the road very slippery insomuch that it is with much difficulty our horses can get on

**Clark** Some hard Showers of rain detained us untill AM at which time we took our final departure from the quawmash fields and proceeded with much dificuelty owing to the Situation of the road which was very Sliprey They frequently Sliped down both assending and decending those hills. the rain Seased and Sun Shown out. we passed through bad fallen timber and a high Mountain this evening. From the top of this Mountain I had an extensive view of the Rocky Mountains...several high pts. to the N & NW Covered with Snow. A remarkable high rugd mountain in the forks of Lewis's river nearly South and covered with Snow.

**Gass** This was a cloudy wet morning with some thunder. We had rain at intervals during the forenoon, but the afternoon was clear.

**Ordway** Soon set in to raining hard. About noon we had Thunder and hard Showers of rain.

**Monday, June16**

**Weather Diary**

on the tops of the hills the dog tooth violet is just in bloom grass about 2 inches high small Huckleberry just puting forth it's leaves &c.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SE	-	c a f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the snow has increased in quantity so much that the greater part of our rout this evening was over the snow which has become sufficiently firm to bear our horshes, otherwise it would have been impossible for us to proceed as it lay in immense masses in some places 8 or ten feet deep. We found much difficulty in pursuing the road as it was so frequently covered with snow. The air is pleasant in the course of the day but becomes very cold before morning notwithstanding the shortness of the nights. Hungry Creek is but small at this place but is deep and runs a perfect torrent; the water is perfectly transparent and as cold as ice.

**Clark** and proceed on through most intolerable bad fallen timber over a high Mountain on

which great quantity of Snow is yet lying premisquissly through the thick wood, and in maney places the banks of snow is 4 feet deep. We nooned it or dined on a Small Creek in a small open valley where we found Some grass for our horses to eate, altho Serounded by Snow. the Snow has increased in quantity So much that the great part of our rout this evening was over the Snow which has become Sufficiently firm to bear our horses, otherwise it would have been impossible fur us to proceed as it lay in emince masses in Some places 8 to ten feet deep. We found much dificulty in finding the road, as it was so frequently covered with snow.

**Gass** We had a pleasant morning, The hills...great many banks of snow, some of them four or five feet deep. These banks are so closely packed and condensed, that they carry our horses, and are all in a thawing state. Had some rain at dinner. In the afternoon we found the snow banks more numerous; extensive and deep; in some of them the snow as much as eight feet deep.

**Ordway** the morning fair. Towards noon we passed over high banks of Snow which bore up our horses, some places 5 or 6 feet deep light Showers of rain this afternoon the Snow is more Common and much deeper. The bushes are all bent flat down by the deep Snow lying on them. The Snow must fall in these hallars in the winter 15 to 20 feet deep and perhaps the Snow drifts in and fills the hollars full.

**Expedition must retrograde [their first of the journey] as the snowpack it too deep for them to see the trail.**

**Tuesday, June 17**

**Weather Diary**

rained slightly a little after sunset Air cool. Rained frm 1 to 3 PM (Lewis) assend a mtn. Snow 15 feet deep on top. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	E	-	c a f & r	SE	-	-	-

**Daily Narrative Journals**

**Lewis** this hill or reather mountain we ascended about 3 miles when we found ourselves inveloped in snow from 12 to 15 feet deep even on the south sides of the hills with the fairest exposure to the sun; here was winter with all it's rigors; the air was cold, my hands

and feet were benumbed. We could not hope for any food for our horses not even underwood itself as the whole was covered many feet deep with snow. The snow bore our horses very well and the travelling was therefore infinitely better than the obstruction of rocks and fallen timber which we met with in our passage over last fall when the snow lay on this part of the ridge in detached spots only. Under these circumstances we conceived it madness in this stage of the expedition to proceed without a guide. This is the first time since we have been on this long tour that we have even been compelled to retreat or make a retrograde march. It rained on us most of this evening—

**Clark** ...this mountain we ascended 3 miles when we found ourselves enveloped in snow from 8 to 12 feet deep even on the South Side of the mountain. I was in front and could only pursue the direction of the road by the trees which had been peeled by the natives for the inner bark of which they scraped and ate. I with great difficulty pursued the direction of the road one mile further to the top of the mountain where I found the snow from 12 to 15 feet deep, but few trees with the fairest exposure to the Sun; here was Winter with all its rigors; the air was cold my hands and feet were benumbed. We therefore came to the resolution to return...and again to proceed as soon as we could procure such a guide, knowing from the appearance of the snows that if we remained until it had dissolved sufficiently for us to follow the road that we should not be enabled to return to the United States within this season. We began our retrograde march at 1 P.M. having remained about three hours on this Snowy mountain. We returned by the route we had advanced to Hungry Creek, which we ascended about 2 miles and encamped. ...the party were a good deal dejected, though not as much so as I had apprehended they would have been. It rained on us the most of this evening. On the top of the Mountain the weather was very fluctuating and uncertain snowed cloudy & fair in a few minutes.

**Gass** There was a cloudy morning, but without rain. When we got about half way up the mountains, the ground was entirely covered with snow, three feet deep; and as we ascended it still became deeper, until we arrived at the top, where it was twelve or fifteen feet deep; After remaining about two hours, we concluded it would be most advisable to go back to some place where there was food for our horses. At this time it began to rain; and we proceeded down to Hungry Creek again. The grass and plants here are just putting out, and the shrubs budding. It rained hard during the afternoon.

**Ordway** we set out as usual the morning chilly and cloudy. When we got about half way up the ground was covered with snow 3 or 4 feet deep as we ascended higher it got deeper until we got to the top of the mountain where it was 12 to 15 feet in general even on the South Side where the Sun has open view but is so settled so that it bears up our horses. Set in to hailing & raining at this time very cold and disagreeable. So we turned back much against our expectations when we started.

**Wednesday, June 18**

**Weather Diary**

obliged to return



Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	E	-	c a r & h	SW	-	-	-

### Daily Narrative Journals

**Gass** The morning was cloudy and several showers of rain fell during the day. Where we had dinner on the 16<sup>th</sup> had a gust of rain, hail, thunder and lightning, which lasted an hour, when the weather cleared and we had a fine afternoon. We found the mosquitoes very troublesome on the creek, notwithstanding the snow is at so short a distance up the mountains.

**Ordway** cloudy. About noon....at which time came up a hard Shower of hail and rain and hard Thunder, which lasted about an hour and cleared off. The mosquitoes verry troublesome at this place.

**Thursday, June 19**

### Weather Diary

returned to quawmash flats.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SE	-	f	NW	-	-	-

### Daily Narrative Journals

**Lewis** these trout are of a red kind they remain all winter in the upper parts of the rivers and creeks and are generally poor at this season.

**Clark** The SW Sides of the hills is fallen timber and burnt woods, the NE Sides of the hills is thickly timbered with lofty pine, and thick under growth.

**Gass** This was a fine morning

**Ordway** a fair morning.

Friday, June 20

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

Daily Narrative Journals

**Lewis & Clark**

we have determined to wrisk a passage on the following plan immediately, because should we wait much longer or untill the snow desolves in such mannger as to enable us to follow the road we cannot hope to reach the United States this winter. The travelling in the mountains on the snow at present is very good, the snow bears the horses perfectly; it is a firm couse snow without a crust. Although the snow may be stated on an average at 10 feet deep yet around the bodies of the trees it has desolved generally more than in other parts not being generally more than one or two feet deep immediately at the roots of the trees. The reason why the snow is comparitively so shallow about the roots of the trees I presume proceeds as well from the snow in falling being thrown off their bodies by their thick and spreading branches as from the reflection of the sun against the trees and the warmth which they in some measure acquire from the earth which is never frozen underneath these masses of snow.

**Gass** There was a fine morning.

**Ordway** a fair morning.

Saturday, June 21

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Gass** We had again a fine morning

**Ordway** a fair morning.

**Sunday, June 22**

**Weather Diary**

hard frost this morning tho' no ice. Strawberries ripe at the Quawmash flats, they are but small and not abundant.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis &**

**Clark** the last evening was cool but the day was remarkably pleasant with a fine breize from the NW.

**Gass** We had a pleasant day

**Ordway** clear and pleasant

**Monday, June 23**

**Weather Diary**

hard frost this morning ice one eighth of an inch thick on standing water

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

**Daily Narrative Journals**

**Gass** We had again a fine morning

**Ordway** a clear pleasant morning.

**Tuesday, June 24**

**Weather Diary**

Set out a 2<sup>nd</sup> time from quawmash flats

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f a c <sup>4</sup>	NW	-	-	-

4 Clark's Journal Codex M lists this weather data as "f."

**Daily Narrative Journals**

**Clark** we had fine grass for our horses this evening—

**Gass** There was a cloudy morning. The day keeps cloudy, and the mosquitoes are very troublesome.

**Expedition starts again over the Bitterroot Mountains along the Lolo Trail on June 25 through June 30.**

**Wednesday, June 25**

**Weather Diary**

rained a little last night, some showers in the evening.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	c a r	NW	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

last evening the indians entertained us with setting the fir trees on fire. they have a great number of dry limbs near their bodies which when Set on fire creates a very sudden and emmence blaize from bottom to top of those tall trees. They are a beautifull object in this situation at night. this exhibition reminded me of a display of fireworks. the natives told us that their object in Setting those trees on fire was to bring fair weather for our journey—

**Gass** There was a light shower of rain this morning. A considerable quantity of rain had fallen during the afternoon.

**Ordway** a little rain last night. We find the Snow has melted considerable Since we passd. The after part of the day Showery and wet.

**Thursday, June 26**

**Weather Diary**

Slight rain in the fore part of the last evening.— (Lewis) in the snowey region. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the snow has subsided near four feet since the 17<sup>th</sup> inst. We now measured it accurately and found from a mark which we had made on a tree when we were last here on the 17<sup>th</sup> that it was then 10 feet 10 inches which appeared to be about the common debth though it is deeper still in some places. It is now generally about 7 feet. Accordingly we set out with our guides who lead us over and along the steep sides of tremendous mountains entirely covered with snow except about the roots of the trees where the snow had sometimes melted and exposed a few square feet of the earth. Encamped...here we found an abundance of fine grass for our horses. This situation was the side of an untimbered mountain with a fair southern aspect where the snows from appearance had been desolved about 10 days.

**Clark** ...and assended to the summit of the mountain where we deposited our baggage on the 17<sup>th</sup> inst. found everything safe and as we had left them. the Snow which was 10 feet 10 inches deep on the top of the mountain, had sunk to 7 feet tho' perfectly hard and firm. we made Some fire Cooked dinner and dined, while our horses stood on snow 7 feet deep at least. Encamped...the grass was young and tender of course and had much the

appearance of the Green Sward.

**Gass** We had a foggy morning; proceeded on early; and found the banks of snow much decreased; at noon we arrived at the place where we had left our baggage and stores. The snow here had sunk twenty inches. We measured the depth of the snow here and found it ten feet ten inches. We proceeded over some very steep tops of the mountains and deep snow; but the snow was not so deep in the drafts between them. Some heavy showers of rain had fallen in the afternoon.

**Ordway** we find the Snow has settled a little more than 2 feet Since we left this the other day. Proceeded on thro. Snow deep. In the evening we Came to the Side of a mountain where the Snow is melted away and a little young grass &C.

**Friday, June 27**

**Weather Diary**

Thunder shower last evening some rain a little before dark last evening

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & t <sup>5</sup>	SE	-	f	SE	-	-	-

5 Clark’s Journal Codex M lists this weather data as “f a r.”

**Daily Narrative Journals**

**Lewis &**

**Clark** we halted by the request of the Indians a few minutes and smoked the pipe. From this place we had an extensive view of these stupendous mountains principally covered with snow like that on which one unacquainted with them it would have seemed impossible ever to have escaped; we arrived at a situation very similar to our encampment of the last evening tho’ the ridge was somewhat higher and the snow had not been so long desolved of course there was but little grass. I doubt much whether we who had once passed them could find our way to Travellers rest in their present situation

**Gass** We had a cloudy morning...proceeding over some of the steepest mountains I ever passed. The snow is so deep that we cannot wind along the sides of these steps, but must slide straight down. ...about 5 o’clock in the evening, when we stopped at the side of a hill where the snow was off, and where there was a little grass. The day was pleasant throughout; but it appeared to me somewhat extraordinary, to be traveling over snow six or eight feet deep in the latter end of June. The most of us, however, had saved our socks, as we expected to find snow on these mountains.

