

## Section 1

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# Eastern Field Notes Relating to Weather, Water & Climate

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

# 1803

## August 31, 1803 to December 31 1803

On August 31, 1803, Meriwether Lewis left Pittsburgh, PA with a small party in a keelboat and canoes. They moved slowly down the Ohio River due to low water conditions brought on by drought. He arrived at the Falls of the Ohio near Clarksville, Indiana / Louisville, Kentucky on October 14 and met William Clark with additional recruits. As award winning author and historian, Stephen Ambrose noted, "When they shook hands, the Lewis and Clark Expedition began." (Ambrose, 1996, 117) They set out from Louisville on October 26 arriving at the confluence of the Ohio and Mississippi on November 14 and moved up the Mississippi through early December. Heading up the Mississippi was made difficult by low water and strong currents, and even more burdensome as late Fall cold fronts and accompanying strong northwest winds pushed against the boats. They arrived near St. Louis on December 12 and established winter quarters across from the confluence of the Missouri and Mississippi Rivers at Camp Dubois near the mouth of the Wood River.

The journal entries known as the Eastern Field Notes came to light when Nicholas Biddle's (the first editor of the Lewis and Clark Journals) grandsons discovered new documents in their grandfathers personal notes. Milo Milton Quaife published these for the first time in 1916. To learn more about the history of the journals the reviewer is directed to (Cutright, 1976) and Moulton, 1986 2: 8-48; and 530-567).

# August 1803

## Lewis and Clark Expedition

### Eastern Field Notes

**Meriwether Lewis prepares for the journey to St. Louis in Pittsburgh, PA between July 15 until his departure down the Ohio River with a keelboat, canoes and small party on August 31, 1803.**

**Wednesday, August 31**<sup>1</sup>

**Lewis** Left Pittsburgh this day at 11 ock with a party of 11 hands. The river is extreemly low; said to be more so than it has been known for four years. The water being sufficiently temperate was much in our favor.<sup>2</sup>

**1** Reference for 1803: Moulton, 1986, 2: pages 65-143.

**2** Although the original journals have August 30<sup>th</sup> written for this date, Lewis' letter to Thomas Jefferson on September 8 notes that he left on August 31. (Jackson, 1978, 121) Thus begins the initial writings leading up to the Expedition departure up the Missouri the following year from Camp Dubois.

# September 1803

## Lewis and Clark Expedition

### Eastern Field Notes

#### Thursday, September 1

**Lewis** The Pilott informed me that we were not far from a ripple which was much worse than nay we had yet passed, and as there was so thick a fogg on the face of the water that no object was visible 40 paces he advised remaining untill the sun should acquire a greater altitude when the fogg would asscend and disappear. Remained untill eight Oclock...we set out again. These Fogs are very common on the Ohio at this season of the year as also the spring but do not think them as frequent or thick in the spring. Perhaps this may in some measure assist us to account for the heavy dues which are mor remarkable for their frequency and quantity than in any country I was ever in— They are so heavy the drops falling from the trees from about midnight untill sunrise gives you the eydea of a constant gentle rain, this continues untill the sun has acquired sufficient altitude to dessipate the fogg by it's influence, and it then ceases. The dues are likewise more heavy during summer than elsewhere but not so much so as at this season— the Fog appears to owe it's orrigin to the difference of temperature between the air and water the latter at this seson being much warmer than the former; the water being heated by the summer's sun does not undergo so rapid a change from the absence of the sun as the air dose consiquently when the air becomes most cool which is about sunrise the fogg is thickest and appears to rise from the face of the water like the steem from boiling water—

#### Friday, September 2

**Lewis** the weather is extreemly dry but there was some appearance of rain this morning which seems now to have blown over— Thermometer stood at seventy six in the cabbin the temperature of the water in the river when emersed about the same— Observed today the leaves of the buckeye, Gum, and sausafras begin to face, or become red—

#### Saturday, September 3

**Lewis** Verry foggy this morning. Thermometer 63<sup>0</sup> Ferrenheit, immersed the Thermometer in the river, and the murcury arose immediately to 75<sup>0</sup> or summer heat so that there is 12<sup>0</sup> difference is sufficient to shew the vapor which arrises from the water; the fogg this produced is impenetrably thick at this moment; we were in consequence obliged to ly by untill 9 this morning.

### **Sunday, September 4**

**Lewis** Morning foggy, obliged to wait. Thermometer at  $63^{\circ}$  — temperature of the river-water  $73^{\circ}$  being a difference of ten degrees, but yesterday there was a difference of twelve degrees, so that the water must have changed its temperature 2d in twenty four hours, coolder; at 1/4 past 8 the mercury rose in the open air to  $68^{\circ}$  the fogg disappeared and we set sail; the difference therefore of  $5^{\circ}$  in temperature between the water and air is not sufficient to produce the appearance of fogg— from the watermark we fixed last evening it appeared that the river during the night had fallen an inch perpendicularly— The water is so low and clear that we see a great number of fish of different kinds

### **Monday, September 5**

**Lewis** Again foggy, loaded both my canoes and waited till the fogg disappeared set out at 8 Ock. Rained at six this evening and continued with some intervals through the night to rain pretty hard

### **Tuesday, September 6**

**Lewis** The fogg was as thick as usual this morning detained us until  $\frac{1}{2}$  past 7 O'C. when we set out— observed the Thermometer in the air to stand at  $71^{\circ}$  water  $73^{\circ}$ — the fogg continued even with small difference between the temperature of the air and water. Hoisted our fore sale. We run two miles in a few minutes when the wind becoming so strong we were obliged to hall it in lest it should carry away the mast, but the wind abating in some measure we again spread it; a sudan squal broke the sprete and had very nearly carried away the mast The wind blew so heard as to break the sprete of it.

### **Wednesday, September 7**

**Lewis** Foggy this morning according to custom. Observed the Thermometer at sun rise in the air to stand at  $47^{\circ}$  the temperature of the river water being  $68^{\circ}$  — difference =  $21^{\circ}$  — got over the riffle the water gets low as it most commonly is from the begining of July to the last of September; the water from hence being much deeper and the navigation better than it is from Pittsburgh or any point above it—

### **Friday, September 9**

**Lewis** in attending to the security of my goods I was exposed to the rain and got wet to the skin as I remained untill about twelve at night; when I wrung out my saturated clothes...the rain was excessively could for the season of the year— about the time we landed it began to rain very heard and continued to rain most powerfully all night with small intervalles.

### **Saturday, September 10**

**Lewis** The rain ceased about day, the clouds had not dispersed, and looked very much like giving us repetition of the last evening's frallic, there was but little fogg

### **Sunday, September 11**

**Lewis** observed a number of squirrels swimming in the Ohio and universally passing from the W to the East shore they appear to be making to the south; perhaps it may be mast or food which they are in search of but I should rather suppose that it is climate which is their object as I find no difference in the quantity of mast on both sides of this river

### **Monday, September 12**

**Lewis** it began to rain and continued with some intervals until three in the evening

### **Lewis' Party passes through Marietta, Ohio.**

### **Tuesday, September 13**

**Lewis** this morning being clear we pursued our journey at sunrise

### **Wednesday, September 14**

**Lewis** saw many squirrels this day swimming the river from NW to SE.

### **Thursday, September 15**

**Lewis** it rained very hard on us from 7 this morning until about three when it broke away and evening was clear with a few flying clouds.

### **Friday, September 16**

**Lewis** Thermometer this morning in the air 54<sup>0</sup> in the water 72<sup>0</sup> a thick fog which continued so thick that we did not set out until 8 o'clock in the morning the day was fair

### **Saturday, September 17**

**Lewis** The morning was foggy but being informed by my pilot that we had good water for several miles I ventured to set out before the fog disappeared. Came seven miles to the old Town Bar...I determined to spend the day...dry my goods...wet by the rain of the 15<sup>th</sup>.  
I found on opening the goods that many of the articles were much injured; particularly the articles of iron, which were rusted very much. The evening was calm though the wind had blown extremely hard up the river all day— It is somewhat remarkable that the wind on this river, from much observation of my own, and the concurrent observation of those who inhabit its banks, blows or sets up against its current four days out of five during the course of the whole year; it will readily be conceived how much this circumstance will aid the navigation of the river— When the Ohio is in its present low state, between the riffles and in many places for several miles together there is no perceptible current, the whole surface being perfectly dead or taking the direction only which the wind may chance to give it, this makes the passage down this stream more

difficult than would at first view be imageoned, when it is remembered also that the wind so frequently sets up the river the way the traveler makes in descending therefore is by the dint of hard rowing— or force of the oar or pole.

**Sunday, September 18**

**Lewis**      The morning was clear<sup>3</sup>

<sup>3</sup> Lewis stops writing in the Eastern Field Notes and no other written journal data is currently known until November 11, 1803.

**September 28 through October 6, Lewis and small party spend time in Cincinnati, OH. They then proceeded down the Ohio River and arrived in Clarksville, IN [Louisville, KY] on October 14 where they met William Clark and his recruits. Stephen Ambrose, noted author and historian remarks, “When they shook hands, the Lewis and Clark Expedition began.” (Ambrose, 1996,117). The larger party now set off down the Ohio River with the keelboat, and two perogues on October 26. They arrived at Fort Massac, Illinois [near present-day Paducah, KY] on November 11 and left on the 13 proceeding towards the confluence of the Ohio and Mississippi Rivers. (Moulton, 1986, 2: 85)**

# **November 1803**

## **Lewis and Clark Expedition**

### **Eastern Field Notes**

#### **Saturday, November 12**

**Lewis** remained, took equal altitudes AM but was prevented from completing the observation by taking an observation in the evening by the clouds—<sup>4</sup>

<sup>4</sup> Lewis once again starts writing the Eastern Field Notes on November 11, 1804, although no meteorological or hydrologic data was observed on that date.

#### **Sunday, November 13**

**Lewis** rained very hard in the evening

**Expedition arrives at the confluence of the Ohio and Mississippi Rivers and stay until November 20.**

#### **Monday, November 14**

**Lewis** this evening landed on the point at which the Ohio and Mississippi form their junction.

#### **Tuesday, November 15**

**Lewis** took equal altitudes lost the afternoon from clouds which intervened and prevented them.

#### **Thursday, November 17**

**Lewis** the [wind] blew very hard last night from N and continued without intermission throughout the day it became calm about twelve o'clock— the canoes were driven by the violence of the waves against the shore and filled with water. measured the height of the bank in the point and found it 36 Feet 8 Inches above the level of the water at the time which may with much propriety be deemed low water mark as neither the Ohio or Mississippi were ever known to be lower—

**The party proceeded up the Mississippi River beginning on November 20, 1803.**

**Tuesday, November 22**

**Lewis** the current very rapid and difficult

**Thursday, November 24**

**Lewis** I am not confident with respect to the accuracy of the observation of this day, in consequence of some flying clouds which frequently interveended and obscured his sun's disk about noon and obliged me frequently to change the coloured glasses of the Sextant in order to make the observation as complete as possible.

**Friday, November 25**

**Lewis** The Mississippi when full throws large quantities of mud into the mouths of these rivers whose courents not being equal to contend with it's power become still or eddy for many miles up them.

**Saturday, November 26**

**Lewis** When the river is high the courent setts in with great violence on the W side of this rock ...these strong courants thus meeting each other form an immense and dangerous whirlpool which no boat dare approach in that state of the water. In the present state of the water there no danger in approaching it.