**Ordway** a fair morning. We took an eairly breakfast and proceeded on verry fast over the high banks of Snow. The day warm and Snow melts fast—

**Saturday, June 28**

**Weather Diary**

nights are cool in these mountains but no frost

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

the whole of the rout of this day was over deep snows. We find the traveling on the snow not worse than without it as the easy passage it gives us over rocks and fallen timber fully compensates for the inconvenience of slipping, certain it is that we travel considerably faster on the snow than without it. the snow sinks from 2 to 3 inches with a horse, is coarse and firm and seems to be formed of the larger and more dense particles of the Snow; the Surface of the Snow is reather harder in the morning than after the sun shines on it a few hours, but it is not in that situation so dense as to prevent the horses from obtaining good foothold.

**Clark** much fallen timber caused in the first instance by fire and more recently by a storm from the SW.<sup>5</sup>

**Gass** The morning was pleasant. On the south side of this ridge there is summer with grass and other herbage in abundance; and on the north side, winter with snow six or eight feet deep.

**Ordway** a fair clear cool morning. The snow continues as yesterday. Had a bad Shower of hail and some thunder in the evening

5 From Clark's Courses and estimated distances list along a high ridge 4 ½ miles which turns off to the right and leads to the fishery at the entrance of Colt Creek.

**Party passes across the Lolo Pass, Idaho-Montana state line.**

**Sunday, June 29**

**Weather Diary**

night cold hard frost this morning. The quawmash and strawberries are just begining to blume at the

flatts on the head of the Kooskooske. The sun flower also just beginning to blume, which is 2 months later that those on the Sides of the Western Mountains (Cascades) near the falls (Celilo) of the Columbia.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f a r h & t	SE	-	-	-

**Daily Narrative Journals**

**Lewis & Clark**

when we decended from this ridge we bid adieu to the snow. The Kooskooske at this place is about 30 yds. wide and runs with great volocity. the principal spring is about the temperature of the Warmest baths used at the Hot Springs in Virginia. in this bath which had been prepared by the Indians by stopping the river with Stone and mud, I bathed and remained in 10 minits it was with difiuelty I could remain this long and it caused a profuse sweat. two other bold Springs adjacent to this are much warmer, their heat being so great as to make the hand of a person Smart extreemly when immerced. We think the temperature of those Springs about the Same as that of the hottest of the hot Springs of Virgina.

**Gass**

There was a foggy morning. Proceeded early...at which time there was a shower of rain, with hail, thunder and lightning, that lasted about an hour. At 10 o'clock we left the snow, and in the evening we arrived at the warm springs (Lolo Hot Springs).

**Ordway**

a fair morning. The fog rose up thick from the hollars had a Shower of Hail and Thunder. Towards evening we arived at the hot Stream where we camped. A number of the party as well as myself bathed in these hot Springs, but the water so hot (has been measured at 111 °F), that it makes the Skin Smart when I first entered it. I drank Some of the water also—

**Party arrives at Traveler Rest, near present-day Lolo, MT.**

**Monday, June 30**

**Weather Diary**

We are here Situated on Clark's river in a Vally between two high mountains of Snow. Night cold hard frost this morning.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches



Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

### Daily Narrative Journals

**Clark** Descended the mountain to Travellers rest leaving those tremendous mountain behind us— in passing of which we have experiensed Cold and hunger of which I shall ever remember...from the 14<sup>th</sup> to the 19<sup>th</sup> of Sepr. 1805 we marched through snow, which fell on us on the night of the 14<sup>th</sup> and nearly all the day of the 15 in addition to the cold rendered the air cool and the way difficuelt. On the 16<sup>th</sup> we met with banks of Snow and in the hollars and maney of the hill Sides of Snow was from 3 to 4 feet deep and Scercely any grass vegetation just commencing where the snow had melted— on the 17<sup>th</sup> at meridian, the Snow became So deep in every direction from 6 to 8 feet deep we could not prosue the road...on the 27<sup>th</sup> & 28<sup>th</sup> also passing over Snow 6 to 8 feet deep all the way on 29<sup>th</sup> passed over but little Snow— but saw great masses of it lying in different directions. <sup>7</sup>

**Gass** We continued our march early and had a fine morning.

**Ordway** a clear morning. Musquetoos verry troublesome here—

<sup>7</sup> Clark at the end of this narrative journal remark provides a lengthy discussion summarizing their experiences traveling across the mountains to the Pacific Ocean and back to Travellers Rest. This discussion is found in the daily journal entries for June 30, 1806.

# July 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

Tuesday, July 1

#### Weather Diary<sup>1</sup>

a speceis of wild clover with a small leaf just in blume.

#### Lewis Entry<sup>2</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	NW	-	f	NW	-	-	-

1 Lewis's weather entries are separate from Clark's from July through August 12, as the two leaders went on separate trails before coming back together on the Missouri in August. Lewis takes his party which includes Sergeant Gass to the White Bear Island Camp near the Great Falls of the Missouri. There Lewis takes a smaller contingent to scout the Marias River.

2 Reference: Moulton, Volume 8, pages 142-144; Thwaites, Volume 6, Part II, pages 221-222.

#### Daily Narrative Journals

Gass We had a fine morning

#### Weather Diary<sup>3</sup>

a Species of wild Colver in blume

#### Clark Entry<sup>4</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	NW	-	f	NW	-	-	-

3 Reference: Coues, Volume III, pages 1280, 1297-98; Moulton, Volume 8, pages 262-267; Thwaites, Volume 6, Part II, pages 223-226.

4 Clark takes the rest of the party up the Bitterroot Valley towards Camp Fortunate to pick the cache of goods left the last year. From there, the party returns to the Three Forks of the Missouri. Clark then splits the party and Sergeant Ordway proceeds down the Missouri with various specimens and the canoes to meet up with Sergeant Gass and assist in portaging the Great Falls of the Missouri. Clark takes a smaller contingent over Bozeman Pass and explore the Yellowstone River back to the Missouri.

**Daily Narrative Journals**

Ordway cloudy.

Wednesday, July 2

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

Lewis the tops of the high mountains on either side of this river are covered with snow.

Gass We continued here during this day, which was fine

**Weather Diary**

Musquetors very troublsom

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

Ordway a clear pleasant morning.

**The Parties split near Lolo, Montana. Lewis and his party travel up the Blackfoot river through Lewis and Clark Pass, down the Sun River and into the Great Falls of the Missouri. Clark and his party venture back up the Bitterroot Valley, over the continental divide into the Big Hole Valley and to the cache at Camp Fortunate, south of Dillon Montana.**

Thursday, July 3

**Weather Diary**

the turtle dove lays it's eggs on the ground in these plains and is now seting, it has two eggs only and they are white.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** we saddled our horses and set out I took leave of my worthy friend and companion Capt. Clark and the party that accompanied him. I could not avoid feeling much concern on this occasion although I hoped this seperation was only momentary. Passed the east branch of Clark's River...from 90 to 120 yds. wide. the musquetoos were so excessively troublesome this evening that we were obliged to kindle large fires for our horses these insects torture them in such manner untill they placed themselves in the smoke of the fires that I realy thought they would become frantic. About an hour after dark the air become so coald that the musquetoos disappeared.

**Gass** We had again a fine morning

**Weather Diary**

Cap L. & my Self part at Travellers rest.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** those Creeks take their rise in the mountains to the West which mountains is at this time Covered with Snow for about 1/5 of the way from their tops downwards. Some Snow is also to be Seen on the high points and hollows of Mountains to the East of us.

**Ordway** I am with Capt. Clark up the (Bitterroot River). We kept up the west Side as it is too high at this time to cross.

**Friday, July 4**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** the evening was fine, air pleasant and no mosquitoes.

**Gass** We had a beautiful morning

**Weather Diary**

a warm day. I saw a Species of Honeysuckle with a redish brown flower in blume

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** the last Creek or river which we pass'd was So deep and the water So rapid that Several of the horses were Sweped down Some Distance. The water was So Strong, altho' the debth was not much above the horses belly, the water passed over the backs and loads of the horses. Those Creeks are emensely rapid has great decnt.

**Ordway** a fair morning. Dined and proceeded on without finding the road. As we cannot ford the river yet.

**Saturday, July 5**

**Weather Diary**

a great number of pigeons breeding in this part of the mountains musquetoes not so troublesom as near Clark's river. some ear flies of the common kind and a few large horse flies.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Gass** We had another beautiful morning....crossed a river about 35 yards wide, which flows in with a rapid current from some snow topped mountains on the north.

**Weather Diary**

Cool night. Some dew this morning the nights are Cool. the musquetors are troublesome untill at little after dark when the air become Cool and Musquetoes disappear.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** I crossed the river which heads in a high pecked mountain Covered with Snow NE of the Valley at about 20 miles [near West Pintlar Peak MT]

**Ordway** a fair M. Set out to cross the right fork of the river which we found nearly Swimming.

**Clark's party passes over the Continental Divide at present-day Gibbons Pass, MT.**

Sunday, July 6

Weather Diary

the last night cold with a very heavy dew

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SW	-	-	-

Daily Narrative Journals

**Gass** We had a fine clear morning with some white frost

Weather Diary

cold night with frost. I slept cold under 2 blankets on head of Clark's river. I arrived in an open plain in the middle of which a violent Wind from the N.W. accompanied with hard rain which lasted from 4 until half past 5 P.M. quawmash in those plains at the head of wisdom River is just beginning to blume and the grass is about 6 inches high.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	c a r t & l	SW	-	-	-

Daily Narrative Journals

**Clark** Some frost this morning. The last night was so cold that I could not Sleep. I observe great quantities of quawmash just beginning to blume. the Snow appears to lying in considerable masses on the mountain from which we decended on the 4<sup>th</sup> of Septr. Last. [Saddle Mountain, Ravalli County, MT)] Crossd. a large Creek [Ruby Creek] from the right which heads in a Snow Mountain. we had not proceeded more than 2 Miles in the last Creek, before a violent Storm of wind accompan. with hard rain from the SW imediately from off the Snow Mountains this rain was Cold and lasted 1 ½ hours. I discovd. the rain wind as it approached and halted and formd. a solid column to protect our Selves from the Violency of the gust.

**Ordway** a fair morning. Our Intrepters wife (Sacajawea) tells us that She knows the country & that this branch is the head waters of jeffersons river &C. Late in the afternoon we came to a large extensive plain (Big Hole Valley) Came up a hard Thunder Shower of hail and hard wind. We halted a short time in the midst of it then proceed.

**Lewis' party crosses over the Continental Divide at present-day Lewis and Clark Pass, MT.**

**Monday, July 7**

**Weather Diary**

a cloud came on about sunset and continued to rain moderately all night. rained at 3 PM

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t & l	SW	-	c a f & r	W	-	-	-

**Daily Narrative Journals**

**Lewis** passing the dividing ridge between the waters of the Columbia and Missouri rivers at 1/4 of a miles.

**Gass** We had a wet night, and a cloudy morning...we came to the dividing ridge between the waters of the Missouri and Columbia

**Weather Diary**

Saw a blowing Snake. a violent rain from 4 to ½ past 5 last evening & Some rain in the latter part of last night. a small Shower of rain at 4 this morning accompanied with wind from the S.S.W.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	f a r	SW by W	-	-	-



**Daily Narrative Journals**

**Clark** We arived at a Boiling Spring [Jackson Hot Spring]...this Spring contains a very considerable quantity of water and actually blubbers with heat for 20 paces below where it rises. It has every appearance of boiling, to hot for a man to endure his hand in it 3 seconds. A little sulferish. This extensive vally Surround with covered with snow is extreemly fertile covered esculent plants &c....I now take my leave of this butifull extensive vally which I call hot spring Vally. remarkable Cold night

**Ordway** had several Showers of rain & Thunder in the course of this afternoon—

**Clark’s party arrives at Camp Fortunate at present-day Clark Reservoir, MT.**

**Tuesday, July 8**

**Weather Diary**

heavy white frost last night. very cold

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	W	-	-	-

**Daily Narrative Journals**

**Lewis** the grass generally about 9 inches high.

**Gass** The morning was pleasant with some white frost.

**Weather Diary**

a Small Shower of rain a little after dark a heavy rain and wind from SW at 4 P.M. yesterday a heavy Shower of rain accompanied with rain from the SW from 4 to 5 PM. Passed the boiling hot springs emerced 2 peces of raw meat in the Spring and in 25 Minits the Smallest pece was sufficiently cooked and in 32 the larger was also sufficiently cooked

### Clark Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** opened the cache...I found every article Safe, except a little damp. The Country through which we passed to day was diversified high dry and uneven Stonry open plains and low bottoms very boggy [Grasshopper Creek MT] with high mountains on the tops and North sides of which there was Snow

**Ordway** a clear cold morning & hard frost. Cam to a boiling hot spring (Jackson Hot Spring) I drank some of the water found it well tasted but So hot (has been measured at 136 °F)

Wednesday, July 9

### Weather Diary

rained slightly last night. Air cold. Rained constantly all day air extremely cold it began to rain about 8 AM and continued with but little intermission all day in the evening late it abated and we obtained a view of the mountains we had just passed they were covered with snow apparently several feet deep which had fallen during this day.—

### Lewis Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	r	NE	-	-	-

### Daily Narrative Journals

**Lewis** Set out early and had not proceeded far before it began to rain. The air extremely cold. Halted a few minutes in some old lodges untill it cased to rain in some measure. We then proceeded and it rained without intermission. Wet us to the skin. They day continued rainy and cold. The sun river is generally about 80 yds wide rapid...water clear.

**Gass** A cloudy morning. We set out early to go down the river; but had not proceeded far before it began to rain, and we halted and took shelter. In an hours time the rain slackened, and we proceeded on; but had not gone far before it began to rain again, and

the weather was very cold for the season...before noon. ...and lay by during the afternoon as the rain continued during the whole of it.

**Weather Diary**

Hard frost. Some ice this morning. last night was very Cold and wind hard from the NE all night. The river is 12 inches higher that it was last Summer when we made the deposit here and portage from this place. more Snow on the adjacent mountains than was at that time.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** This day was windy and Cold. The wind dried our Canoes very much.

**Ordway** a fair morning.

**Clark’s party starts down present-day Beaverhead River [Jefferson] heading toward Three Forks, MT. On their way they pass present-day Dillon, MT.**

Thursday, July 10

**Weather Diary**

rain ceased a little after dark

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NW	-	f	W	-	-	-

**Daily Narrative Journals**

**Lewis** the ground is renderd so miry by the rain which fell yesterday that it is excessively

fatiguing to the horses to travel. We came 10 miles and halted for dinner the wind blowing down the river in the fore part of the day was unfavourable to the hunters. They saw several gangs of Elk but they having the wind of them ran off. In the evening the wind set from the West and we fell in with a few elk. The most direct and best Course from the dividing ridge which divides the waters of the Columbia from those of the Missouri at the Gap. A fine road and about 45 miles, reducing the distance from Clark's river to 145 miles.

**Gass** At dark last evening the weather cleared up, and was cold all night. This morning was clear and cold, and all the mountains in sight were covered with snow, which fell yesterday and last night. The road was very muddy after the rain.

**Weather Diary**

white frost this morning. ice 3/4 of an inch thick on Standing water. grass killed by the frost. river falling perceptible. a large white frost last night. the air extremely Cold. Ice 3/4 of an inch thick on Standing water.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** last night was very cold and this morning everything was white with frost and the grass stiff frozend. I had some water exposed in a basin in which the ice was 3/4 of an inch thick this morning. The Musquetors were troublesome all day and until one hour after sunset when it became cool and they disappeared. I saw several large rattle snakes in passing the rattle snake mountain they were fierce.

**Ordway** a severe hard frost & ice. Chilly and cold this morning

**Lewis' party arrives at the upper portage camp at the White Bear Islands, near Great Falls, MT.**

**Friday, July 11**

**Weather Diary**

wind very hard in the latter part of the day



### **Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

### **Daily Narrative Journals**

**Lewis** the morning was fair and the plains looked beautiful the grass much improved by the late rain. The air was pleasant and a vast assemblage of little birds which croud to the groves on the river sun most enchantingly. It is now the season at which the buffaloe begin to coppelate and the bulls keep a tremendous roaring we could hear them for many miles and there are such numbers of them that there is one continual roar. This evening....the wind blew very hard.

**Gass** This was a fine morning

### **Weather Diary**

frost this morning. goslins nearly grown fishing hawks have their young The yellow Current nearly ripe. a slight frost last night. the air Cool. the Musquetors retired a little after dark, and did not return untill about an hour after Sunrise.

### **Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NNE	-	-	-

### **Daily Narrative Journals**

**Clark** the wind rose and blew with great violence from the SW imediately off Some high mountains Covered with Snow. The violence of this wind retarded our progress very much and the river being emencly Crooked we had it imediately in our face nearly every bend. At 6 PM I passed Phalanthropy river which I proceved was very low. The wind Shifted about to the NE and blew very hard tho' much wormer than the forepart of the day. Wisdom river is very high and falling.

**Ordway** a fair morning. We took breakfast eairly and set off. The wind hard a head which is unfavourable to us. Wisdom river is very high at this time.

Saturday, July 12

Weather Diary

wind violent all last night and today until 5 PM when it ceased in some measure

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

Daily Narrative Journals

**Lewis** after 10 am....the wind blew so violently that I did not think it prudent to attempt passing the river— at 5 P.M. the wind abated and we transported our baggage and meat to the opposite shore in our canoes which we found answered even beyond our expectations. I think the river is somewhat higher than when we were here last spring/summer. The present season has been much more moist than the preceding one. The grass and weeds are much more luxouriant than they were when I left this place on the 13<sup>th</sup> of July 1805—the yellow Currants begining to ripen.

**Gass** Again a fine morning

Weather Diary

wisdom river is high but falling. Prickly pears in blume

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	-	-	-

Daily Narrative Journals

**Clark** after completing the paddles &c and takeing Some Brackfast I set out The current I find much Stronger below the forks than above and the river tolerably steight as low as panther Creek when it became much more Crooked the Wind rose and blew hard off the Snowey mountains to the NW and rendered it very difficuelt to keep the canoes from running against the Shore. At 2 PM the Canoe in which I was in was driven by a Suden puff of wind under a log which projected over the water from the bank, and the man in

the Stern Howard was caught in between the Canoe and the log and a little hurt after disingaging our selves from this log the canoes was driven imediately under a drift which projected over and a little above the Water, here the Canoe was very near turning over

**Ordway** a clear morning. The canoe Capt. Clark was in got drove to Shore by the wind under Some tops of trees and was near being filled with water. Capt. Clark fired 2 guns as a Signal for help. I and the other canoes which was a head halted and went to their assistance. They soon got him safe off before 2 pm.

**Clark's party splits and journeys towards the Rochejhone [Yellowstone] River and passes present-day Bozeman, MT. Meanwhile Sergeant Ordway leads a smaller party with the canoes towards Great Falls MT down the Missouri River.**

**Sunday, July 13**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** had the cash opened. Found my bearskins entirly destroyed by the water, the river having risen so high that the water had penetrated. All my specimens of plants also lost. The Chart of the Missouri fortunately escaped. Musquetoes excessively troublesome insomuch that without the protection of my musquetoe bier I should have found it impossible to wright a moment.

**Gass** The morning was pleasant

**Weather Diary**

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SSE	-	f	NE	-	-	-



**Daily Narrative Journals**

**Clark** The Country in the forks between Gallitins & Madisens rivers is a butifull leavel plain Covered with low grass— The Current of the river is rapid and near the mouth contains Several islands

**Daily Narrative Journals - Ordway Party**

**Ordway** a clear morning. I and 9 proceedd on down the river. The wind a head so we halted little before night. The Musquetoos more troublesome than ever we have seen them before.

**Monday, July 14**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** had the meat cut thiner and exposed to dry in the sun.

**Gass** There was a pleasant morning. We staid here also to day; and the musketoos continued to torment us until about noon, when a fine breeze of wind arose and drove them, for a while away.

**Weather Diary**

Saw a Tobacco worm shown me by York

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-



**Daily Narrative Journals**

**Clark** Passed 3 Small Streams from the Mountains to my right. Some Snow on the mountains to the SE S SW. Marked my name & day & year on a Cotton tree. The Main fork of Galletins River turn South and enter them mountains which are yet Covered with Snow.

**Daily Narrative Journals - Ordway Party**

**Ordway** a fair morning. The wind rose hard a head About noon we halted the wind rose So high that we were unable to proceed. In the evening as the wind fell we moved down the R. to a bottom and Camped.

**Clark’s party arrives at the Yellowstone River near present-day Livingston, MT. Ordway’s party passes the present State Capitol of Montana, Helena.**

**Tuesday, July 15**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	E	-	-	-

**Daily Narrative Journals**

**Lewis** the musquetoos continue to infest us in such manner that we can scarcely exist; for my own part I am confined by them to my bier at least 3/4ths of my time. My dog even howls with the torture he experiences from them, they are almost insupportable, they are so numerous that we frequently get them in our throats as we breath.

**Gass** We had pleasant weather.

**Weather Diary**

Struck the river Rochejhone 120 yards wide water falling a little

### Clark Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE by E	-	f	NE	-	-	-

### Daily Narrative Journals

**Clark** river is about 120 yrd wide bold and deep [Yellowstone]. The water of a whiteish blue colour. A mountain which is ruged NW has Snow on parts of it. River is rugid and covered with Snow those on the West is also high but have now Snow. Much dead timber on its N side— Camped last night passing over a low dividing ridge to the head of a water Course which runs into the Rochejhone [Yellowstone River]. The River Rochejhone at which place I arrived at 2 PM. Shield River discharges itself into the Rochejhone...this river is 35 yards deep and affords a great quantity of water it heads in those Snowey Mountain to the NW with Howards Creek. The Roche passes out of a high rugid mountain covered with Snow. This 2<sup>nd</sup> bottom over flows in high floods. But fiew flowers to be Seen in those plains. Low grass in the high plains

### Daily Narrative Journals - Ordway Party

**Ordway** a fair morning.

**Lewis leaves Sergeant Gass in command of the upper portage camp at White Bear Islands, while he takes a small party to explore the Marias River basin from July 16 through July 28. Ordway's party passes through the Gates of the Rockies.**

Wednesday, July 16

### Weather Diary

Saw the Cookkoo or rain corw and the redheaded woodpecker. The golden rye now heading. Both species of the prickly pare in blume.— the sunflower in blume.

### Lewis Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** proceeded down the river to the handsome fall [Rainbow Falls]...where I halted about 2 hours and took a haisty sketch of these falls. here we encamped and the evening having the appearance of rain made our beds and slept under a shelving rock. these falls have abated much of their grandure since I first at them in June 1805, the water being much lower at present than it was at that moment, however they are still a sublimely grand object.

**Weather Diary**

Saw the wild indigo & common sunflower

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	c	NE	-	-	-

**Daily Narrative Journals**

**Clark** the current of the Rochejhone is too rapid to depend on Skinn canoes no other alternetive for me but to proceed on down untill I can find a tree sufficently large &c. to make a Canoe—

**Daily Narrative Journals - Gass Portage Party**

**Gass** There was a fine morning.

**Daily Narrative Journals - Ordway Party**

**Ordway** a fair morning. The wind rose a head and blew so high about nono that obledged us to lay too near the gates of the rocky mountains. About 3 PM the wind abated a little and we proced. on thro the gates of the mn

**Thursday, July 17**

**Weather Diary**

wind voilent all day. Distant thunder last evening to the West.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a t l	SW	-	f	SW	-	-	-

**Daily Narrative Journals**

**Lewis** I steered my course through the wind and level plains which have somewhat the appearance of an ocean, not a tree nor a shrub to be seen. The land is not fertile, at least far less so, than the plains of the Columbia or those lower down this river, it is a light coloured soil. Rose river [Teton] is at this place fifty yards wide, the water which is only about 3 feet deep...is very turbid of a white colour. From the size of rose river at this place and it's direction I have no doubt but it takes it's source within the first range of the Rocky Mountains.