**Monday, November 28**

**Clark** Set out this morning at 8 oClock...this morning being verry Smokey prevents my being as acurate as I Could wish— The horozon became darkened that I could not see across the River, which appeared to windened, the Current much Swifter than usial. <sup>5,6</sup>

- 5 Although Clark made some navigation notes between November 15<sup>th</sup> and 19<sup>th</sup>, 1803, this is the first record entered in the Eastern Field Notes of the Lewis and Clark Journals as daily narrative writings and his first weather and hydrologic remarks.
- 6 This date also marks the end of Lewis' known daily narrative journal writings except for a few miscellaneous entries and astronomical readings until April, 1805. He did not enter any meteorological information for this date



# December 1803

## Lewis and Clark Expedition

### Eastern Field Notes

#### Tuesday, December 6

**Clark** A Dark wet morning. Current is verry Swift.

#### Wednesday, December 7

**Clark** A Dark rainy morning with hard wind at NE, upon which point it blew all the last night accomanyd. with rain— Set out a quarter past 7 oClock, the wing [wind] much against us. About 10 oClock the wind changed to the SE and gave us an oppertunity to Sailing. At 12 oClock the wind was So violent as to take off one of the Mast's came to at 3 oClock...in view of St. Louis which is about 2 ½ miles distant.

#### Saturday, December 10

**Clark** took Meridian Atld....the sun was reather dim, therefore it possible that this observation may have been liable to a small error—

#### Sunday, December 11

**Clark** a Verry rainy morning the wind from the NE The wind changed to NW about 3 oClock the rain Continud untill 3 oClock to day. The Current of the water is against the Westerley Shore, and the banks are falling, where there is no Rock.

**The party moved up the Mississippi River and landed at Wood River, across from the confluence of the Mississippi and Missouri Rivers in present-day Illinois and established winter camp. Across the Mississippi River to the southeast was the city of St. Louis. They established on December 12 Camp Dubois (Wood River) and remained here until May 14, 1804.**

#### Monday, December 12

**Clark** A hard NW wind all last night. I came to in the mouth of a little river called Wood River, about 2 oClock and imediately after I had landed the NW wind which had been blowing all day increased to a Storm which was accompanied by Hail & Snow, & the wind Continued to blow from the Same point with violence.

**Tuesday, December 13**

Clark a hard wind all day— flying Clouds

**Wednesday, December 14**

Clark wind Continu to blow hard river riseing—

**Thursday, December 15**

Clark Snow

**Friday, December 16**

Clark the winds high to day— Cloudy—

**Saturday, December 17**

Clark a Cold fine morning

**Sunday, December 18**

Clark Clear morning

**Monday, December 19**

Clark a hard frosty morning

**Wednesday, December 21**

Clark Cloudy Day water fall verry fast

**Thursday, December 22**

Clark a verry great Sleet this morning, the river Coverd with running Ice, and falls verry fast 15 Inches last night. Mist of the rain, which prevents our doeing much to our huts to day

**Friday, December 23**

Clark a raney Day a raney Desagreeable day the Ice run to day the water falls fast

**Saturday, December 24**

Clark Cloudy morning

**Sunday, December 25**

Clark Snow this morning, Ice run all day

**Monday, December 26**

Clark a Cloudy day The Ice run, this day is moderate

**Tuesday, December 27**

Clark a fair day.

**Wednesday, December 28**

Clark a Cloudy day No Ice in the river

**Thursday, December 29**

Clark Snow this morning Cloudey & wet all day. Rain at night

**Friday, December 30**

Clark Snow in the morning Cloudy morning

**Saturday, December 31**

Clark began to snow at Dark and Continued untill 9 oClock Cloudy to day

## Section 2

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# **Camp Dubois (Wood River) Journal Relating to Weather, Water & Climate**

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

# 1804

## **January 1, 1804 to May, 14 1804**

These entries make up the Field Notes for the party while wintering at Camp Dubois, Illinois, on the Wood River. Apparently the captains did not regard this journal as an official document because they were not traveling and the Expedition had not actually begun; hence it is extremely sketchy and disorganized. (Moulton, 1986, 2: 133) Many experiments were conducted during this time including thermometer calibration as annotated in the Weather Diary begun on January 1, 1804. Data was entered in these field notes until the day the Expedition commenced up the Missouri on May 14, 1804. To learn more about the history of the journals the reviewer is directed to (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567).

# January 1804

## Lewis and Clark Expedition

### Camp Dubois Field Notes

The Lewis and Clark Expedition remains at their winter camp at the mouth of the Wood River and the Mississippi River known as Camp Dubois.

Sunday, January 1

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

Snow 1 Inch Deep

Sunrise			4 PM			Mississippi River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	Cloudy	-	-	Cloudy	-	-	-	-

1 Reference for January: Coues, Volume III, pages 1264-65, 1282; Moulton, Volume 2, pages 169-172; Thwaites, Volume 6, Part II, pages 166-167.

2 River observations for January were taken at sunrise for a 24-hour period. While at Camp Dubois river observations were taken at the mouth of the Mississippi and Wood Rivers.

#### Camp Dubois Field Notes

Clark Snow about an inch deep. Cloudy to day

Monday, January 2

#### Weather Diary

Snow last night inconsiderable

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s	-	-	c	-	-	-	-

#### Camp Dubois Field Notes

Clark Snow last night (rain). a mist to day

**Tuesday, January 3**

**Weather Diary**

wind blew hard

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	-	-	2 1/2a0	f	NWW	-	-	-

**Camp Dubois Field Notes**

**Clark** a Verry Cold blustering day Thermometer one oClock in the open air the (quick-silver) mercuria fell to 21 D. below the freezing point [11<sup>0</sup> F], I took the altitude of the sun...all the after part of the Day the wind so high that the View up the Missouri appeared Dredfull, as the wind blew off the Sand with fury as to Almost darken that part of the atmespear this added to agutation of the water apd. truly gloomy. The wind violent all Day from NW & NW Excessive cold after Sunset

**Wednesday, January 4**

**Weather Diary**

river Covered with ice out of the Missouires

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11a0	f	W	-	c	W	-	-	-

**Camp Dubois Field Notes**

**Clark** a Cold Clear morning, the river Covered with Ice from the Missouri, the Massissippi above frozed across, the Wind from the West, the Thermometer this morning at 19<sup>0</sup> below freezing [13<sup>0</sup> F], Continued Cold & Clear all day. At 4 oClock the murcuria of the Thmtr in a corner of a warm room was 20 D. above 0—

Thursday, January 5

Weather Diary

the River a Dubois rise a little

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	f	W	-	-	-

Camp Dubois Field Notes

Clark the Creek rose Considerably last night the river full of Ice, and the wind which blows from the West blows it to this Shore, a madderate day

Friday, January 6

Weather Diary

the River a Dubois rise a little

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	WNW	30a0	f	WNW	-	-	-

Camp Dubois Field Notes

Clark Thermometer at 12 oClock 31 above 0 at 4 oCk at 30<sup>0</sup> above 0

**Saturday, January 7**

**Weather Diary**

the River a Dubois rise a little

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h	SW	-	c & r <sup>3</sup>	SW	-	-	-

3 Clark's Journal Codex C lists this weather data as "c a r h."

**Camp Dubois Field Notes**

**Clark** Some rain last night, a thow [thaw?] and Some rain to day. Up last night and frequent thro the rain to day attending the boat.

**Sunday, January 8**

**Weather Diary**

Ice run down the little river [Dubois]

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	NW	-	-	-

**Camp Dubois Field Notes**

**Clark** Rained moderately all last night, a butifull morning a few large sheets of thin Ice running this morning. Clouded up at ½ past 2 oClock the wind chifted to the NW moderate.



**Monday, January 9**

**Weather Diary**

Snow last night

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	WNW	1b0	c	WNW	-	-	-

**Camp Dubois Field Notes**

**Clark** Some Snow last night, a hard wind this morning from WNW river Rises with large Sheets of Ice out of Mississippi, the morning is fair. I returned before Sun Set, and found that my feet, which were wet had frozed to my Shoes, which rendered precaution necessary to prevent a frost bite, the Wind from the W, across the Sand Islands in the Mouth of the Missouries, raised Such a dust that I could not See in that derection, the Ice Continue to run & river rise Slowly— exceeding Cold day

**Tuesday, January 10**

**Weather Diary**

Missouri rise

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	-	-	f	-	-	-	6

**Camp Dubois Field Notes**

**Clark** a fine day, the river rose 6 Inches last night. Joseph Fields returned & crossed the River between the Sheets of floating Ice with Some risque, his excuse for staying so long on the Mississippi were that the Ice run so thick in the Missourie where he was 20 miles up that there was no crossing

Wednesday, January 11

Weather Diary

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

Camp Dubois Field Notes

**Clark** a fine morning, the river Still rising, the Missouries run with fine Ice at 1 o'clock the wind blew strong from the west and turned Couled & Cloudy this afternoon

Thursday, January 12

Weather Diary

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

Camp Dubois Field Notes

**Clark** a fair morning, the wind from the S West, the river Continue to rise moderately...with large Sheets of ice running against Ice attached to the bank with great force

**Friday, January 13**

**Weather Diary**

Snow'd last night

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c & s	SW	0	r & s	SW	-	-	-

**Camp Dubois Field Notes**

**Clark** the river rise, a fall of Snow last night, the Missouri is rising and runs with Ice, a Cloudy & warm day. A fine rain in the evening.

**Saturday, January 14**

**Weather Diary**

Snow'd last night

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a s	-	-	f	-	-	-	-

**Camp Dubois Field Notes**

**Clark** a Snow fall last night of about an Inch and one half the River (Still rising) falling and running with Ice, a fair Sun shineing morning— The Mississippi, is Closed with Ice.

**Sunday, January 15**

**Weather Diary**

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

**Camp Dubois Field Notes**

**Clark** river falling & runs still with Ice. A Cold night.

**Monday, January 16**

[No data was entered for this day.]

**Weather Diary**

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

**Tuesday, January 17**

**Weather Diary**

river falls & full of Ice 5 ½ In. thick

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b0	f	NW	1 1/2b0	f	NW	F	-	6

**Camp Dubois Field Notes**

**Clark** a verry Cold morning, at 7 oClock the Thermometer in the air fell 8<sup>0</sup> below 0, the

wind from the NW, a Stiff Breeze, Ice run greatly out of the Missouries— at 9oClock the Thermometer 6d below 0— at 10 oClock 3d below 0— at 12 oClock at 0— at 1 oClock 1<sup>0</sup> above 0— at 2 oClock 1 1/2<sup>0</sup> above 0— at 3 oClock at 0— at 4 oClock the Thermometer was 1 1/2<sup>0</sup> below 0 at— at 5 the Ther: was at 3<sup>0</sup> below 0— at 9 oClock 6<sup>0</sup> below 0— a verry Cold night; the Missouris has fallen to day about 6 Inches, runs with Ice, Ice from Shore 20 yds in the river is 5 ½ Inches Thick—

**Wednesday, January 18**

**Weather Diary**

river falls & full of Ice 5 ½ In. thick

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b0	c	NWW	1a0	s & f	NNW	F	-	-

**Camp Dubois Field Notes**

**Clark** a Cloudy morning with moderate breaze from the NW by W. The river run with Ice, at 8 oClock the Thromtr. Stood at 1<sup>0</sup> below 0— 9 oClock 1<sup>0</sup> above 0— at 10 oClock 2<sup>0</sup> abov 0— at 11 oClock rose to 4<sup>0</sup> above 0— , and began to Snow, at 12 oClock the Thermt. at 2 above 0— . Snow above 1 inch at 1 oClock 2 abov 0— , at 2 oClock 1 abov 0— , and left off Snowing—

**Thursday, January 19**

**Weather Diary**

no ice running

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
13a0	c	NW	11a0	c	NW	F	-	-

**Camp Dubois Field Notes**

**Clark** Som Snow fell last night, a Cloudy morning, the river continues to fall, & Some Ice running, at 8 oClock this morning the Thermometer Stood at 13<sup>0</sup> above 0—, the wind moderate from the NW, at 9 oClock 15<sup>0</sup> above 0— at 10 oClock 16<sup>0</sup> above

0— at 11 oClock 16<sup>0</sup> above 0— at 12 oClock 19<sup>0</sup> above 0— at 1 oClock 17<sup>0</sup> above 0— at 2 oClock 15 ½<sup>0</sup> above 0— at 3 oClock 13<sup>0</sup> above 0— at 4 oClock 11<sup>0</sup> above 0— at [5?] oClock 10 ½<sup>0</sup> above 0—

**Friday, January 20**

**Weather Diary**

Ice running out of the Mississippi 9 In thick (Lewis) No ice passing to day (Clark)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
5b0	f	NW	8a0	c	NW	F	-	-

**Camp Dubois Field Notes**

**Clark** a verry Cold night, river Still falling (some) no Ice running out of the Missouri's, the wind this morning from NW— The Thermometer at 7 oClock 5<sup>0</sup> below 0— at 8 oClock 7<sup>0</sup> below 0— at 9 oClock 4<sup>0</sup> below 0— at 10 oClock 2<sup>0</sup> below 0— at 11 oClock 2<sup>0</sup> above 0— at 12 oClock 4<sup>0</sup> above 0— at 1 oClock the Thmtr. Stood at 6<sup>0</sup> above 0— at 2 oClock the Them at 8<sup>0</sup> above 0— , the river Mississippi raised & some [of] the Ice is 9 Inches Thick (now ice flotes down the) at 3 oClock 11<sup>0</sup> above 0— , Cloudy at 4 oClock 8<sup>0</sup> above 0—, at 5 oClock 7 ½<sup>0</sup> above 0— Cloudy

**Saturday, January 21**

**Weather Diary**

Snow 2 ½ In Deep (Lewis) Ice running out of the Missouri, 9 In thick Snow 2 ½ In Deep (Clark)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
7a0	c & s	NE	17a0	s & h	NE	F	-	-

**Camp Dubois Field Notes**

**Clark** The Snow this morning is about 2 ½ Inches Deep, & Snowing fast, the Thermometer Stood at 7d above 0—, at 8 oClock, & wind from the NE, the river running with Ice and falling a little, at 9 oClock the Thermtr. at 7<sup>0</sup> above 0—, at 10 oClock 7d above 0—, at 11 oClock 10<sup>0</sup> above 0— & Snows— at 12 oClock 10<sup>0</sup> above 0— (Snow) or fine Haile increas, at 1 oClock 10<sup>0</sup> above 0— , at 5 oClock 17<sup>0</sup> above 0— haileing

fine hail.

**Sunday, January 22**

**Weather Diary**

Snow 5 3/4 In Deep Ice running down the Missouri (Lewis) Ice running out of the Missouri, Snow 5 3/4 In Deep. (Clark)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11a0	s	shifty <sup>4</sup>	13a0	s	NW	F	-	-

<sup>4</sup> Clark's Journal Codex C lists this wind direction as "S."

**Camp Dubois Field Notes**

**Clark** Snow all the last night, and Snows this morning, the debth is 5 3/4 Inches, the Thermometer Stands at 9 oClock this morning in the Open air at 11<sup>0</sup> above 0— at 12 oClock rose to 14<sup>0</sup> above 0— and Stoped Snowing. wind Easterly at 3 oClock 13d abv 0— , riv nearly Clear of Ice.

**Monday, January 23**

**Weather Diary**

Ice Stoped

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11a0	c	NE	17a0	c	N	F	-	-

**Camp Dubois Field Notes**

**Clark** a Cloudy morning, but little Ice runig to day The Thermt. at 8 oClock 11<sup>0</sup> above 0— at 12 oClock Stood at 10<sup>0</sup> above 0— at 3 oClock 17<sup>0</sup> above 0— in the evening the wind raised and Shifted to the North



**Tuesday, January 24**

**Weather Diary**

The Trees covered with ice to day

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a0	c	NW	11a0	c	W	F	-	-

**Camp Dubois Field Notes**

**Clark** a Butifull morning Clear Sunshine the winds light from the NW, the Thermometer at 9 oClock 4<sup>0</sup> above 0— at 10 oClock 8<sup>0</sup> above 0— wind West, at 12 oClock 14<sup>0</sup> above 0— at 3 oClock 11<sup>0</sup> above 0— Smone [some] Small pieces of Ice running

**Wednesday, January 25**

**Weather Diary**

Some ice

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b0	f	WNW	16a0	f	W	F	-	-

**Camp Dubois Field Notes**

**Clark** a verry Clear mon [moon?] Shiney night a fair morning, last night was a verry Cold one, The branches of Trees and the Small broth are gilded with Ice from the frost of last night which affords one of the most magnificent appearances in nature, the river began to Smoke at 8 oClock and the Thermometer Stood at 2<sup>0</sup> below 0— at 9 oClock at 0— at 10 oClock 5<sup>0</sup> above 0— at 11 oClock 12<sup>0</sup> above 0— at 12 oClock 16d above 0— at 1 oClock 16<sup>0</sup> above 0— at 2 oClock 19<sup>0</sup> above 0— at 3 oClock 16<sup>0</sup> above 0—, wind from the WNW

Thursday, January 26

Weather Diary

warm Day

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	c	SW	F	-	-

Camp Dubois Field Notes

Clark a Cloudy warm Day. Verry little Ice running to day

Friday, January 27

Weather Diary

warm Day

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	-	-	f	-	-	-	-

Camp Dubois Field Notes

Clark a Cloudy morning Some Snow at 1 oClock 28<sup>0</sup> above 0—

Saturday, January 28

Weather Diary

cold & Ice runing

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
5a0	c s	NW	18a0	c a s	NW	R	-	-

**Camp Dubois Field Notes**

**Clark** a Cloudy morning very cold wind from the NW Some floating Ice in the River at 9 oClock 5<sup>0</sup> above 0— , Snows at 10 oClock 8<sup>0</sup> above 0— at 11 oClock 10<sup>0</sup> above 0— , Sun Shines, at 12 oClock 12<sup>0</sup> above 0— at 1 oClock 14<sup>0</sup> above 0— at 2 oClock 18<sup>0</sup> above 0— at 3 oClock 20<sup>0</sup> above 0— at 4 oClock 18<sup>0</sup> above 0— at 6 oClock 14<sup>0</sup> above 0— , Porter [beer] all frozed & several bottles broke

**Sunday, January 29**

**Weather Diary**

no Ice running

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a0	f	W	23a0	f	-	R	-	-

**Camp Dubois Field Notes**

**Clark** a butifull morning, the river rise a little, no Ice, The Thermometer at 9 oClock Stood at 16<sup>0</sup> above 0— at 11 oClock 22<sup>0</sup> above 0— at 12 oClock 24<sup>0</sup> above 0— Took the alltiude of Suns, at 3 oClock 28<sup>0</sup> above 0— at 4 oClock 26<sup>0</sup> above 0— at 5 oClock 23<sup>0</sup> above 0—

**Monday, January 30**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a0	c & s	N	16a0	f a s	-	R	-	-

**Camp Dubois Field Notes**

**Clark** a Cloudy morning, Some Snow at 9 oClock The Thermotr. Stood at 22d abov 0— , a little wind from N. at 10 oClock 24<sup>0</sup> above 0— , cleared up & Sun Shown, Stoped Snowing, but little Ice running this mornng— at 11 oClock 25<sup>0</sup> above 0— at 12 oClock 25<sup>0</sup> above 0— at 1 oClock 25<sup>0</sup> above 0— at 2 oClock 26<sup>0</sup> above 0—

Cloudy. at 3 oClock 28<sup>0</sup> above 0— at 4 oClock 27<sup>0</sup> above 0— at 8 oClock 16<sup>0</sup>  
above 0—

**Tuesday, January 31**

**Weather Diary**

Ice run a little

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	SW by W	15a0	f	W	R	-	-

**Camp Dubois Field Notes**

**Clark** a fair morning, the Trees guilded with ice, at 7 oClock the Thermometer Stood at 7 oClock 10<sup>0</sup> below 0—. At 9 oClock some Ice running this morning. at 12 oClock 24<sup>0</sup> above 0— at 2 oClock 28<sup>0</sup> above 0— at 4 oClock 28<sup>0</sup> above 0— at 9 oClock 15<sup>0</sup> above 0—, wind SW by W

# February 1804

## Lewis and Clark Expedition

### Camp Dubois Field Notes

The Lewis and Clark Expedition remains at their winter camp at the mouth of the Wood River and the Mississippi River known as Camp Dubois.

Wednesday, February 1

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

the wind blew very hard, no frost, snow disappearing fast

Sunrise			4 PM			Mississippi River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	SW	20a0	f	SWS	R	-	

<sup>1</sup> Reference: Coues, Volume III, pages 1265, 1282-83; Moulton, Volume 2, pages 176-178; Thwaites, Volume 6, Part II, pages 168-169.

<sup>2</sup> River observations for February were taken at sunrise for a 24-hour period. While at Camp Dubois river observations were taken at the mouth of the Mississippi and Wood Rivers.

#### Camp Dubois Field Notes

**Clark** a Cloudy morning & warm wind from the SW, a warm Day

**Thursday, February 2**

**Weather Diary**

frost this morning, the snow has disappeared in spots

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a0	f	NW	10a0	f	NW	R		1/2 <sup>3</sup>

3 Clark's Journal Codex C lists the river rise as "1 1/2 inches."

**Camp Dubois Field Notes**

Clark wind high from SW

**Friday, February 3**

**Weather Diary**

frost this morning, the snow thawed considerably, raised boat

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a0	f	SW	19a0	f	W	-	-	-

**Camp Dubois Field Notes**

Clark fair Thawing Day

**Saturday, February 4**

**Weather Diary**

frost, considerable number of sawn & Geese from N & S.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
17a0	f	SW	28a0	f	S	R	-	1/2

**Camp Dubois Field Notes**

**Clark** a warm Day, Some rain last night, in the Evening the River Covered with large Sheetes of Ice from both rivers, the River & Creek rised Suffecent to take the boat up the Creek some distance, moderate day. Wild fowl pass.

**Sunday, February 5**

**Weather Diary**

emmence quantities of ice runing some of which 11 inches

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	f	SE	31a0	c a f	SES	R	2	6 1/2

**Camp Dubois Field Notes**

**Clark** river rising & Covered with Small Ice. Fowl pass.



**Monday, February 6**

**Weather Diary**

a small white frost, the snow disappeared a small snow storm (Lewis) a quantity of Soft ice running Swans passing (Clark)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a0	f	NW	15a0	c	S	-	-	-

**Camp Dubois Field Notes**

**Clark** a fair day Snow nearly gone, Some Ice Still runing. River began to fall

**Tuesday, February 7**

**Weather Diary**

a small quantity of soft ice runing, Swans passing

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
29a0	r a c	SE	30a0	r & c	SE	F	-	8

**Camp Dubois Field Notes**

**Clark** Some rain last night, Rain this morning. The [river] falling 8 inches. Rain Inces a little, the Creek or River a Dubois rasin fast

**Wednesday, February 8**

**Weather Diary**

many swans from N.W. creek rose & took off my water mark,

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a0	c a r	NW	20a0	c a s	N	R	-	1

**Camp Dubois Field Notes**

**Clark** a Cloudy morning Some rain, and Snow a Great raft of Ice Come Down the Creek to day, the river rises & some running Ice.

**Thursday, February 9**

**Weather Diary**

the river raised 2 feet, large quantity of drift ice from Misso[uri]

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f a s	NNE	12a0	c	NE	R	-	2

**Camp Dubois Field Notes**

**Clark** a fine morning. River Still rise & Ice pass down the greater part out of the Missouriies<sup>4</sup>

<sup>4</sup> There are no other known Field Note entries available until March 21, 1804.