**Weather Diary**

Heavy showers of rain Hard Thunder & Lightning last night a heavy Shower of rain accompanied with hail Thunder and Lightning at 2 a.m. with hard wind from the SW after the Shower was over it Cleared away and became fair.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r h t & l	SE	-	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** The rain of last night wet us all. Cross a large Creek which heads in a high Snow topped Mountain to the NW immediately opposite to the entrance of the Creek one Somthing larger falls in from the high Snow mountains to the SW & South. All the mountains to the SW is covered with Snow [Absaroka Range & Beartooth Mountains]

**Daily Narrative Journals - Gass Portage Party**

**Gass** We had a pleasant day, and high wind; which drives away the mosquitoes and relieves us from those tormenting insects.

**Daily Narrative Journals - Ordway Party**

**Ordway** a clear morning. The wind rose so high that Some of the canoes were near being filled.  
Halted at the creek above as the wind too high to pass these rapids with safety.  
Towards evening the wind abated a little So we passed down the rapids with Safety.

**Friday, July 18**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** many prickly pears now in blume

**Weather Diary**

yellow, purple & black Currents ripe and abundant

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** currents ripe...I think the purple Superior to any I have ever tasted. The river here is about 200 yard wide rapid as usual and the water gliding over coarse gravel

**Daily Narrative Journals - Gass Portage Party**

**Gass** There was another pleasant day

**Daily Narrative Journals - Ordway Party**

**Ordway** a clear cool windy morning. Proceeded down the gentle current the musketoes and small flies are very troublesome. My face and eyes are Swelled by the poison of those insects which bite verry Severe indeed.

**Clark establishes Yellowstone River Canoe Camp between July 19 and July 24 near present-day Columbus, MT. Ordway’s party arrives at the upper portage camp at the White Bear Islands and begins to assist Sergeant Gass’ party moving the canoes and materials down to lower portage camp.**

**Saturday, July 19**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** completed my observation of the sun’s meridian Altitude we set out.

**Weather Diary**

Saw the 1<sup>st</sup> Grape vine of the dark purple kind the grape nearly grown

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** we passed over two high points of Land from which I had a view of the rocky Mounts. to the W & S SE all Covered with Snow. It may be proper to observe that the emence



Swarms of Grass hoppers have destroyed every Spring of Grass for many miles on this Side of the river, and appear to be progressing upwards.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass**      The weather continues pleasant

**Ordway**    a clear & pleasant morning.

**Sunday, July 20**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	N	-	-	-

**Daily Narrative Journals**

**Lewis**      the day proved excessively warm and we lay by four hours during the heat of it; there is scarcely any water at present in the plains and what there is, lies in small pools and is so strongly impregnated with the mineral salts that it is unfit for any purpose except the use of the buffalo. Those animals appear to prefer this water to that of the river.

**Weather Diary**

Swarms of grass hoppers have eaten the grass of the plains for many miles. The River Rachejhone falls about ½ an in in 24 hours and becomes much Clearer than above. The Grass hoppers are emencely noumerous and have destroyed every Species of grass from one to 10 Miles above on the river & a great distance back.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** We had a fine day

**Ordway** a clear warm morning.

**Monday, July 21**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** the water of this stream is nearly clear [Cut Bank Creek]. From the appearance of this rock and the apparent height of the bed of the stream I am induced to believe that there are falls in these rivers somewhere about their junction.

**Weather Diary**

river falls a little and the water is nearly Clear

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c	NE	-	-	-

**Daily Narrative Journals**

**Clark** This evening late a very black Cloud from the SE accompanied with Thunder and lightning with hard winds which Shifted about and was warm and disagreeable.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass**      A pleasant morning.

**Ordway**    a fair warm morning

**Lewis' party establishes Camp Disappointment on Cut Bank Creek of the Marias River west of present-day Cut Bank, MT. They remain here until July 26.**

**Tuesday, July 22**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis**      there being no wood we were compelled to make our fire with the buffaloe dung which I found answered the purpose very well. as I could see from hence very distinctly where the river entered the mountains and the bearing of this point being S of West I thought it unnecessary to proceed further and therefore encamped resolving to rest ourselves and horses a couple of days at this place and take the necessary observations...the rocky mountains to the SW of us appear but low from their base up yet are partially covered with snow nearly to their bases. There is no timber on those mountains within our view.

the river appears to possess at least double the vollume of water which it had where we first arrived on it below; this no doubt proceeds from the avaporation caused by the sun and air and the absorbing of the earth in it's passage through these open plains. I now have lost all hope of the waters of this river ever extending to N Latitude 50<sup>0</sup>.

**Weather Diary**

rained Slightly last evening about dark with hard winds Thunder & lightning a few drops of rain last night at dark. The Cloud appd. to hang to the SW, wind blew hard from different points from 5 to 8 PM which time it thundered and Lightened. The river by 11 am to day had risen 15 inches, and the water of a milky white Colour.

### Clark Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a t l & r	NE	-	c	NE	-	-	-

### Daily Narrative Journals

**Clark** The wind continued to blow very hard from the NE and a little before day lght was moderately Cool. The plains imediately out from Camp is So dry and hard that the track of a horse Cannot be Seen without close examination. The plains being so remarkably hard and dry as to render it impossible to see a track. grass is but Short and dry.

### Daily Narrative Journals - Gass-Ordway Portage Party

**Gass** We had a fine morning. Here a heavy shower of rain came on with thunder and lightning; and we remained at this place all night.

**Ordway** a fair morning.

Wednesday, July 23

### Weather Diary

a distant thundercloud last evening to the west. Mountains covered with snow.

### Lewis Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a t & l	SE	-	f	SW	-	-	-

### Daily Narrative Journals

**Lewis** The clouds obscured the moon and put an end to further observations. We indeavoured to take some fish but took only one small trouht. Musquetoes uncommonly large and reather troublesome.

**Weather Diary**

violent wind last night from SW The river has fallen within the last 24 hours 7 inches. the wind was violent from the SW for about 3 hours last night from the hours of 1 to 3 am

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c	SE	-	-	-

**Daily Narrative Journals**

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** There was a pleasant morning after the rain

**Ordway** a hard Shower of rain hail and wind last evening.

**Clark’s party passes by present-day Billings, MT.**

**Thursday, July 24**

**Weather Diary**

a violent gust of thunder Lighting last evening at 6 PM rain and wind all night until this evening with some intervalles.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t & l	NW	-	c a r t l	NW	-	-	-

**Daily Narrative Journals**

**Lewis** At 8 A.M. the sun made it’s appearance for a few minutes and I took it’s altitude but it shortly after clouded up again and continued to rain the ballance of the day. I was therefore unable to complete the observations I wished to take at this place. I determined

to remain another day in the hope of it's being fair. the air has become extremely cold which in addition to the wind and rain renders our situation extremely unpleasant.

**Weather Diary**

Violent wind last night. River falling a little. Since the last rise is had fallen 13 inches. River falling a little it is 6 feet lower than the highest appearance of it's rise. Rained from 3 to 4 PM but slightly. The wind violent from the SW

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	r	SW	-	-	-

**Daily Narrative Journals**

**Clark** river 300 yds. wide. Came to big horn river...is 150 yards wide at it's Mouth...the water of a light Muddy Colour and much Colder that the Rochejhone. For me to mention or give an estimate of the differant Spcies of wild animals on this river particularly Buffalow, Elk Antelopes & Wolves would be incredible. I shall therefore be silent on the Subject further. Current rapid.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** This was a cloudy morning. About 4 o'clock a very heavy shower of rain, accompanied with thundr and lightning, came on, and lasted about an hour and a half. After this we had a fine evening,

**Ordway** a clear morning. Had a hard shower of rain which rendred the plains verry muddy

**Clark's party stops and names Pompey's Tower [Pillar] after Sacagawea's son. This is now a National Historic Landmark. At this rock, the only remaining physical evidence of the Lewis and Clark Expedition remains which is William Clark's name and the day inscribed in the sandstone.**

Friday, July 25

**Weather Diary**

rained and wind violent all day and night.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NW	-	c a r	NW	-	-	-

**Daily Narrative Journals**

**Lewis** The weather still continues cold cloudy and rainy, the wind also has blown all day with more than usual violence from the NW. I remained in camp with R. Fields to avail myself of every opportunity to make my observations should any offer, but it continued to rain and I did not see the sun through the whole course of the day. I determined that if tomorrow continued cloudy to set out as I now begin to be apprehensive that I shall not reach the United States within this season unless I make every exertion in my power which I shall certainly not omit when once I leave this place which I shall do with much reluctance without having obtained the necessary data to establish it's longitude— as if the fates were against me my chronometer from some unknown cause stoped today, when I set her to going she went as usual.

**Weather Diary**

rained from 3 to 4 PM yesterday but Slight. Rained several showers Several showers of rain with hard winds from the S and SW the fore part of the day. The brooks on each side are high and water muddye.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	E	-	c a r	SW	-	-	-

**Daily Narrative Journals**

**Clark** and had not proceeded far before a heavy shower of rain pored down on us, and the wind blew hard from the SW. The wind increased and the rain (began) continued to fall. I halted...covered with deerskins to keep off the rain, and a large fire made to dry

ourselves. The rain continued moderately until near twelve o'clock when it cleared away and became fair. The wind continued high until 2 PM. At 4 PM arrived at a remarkable rock. This rock I shall call Pompey's tower is 200 feet high. The natives have engraved on the face of this rock the figures of animals &c. near which I marked my name and the day of the month & year. From the top of this tower I could discover two mountains & the Rocky Mts. covered with snow SW. I proceeded on a short distance and encamped, and earlier than I intended on account of a heavy cloud which was coming up from the SSW. and some appearance of a violent wind. About sunset the wind blew hard from the W. and some little rain.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** This was a fine morning with a very heavy dew. About 2 o'clock...we had another very heavy shower of rain accompanied with thunder and lightning. At 3 o'clock...it rained on us hard all the way, and the road was so muddy that the horses were not able to haul the loads

**Ordway** hard rain comd. About noon and continued the remainder part of the day, but did not stop us from our urgent labours. halted as much as we were able to help the horses as the place so amazing muddy & bad. Rained very hard and we having no shelter some of the men and myself turned over a canoe & lay under it others set up by the fires. The water run under us and the ground was covered with water. The portage River raises fast

**Sergeant Gass & Ordway portage party leaves down the Missouri from the lower portage camp site.**

**Saturday, July 26**

**Weather Diary**

wind violent rain continues.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	N	-	f	NW	-	-	-

**Daily Narrative Journals**

**Lewis** The morning was cloudy and continued to rain as usual, tho' the cloud seemed somewhat thinner I therefore postponed setting out until 9 A.M. in the hope that it would clear off but



find the contrary result I had the horses caught and we set out bidding a lasting adieu to this place which I know call camp *disappointment*. A small creek [Willow Creek] is shallow and rappid; has the appearance of overflowing it's banks frequently and discharging vast torrents of water at certain seasons of the year. I halted and used my spye glass...which I discovered several indians....this was a very unpleasant sight.

**Weather Diary**

a slight shower this morning with hard wind from the SW the river falling, but very slowly 1 inch in 24 hs.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SSW	-	f a r	NW	-	-	-

**Daily Narrative Journals**

**Clark** the Current of the river reagularly Swift.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** The morning was cloudy. It rained very hard all night, which has made the plains so muddy, that it is with greatest difficulty we can get along with the canoe. A few drops of rain fell in the course of the day.

**Ordway** a wet disagreeable morning. The portage River too high to waid but is falling fast. The truck wheels Sank in the mud nearly to the hub.

**Lewis' party meets with unfortunate tragedy as two Blackfeet Indians are killed as they attempt to steal the party's rifles and horses. Lewis' party leaves with haste and rides all day and nearly all night towards the Marias and Missouri River confluence.**

Sunday, July 27

**Weather Diary**

### **Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	SW	-	-	-

### **Daily Narrative Journals**

**Lewis** the day proved warm but the late rains had supplied the little reservoirs in the plains with water and had put them in fine order for traveling our whole rout so far was as level as a bowling green with but little stone and few prickly pears. after refreshing ourselves we again set out by moonlight and traveled leasurely, heavy thunderclouds lowered around us on every quarter but that from which the moon gave us light.