**Friday, February 10**

**Weather Diary**

ice still drifting in considerable quantities, some geese passed fr S

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
3a0	f	NE	17a0	f	SW	R	1	4

**Saturday, February 11**

**Weather Diary**

Swans from the N. The sugar maple runs freely,

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	h a c	SE	31a0	s a h f	SE	R	-	1

**Sunday, February 12**

**Weather Diary**

Pigeons, ducks of varis kinds, and gese have returned

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
15a0	f	SSE	25a0	f	SW	F	-	s

**Monday, February 13**

**Weather Diary**

the first appearance of the blue crane, sugar trees run

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a0	f	NW	20a0	f	W	R & F	-	1

**Tuesday, February 14**

**Weather Diary**

but little drift ice, the Misipi is not broken up (Lewis) Sugar trees run (Clark)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
15a0	f	SW	32a0	f	SW	F	-	-

**Wednesday, February 15**

**Weather Diary**

immense quantities of Swan, in the marra— (marsh)

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	f	SW	32a0	f	W	F	-	-

Thursday, February 16

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a0	c	SE	30a0	r a c	SSE	R	-	2 1/2

Friday, February 17

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
15a0	c a r	SW	32a0	f	W	R	-	2

Saturday, February 18

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	NW	-	-	-	R	-	7 1/2

**Sunday, February 19**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10	f	NW	-	-	-	-	-	-

**Monday, February 20**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	NW	28a0	-	SSW	F	-	2 1/2

**Tuesday, February 21**

**Weather Diary**

in the evening the river began to rise 1/2 inch

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a0	f	NW	34a0	-	NW	F	-	1/2 <sup>5</sup>

<sup>5</sup> Clark's Journal Codex C lists the river rise as "1 1/2 inches."

Wednesday, February 22

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14a0	f	NE	26a0	-	E	R	-	1 1/2

Thursday, February 23

Weather Diary

[river] fall in the evening ½ inch

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a0	f	NW	24a0	-	NW	R	-	1

Friday, February 24

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a0	f	NE	26a0	-	NE	F	-	2

**Saturday, February 25**

**Weather Diary**

River on a Stand

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a0	f	NE	38a0 <sup>6</sup>	-	SSW	-	-	-

<sup>6</sup> Clark's Journal Codex C lists this temperature as "28."

**Sunday, February 26**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a0	f	NE	30a0	-	NE	F	-	½

**Monday, February 27**

**Weather Diary**

River rose 3 Inches & fell immediately

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
21a0 <sup>7</sup>	c	NE	24a0	r & f s	NW	F	-	1

<sup>7</sup> Clark's Journal Codex C lists this temperature as "4."



**Tuesday, February 28**

**Weather Diary**

began to Snow and Continued all day

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a0	c & s	NW	6a0	c a s	NW	F	-	2

**Wednesday, February 29**

**Weather Diary**

Snow all night & untill 11 oClock a.m. & Cleared away the weather had been Clear since (Capt. Lewis) lef Camp untill this.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a0	h & s	NW	12a0	c a s	NW	F	-	2 1/2

# March 1804

## Lewis and Clark Expedition

### Camp Dubois Field Notes

The Lewis and Clark Expedition remains at their winter camp at the mouth of the Wood River and the Mississippi River known as Camp Dubois.

Thursday, March 1

#### Weather Diary <sup>1,2</sup>

Sunrise <sup>3</sup>			4 PM			Mississippi River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b0	f	NW	4a0	-	NW	F	-	9

1 Reference: Coues, Volume III, pages 1265-66, 1283; Moulton, Volume 2, pages 184-186; Thwaites, Volume 6, Part II, pages 170-171.

2 Some of the entries in the Remarks sections are split between Lewis and Clark. Some of these remarks are when one of them was across the Mississippi River in St. Louis instead at the encampment on the Dubois River.

3 "This table follows Lewis's Weather Diary, kept by Clark this month; its temperature readings are eight degrees higher than those in (Clarks Journal) Codex C, with exceptions noted within the table. In Codex C, Clark indicated that the thermometer registered eight degrees too low (see notes for the January 1804 Weather Diary); Lewis gave the error as eleven degrees, but in April and May Lewis applies the eight-degree correction. Since Clark compensated for the error in March in the Weather Diary but not in Codex C, he apparently did not keep the two tables simultaneously." (Moulton, 1986 2: 186).

4 River observations for March were taken at sunrise for a 24-hour period. While at Camp Dubois river observations were taken at the mouth of the Mississippi and Wood Rivers.

**Friday, March 2**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11b0	f	NW	22a0	-	E	F	-	3

**Saturday, March 3**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	E	18a0	-	SW	F	-	6 1/2

**Sunday, March 4**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a0	f	NE	20a0	-	E	F	-	5

**Monday, March 5**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	NW	20a0	-	NW	F	-	3

**Tuesday, March 6**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a0	f	NW	10a0	-	NW	F	-	3

**Wednesday, March 7**

**Weather Diary**

Saw the first Brant return

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b0	c & s	NW	18a0	s	NW	-	-	-

**Thursday, March 8**

**Weather Diary**

Rain Succeeded by Snow & hail

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a0	c & s	NW	20a0	s	NW	F	-	1/2 <sup>5</sup>

<sup>5</sup> Clark's Journal Codex C lists the river fall as "1 1/2 inches."

**Friday, March 9**

**Weather Diary**

The weather has been generally fair but very Cold, the ice run for Several days in Such quantities that it was impossible to pass the River [Mississippi] Visited St. Charles Saw the 1<sup>st</sup> Snake which was the kind usually termed the Garter Snake, Saw also a Beetle of black Colour with two red Stipes on his back passing each other Crosswise, from the but of the wing towards the extremity of the Same.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	c	NW	28a0 <sup>6</sup>	c	NW	R	-	2

<sup>6</sup> Clark's Journal Codex C lists this temperature as "10 a 0."

**Saturday, March 10**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14a0	c & f	NW	32a0	f	NW	R	-	2 1/2

**Sunday, March 11**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a0	f	E	38a0 <sup>6</sup>	f	SW	F	-	2 1/2

<sup>6</sup> Clark's Journal Codex C lists this temperature as "20 a 0."

**Monday, March 12**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a0	f	NE	24a0	f	NE	R	-	1 1/2

**Tuesday, March 13**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a0	f	NW	20a0	f	NW	F	-	1 1/2

**Wednesday, March 14**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a0	f	NE	18a0	f	NE	F	-	4 1/2

Thursday, March 15

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a0	c & s	NW	48a0	r a s	NE	R	-	5

Friday, March 16

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a0	f	E	48a0	f	SSW	R	-	11

Saturday, March 17

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a0	f	NE	46a0	f	NE	R	-	7

Sunday, March 18

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	E	52a0	f	NE	F	-	3

**Monday, March 19**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a0	f	NE	60a0	f	SSW	F	-	2 1/2

**Tuesday, March 20**

**Weather Diary**<sup>7</sup>

Heard the 1<sup>st</sup> frogs on my return from St. Charles after having arrested the progress of Kickapoo war party.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a0	f	E	68a0	f	SSW	F	-	1 1/2

<sup>7</sup> The Eastern Field Note remarks begin again on this date and continue until the book is completed on the day the Expedition leaves camp on May 14, 1804.

**Wednesday, March 21**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a0	f	SSW	54a0 <sup>8</sup>	f	NW	F	-	2

<sup>8</sup> Clark's Journal Codex C lists this temperature as "36 a 0."

**Camp Dubois Field Notes**

Clark            good W[eather] river rise



Thursday, March 22

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a0	f	NW	48a0	f	NW	F	-	2

Camp Dubois Field Notes

Clark butifull weath[er] river Missouriies rise

Friday, March 23

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a0	f	NE	52a0	f	NE	R	-	4

Camp Dubois Field Notes

Clark good weath[er] the [river] continu to rise— 10 Inches to day & 8 last night.

Saturday, March 24

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14a0	f	E	60a0	f	SSW	R	1	5 1/2

Camp Dubois Field Notes

**Clark** fair weather, river rise fast.

**Sunday, March 25**

**Weather Diary**

Saw the 1<sup>st</sup> White Crain return

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a0	f	SSW	54a0	f	E	R	-	2

**Camp Dubois Field Notes**

**Clark** a fair morning, river rose 14 Inches last night. The musquetors are verry bad this evening.

**Monday, March 26**

**Weather Diary**

the weather worm and fair

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a0	f	E	52a0	f	E	R	-	10

**Camp Dubois Field Notes**

**Clark** a verry Smokey day. The Mississippi R Continu to rise & discharge great quantity of form [foam?]

**Tuesday, March 27**

**Weather Diary**

The buds of Spicewood appeared, the tausels of the mail Cotton wood were larger than a large Mulberry, and which the Shape and Colour of that froot, some of them had fallen from trees. the grass begins to Spring. The weather has been warm, and no falling weather until this time tho the atmispere has been verry Smokey and thick, a heavy fall of rain commenced which continued untill 12 at night, attended with thunder, and lightning— Saw large insects which resembled Musquitors, but doubt whether they are really those insects or the fly which produces them, they attempted to bite my horse, but I could not observe that they made nay impression with their Beaks.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a0	r & t	E	50a0	f a r	NE	R	-	7

### Camp Dubois Field Notes

**Clark** rain last night verry hard with thunder, a Cloudy morning. River continue to rise.

**Wednesday, March 28**

### Weather Diary

day cloudy & warm

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a0	c	NE	52a0	c	E	R	-	5 1/2

### Camp Dubois Field Notes

**Clark** a Cloudy morning.

**Thursday, March 29**

### Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a0	r a t	NE	38a0	h & r	NE	R	-	1

### Camp Dubois Field Notes

**Clark** Rained last night, a violent wind from the N this morning with rain, Some hail. A blustering day all day. River Continue to rise, Cloudy Day.

Friday, March 30

Weather Diary

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

Camp Dubois Field Notes

Clark a fair day

Saturday, March 31

Weather Diary

Windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NWW <sup>9</sup>	R	-	2

<sup>9</sup> Clark's Journal Codex C lists this wind direction as "NW."

Camp Dubois Field Notes

Clark a fine morning

# April 1804

## Lewis and Clark Expedition

### Camp Dubois Field Notes

The Lewis and Clark Expedition remains at their winter camp at the mouth of the Wood River and the Mississippi River known as Camp Dubois.

Sunday, April 1

#### Weather Diary<sup>1,2</sup>

The Spicewood is in full bloe, the dogs tooth violet, and may apple appeared above ground, a northern light appeared at 10 o C P.M. verry red.

Sunrise <sup>3</sup>			4 PM			Mississippi River <sup>4</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	f	NE	R	-	2 1/2

1 Reference: Coues, Volume III, pages 1266-67, 1283-84; Moulton, Volume 2, pages 207-210; Thwaites, Volume 6, Part II, pages 171-173.

2 Some of the entries in the Remarks sections are split between Lewis and Clark. Some of these remarks are when one of them was across the Mississippi River in St. Louis instead at the encampment on the Dubois River.

3 "The temperature readings in (Clark's Journal) Codex C are generally eight degrees below those in the Weather Diary (Lewis's Journal), as in March, but some discrepancies are noted within the table." (Moulton, 1986, 2: 209).

4 River observations for April were taken at sunrise for a 24-hour period. While at Camp Dubois river observations were taken at the mouth of the Mississippi and Wood Rivers.

#### Camp Dubois Field Notes

**Clark** a fair morning. A northern Light Seen at about 10 oClock, & frequently Changing Coler, appearing as in the atmusfier &c.

**Monday, April 2**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a0	f	-	-	f	NE	R	-	3 1/2

**Tuesday, April 3**

**Weather Diary**

a cloudy day.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a0	f	NE	-	r	NE	R	-	3 1/2

**Camp Dubois Field Notes**

Clark            wind blew verry hard all night    Some rain

**Wednesday, April 4**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a0	c a r	NW	-	-	-	R	-	11

**Camp Dubois Field Notes**

Clark            hard wind and rain last night

Thursday, April 5

Weather Diary

the buds of the peaches, apples & Cherrys appear — wind high

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a0	c a r	NE	-	t r	-	R	-	2

Camp Dubois Field Notes

**Clark** Thunder & lightning last night. The wind is violintly hard from the WNW all day. River Still rise. The [wind] Shift to the North at Sun Set & Cold. Banks falls in.

Friday, April 6

Weather Diary

a large flock of Pellicans appear.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a0	c r	NW	-	s a r	-	F	-	4 1/2

Camp Dubois Field Notes

**Clark** a Cloudy day river fall 10 Inches. At one oClock the wind bley [blew] hard from the NW, in this Countrey the windy points for rain & Snow is from SE to NE, the fair weather winds SW & West, Clear and Cold from the NW & N, wind Seldom blows from the South— at about 9 oClock PM began to Snow and Continued a Short time, wind blew hard from the N West.



**Saturday, April 7**

**Weather Diary**

the leaves of Some of the Apple trees have burst their coverts and put foth —,. many of the wild plants have Sprung up and appear above ground. cold air.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	f a c	NW	-	c	-	F	-	2

**Sunday, April 8**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0 <sup>5</sup>	c	NE	-	c r	-	F	-	2 1/2

5 Clark's Journal Codex C lists this temperature as "10 a 0."

**Monday, April 9**

**Weather Diary**

windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a0	f a c	NE	-	c	-	F	-	2

**Tuesday, April 10**

**Weather Diary**

no appearance of the buds of the Osage Aple, the Osage Plumb has put forth their leaves and flower buds. tho it is not completely in bloe. windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	f	NW	-	f	-	F	-	6 1/2

**Wednesday, April 11**

**Weather Diary**

windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a0	f	NE	-	f	-	F	-	7 1/2

**Thursday, April 12**

**Weather Diary**

windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a0	c	NW	-	f a c	-	F	-	7

**Friday, April 13**

**Weather Diary**

The peach trees are partly in blume the brant, Geese, Duck, Swan, Crain and other aquatic birds have disappeared verry much, within a few days and have gorn further North I prosume. the Summer duck raise their young in this neighborhood and are now here in great numbers. windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a0	c	NE	-	c	-	F	-	6 1/2

**Camp Dubois Field Notes**

**Clark** a Cloudy day. After part of the day fair. River falling

**Saturday, April 14**

**Weather Diary**

windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a0	f	SW	-	f	-	F	-	5

**Camp Dubois Field Notes**

**Clark** a fair day, wind high from the [blank]

**Sunday, April 15**

**Weather Diary**

windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a0	f	NW	-	-	-	F	-	6 1/2

**Camp Dubois Field Notes**

**Clark** a fair morning. Clouded up at 12 oClock, the wind from the SW blew verely hard. A Boat pass up the Mississippi under Sail at 1 oClock—

**Monday, April 16**

**Weather Diary**

Windey

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a0	c	NW	-	f a c	-	F	-	5 1/2

**Camp Dubois Field Notes**

**Clark** a fair morning, Some rain last night & hard wind from the SW by W. Wind verrey hard.

**Tuesday, April 17**

**Weather Diary**

wind verrey high every day Since the 3<sup>rd</sup> instant Some frost to day Peach trees in full Bloome, the Weeping Willow has put forth its leaves and are 1/5 of their Sise, the Violet the Doves foot, & cowslip are in bloe, the dogs tooth violet is not yet in blume. The trees of the forest particularly the Cotton wood begin to obtain from their Size of their buds a Greenish Cast at a distance— the Gooseberry which is also in this country and lilak have put forth their leaves— frost

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a0	f a c	NW	-	f	-	F	-	5

**Camp Dubois Field Notes**

**Clark** The after part of this day cool.



Wednesday, April 18

Weather Diary

Windy Day at St. Louis

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a0 <sup>6</sup>	f a c	NNW <sup>7</sup>	-	c	-	F	-	3

6 Clark's Journal Codex C lists this temperature as "16 a 0."

7 Clark's Journal Codex C lists this wind direction as "NNW."

Camp Dubois Field Notes

Clark a fair morning. Vegetation appears to be Supprisingly rapid for a fiew days past. The wind from the SE, rained the greater Part of this night.

Thursday, April 19

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a0	r	SSE	-	-	-	F	-	4

Camp Dubois Field Notes

Clark a rainy morning, Thunder and lightning at 1 oClock. Rain at 2, rain Continue.

Friday, April 20

Weather Diary

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

42a0	c r	SE	45a0	r	SE	F	-	3 1/2
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**Camp Dubois Field Notes**

**Clark** rain last night & this morning. The river fall Sloly. Rain all day. Dark Sultrey weather, Some Thunder

**Saturday, April 21**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
39a0	r	SW	50a0	f a r	W	R	1	2

**Camp Dubois Field Notes**

**Clark** rain all last night Slowley, a Cloudy morning, some rain. River raised last night 12 Inches.

**Sunday, April 22**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a0	c	NW	42a0	c	NW	R	1	6

**Monday, April 23**

**Weather Diary**

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

30a	f	NW	72a	f	W	F	-	1
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Tuesday, April 24

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	NW	52a	f	NW	R	-	8

Wednesday, April 25

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	NW	46a	c	NW	R	-	2 1/2

Thursday, April 26

Weather Diary

The white frost Killed much froot near Kahokia, while that at St. Louis escaped with little injurey—

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	NW	66a	f	NW	F	-	6

Camp Dubois Field Notes

Clark river falls

**Friday, April 27**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	t l r	W	70a	f	SW	F	-	8

**Saturday, April 28**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	NW	72a	f	NW	F	-	7

**Camp Dubois Field Notes**

Clark river fall

**Sunday, April 29**

**Weather Diary**

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	f	NW	60a	f	SE	F	-	7

**Camp Dubois Field Notes**

Clark river Still fall

**Monday, April 30**

**Weather Diary**

white frost, Slight did but little injurey—.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	SE	64a	f	NE	F	-	6

**Camp Dubois Field Notes**

**Clark** a fair day. River Still fall.

# May 1-14, 1804

## Lewis and Clark Expedition

### Camp Dubois Field Notes

The Lewis and Clark Expedition prepares to leave their winter camp at the mouth of the Wood River and the Mississippi River known as Camp Dubois during these first days of May.

Tuesday, May 1

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

Sunrise <sup>2</sup>			4 PM			Mississippi River <sup>3</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	SE	62a	f	NE	F	-	4 1/2

<sup>1</sup> Reference: Coues, Volume III, pages 1267, 1284; Moulton, Volume 2, pages 216-217; Thwaites, Volume 6, Part II, pages 173-174.

<sup>2</sup> “This table for May is based on Lewis’s Weather Diary, kept by Lewis. Its temperature readings are consistently eight degrees above those in Clark’s Codex C. No observations were tabulated by either captain after May 14 until September 1804, or at least no such tables have been found.” (Moulton, 1986, 2: 216-217).

<sup>3</sup> River observations for May 1<sup>st</sup> through May 14<sup>th</sup> were taken at sunrise for a 24-hour period. While at Camp Dubois river observations were taken at the mouth of the Mississippi and Wood Rivers.

#### Camp Dubois Field Notes

**Clark**            Some fog this morning

Wednesday, May 2

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
27a	f	SE	76a	f	SSE	F	-	6

Thursday, May 3

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SSE	80a	f	SSW	F	-	4 1/2

Camp Dubois Field Notes

Clark            Some wind. River falling

Friday, May 4

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	t l c r	S	64a	c a r	S	R	-	2

Camp Dubois Field Notes

Clark            a rainy Day. The river rising a little.

Saturday, May 5

Weather Diary

The thunder and lightning excessively heard this morning

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	t l r	W	66a	c a r	W	R	-	2 1/2

Camp Dubois Field Notes

Clark a Cloudy day rains at different times.

Sunday, May 6

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	SW	78a	f	SW	F	-	2 1/2

Camp Dubois Field Notes

Clark a fair day

Monday, May 7

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SE	60a	f	SSW	F	-	4 1/2

Camp Dubois Field Notes

**Clark** a fair day.

Tuesday, May 8

Weather Diary

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

Camp Dubois Field Notes

Clark Verry hot day

Wednesday, May 9

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	E	84a	f	SW	F	-	2

Camp Dubois Field Notes

Clark a fair day, warm. I send to the Missouries water for drinking water, it being much Cooler than the Mississippi.

Thursday, May 10

Weather Diary

distant thunder, sutery this evening

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c	NE	75a	f	NW	F	-	3 1/2

Camp Dubois Field Notes



**Clark**      Some rain last night, Cloudy morning verry hot, in the after part of the day.

Friday, May 11

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	E	78a	f	SW	F	-	2 1/2

Camp Dubois Field Notes

Clark a warm morning. In the evengn. about 4 oClock a violent gust from the NW by W

Saturday, May 12

Weather Diary

the wind at 4 was uncomly hard.

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	E	80a	f	W	F	-	3

Camp Dubois Field Notes

Clark rain all the evening

Sunday, May 13

Weather Diary

Sunrise			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50	c a r	W	48a	c a r	NW	F	-	2

Camp Dubois Field Notes

**Clark** a rainy Day.

**Monday, May 14**

**Weather Diary**

Sunrise <sup>4</sup>			4 PM			Mississippi River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	c	SE	64	f	N	F	-	0

<sup>4</sup> No weather observations in table form have been found for the rest of the month as the Expedition commences its journey up the Missouri River. This is the last observation of the Mississippi River at the mouth of the Wood River.

**Camp Dubois Field Notes**

**Clark** a Cloudy morning. Rain at 9 o'clock. Rained the greater part of the day. Rained. I refer to the Comsmt. [commencement] of my Journal No. 1. <sup>5</sup>

<sup>5</sup> This ends the known writings about weather in the Camp Dubois Field Notes, and is considered the end of the Dubois Journal.

## Section 3

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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

# 1804

## May 14, 1804 to December, 31 1804

Most of the Expedition party (between 45 and 50 members) started out on a rainy May 14, 1804 crossing the Mississippi to begin the ascent of the Missouri River. Lewis joined the party in St. Charles, Missouri where the party remained until May 21. The Expedition moved slowly against the current, passing present-day Kansas City in late June and Omaha, Nebraska by late July under the sweltering summer heat. They paralleled westward along the Nebraska/South Dakota border for 10 days in late August-early September and then turned north into central South Dakota constantly buffeted by prairie winds. Their first frost blanketed them on October 5 as they neared the South Dakota/North Dakota state line. By mid-October they experienced their first snows near present-day Bismarck, ND and established winter quarters at Camp Mandan on November 2. Here they would endure the rigors of prairie winter including the coldest temperature of the year.

The systematic daily entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates began at this point; 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).

# May 14-31, 1805

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

**Expedition leaves Camp Dubois, crosses the Mississippi River and enters the mouth of the Missouri River and proceeds a couple of miles up river.**

Monday, May 14

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

Sunrise			4 PM			River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	-	-	-	-	-	-	-	-

<sup>1</sup> Reference: Coues, Volume III, pages 1267, 1284; Moulton, Volume 2, pages 216-217; Thwaites, Volume 6, Part II, pages 173-174.

<sup>2</sup> No weather observations in table form have been found between May 14 and September 18, 1804 and the tables will not be included in this edition until observations resume. Remarks were entered sporadically during this time and will be included on known dates.

#### Daily Narrative Journals

**Clark** Set out from Camp River a Dubois at 4 oClock PM and proceeded up the Missouri under Sail. Cloudy rainy day. Wind from the NE. Rained the fore part of the day proceeded under a jentle brease up the Missouri a heavy rain this after-noon. Wind from NE. <sup>3</sup>

**Floyd** Showery Day

**Whitehouse** hard Shower of rain. Hoisted sail having a fair wind from the SE and rain. The river Misouri is about one Mile wide...and its waters are always muddy...the current Runs at about five Miles & a half p hour.

<sup>3</sup> Here begin the writings in the Lewis and Clark Journals during the Expedition to explore the Missouri river and find the shortest route to the Columbia River and the Pacific Ocean. This data in listed in Clark's Journal No. 1, and is now designated Codex A.