### **Weather Diary**

Saw a flight of gulls a small rattle snake several flocks of crows and black burds

### **Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SW	-	-	-

### **Daily Narrative Journals**

**Clark** I marked my name with red paint on a Cotton tree near my camp...the river is much wider from 4 to 600 yards much divided by Islands. When we pass the Big horn I take my leave of the view of the tremendous chain of Rocky Mountains white with Snow in view of which I have been Since the 1<sup>st</sup> of Nay last.

### **Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** a fine clear pleasant morning

**Ordway** a clear morning.

**Lewis' party meets with Sergeant Gass and Ordway portage party and proceed down the Missouri River through the present-day Missouri Breaks National Monument, MT.**

**Monday, July 28**

**Weather Diary**

a thundershower last night from NW but little rain where we were. heavy hail storm at 3 PM the prickly pear has now cast it's blume

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l	NE	-	c a f h r t & l	NE	-	-	-

**Daily Narrative Journals**

**Lewis** The morning proved fair . After 1 PM...during the time we halted at the entrance of Maria's river we experienced a very heavy shower of rain and hail attended with violent thunder and lightning.

**Weather Diary**

a few drops of rain this morning a little before day light. River still falling a little Bratten Coet (caught) a beaver Labeech shot 2 last evenig. I saw a wild cat lying on a log over the water

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f r	NE	-	f	NW	-	-	-

**Daily Narrative Journals**

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** The morning was fine and pleasant. About one o'clock....about this time we started a heavy gust of rain and hail, accompanied with thunder and lightning came on and lasted about an hour, after which we had a cloudy wet afternoon

**Ordway** about 9 AM we discoverd on a high bank a head Capt. Lewis & the three men who went with him on horse back comming towards us on N Side. Got his observations for the Lat.(at the Marias River) but the cloudy weather prevented him from gitting the Longitude &C. About 1 PM we arived at the forks of the Marriah....we Soon had a hard Shower of rain & large hail. Some larger than a musket Ball Thunder and high winds a head but we procd. Late in the evening we had a Shower of rain which lasted about a hour—

**Tuesday, July 29**

**Weather Diary**

heavy rain last night, continued with small intervalles all night

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r t & l	SW	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Lewis** Shortly after dark last evening a violent storm came on from the NW attended with rain hail Thunder and lightning which continued the greater part of the night. Not having the means of making a shelter I lay in the water all night. The rain continued with but little intermission all day. I intend halting as soon as the weather proves fair in order to dry our baggage which much wants it. We set out early and the currant being strong we proceeded with great rapidity. At 11 AM we passed that very interesting part of the Missouri where the natural walls appear, particularly discribed in my outward bound journey. The river is now nearly as high as it has been this season and is so thick with mud and sand that it is with difficulty I can drink it. Every little rivulet now discharges a torrent of water bringing down immece boddies of mud sand and filth from the plains and broken bluffs—

**Gass** Early in a cloudy morning we commenced our voyage from the mouth of Maria's river; and the current of the Missouri being very swift, we went down rapidly. A considerable quantity of rain fell in the course of the day.

**Ordway** cloudy and rain. About 11 AM we entered the high clay broken country white clay hills and the white walls resembling ancient towns & buildings &C. We had a Shower of rain



**Weather Diary**

a few drops of rain (rain slightly with Thunder and lightning) accompanied with hard Claps of Thunder and Sharp lightning last night wind hard from the NE

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t & l	NE	-	f	N	-	-	-

**Daily Narrative Journals**

**Clark** a Slight rain last night with hard thunder and Sharp lightening accompanied with a violent NE wind. I set out early this morning wind So hard a head that we made but little way. The Tongue River...so muddy and worm as to render it very disagreeable to drink...nearly milk worm very muddy. The river widens. I think it may be generally Calculated at from 500 to a half a mile wide in width

**The Lewis party passes the confluence of the Missouri and Judith River in central Montana.**

**Wednesday, July 30**

**Weather Diary**

rained almost without intermission

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NE	-	r	NE	-	-	-

**Daily Narrative Journals**

**Lewis** The rain still continued this morning it was therefore unnecessary to remain as we could not dry our baggage. The currant being strong and the men anxious to get on they plyed their oars faithfully and we went at the rate of about seven miles an hour. The rain continued with but little intermission all day; the air is cold and extremely disagreeable. Nothing extraordinary happened today.

**Gass** We embarked early in a cloudy morning with some rain. The water of the river is thick and muddy, on account of the late falls of rain, which wash those clay hills very much. Heavy rain fell at intervals during the day.

**Ordway** cloudy and wet. Rained all day.

**Weather Diary**

Great number of Swallows, they have their young. Killed 1s black tail deer. Young gees beginning to fly a slight shower of rain accompanied with thunder and lightning. Several showers in the course of this day. It cleared away in the evening and became fair river falling a little. Great quantities of Coal appear in the bluffs of either Side. Some appearance of Burnt hills at a distance from the river.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t l	NW	-	f a r	SE	-	-	-

**Daily Narrative Journals**

**Clark** first appearance of Birnt hills. They have the apperanc of discharging emence torrents of water. The late rains which has fallen in the plains raised Suden & heavy Showers of rain must have fallen, Several of which I have seen discharging those waters. A violent Storm from the NW obliged us to land imediately below this rapid...above enterance of a river...I call it Yorks dry R. After the rain and wind passed over I proceeded on at 7 miles. Water was disagreeably muddy.

**Lewis’ party leaves present-day Missouri Breaks National Monument, MT.**

**Thursday, July 31**

**Weather Diary**

rained almost without intermission

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

-	c a r	NE	-	r	NW	-	-	-
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**Daily Narrative Journals**

**Lewis** the rain still continuing. The river is still rising and excessively muddy more so I think than I ever saw it. We experienced some very heavy showers of rain today.

**Gass** We set out early, though it continued at intervals to rain hard. At noon we halted to dine, and had then a very heavy shower of rain. Though the afternoon was wet and disagreeable, we came 70 miles to day.

**Ordway** cloudy and rain. Had several showers of rain. The river very muddy owing to the heavy rains washing those Clayey hills.

**Weather Diary**

rained only a few drops last night. A small showers to day. Wind hard form the NE the wind blew hard and it was showery all day tho not much rain. The clouds came up from the W and NW frequently in course of the day.

**Clark Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** Showers all this day.



# August 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

Lewis' party passes by the confluence of the Missouri and Musselshell Rivers in central Montana. Clark's party is proceeding down the Yellowstone River and near's present-day Glendive, Montana.

Friday, August 1

#### Weather Diary<sup>1</sup>

#### Lewis Entry<sup>2</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NE	-	r a r	NW	-	-	-

1 Lewis's weather entries are separate from Clark's from July through August 12, as the two leaders went on separate trails before coming back together on the Missouri in August.

2 Reference: Moulton, Volume 8, pages 159-160; Thwaites, Volume 6, Part II, pages 222-223.

#### Daily Narrative Journals

**Lewis** The rain still continuing I set out early as usual after 1 PM...as the rain still continued with but little intermission and appearances seemed unfavorable to it's becomeing fair shortly, I deteremined to halt at this place. Shortly after we landed the rain ceased tho' it still continued cloudy all this evening.

**Gass** We embarked early in a wet disagreeable morning The afternoon was cloudy with some rain

**Ordway** hard rain. Here we delayed this afternoon to dry our deer Skins Mount. Sheep skins &C. which were near Spoiling as the weather has been some time wet.

Saturday, August 2

#### Weather Diary

rained last night and all day to day at intervalles

#### Clark Entry<sup>3</sup>

Sunrise			4 PM			Yellowstone River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NW	-	r	N	R	-	5 1/2

3 Reference: Coues, Volume III, pages 1280-81, 1298; Moulton, Volume 8, pages 333-336; Thwaites, Volume 6, Part II, pages 226-228.

4 Clark began Yellowstone River rise and fall observations on this date. The data usually is not for a 24-hour period unless they are encamped. In most cases, when Clark's party stopped for the evening, he followed Lewis' habit from previous journal entries, placing a mark and measured the next morning. Thus many observations were only 8 to 10 hour long.

### Daily Narrative Journals

**Clark** We Set out early as usual the wind was high and ahead which caused the water to be a little rough and delayed us very much added to this we had Showers of rain repeatedly all day at the intermission of only a few minits between them. My Situation a very disagreeable one. In an open Canoes wet and without a possibility of keeping my Self dry. The brooks have all Some water in them from the rains which has fallen. The water is excessively muddy. This gangue of Buffalow was entirely across and as thick as they could Swim. The Chanel on the Side of the Island the went into the river was crouded with those animals for ½ an hour. [meat] nearly Spoiled from the wet weather.

Saturday, August 2

### Weather Diary

it became fair soon after dark last evening and continued so.—

### Lewis Entry

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	NW	-	f	NW	-	-	-

### Daily Narrative Journals

**Lewis** The morning proved fair and I determined to remain all day and dry the baggage and give the men an opportunity to dry and air their skins and furr. The day proved warm fair and favourable for our purpose. The river fell 18 inches since yesterday evening. We are all extreemly anxious to reach the entrance of the Yellowstone river where we expect to join Capt. Clark and party.

**Gass** This was a fine clear morning

**Ordway** a fair morning. The day warm

**Weather Diary**

rained a little last night and Several Showers this mornng

**Clark Entry**

Sunrise			4 PM			Yellowstone River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	N	-	f a r	N	R	-	3

**Daily Narrative Journals**

**Clark** river wide. The river in this days decent is less rapid crouded with Islds and muddy bars and is generally about one mile in wedth.

**Clark's party passes the confluence of the Yellowstone and Missouri Rivers and passes the present-day Montana - North Dakota state line.**

**Sunday, August 3**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Gass** We had a fine morning

**Ordway** a fair morning.

**Weather Diary**

Musquetors troublesom. I arive at the Missouri. heavy dew.

**Clark Entry**

Sunrise			4 PM			Yellowstone River <sup>5</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	R	-	2 1/4

<sup>5</sup> River observations are now on the Missouri River following the same technique noted in Footnote #2 above.

**Daily Narrative Journals**

**Clark** last night the Musquetors was so troublesom that no one of the party Slept half the night. For my part I did not Sleep one hour. Those tormenting insects found their way into My beare and tormented me the whole night. They are not less noumerous or troublesom this morning. At 8 AM I arived at the Junction of the Rochejhone with the Missouri. A large Buck Elk which I shot & had his flesh dried in the Sun for a Store down the river. Had the canoes unloaded and every article exposed to dry & Sun. Maney of our things were wet. The current of this river may be estimated at 4 miles and ½ pr. hour from the Rocky Mts. as low as Clarks Fork, at 3 ½ Miles pr. hour from thence as low as the Bighorn...3 [mph] as the Tongue...2 ¾ [mph] as Wolf rapid and at 2 ½ [mph] from thence to its enterance into the Missouri.

**Lewis’ party passes by the confluence of the Missouri and Milk Rivers southeast of present-day Glasgow, MT.**

**Monday, August 4**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** Set out at 4 AM this morning. At ½ after eleven O’Ck. passed the entrance of big dry

river; found the water in this river about 60 yds. wide tho' shallow. It runs with a boald curreant. At 3 PM we arrived a the entrance of Milk river where we halted a few minutes. This stream is full at present and it's water is much the colour of that of the Missouri

**Gass** This was another pleasant day. At five o'clock we passed the mouth of Milk River, which was very high and the current strong.

**Weather Diary**

Rochejhone falling much faster than the Missouri

**Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	-	NW	-	f	NE	F	-	6 1/2

**Daily Narrative Journals**

**Clark** Musquetors excessively troublesom...those insects is on the Sand Bars in the river and even those Situations are only clear of them when the Wind Should happen to blow which it did to day for a few hours in the middle of the day. The torments of those Misquetors. The Child of Shabono has been So much bitten by the Musquetor that his face is much puffed up & Swelled.

**Tuesday, August 5**

**Weather Diary**

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	NW	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** the geese cannot fly at present; I saw a solitary Pillacon [Pelican] the other day in the same situation. This happens from their shedding or casting the fathers of the wings at this season.