**Tuesday, May 15**

**Weather Diary**

**Daily Narrative Journals**

- Lewis** It rained during the greater part of last night and continued until 7 o'clock. AM. The evening was fair. <sup>4</sup>
- Clark** rained all last night and this morning until 7 o'clock, all our fire extinguished. a fair afternoon Wind from the NE the water excessively rapid & banks falling in.
- Floyd** Rainy morning fair wind the Later part of the day Sailed soon and encamped on the N side.
- Gass** It rained in the morning; but in the afternoon we had clear weather
- Ordway** rainy morning. fair wind later part of the day
- Whitehouse** This morning early we set sail, in a hard rain. The current swift & water muddy. The latter part of the day proved clear.

<sup>4</sup> Lewis's first entry related to weather and hydrology in the travel diaries.

**Expedition encamped near St. Charles, MO.**

**Wednesday, May 16**

**Weather Diary**

arrived at St. Charles

**Daily Narrative Journals**

- Clark** a fair morning. A fine day.
- Gass** We had a fine pleasant morning This evening was showery
- Ordway** this morning pleasant
- Whitehouse** a clear morning

**Thursday, May 17**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine fair day. Measured the river found it to be 720 yards wide.  
**Floyd** a fair but Rainey Night.  
**Ordway** a fair day, but Rainey night, nothing occurred worthy of notice this day  
**Whitehouse** a pleasant morning. In the evening we had some rain—

**Friday, May 18**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine morning. The wind hard from the SW.  
**Whitehouse** This morning was fair and pleasant.

**Saturday, May 19**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a Violent Wind last night from the WSW accompanied with rain which lasted about three hours. A Cloudy morning, Cleared away this morn'g at 8 oClock.  
**Floyd** a Rainey day  
**Ordway** a Rainy day  
**Whitehouse** This morning proved Rainey & wet



**Sunday, May 20**

**Weather Diary**

rained the after part of the Day

**Daily Narrative Journals**

**Lewis** The morning was fair, the weather was peasant. At half after one PM our progress was interrupted the near approach of a violent thunder storm from the NW and concluded to take shelter in a little cabbn hard by untill the rain should be over; accordingly we alighted and remained about an hour and a half and regailed ourselves with a could collation which we had taken the precaution to bring us from St. Louis. The Clouds continued to follow each other in rapid succession, insomuch that there was but little prospect of it's ceasing to rain this evening; I set forward in the rain...to St. Charles. During the fore part of this day it rained excessively hard.

**Clark** a Cloudy morning rained and a hard wind last night. At 3 oClock Capt. Lewis & [party] of St. Louis arrived thro a violent Shoure of rain. Rained the greater part of this evening

**Expedition leaves St. Charles, MO proceeding up the Missouri River.**

**Monday, May 21**

**Weather Diary**

leave St. Charles heavy rain in the evening with wind. great number of muscators

**Daily Narrative Journals**

**Clark** after 3 oClock...proceed on under a jentle Breese, at one mile a Violent rain with Wind from the SW. Camped, Soon after it commenced raining & continued the greater part of the night...which lasted with short intervalles all night. Rains powerfully.

**Floyd** Showery

**Ordway** at 4 oClock PM Showery

**Whitehouse** This morning we had some rain. We found the current of the River very rapid, the Banks steep, & the bottom very miry.

**Tuesday, May 22**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a Cloudy morning. Rained Violently hard last night.

**Floyd** Set out after a verry hard Rain plesent day

**Gass** we proceeded on our voyage with pleasant weather

**Whitehouse** a fair morning. The current rapid.

**Wednesday, May 23**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the water excessively Swift to day. A fair evening.

**Whitehouse** a fair weather pleasant morning

**Thursday, May 24**

**Weather Diary**

**Daily Narrative Journals**

**Clark** ...bank which was falling in so fast that the evident danger obliged us to cross between the starbd side and a sand bar in the middle of the river. The Swiftness of the Current wheeled the boat, Broke our Toe rope.

**Whitehouse** a fair weather morning. Current of the river Swift and strong

**Expedition passed La Charette, in Warren County, the westernmost white settlement on the Missouri River.**

**Friday, May 25**

**Weather Diary**

strawbury in the praries ripe and abundant

**Daily Narrative Journals**

**Clark** rain last night. River fall Several inches. Some hard rain this evening.

**Saturday, May 26**

**Weather Diary**

**Daily Narrative Journals**

**Clark** Set out at 7 oClock after a hard rain & Wind (after a heavy Shour of rain), & proceed on verry well under Sale. Wind from the ENE. The wind favourable to day we made 18 miles a Cloud rais & wind & rain Closed the Day.

**Floyd** hard thunder and Rain this morning

**Gass** At seven we embarked and had loud thunder and heavy rain

**Ordway** hard thunder & rain this morning

**Whitehouse** a fair fine morning, clear. towards evening we had some rain and Thunder. The current still running rapid—

**Sunday, May 27**

**Weather Diary**

serviceburries or wild Courants, ripe and abundant

**Daily Narrative Journals**

**Clark** ...a gentle Breese from the SE. Gasconade River...is 157 yard wide, a butifull stream of clear water. 19 feet Deep.

**Whitehouse** a fine fair weather morning

**Monday, May 28**

**Weather Diary**

**Daily Narrative Journals**

**Clark** rained hard all the last night Some wind from the SW. Some thunder & lightning hard wind in the forepart of the night from the S.W. River begin to rise. this day So Cloudy that no observations could be taken

**Whitehouse** a fair pleasant morning. There was a Small Spring in a cave. It is the most remarkable cave I ever Saw, in my travels.

**Tuesday, May 29**

**Weather Diary**

**Daily Narrative Journals**

**Clark** rained last night, the river rises fast. Cloudy morning. The Musquetors are verry bad. Rain all night. river still rised, water verry muddey

**Floyd** Rain Last night

**Whitehouse** this morning being clear

**Wednesday, May 30**

**Weather Diary**

Mulburies being to ripen, very abundant in the bottom

**Daily Narrative Journals**

**Clark** Set out between 6 and 7 o'clock after a heavy Shower of rain, rained all last night. Camped. A heavy wind accompanied with rain & hail. The river Continue to rise.

**Floyd** Set out after verry hard rain Last night Rained all the with thunder and hail Set out 7 o'clock after a very hard Rain and thunder it Rained During the Gratiest part of the day with hail

**Gass** After experiencing a very disagreeable night, on account of the rain, we continued our voyage at 7 o'clock AM At twelve we had a heavy shower of rain, accompanied with hail

**Orwday** we Set out at 7 oClock AM after a hard rain, rained all last night. At 12 oClock a hard Shower of rain & hail

**Whitehouse** a fair morning. About noon it began to rain.

**Thursday, May 31**

**Weather Diary**

**Daily Narrative Journals**

**Clark** rained the greater part of the last night, the wind from the West raised and blew with great force untill 5 oClock PM which obliged us to lay by.

**Floyd** it Rained and Cleard up

**Gass** We were obliged to remain at this encampment all day, on account of a strong wind from the west.

**Ordway** we lay at panther creek on acct. of a hard wind from N. West

**Whitehouse** a fair morning. The wind blowing hard, high wind.

# June 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

Expedition camped near the confluence of the Missouri and Osage Rivers on June 1 and 2 several miles east of the present-day capitol of Missouri, Jefferson City.

Friday, June 1

#### Weather Diary<sup>1,2</sup>

- 1 Reference: Coues, Volume III, page 1284; Moulton, Volume 2, pages 335-336; Thwaites, Volume 6, Part II, page 174.
- 2 "No tables of weather observations for June 1804 have been found, but both captains entered a few remarks, Clark in Codex C and Lewis in his Weather Diary. These are observations of natural phenomena related to seasonal change and climate such as plant ripening and animal migrations, rather than weather data as such." (Moulton, 1986, 2: 336)

#### Daily Narrative Journals

**Clark** a fair morning. The wind a head from the West. Current exceeding rapid and banks falling in. A fair afternoon. Fell a number of trees in the Point to take observation, it up until 1 o'clock to take some observations &c.

**Floyd** the wind from the west the day Clear the day Clear wind from the west water strong

**Whitehouse** the weather being pleasant this morning

Saturday, June 2

#### Weather Diary

#### Daily Narrative Journals

**Clark** the Osage R 397 yds wide.

**Floyd** the day was Clear wind from the South

**Ordway** the width of the Missouri at this place is 875 yards wide, the Osage River 397 yards

**Whitehouse** the Missourie is at this place 875 yards wide

**June 3 and 4 they pass the location of the present-day State Capitol of Missouri, Jefferson City.**

**Sunday, June 3**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the fore part of the day fair. I attempted to take equal alltitudes...but was disapointed, the Clouds obscured the Sun. We set out at 5 oClock PM Cloudy & rain.

**Floyd** the Latter part Clouday with thunder and Rain wind from Est.

**Whitehouse** a fair clear morning

**Monday, June 4**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fair Day.

**Floyd** the Clear morning Strong water

**Whitehouse** a fair weather morning

**Tuesday, June 5**

**Weather Diary**

**Daily Narrative Journals**

**Clark** ...we had a fine fair wind, but could not make use of it, our Mast being broke

**Floyd** fair day Water strong

**Whitehouse** a fair morning.

**Wednesday, June 6**

**Weather Diary**

**Daily Narrative Journals**

**Clark** Set out at 7 o'clock, under a gentle breeze from SE by S. River rose last night a foot. Some wind in the afternoon from the SE. The banks are falling in greatly in this part of the river.

**Thursday, June 7**

**Weather Diary**

**Daily Narrative Journals**

**Ordway** fair day & f. wind

**Friday, June 8**

**Weather Diary**

**Daily Narrative Journals**

**Clark** Camped...Commenced raining soon after we came to which prevented the party cooking their provisions— rained this night

**Floyd** the day clear wind from the west Land well timbered

**Ordway** some rain the country on the right is very fine—

**Whitehouse** had strong water to go through



**Saturday, June 9**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a fair morning. The river rise a little. Water verry swift. A Wind from the S at 4 oClock. Some dift & Snags...this was a disagreeable and Dangerous Situation, particularly as immense large trees were Drifting down. I can Say with Confidence that our party is not inferior to any that was ever on the waters of the Missoppie. Camped...the wind from the SW. The river continue to rise Slowly, Current excessive rapid. Comminced raining at 5 oClock and continued by intervalles the greater part of the night.
- Floyd** Set out after a verry hard Rain Last night the morning Clear wind from the Est. The Latter part of the day Clouday with rain
- Ordway** Rain last night
- Whitehouse** The day proving stormy

**Sunday, June 10**

**Weather Diary**

rasberreis perple, ripe and abundant

**Daily Narrative Journals**

- Clark** Some hard rain last night. Passed a part of the River that the banks are falling in takeing with them large trees of Cotton woods which is the Common groth in the Bottoms Subject to the flud. The current is excessively Swift. Wind from the NW. The evening is Cloudy, our party in high Spirits.
- Floyd** the Current is Strong about this place day Clear wind from the NW
- Gass** and remained there the whole of the next day, the wind blowing too violent for us to proceed
- Ordway** we Set eairly after Some rain, a fair day
- Whitehouse** the wind blowing hard

**Monday, June 11**

**Weather Diary**

many small birds are now setting      some have young, the whiperwill *setting*

**Daily Narrative Journals**

**Clark**            as the wind blew all this day hard & cold from the NW which was imedeately a head we Could not Stur, but took the advantage of the Dealy and Dried our wet articles.    The river beginning to fall

**Floyd**            Day Clear wind from the N West    Lay by all Day on account of the wind the Latter part of the day Clouday

**Ordway**           we lay by on acct. of the wind Blowing hard from the NW

**Whitehouse**    the wind blew So strong in the morning that the Commanding Officer halted there that day.

**Tuesday, June 12**

**Weather Diary**

**Daily Narrative Journals**

**Floyd**            the day Clear wind from the west

**Ordway**           a fair (day) morning

**Whitehouse**    with a fair wind and fine weather, all hands being well and in high spirits; we found the current of the River still running strong.

**Wednesday, June 13**

**Weather Diary**

**Daily Narrative Journals**

**Clark**            a fair Day.    Took Some Looner Observations which Kept Cap L. & me Self up untill half past 11 oClock.

**Ordway** fair morning

**Whitehouse** the Currant Being Rappid Neerly Swept the men of their legs while Bearing her up

**Thursday, June14**

**Weather Diary**

**Daily Narrative Journals**

**Clark** We set out at 6 oClock after a thick fog

**Floyd** day Clear water strong

**Gass** The river having risen during the night was difficult to ascend.

**Ordway** foggy but fair day

**Whitehouse** the river rose

**Friday, June 15**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the river is riseing fast & the water exceedingly Swift. The Current was So Strong that we Could not Stem it with our Sales under a Stuff breese in addition to our ores. This evening the river beginning to fall

**Floyd** Strong water

**Ordway** a fair day

**Whitehouse** a fair fresh wind from the SE. We Crouded Sail and Sailed 16 miles

## Saturday, June 16

### Weather Diary

the wood duck now has it's young, this duck is abundant, and except one Solatary Pelican and a few gees these ducks were the only aquatic fowls we have yet seen

### Daily Narrative Journals

- Clark**            some rain this morning. Heavy rain came on & lasted a Short time
- Floyd**            day Clouday with rain water verry Strong
- Gass**             had cloudy weather and rapid water all day
- Ordway**          the Current is verry Strong all this day, So that we were obledged to waid & Toe the boat over sand bars
- Whitehouse**    The wind rose from the South East; and we set all our Sails, we found the current running very Strong towards the evening, the wind lull'd & died away.

## Sunday, June 17

### Weather Diary

### Daily Narrative Journals

- Clark**            Cloudy morning Wind from the SE
- Gass**             This morning was clear

## Monday, June 18

### Weather Diary

### Daily Narrative Journals

- Clark**            Some rain last night, and some Showers this morning which delay our work verry much. Heavy rain all the fore part of the day. The misquiter verry bad.
- Floyd**            Clouday with Rain and Thunder and wind from the Est.
- Ordway**          hard Rain this morning
- Whitehouse**    We remain'd here this day, in the forenoon of which we had severe thunder &

lightning after which succeeded a Violent rain, in the afternoon it cleared up.

**Tuesday, June 19**

**Weather Diary**

**Daily Narrative Journals**

- Clark** rain last night. Arrange every thing and Set out 8 oCk wind in favor with a jentle breese from the SE
- Floyd** day Clouday wind from the Est. Strong water
- Ordway** we set out at 9 oC with a fair wind the water So Swift that we were obledged to hole the Boat by a Rope
- Whitehouse** the weather being fine & clear, about 9 oClock AM a good Brees sprung up from the South East, We set sail

**Wednesday, June 20**

**Weather Diary**

**Daily Narrative Journals**

- Clark** Set out after a heavy Shower of rain and proceeded A gentle breese from the SW. Passed Som verry Swift water to day. We took Some Loner [luner] observations, which detained us untill 1 oClock a butifull night but the air exceedingly Damp & the mosqueters verry troublesom
- Floyd** Clouday day Rain Strong water
- Ordway** we Set out at 5 oC and after some rain passed Tiger Creek on the N. side
- Whitehouse** This morning as we were preparing to start a Rain came on which detained us, for some time, in about an hour the weather got clear. The Currant was Strong

**Thursday, June 21**

**Weather Diary**

**Daily Narrative Journals**

**Clark** The river rose 3 Inches last night. Some wind from the SSE at 3 oClock. At Sun Set the atmespier presented every appearance of wind, Blue & white Streaks Centering at the Sun as She disappeared and the Clouds Situated to the SW, Guided in the most butifull manner. At Sun Set The ellement had every appearance of wind

**Floyd** Clear day strong water

**Gass** we had rapid water

**Whitehouse** the Current setting so strong against us

**Friday, June 22**

**Weather Diary**

**Daily Narrative Journals**

**Clark** River rose 4 Inches last night. I was waken'd (at) before day light this morning by the guard preparing the boat to receve an apparent Storm which threttened violence from the West. At day light a Violent gust of wind accompanied with rain cam from the West and lasted about one hour, it Cleared away and we Set out and proceeded on under a gentle breeze from the NW. Ferenthiers (Ferents) Thermometr at 3 oClock PM 87 d which is 11 d above Summer heat. Passed Some verry Swift water Crouded with Snags

**Floyd** Set out at 7 oclock after a verry hard Storm thunder (wind from the NE) and Rain wind {WC: from the West, proceeded on under a gentle breeze from the NW} Strong water

**Gass** It rained hard from four to seven in the morning

**Ordway** we Set out at 7 oC after a hard Shower of rain & high wind from NW Thunder and lightning &.C— the day fair

**Whitehouse** This morning we were detained from starting by a heavy Rain which continued till 7 oClock AM. The weather proved excessive hot, as it was the two succeeding days, & being by far the warmest weather that we met with for a long time. The current running very strong against us, and having to tow the boat it can hardly be imagined the fatague that we underwent

**Saturday, June 23**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            Some wind this morning from the NW. The wind blew hard and down the river which prevented the Pty moveing from this Island the whole day. Evening...the wind continueing to blow prevented their moveing. The river fell 8 Inches last night.
- Floyd**            a Small Brese from the NW (Set out    day Clouday)
- Gass**             at 12, the wind blew so strong down the river that we were unable to proceed
- Ordway**          Some wind this morning from the NW    we Set out at 7 OC    the wind Raised
- Whitehouse**    the wind arose and blew ahead of us, which render'd our towing the boat extreme difficult & fataigueing;    It blew so hard that Captain Clark who was on shore could not come off to us—

**Sunday, June 24**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            good water.    Wind blowing So hard Down the river. The Party in high Spirits.
- Floyd**            wind from the NE Sailed    Day Clear
- Ordway**          a fair day
- Whitehouse**    at 12 oClock AM we stopped to Jerk our meat, the weather being so warm that we were afraid it would spoil

**Monday, June 25**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a heavy thick fog detained us about an hour until 8 o'clock. The wind from the NW. Hard water & logs, Bank falling in. The river falling fast about 8 Inches in 24 hours. The river is still falling.
- Floyd** we Set out at 8 o'clock after the Fogue was Gon.
- Gass** The morning was foggy and at seven o'clock we pursued our voyage. The river here is narrow
- Ordway** a foggy morning. It Detained us about an hour.
- Whitehouse** the current still running strong

**Expedition arrives at the confluence of the Kansas and Missouri Rivers, at present-day Kansas City, MO.**

**Tuesday, June 26**

**Weather Diary**

**Daily Narrative Journals**

- Clark** wind from the SW. The river falling a little. We Killed a large rattle Snake, Sunning himself in the bank
- Ordway** Swift water this afternoon (near present-day Kansas City, MO)
- Whitehouse** the morning was fine and clear. The water was strong at the head of the Island we Campd on The day proving extreamly warm which still added to our fataigue

**Wednesday, June 27**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a fair warm morning. The river rose a little last night. The Kansas River by an angle and made it 230 yds wide, it is wider above the mouth the Missouries at this place is about 500 yards wide.
- Floyd** day Clouday



**Ordway**      The Kansas River is 230 yds wide at the mouth

**Thursday, June 28**

**Weather Diary**

**Daily Narrative Journals**

**Clark**      examining our Provisions we found Several articles Spoiled from the wet or dampness they had received, a verry warm Day, the wind from the South, the river Missourie has raised yesterday last night & to day about 2 foot. This evening it is on a Stand. The waters of the Kansas is verry disigreeably tasted to me.

**Ordway**      pleasant      The width of the M. here is 500 yd. wide.

**Friday, June 29**

**Weather Diary**

**Daily Narrative Journals**

**Clark**      obsvd. the distance of sun and moon, took Equal & maridinal atld. SW wind.

**Saturday, June 30**

**Weather Diary**

**Daily Narrative Journals**

**Clark**      came to at 12 oClock & rested three hours, the [sun?] being hot the men becom verry feeble, Farnsts. Thermometer at 3 oClock Stood at 96<sup>0</sup> above 0

**Gass**      The day was clear

**Whitehouse**      the water was Strong

# July 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

**Expedition camps on islands near present-day Fort Leavenworth on the Kansas-Missouri state line.**

**Sunday, July 1**

#### Weather Diary<sup>1, 2, 3</sup>

- 1 Reference: Coues, Volume III, page 1284; Moulton, Volume 2, pages 432-433; Thwaites, Volume 6, Part II, page 174.
- 2 No weather observation tables are noted in the journals for this month or have been found.
- 3 Weather remarks apparently ceased entirely after July 23 until September 18, as far as known records indicate, except for casual observations in Clark's daily narrative journals. (Moulton, 1986, 2: 433)

#### Daily Narrative Journals

**Clark** The river still falling a little, a very warm Day. Capt. Lewis took Medn. Altitude & we delayed three hours, the day being excessively hot. The wind from SW.

**Floyd** Clear Day

**Ordway** the Day is exceeding hot. So we Stopped at 12 oClock & Delayed about 3 hours to rest in the heat of the day

**Whitehouse** the current set strong against us this day

**Monday, July 2**

#### Weather Diary

#### Daily Narrative Journals

**Clark** a 12 oClock came to on the Island...detained four hours, exceedingly hot, wind in forepart of the day from the SE. The river not So wide. A very hot day. I observed that the river was Crouded with drift wood, and dangerous to pass as this dead timber Continued only about half an hour, I concluded that Some Island of

Drift had given way.

**Ordway** we Delayed at 12 oC for to put up a Temporary mast as the wind was fair

**Whitehouse** Found the water to run very strong against us

### **Tuesday, July 3**

#### **Weather Diary**

#### **Daily Narrative Journals**

**Clark** Set out verry early this morning and proceeded on under a gentle Breeze from the South

**Floyd** water verry strong the Land is verry mirey

**Ordway** we Set out eairly & proceeded on under a gentle Breese from the South.

**Whitehouse** The wind being in our favour, and blowing a good breeze

### **Expedition passes present-day Atchison, KS and names the river after this special day in United States history.**

### **Wednesday, July 4**

#### **Weather Diary**

a great number of young geese and swan in a lake oposit to the mouth of the 4<sup>th</sup> of July Creek, in this lake are also abundances of fish of various species. The pike [hap?] catt, sunfish &c perch Carp, *or buffaloe fish*

#### **Daily Narrative Journals**

**Clark** passed the mouth of a Beyeue...this Lake is large and was once the bend of the River. As this Creek has no name, and this day is the 4<sup>th</sup> of July, we name this Independence us. Creek. One of the most butifull Plains, I ever Saw, open & butifully diversified with hills & vallies all presenting themselves to the river covered with grass and a few scatttering trees. Nature appears to have exerted herself to butify the Senery by the variety of flours Delicately and highly flavered raised above the Grass, which Strickes & profumes the Sensation, and amuses the wind throws it into Conjectering the cause of So Magnificent a Senerey in a Country thus Situated far removed from the Sivilised world to be enjoyed by nothing bu the Buffalo Elk Deer & Bear in which it abounds & Savage Indians

**Whitehouse** the wind being favourable and the water being good Roed on Successfully. The day proved mighty hot very warm.

**Thursday, July 5**

**Weather Diary**

**Daily Narrative Journals**

**Clark** The river Continue to fall a little— Wind from SE

**Friday, July 6**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the river falls Slowly. Wind from the SW. A verry warm day. Worthy of remark that the water of this river or Some other Cause, I think that the most Probable throws out a greater prepsion. of Swet than I could Suppose Could pass thro: the humane body Those men that do no work at all will wet a Shirt in a Few minits & those who work, the Swet will run off in Streams.