**Gass** Last night was cloudy and thunder was heard at a distance. This morning was also cloudy. The forenoon had become clear and pleasant, and at noon we got under way. At sunset we encamped and at dark a violent gust of rain and wind came on with thunder and lightning, which lasted about an hour; after which we had a fine clear night.

**Ordway** a fair morning. A little after dark came up a Thunder Shower of wind and rain and nearly filled our canoes, so that we had to unload them. The sand flew so that we could Scarsely See & cut our faces by the force of the wind—

**Weather Diary**

Musquetors excessively troublsom both rivers falling.

**Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	F	-	7

**Daily Narrative Journals**

**Clark** the Misquetors was So numerous that I could not keep them off my gun long enough to take Sight and by thair means missed. At 10 AM the wind rose with a gentle breeze from the NW which in Some measure thinned the Misquetors. Camped...our Situation was exposed to a light breeze of wind which continued all the forepart of the night from the SW and blew away the misquetors.

**Clark’s party passes present-day Williston, ND.**

Wednesday, August 6

**Weather Diary**

a violent gust of Thunder Lightning wind and hail last night.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l	NE	-	f	NE	-	-	-

### Daily Narrative Journals

**Lewis** A little after dark last evening a violent storm arose to the NE and shortly after came on attended with violent Thunder lightning and some hail; the rain fell in a mere torrent and the wind blew so violently that it was with difficulty I could have the small canoes unloaded before they filled with water; they sustained no injury. Our situation was open and exposed to the storm. I obtained a few hours of broken rest; the wind and rain continued almost all night and the air became very cold. We set out early this morning...descended 10 miles below Porcupine river [Poplar River, MT]...when the wind became so violent that I laid by until 4 PM. The wind then abated in some measure we again resumed our voyage

**Gass** a fine morning, but high wind. At 12 o'clock the wind blew so violent that it became dangerous to go on and we halted...left after three hours

**Ordway** a fair morning. The wind rose high so halted.

### Weather Diary

rained hard last night with Thunder Lightning & hard wind from S.W. Killed a white Bear & Bighorn

### Clark Entry

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t & l	SW	-	f	NE	F	-	2 1/2

### Daily Narrative Journals

**Clark** I rose very wet. About 11 PM last night the wind become very hard for a few minits Suckceeded by Sharp lightning and hard Claps of Thunder and rained for about 2 hours very hard after which it continued Cloudy the balance of the night. Wind hard from the NW I halted. Bear plunged into river...we all fired into him without killing him, the wind so high that we could not pursue him. I have observed buffalwo floating down which I suppose must have been drouded in Crossing above. The wind blew hard all the after part of the day.

**Lewis' party passes the confluence of the Yellowstone and Missouri Rivers and passes the present-day Montana - North Dakota state line.**

Thursday, August 7

Weather Diary

rained from 12 last night until 10 AM today—.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NE	-	c a r	NE	-	-	-

Daily Narrative Journals

**Lewis** It began to rain about midnight and continued with but little intermission until 10 AM today. The air was cold and extremely unpleasant. The current favoured our progress being more rapid than yesterday

**Gass** The morning was cloudy, and we set out early, after a very heavy shower of rain which fell before day light. About 4 o'clock arrived at the mouth of Yellow Stone river.

**Ordway** a Showery wet morning. About 4 PM we arrived at the mouth of the River Roshjone (Yellowstone). The wind his this evening.

Weather Diary

Commenced raining at daylight and continued at intervals all day. air Cool.

**Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	NE	-	c a r	N	F	-	2 1/2

Daily Narrative Journals

**Clark** Some hard rain this morning after daylight which wet us all. I formed a Sort of Camped and delayed until 11 AM when it Stopped raining for a short time. Proceeded...the rain Continued at intervals all day tho' not hard at 6 PM...Campd...soon after we landed the wind blew very hard for about 2 hours, when it lulled a little. The air was exceedingly Clear and Cold and not a misquetor to be Seen, which is a joyfull circumstance to the Party.



**Lewis' party stops near present-day Williston, ND from August 8 through August 10.**

**Friday, August 8**

**Weather Diary**

wind hard but not so much so as to detain us.—

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	-	-	-

**Daily Narrative Journals**

**Lewis** I set our early; the wind heard [hard] from the NE but by the force of the oars and currant we traveled at a good rate. This evening...the air is cold yet the Musquetoos continue to be troublesome—

**Gass** We had a fine cool morning with some white frost

**Ordway** a fair morning.

**Weather Diary**

air cool. Sergt. Pryor arrive in Skin Canoes.

**Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	f	NW	F	-	2

**Daily Narrative Journals**

**Clark** Sergt. N. Pryor informed me that the Second night after he parted with me [Pryor and party left with horses on July 24, 1806]...about 4 PM he halted to let the horses graze durement which time a heavy Shower of rain raised the Creek so high that Several horses which had Stragled across the Chanel of this Creek was obliged to Swim back. [July 26,

1806].

**Saturday, August 9**

**Weather Diary**

heavy dew last night. air cold.

**Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Lewis** The day proved fair and favourable for our purposes.

**Gass** This was another fine day

**Ordway** a cool windy morning.

**Weather Diary**

a heavy dew. air cool and clear found red goose berries and a dark purple current & Service's

**Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	F	-	1 1/4

**Daily Narrative Journals**

**Clark** a heavy dew this morning.

**Sunday, August 10**

**Weather Diary**

a slight shower about 3 PM wind hard.

### **Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	c a r	NE	-	-	-

### **Daily Narrative Journals**

**Lewis** The morning was somewhat cloudy I therefore apprehended rain however it shortly after became fair. At 4 in the evening it clouded up and began to rain the wind has blown very hard all day but did not prove so much so this evening as absolutely to detain us.

**Gass** We had a fine morning In the afternoon some drops of rain fell; and the musquitoes here were very bad indeed.

**Ordway** a cool windy morning. Camped...the musquitoes troublesome indeed. We could not all this night git a moment of quiet rest for them—

### **Weather Diary**

found a Species of Cherry resembling the read Heart cherry of our country

### **Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	c	E	F	-	3/4

### **Daily Narrative Journals**

**Clark** wind blew hard from the East all day. In the after part of the day it was (cloudy) & a few drops of rain. I finished a Copy of my Sketches of the River Rochejhone.

**Monday, August 11**

### **Weather Diary**

air cool this evening wind hard.

### **Lewis Entry**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NW	-	-	-

### **Daily Narrative Journals**

**Lewis** It being my wish to arrive at the birnt hills [Crow Hills, ND] by noon in order to take the latitude of that place as it is the most northern point of the Missouri...when I arrived here it was about 20 minutes after noon and of course the observation for the sun's meridian Altitude was lost.

**Gass** The morning was pleasant

**Ordway** a fair morning. High winds.

### **Weather Diary**

sarvis berries in abundance & ripe.

### **Clark Entry**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	F	-	2

### **Daily Narrative Journals**

**Clark** at 10 AM landed on a Sand bar...and during brackfast...and my delay at this place which was 2 hours had the Elk meat exposed to the Sun.

**Lewis' party meets up with Clark's in west-central North Dakota and the re-united Expedition proceeds together down the Missouri River.**

**Tuesday, August 12**

### **Weather Diary**

wind violent last night.

### Lewis Entry<sup>6</sup>

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	-	-	-	-	-

6 Lewis' weather table "apparently ceased keeping it after his reunion with Clark on August 12, as with his other journal-keeping, due to the wound he received on the eleventh." Moulton, Volume 8, page 160.

### Daily Narrative Journals

**Lewis** At 1 PM I overtook Capt. Clark and party and had the pleasure of finding them all well. As wrighting in my present situation is extreemly painfull to me I shall desist untill I recover and leave to my frind Capt. C. the continuation of our journal. This cherry...is now ripe...I have never seen it in blume.<sup>7</sup>

**Gass** The morning was pleasant. Clarke's party...found the Yellow Stone river a pleasant and navigable stream, with a rich soil along it; but timber scarce.

**Ordway** a fair morning. A little rain this evening &C—

7 Here ends Captain Meriwether Lewis's entries into the Lewis and Clark Expedition Journals. He never does resume writing for the rest of the journey. And only after arriving in St. Louis does he write about the Expeditions completion and findings to President Thomas Jefferson.

### Weather Diary

Capt. Lewis overtake me with the party

### Clark Entry

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	c	SW	F	-	2 1/4

### Daily Narrative Journals

**Clark** encamped. The wind blew very hard from the SW and Some rain.

**Expedition passes by the confluence of the Missouri and Little Missouri Rivers, ND.**

**Wednesday, August 13**

**Weather Diary**

a few drops of rain last night at 8 P.M. with hard S W wind

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	f	SW	F	-	2 1/2

**Daily Narrative Journals**

**Clark** the last night was very Cold with a Stiff breeze from the NW. All hands were on board and we Set out at Sunrise and proceeded on very well with a Stiff breeze astern the greater part of the day. having come by the assistance of the wind, the current and our oars 86 miles. The air is cool &c.

**Gass** After a stormy night of wind and rain we set out early in a fine morning

**Ordway** a fair morning. A fair breeze from the NW

**Expedition arrives at Fort Mandan near present-day Washburn, ND and stays until August 17. Here they leave their interpreter Charbonneau, his wife Sacagawea and their son Jean-Baptiste as well as Private John Colter.**

**Thursday, August 14**

**Weather Diary**

Mandan Corn [is ripe] now full and beginning to harden

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SW	F	-	3 1/2

**Daily Narrative Journals**

**Clark** I proceeded on to the black cats village on the NE side of the Missouri where I intended to Encamp but the Sand blew in Such a manner that we deturmined not to continue on that side. After the Council I directed the Canoes to cross the river to a brook opposit where we Should be under the wind and in a plain where we would be Clear of musquetors

**Gass** The morning of this day was pleasant

**Ordway** a fair morning.

**Friday, August 15**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	F	-	2

**Daily Narrative Journals**

**Clark** The evening is Cool and windy.

**Gass** We had a fine clear pleasant morning

**Ordway** a clear pleasant morning.

**Saturday, August 16**

**Weather Diary**

Northern lights Seen last night which was in Streaks

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	F	-	3 1/2



**Daily Narrative Journals**

**Clark** a cool morning.

**Gass** There was a fine cool day; and we yet remained here, waiting an answer from the natives.

**Ordway** a clear cool morning.

**Expedition leaves the Mandan Villages and starts down the Missouri again.**

**Sunday, August 17**

**Weather Diary**

leave the Mandans

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	c	SE	-	-	-

**Daily Narrative Journals**

**Clark** a cool morning. We proceeded on to the old Ricara village the SE wind was so hard and the waves So high that we were obliged to Come too & Camp on the SW side near the old Village.

**Gass** There were some flying clouds this morning, and the weather was cold for the season. We proceeded on at two o'clock; the wind was high, and river rough

**Ordway** we set out and procd. On the wind a head.

**Expedition passes present-day State Capitol of North Dakota, Bismarck.**

**Monday, August 18**

**Weather Diary**

rained moderately last night in forpart of the night.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f	SE	F	-	1 1/2

### Daily Narrative Journals

**Clark** moderate rain last night, the wind of this morning from the SE as to cause the water to be So rough that we Could not proceed on untill 8 AM at which time it fell a little & we proceeded on tho' the waves were yet high and the wind Strong. At 2 PM...wind Still high and from the Same point. The winds blew hard from the SE all day which retarded our process very much

**Gass** We set out early in a cloudy morning, and the wind high.

**Ordway** the wind high and a little rain. The wind continued

**Tuesday, August 19**

### Weather Diary

Comenced raining at 5 A.M. and Continued with a hard wind until [blank]

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	t l & r	SE	-	c	SE	F	-	3/4

### Daily Narrative Journals

**Clark** Some rain last night and this morning the wind rose and blew with great Violence untill 4 PM and as our camp was on a Sand bar we were very much distressd with the blows of San. At 4 PM the wind Seased to blow with that violence which it had done all day we Set out and proceeded on down. The wind rose and become very strong from the SE and a great appearance of rain. Stretched it over Some Stickers, under this piece of leather I Slept dry, it is the only covering which I have had Suffecient to keep off the rain Since I left the Columbia. It began to rain moderately soon after night.

**Gass** This was a cloudy windy morning; and the water so rough, that our small canoes could not safely ride the waves. At 3 o'clock in the afternoon the wind ceased,

**Ordway** a Showery morning. Thunder and high wind So it detained us. About 4 pm the wind fell

a little and we procd. On. Windy & cold—

**The Expedition passes the present-day North Dakota - South Dakota state line.**

**Wednesday, August 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a t l & r	SW	-	f	NW	F	-	1 1/4

**Daily Narrative Journals**

**Clark** a violent hard rain about day light this morning. All wet except myself and the indians. We embarked a little after Sun rise wind moderate and ahead. the wind blew hard all day which caused the waves to rise high and flack over into the Small Canoes in Such a manner as to employ one hand in throwing the water out. The plains begin to Change their appearance the grass is turning of a yellow colour. I observe a great alteration in the Corrent course and appearance of this pt. of the Missouri. In places where there was Sand bars in the fall 1804 at this time the main Current passes, and where the current then passed is now a Sand bar— San bars which were then naked are now covered with willow Several feet high. the enteranc of some of the Rivers & Creeks changed owing to the mud thrown into them, and a layor of mud over Some of the bottoms of 8 inches thick.

**Gass** We embarked early after a heavy gust of wind and rain, and proceeded on very well. The forenoon was cloudy, without rain; and in the afternoon the weather became clear and pleasant

**Ordway** the after part of the day pleasant.

**Thursday, August 21**

**Weather Diary**

rained a little in the course of the night. at day a violent hard Shower for ½ an hour

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	F	-	2 1/2

### Daily Narrative Journals

**Clark** The wind rose and blew from the NW at half past 11 AM. The Sun being very hot the Chyenne Chief envited us to his Lodge which was pitched in the plain at no great distance from the River.

**Gass** had a fine morning

**Ordway** a fair morning.

## Expedition passes present-day Mobridge, SD.

Friday, August 22

### Weather Diary

rained the greater part of last night. grape and plums ripe. The rains which have fallen in this month is most Commonly from flying Clouds which pass in different directions, those Clouds are always accompanied with hard winds and Sometimes accompanied with thunder and lightning— The river has been falling moderately Since the third of the month. the rains which has fallen has no impression of the river than Causing it to be more muddy and probably prevents its falling fast.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	f	SE	F	-	4

### Daily Narrative Journals

**Clark** rained all the last night every person and all our bedding wet, the Morning cloudy. Below the ricaras the river widens and the Sand bars are emencely noumerous much less timber in the bottoms than above—

**Gass** There was a cloudy wet morning, after a night of hard rain. At little after noon...the weather became clear

**Ordway** hard Thunder Shower all last night. I about 10 AM cleared off fair and we set out

**Saturday, August 23**

**Weather Diary**

rained at 10 A.M. & 4 PM hard wind

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	f	NW	F	-	1 1/2

**Daily Narrative Journals**

**Clark** We set out very early, the wind rose & became very hard, we passed the Sar-war-kar-na-har river [Moreau River, SD] at 10 AM and half past eleven the wind became so high and the water So rough that we were obliged to put to Shore and Continue untill 3 PM when we had a Small Shower of rain after which the wind lay, and we proceeded on. At 4 PM a Cloud from the NW with a violent rain for about half an hour after the rain we again proceeded on.

**Gass** We set out early in a fine morning, but the wind was high; and we went on very well till near noon, when the wind blew so hard that we had to halt, and were detained about four hours. Later...we had a very heavy shower of rain which detained us another hour.

**Ordway** a little rain & Thunder. About 11 AM the wind rose so high that it detained us about 3 hours. Had light Showers of rain all day.

**Sunday, August 24**

**Weather Diary**

wind blew hard all day grapes in abundance

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NW	F	-	2

**Daily Narrative Journals**

**Clark** a fair morning. Proceeded on untill 2 PM when the wind blew So hard from the NW that we could not proceed came too on the SW Side where we continued untill 5 PM when the wind lay a little and we proceeded on.

**Gass** We had a fine morning, and went on very well till noon, when the wind rose, and blew so strong that we were obliged to halt. Having lain by three hours we again proceeded, but did not go far before we were obliged on account of the wind, again to stop, and encamp for the night.

**Ordway** a clear pleasant morning. About noon the wind rose high from SW which detained us about 3 hours then procd. on though the work against us

**Monday, August 25**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	NW	F	-	1 1/2

**Daily Narrative Journals**

**Clark** a cool clear morning a Stiff breeze ahead. The Chyenne discharges but little water which is much the colour of the missouri not So muddy. This day proved a fine Still day

**Gass** The morning was again pleasant.

**Ordway** a clear pleasant morning.

**Expedition passes present-day State Capitol of South Dakota, Pierre.**

**Tuesday, August 26**

**Weather Diary**

Heavy dew this morning. Saw a pilecan

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	F	-	3/4

### Daily Narrative Journals

**Clark** a heavy dew this morning. After 5 PM...we had a Stiff breeze from the SE which continued to blow the greater part of the night dry and pleasant. We made 60 miles to day with the wind ahead greater part of the day—

**Gass** had a pleasant morning

**Ordway** a fair morning.

## **Expedition passes around the Big Bend (known also as the Grand De Tour) of the Missouri in central South Dakota.**

Wednesday, August 27

### Weather Diary

first Turkeys at Tylor River above the big bend

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	F	-	1 1/4

### Daily Narrative Journals

**Clark** a Stiff breeze a head from the East. At 1 PM we halted in the big bend [Grand Detour of the Missouri, SD]

**Gass** again had a pleasant day

**Ordway** a fair morning.

## Expedition camps just south of present-day Chamberlain, SD.

Thursday, August 28

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	NW	F	-	1 1/4

### Daily Narrative Journals

**Gass** We had another pleasant day

**Ordway** a fair morning.

Friday, August 29

### Weather Diary

Some rain this morning only a few drops and at 10 A.M.

Sunrise			4 PM			Missouri River <sup>8</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NW	-	f a r	SE	F	-	1/2

<sup>8</sup> This is the final entry for river rise and fall data for the Missouri River. No other river data is taken or recorded for the rest of the return trip to St. Louis.

### Daily Narrative Journals

**Clark** a cloudy morning. Willard and Labiech waded white river a few miles above its entrance and inform me that they found it 2 feet water and 200 yards wide. The water of this river at this time nearly as white as milk. I assended to the high Country and from an eminence, I had a view of the plains for a great distance. From this eminence I had a view of a greater number of buffalow than I had ever Seen before at one time. I must have Seen near 20,000 of those animals feeding on this plain.

**Gass** The morning was cloudy



Ordway a little rain.

**Saturday, August 30**

**Weather Diary**

a few drops of rain last night I saw the Tetons

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** our encampment of this evening was a very disagreeable one, bleak exposed to the winds, and the Sand wet.

**Gass** We had a pleasant morning

**Expedition now parallels the current day South Dakota - Nebraska state line until September 4.**

**Sunday, August 31**

**Weather Diary**

rained most of last night with T. Li & a hard wind from the S.W. some rain to day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r t & l & w	SE	-	c a r	SE	-	-	-

**Daily Narrative Journals**

**Clark** all wet and disagreeable this morning. A half past 11 PM last night the wind Shifted about to the NW and it began to rain with hard Claps of thunder and lightning the Clouds passd over and the wind Shifted about to the SW & blew with great violence So much So that all hand were obliged to hold the Canoes & Perogue to prevent their being blown off

from the Sand bar. However a sudden Squall of wind broke the cables of the two small Canoes and with some difficulty they were got to Shore. Soon after the 2 canoes in which Sergt. Pryor and the Indians got in broke loose...and were blown quite across the river to the NE Shore where fortunately they arrived safe. The wind slackened a little and by 2 AM Sergt with [party] returned safe, the wind continued to blow and it rained until day light all wet and disagreeable. The morning cloudy and wind down the river After 4 PM...the Sun shone with a number of flying clouds.

**Gass** There was a cloudy morning, after a disagreeable night of wind and hard rain. We set out early

**Ordway** we had hard Showers of rain all last night and very high winds caused one of our canoes broke loose and I took another canoe and to take it back and with some difficulty got it back to Camp. Very disagreeable night.

# September 1806

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

Expedition camped near future historical site of Fort Yankon, just below present-day Gavin Dam along the Nebraska - South Dakota state line.

Monday, September 1

#### Weather Diary<sup>1</sup>

a thick fog untill 8 A.M. A fiew drops of rain about 1 P.M.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	fog	SE	-	f a r	SE	-	-	-

<sup>1</sup> Reference: Coues, Volume III, page 1298; Moulton, Volume 8, pages 373-375; Thwaites, Volume 6, Part II, pages 228-229.

#### Daily Narrative Journals

**Clark** Musquitors very troublesom last night. we set out at the usial hour and had not proceeded on far before the fog became So thick that we were oblige to come too and delay half an hour for the fog to pass off which it did in Some measure and we again proceeded on. At 9 AM we passed the enterance of River Quiequor [Niobrara River, NE] which had the Same appearance it had when we passed up water rapid and of a milky white colour. the musquitors excessivly troublesom untill about 10 PM when the SW wind became Strong and blew the most of them off. we came 52 miles to day only with a head wind.

**Gass** a fine pleasant day. After 10 o'clock proceeded on with an unfavorable wind.

**Ordway** a fair morning. About 9 AM we passd. the mo. of Rapid Water River (Niobrara).

Tuesday, September 2

#### Weather Diary

Hard wind all day. Saw the prarie fowl common in the Illinois plains. Saw Linn and Slipery elm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** The wind was hard a head & continued to increas which obliged us to lay be nearly all day. The wind Still high and water rough we did not Set out untill near Sun Set. We proceeded to a Sand abar...Come to on account of the wind and Encamped on a Sand bar, the woods being the harbor of the Musquetors and the party without means of Screaning themselves from those tormenting insects. on the Sand bars the wind which generally blows moderately at night blows off these pests and we Sleep Soundly. The wind Continued to blow hard from the Same point SE untill 3 PM.

**Gass** a fine morning, but high wind. After noon....the wind blew so violent that we had to encamp for the night.

**Ordway** a fair morning. About 11 AM the wind rose So high a head that it detained us untill towards evening.

## Expedition passes present-day Vermillion, SD

Wednesday, September 3

### Weather Diary

a Stiff breeze form the S.E. untill 12 at night when it changed to S.W. and blew hard all night

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

### Daily Narrative Journals

**Clark** Wind Continued to blow very hard this morning. It Shifted last night to the SW and blew the Sand over us in Such a manner as to render the after part of the night very disagreeable. The wind luled a little and we Set out and proceeded on with the wind a head. After 4 pm...soon after we Landed a violent Storm of Thunder Lightning and rain from the NW which was violent with hard Claps of thunder and Sharp Lightning which

continued untill 10 PM after which the wind blew hard. I set up late and partook of the tent of Mr. Aires which was dry. Mr. Aires unfortunately had his boat Sunk on the 25 of July last by a violent Storm of wind and hail by which accident he lost the most of his usefull articles as he informed us. ....the river much crowded with Sand bars, which are very differently Situated from what they were when we went up.

**Gass** a pleasant morning. At sunset a violent gust of wind and rain, with thunder and lightning came on and lasted two hours.

**Ordway** the day warm & Sultry. A verry hard Storm of wind and hard rain this evening.

**Expedition camps near present-day Sioux City, IA and enters solely into present-day Nebraska leaving South Dakota.**

**Thursday, September 4**

**Weather Diary**

at 6 P.M. a violent Storm of Thunder Lightng and rain untill 10 P.M. when it ceased to rain and blew hard from N W untill 3 A.M.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** I rose at the usial hour found all the party as wet as rain could make them.

**Gass** There was a cloudy morning.

**Ordway** a fair morning, but the hard rain and Thunder continued the greater part of last night.

**Friday, September 5**

**Weather Diary**

Sunrise	4 PM	River
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	c	SW	-	-	-

### Daily Narrative Journals

**Clark** The Musquetors being So excessively tormenting that the party was all on board and we Set out at day light and proceeded on very well. The river...becoms much narrower more Crooked and the Current more rapid and Crouded with Snags and Sawyers.

**Gass** This was a fine morning.

**Ordway** a fair morning.

### Saturday, September 6

#### Weather Diary

head the whipper will Common to the u states at Soldiers river.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** proceeded on wind-hard a head. The evening proved Cloudy and the wind blew hard.

**Gass** a fine morning

**Ordway** a fair morning.

### Sunday, September 7

#### Weather Diary

Saw the whipperwill and heard the common hooting owl Musquetors very troublesom. killed 3 Elk.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** we proceeded on with a Stiff Breeze ahead. Note the evaporation on this portion of the Missouri has been noticed as we ascended this river, and it now appears to be greater than it was at that time. I am obliged to replenish my ink Stand every day with fresh ink at least 9/10 of which must evaporate. We all Set out at 4 PM wind ahead as usual. Found the Musquetors excessively tormenting notwithstanding a Stiff breeze from the SE a little after dark the wind increased the Musquetors dispersed

**Gass** We had a pleasant morning

**Ordway** a pleasant morning. Abt. 10 AM set out...the wind So high that we could Scarsely proceed. About 2 oClock PM we overtook the party who had halted to hunt as the wind was So high. Towards evening the wind abated So that we procd. on untill after Sunset.

## **Expedition camps near present-day Omaha, NE.**

**Monday, September 8**

### Weather Diary

warmest day we have experienced in this year. passed River platt—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** The Missouri at this place does not appear to Contain (as much) more water than it did 1000 Miles above this place, the evaporation must be emence; in the last 1000 miles this river receives the water 20 rivers and maney Creeks Several of the Rivers large and the Size of this river or the quantity of water does not appear to increas any—

**Gass** We again had a pleasant morning

**Ordway** a fair morning.

**Expedition passes by the confluence of the Platte and Missouri Rivers, in present-day Nebraska. They also pass the present-day Iowa - Missouri state line.**

**Tuesday, September 9**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** passed the entrance of the great river Platt which is at this time which is a this time low the water nearly clear the current turbelant as usial; our party appears extreamly anxious to get on, and every day appears produce new anxieties in them to get to their Country and friends. The Musquetors are yet troublesome, tho' not So much So as they were above the River platt. the Climate is every day perceptably wormer and air more Sultery than I have experienced for a long time. the nights are now so worm that I sleep Comfortable under a thin blanket, a fiew days past 2 was not more than sufficient.

**Gass** passed the mouth of the great river Platte; went on very well all day

**Ordway** a fair morning.

**Wednesday, September 10**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-



**Daily Narrative Journals**

**Clark** we Set our very early this morning and proceeded on very well with wind moderately a head. We find the river in this timbered Country narrow and more moveing Sands and a much greater quantity of Sawyers or Snags than above. Great caution and much attention is required to Stear Clear of all those difiiculties in this low State of the water.

**Gass** We had a pleasant morning

**Ordway** a fair morning.

**The Expedition passes the present-day Nebraska - Kansas state line.**

**Thursday, September 11**

**Weather Diary**

a few drops of rain only a little before day and Some rain at 2 P M

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	f a r	SE	-	-	-

**Daily Narrative Journals**

**Clark** a heavy Cloud and wind from the W detained us untill after sunrise. The [mosquitoes] are no longer troublesom on the river, from what cause they are noumerous above and not So on this part of the river I cannot account.

**Gass** had a cloudy morning, and slight showers of rain during the forenoon

**Ordway** a Showery morning.

**Expedition camps near present-day St. Joseph, MO.**

**Friday, September 12**

**Weather Diary**

Heavy dew this morning and fog Some rain from 12 to 4 P M

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	c a r	SE	-	-	-

### Daily Narrative Journals

**Clark** a thick fog a little before day which blew off at day light. A heavy Dew this morning. We set out at Sunrise the usual hour and proceeded on very well about 7 miles met 2 perogues....The wind blew a head Soon after we passed those perogues. The evening proveing to be wet and Cloudy we Concluded to continue all night

**Gass** The morning was fine

**Ordway** a foggy morning. We had Small Showers of rain this evening.

**Saturday, September 13**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** a little after Sunrise we set out the wind hard a head from the SE At 8 AM....the wind being too high for us to proceed in Safty through the eme[n]city of Snags...we concluded to lye by. At 11 AM we proceeded on. The day disagreeably worm.

**Gass** We had a pleasant morning after some rain that fell yesterday, and again proceeded on early with unfavourable wind.

**Ordway** a fair morning. The wind being high and as we were out of meat we detained along at different places to hunt. Camped having made but a Short distance this day—

**Expedition passes present-day Atchison, KS and Independence Creek.**

Sunday, September 14

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	c	SE	-	-	-

Daily Narrative Journals

**Clark** Set out early and proceeded on very well. Our party received a dram and Sung Songs untill 11 oClock at night in the greatest harmony.

**Gass** a fine morning

**Ordway** a fair morning.

**Expedition passes by the confluence of the Kansas and Missouri Rivers, at present-day Kansas City, MO.**

Monday, September 15

Weather Diary

day very worm Smokey and worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

Daily Narrative Journals

**Clark** we set out early with a Stiff Breeze a head. At 11 AM passed the enterance of the Kansas river which was very low. As the winds were unfavourable the greater part of the day we only decended 49 miles and encamped. The weather disagreeably worm and if it was not for the constant winds which blow from the S and SE we Should be almost Suficated Comeing out of a northern Country open and Cool between the Latd. Of 46<sup>0</sup> and 49<sup>0</sup> North in which we had been for nearly two years, rapidly decending into a woody Country in a wormer Climate between the Latds. 38<sup>0</sup> and 39<sup>0</sup> North is probably the Cause of our experiancing the heat much more Senceable than those who have

Continued within the parralel of Latitude.

**Gass** The morning was pleasant

**Ordway** a fair morning. We set off at eight and procd. on the wind a head as usual.

**Tuesday, September 16**

**Weather Diary**

this day very Sultry and much the hottest which we have experienced

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** the Day proved excessively worm and disagreeable, so much so that the men rowed but little.

**Gass** This was another pleasant day

**Ordway** a fair morning. The day verry warm indeed.

**Wednesday, September 17**

**Weather Diary**

day worm, but fiew musquetors

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** passed the Island of the little Osage Vilage [near Malta Bend, MO] which is considered

by the navigater of this river to be the worst place in it. The current passing with great velocity against the banks which cause them to fall &c. This day proved worme.

**Gass** had a pleasant day, but very warm. About 11 o'clock we passed through a bad part of the river, where it was so filled with sawyers that we could hardly find room to pass through safe.

**Ordway** a fair morning. We passed through a verry bad part of the river which was filled So thick with log Standing on end & Sawyers that we only found room to pass through.

**Thursday, September 18**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	c	SE	-	-	-

**Daily Narrative Journals**

**Clark** the weather we found excessively hot as usial. We find the current of this part of the Missouri much more jentle than it was as we assended, the water is now low and where it is much confin'd it is rapid. one of our party J. Potts complains very much of one of his eyes which is burnt by the Sun from exposing his face without a cover from the Sun. Shannon also complains of his face & eyes &c.

**Ordway** a clear morning.

**Expedition passes present-day State Capitol of Missouri, Jefferson City.**

**Friday, September 19**

**Weather Diary**

Saw a green Snake as high up as Salt Rivr on the missouri. the limestone bluffs commence below Salt river on S. Side

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** a very singular disorder is taking place amongst our party that of the Sore eyes. Three of the party have their eyes inflamed and Sweled in Such a manner as to render them extreamly painfull, particularly when exposed to the light, the eye ball is much inflamed and the lid appears burnt with the Sun, the cause of this complaint of the eye I can't [account?] for. From it's Sudden appearance I am willing to believe it may be owing to the reflection of the sun on the water.

**Gass** a fine day...being so anxious to reach St. Louis, where, without any important occurrence, we arrived on the 23<sup>rd</sup>, and were received with great kindness and marks of friendship by the inhabitants, after an absence of two years, four months and ten days.

**Ordway** a fair morning.

**Saturday, September 20**

### Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SE	-	-	-

### Daily Narrative Journals

**Clark** The Osage river very low and discharges but a Small quantity of water at this time for so large a river We Saw Some cows on the bank which was a joyfull Sight to the party and Caused a Shout to be raised for joy. We Came in Sight of the little french Village called Charriton. We landed and were very politely received...as it was like to rain we accepted of a bed in one of their tents.

**Ordway** As Several of the part have Sore eyes (sun burned from viewing sun on the water) & unable to work, our officers leave 2 small canoes

## Expedition arrives at St. Charles, MO.

Sunday, September 21

### Weather Diary

a Slight Shower of rain a little before day light this morning

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	c	SE	-	-	-

### Daily Narrative Journals

**Clark** at 4 PM we arived in Sight of St. Charles, the party rejoiced at the Sigh.

**Ordway** late in the evening hard rain commend. and continued hard during the night.

Monday, September 22

### Weather Diary

at St. Charles the raine commenced about 9 P.M and was moderate untill 4 A.M. when it increased and rained without intermition untill 10 A.M: Some Thunder and lightning about daylight. it Continued Cloudy with Small Showers of rain all day. we arived at the Mississippi

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a t l & r	S	-	c a r	S	-	-	-

### Daily Narrative Journals

**Clark** This morning being very wet and the rain Still continueing hard, and our party being all Sheltered in the houses of those hospitable people, we did not [think?] proper to proceed on untill after the rain was over at 10 AM it seased raining and we Colected our party and Set out and proceeded on down to the Contonemt. We were honored with a Salute of Guns and a harty welcom—

**Ordway** the hard rain continued this morning untill about 11 Oclock AM at which time the party

was collected and we Set out & procd. on Some Rain this evening.

**Expedition arrives in St. Louis. After completing a journey of more than 8,000 miles.**

**Tuesday, September 23**

**Weather Diary**

at St. Louis Several light Showers in the course of this day. we arrived at St Louis at 12 oClock

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c& r	NE	-	c a r	NE	-	-	-

**Daily Narrative Journals**

**Clark** set out decended to the Mississippi and down that river to St. Louis at which place we arived about 12 oClock. We Suffered the party to fire off their pieces as a Salute to the Town.

**Ordway** a wet disagreeable morning. Soon arived at the Mouth of the Missouri entered the Mississippi River and landed at River deboise where we wintered in 1804. About 12 oClock we arived in Site of St. Louis. Drew out the canoes then the party all considerable much rejoiced that we have the Expedition Completed and now we look for boarding in Town and wait for our Settlement and then we entend to return to our native homes to See our parents once more as we have been So long from them.— Finis.

**Wednesday, September 24**

**Weather Diary**

rained moderately this morning and continued Cloudy with moderate rain at intervalles all day

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	-	-	c a r	-	-	-	-



**Daily Narrative Journals**

**Clark** I sleped but litte last night. However we rose early and Commencd wrighting our letters. Capt. Lewis wrote one to the presidend and I wrote Govr. Harrison & my friends in Kentucky. Capt. Lewis in opening his trunk found all his papers wet, and Some Seeds spoiled.

**Thursday, September 25**

**Weather Diary**

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	f	-	-	-	-

**Daily Narrative Journals**

**Clark** had all of our Skins &c. Suned and Stored away in a Storeroom

**Friday, September 26**

**Weather Diary**

fair and worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning we commenced wrightin &c.<sup>2</sup>

2 Here ends Captain William Clark's entries into the Daily Narrative Journals of the Lewis and Clark Expedition three days after arriving in St. Louis. Time was spent writing letters to various family members and completing editing of the journals during this period.

**Saturday, September 27**

**Weather Diary**

emencely worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	SE	-	-	-

**Sunday, September 28**

**Weather Diary**

emencely worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	SE	-	-	-

**Monday, September 29**

**Weather Diary**

emencely worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	S	-	f	SE	-	-	-

**Tuesday, September 30**

**Weather Diary**<sup>3</sup>

emencely worm

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	f	E	-	-	-

**3** This is the last entry of weather, water or climate data for the Lewis and Clark Expedition in the Weather Diary.

**Thus ended the formal Expedition journal entries for the epic trip from St. Louis to the Pacific Ocean and return.**

**May we proceed on!**