**Ordway** we Set out eairly this morning proceeded on (the river falls Slowly) the weather is verry warm, Several day's, the Sweet pores off the men in Streams

**Whitehouse** the water was tolarably Good. Had good Sailing

**Expedition passes near present-day St. Joseph, MO.**

**Saturday , July 7**

**Weather Diary**

**Daily Narrative Journals**

**Clark** some verry Swift water. A verry warm morning. At 4 oClock pass a Verry narrow part of the river water Confd. in a bead not more than 200 yards wide at this place. A hard wind (a Violent Ghust of wind) with Some rain from the NE at Dark - 7 oClock which lasted half an hour, with thunder & lighting. The river fall a little. Once man sick (Frasure) Stuck with the Sun, Capt. Lewis bled him & gave Niter

which has revived him much.

**Floyd** passed Some Strong water on the South Side Clear morning very warm

**Ordway** very warm morning

## Sunday, July 8

### Weather Diary

### Daily Narrative Journals

**Clark** the Sick man [Frazer] much better. Passed...Nadawa River [Nodaway] is abt. 70 yards wide at its mouth...jentl Current

**Floyd** Rain last night with wind from the E.

**Gass** The river here is crooked and narrow

**Whitehouse** This morning we embark'd early with a fair wind, and sail'd for 8 hours

## Monday, July 9

### Weather Diary

### Daily Narrative Journals

**Clark** at 8 o'clock [AM] it commenced raining, the wind changed from NE to SW wind Shifted to the NW in the evening. Saw a fire on the S.S.

**Floyd** Rain to day Sailed the Gratist part of the day Saw a fire on the N Side thought it was (Indians) ouer flanken partey

**Gass** it rained hard till 12 o'clock

**Ordway** Rainy. The wind changed from the NE to the SW the wind Shifted to the NW in the evening

**Whitehouse** shortly after we had started a Rain came on, which continued most of the day—

**Tuesday, July 10**

**Weather Diary**

**Daily Narrative Journals**

**Clark** Set out this morning with a view to Land near the fire Seen last night...discover our men were at the fire, they were a Sleep early last evening, and from the Course of the Wind, which blew hard, their yells were not heard by party in the perogue. The river is on a Stand.

**Gass** had a fair day and a fair wind

**Whitehouse** the water was Strong the Morning was Clear. the current still strong against us, & very hard rowing to stem it.

**The Expedition passes the present-day Kansas - Nebraska state line.**

**Wednesday, July 11**

**Weather Diary**

**Daily Narrative Journals**

**Clark** made Some Luner observations this evening.

**Whitehouse** This morning having cloudy weather & appearance of Rain, at 10 oClock AM the Clouds dispers'd and the weather became clear

**Thursday, July 12**

**Weather Diary**

the deer and bear begin to get scarce and the Elk begin to appear

**Daily Narrative Journals**

**Lewis** This is a mean of four observations which were not so perfect as I could have wished them, in consequence of the moon being obscured in some measure by the clouds, which soon became so general as to put an end to my observations during this evening—

**Clark** I assended a hill....I had an extensive view of the Serounding Plains, which afforded one of the most pleasing prospects I ever beheld. on a clift Sand Stone ½ me. up & on Lower Side I marked my name & day of the month near an Indian mark or image of animals & a boat. Took Some Luner Observations.

## Friday, July 13

### Weather Diary

### Daily Narrative Journals

**Clark** My notes of the 13<sup>th</sup> of July by a Most unfortunate accident blew over Board in a Storm in the morning of the 14<sup>th</sup> Obliges me to refer to the Journals of Serjeants. Last night a violent Storm from the NNE— Last night about 10 oClock a violent Storm of wind from the NNE which lasted with Great violence for about one hour, at which time a Shower of rain Succeeded . Set out at Sun rise...under a gentle Breeze. Sailed under a Wind from the South all day. The Clouds appear to geather from the NW. A most agreeable Breeze from the South. Great appearance of a Storm from the North W this evening verry agreeable the wind Still from the South. Showers of rain all night.

**Floyd** a verry hard Storm Last night from the NE which Lasted for about one ouer proseded with a Small Souer of Rain wind fare Sailed all day a Small Shouer of Rain.

**Gass** We were early under way this morning with a fair wind. The day was fine.

**Ordway** last night at 10 oClock a violent Storm from the NNE which lasted for one hour. a small Shower succeded the wind. The wind favourable from the South

**Whitehouse** The wind Rose. Encamped on an Island called little sandy Island, opposite the hurricane Priari—<sup>4</sup>

<sup>4</sup> Whitehouse uses a name for this Prairie which no one else uses in the Journals. This reference may be to the violent wind of the next day, which Floyd calls "A Dredfulle hard Storme." (Moulton, 1997, 11: 39)

## Saturday, July 14

### Weather Diary

### Daily Narrative Journals

**Clark** Some hard showers of rain accompanied with Some wind this morning prevented our

setting out until 7 o'clock, at half past seven, the atmosphere became suddenly darkened by a black and dismal looking cloud, at the time we were in a situation...near an island...the bank was falling in and lined with snags...in this situation a violent storm of wind which passed over an open plain from the N.E. struck the our boat on the starboard quarter, and would have thrown her up on the sand island dashed to pieces in an instant, had not the party leaped out on the leeward side and kept her off with the assistance of the anchor & cable until the storm was over. In this situation we continued about 40 minutes. when the storm suddenly ceased and the river became instantaneously as smooth as glass in 1 minute. The two perogues during this storm was in similar situation with the boat about half a mile above— The wind shifted to the SE and we set sail. River falls a little.

**Floyd** Came a dreadful hard storm from the south which lasted for about one hour and half which forced us to jump out and hold her the wind fair sailed,

**Gass** At day break it began to rain and continued until seven when it abated, and we set forward; but in a short time a gust of wind and rain came on so violent, that all hands had to leap into the water to save the boat. Fortunately this storm did not last long, and we went on to a convenient place and landed.

**Ordway** Some hard showers of rain accompanied with some wind which detained us until about 7 o'clock Then there came up a violent storm from the NE of wind & rain which passed through an open prairie, it came so suddenly by a black cloud & dismal looking. We were in a situation near the upper point of a sand island & on the opposite shore falling in, the boat nearly quartering & blowing down the current. The boat was in danger of being thrown up on the sand but the men were all out in an instant holding her out stemming the wind the anchor was immediately carried out. So by all exertion we could make we kept the boat from filling or taking injury. This storm suddenly ceased, and in one minute the river was as smooth as it was before, the wind shifted to the SE and we set sail & proceeded on Capt. Clark notes & remarks of 2 days blew overboard this morning in the storm, and he was much put to it to recollect the courses & C—

**Whitehouse** This morning before we embarked a heavy rain came on, with a hard smart wind that enraged the water and occasioned the river to run in high waves to such a degree that all hands had to get in the water to keep up the boat— The storm abated about 10 o'clock AM and we proceeded

**Sunday, July 15**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a heavy fog this morning which detained us until 7 o'clock



**Floyd** water verry Strong  
**Ordway** a foggy morning which Detained us untill 7 oClock  
**Whitehouse** The morning being foggy, we had to waite 'till it clear away, at 9 oClock AM we set off

**Monday, July 16**

**Weather Diary**

**Daily Narrative Journals**

**Clark** The morning was cloudy; proceeded on under a gentle breeze from the S. The river falling  
**Floyd** the wind from the South Sailed ouer boat Sailed all day  
**Gass** had a fine day and fair wind  
**Ordway** the wind from the South  
**Whitehouse** the morning being fine and weather clear we started early, the wind in our favour we set all our Sails and had Good Sailing. The water Strong.

**Tuesday, July 17**

**Weather Diary**

**Daily Narrative Journals**

**Clark** wind from the SE. Camped...a puff of wind brought Swarms of Misquitors, which disapeared in two hours, blown off by a Continuation of the Same breees.  
**Ordway** a pleasant warm day  
**Whitehouse** This day being fine and clear, we staid at the Maha priari

**The Expedition passes the present-day Missouri - Iowa state line.**

**Wednesday, July 18**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a fair morning. The river falling fast. Set out at Sunrise under a gentle Breeze from SE by S. Wind from the SW hard
- Floyd** the day Clear wind fair passed a verry Strong pace of Water
- Gass** our voyage fair wind and pleasant weather
- Ordway** we Set out at Sun rise under a gentle Breeze from the SE by S a fair morning
- Whitehouse** This morning being clear, we got under way at day light, with a fair wind, and sailed

**Thursday, July 19**

**Weather Diary**

**Daily Narrative Journals**

- Clark** this prarie was Covered with grass about 18 Inches or 2 feat high and contained little of any thing else. The river Still falling a little
- Whitehouse** the morning was clear

**Friday, July 20**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a fog this morning and verry Cool. The Soil of Those Praries appears rich but much Parched with frequent fires— a verry Pleasant Breeze from the NW all night— river falling a little.
- Ordway** a heavy Deaw last night. Some foggy this morning.
- Whitehouse** a freash Bres of wind

**Expedition arrives at the confluence of the Platte and Missouri Rivers, in**

## present-day Nebraska.

Saturday, July 21

### Weather Diary

### Daily Narrative Journals

- Clark** Set out verry early under a Gentle Breeze from the S.E at 7 oClock [AM] the wind Seased and it Commenced raining. Passed...Mouth of the Great River Plate this river which is much more rapid than the Missouri has thrown out imence quantities of Sand...found it shallow. Camped...a verry hard wind from the NW.
- Floyd** Rain this morning wind fair Sailed passed the mouth of the Grait River Plate on the South Side it is much more Rapped than the missorea this river is not navigable for Boats to Go up it
- Gass** I rained this morning but we had a fine breeze of wind. At nine the wind fell, and at one we came to the great river Platte, or shallow river.
- Ordway** Some Rain this morning We Set out at Sun rise under a gentle Breese from the South or SE A hard (head) wind from the NW praries in pt between the Missouris & the Great R. Platt but flat Subject to overflow.
- Whitehouse** got underway, the wind became fair and Seased Bloing. The River Plate...runs strong at its mouth.

Sunday, July 22

### Weather Diary

### Daily Narrative Journals

- Clark** Set out early with a view of Getting to Some Situation above in time to take equal altitudes and take Observations, as well as one Calculated to make our party Comfortabl in a Situation where they Could recive the benifit of a Shade— Camped. Wind hard from NW. Cold. The river rise a little.
- Gass** with fair weather

**Monday, July 23**

**Weather Diary**

Cat fish is verry Common and easy taken in any part of this river. Some are nearly white perticulary above the Platte River.

**Daily Narrative Journals**

**Clark** a fair morning. Praries being on fire in the direction of the Village. Wind hard this afternoon from the NW.

**Gass** clear weather

**Ordway** clear morning

**Whitehouse** We remained here this day in Order to get an Observation, the weather being fine & clear.

**Tuesday, July 24**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fair morning and day. The wind rose with the Sun & blows hard from the S. The breezes which are verry frequent on this part of the Missouri is cool and refreshing. Thos Southerly Breezes are dry Cool & refreshing. The Northerly Breezes which is more frequent is much Cooler and moist.

**Floyd** Histed our Collars in the morning for the Reseptions of Indians who we expected Hear when the Rain and wind Came so that we wase forst to take it down Continued Showery all day

**Gass** some showers

**Ordway** Some rain wind blew from NE

**Whitehouse** We remained here this day, and had some Rain in the morning.

**Wednesday, July 25**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fair morning. Wind from the SE.

**Gass** clear weather

**Ordway** a pleasant morning

**Whitehouse** a pleasant morning.

**Thursday, July 26**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the wind blustering and verry hard from the south all day which blowed the Clouds of Sand in such a manner that I could not complete my pan [map] in the tent, the Boat roled in Such a manner I could do nothing in that, I was obliged Combat with the Misqutr. under a Shade in the woods— This evening we found verry pleasant—

**Gass** clear weather

**Ordway** pleasant morning. All the latter part of the day the wind blew hard from the S

**Whitehouse** we had a pleasant morning. The latter part of the day, the wind blew hard from the South

**July 27 and 28 the Expedition passes the location of present-day Omaha, NE.**

**Friday, July 27**

**Weather Diary**

**Daily Narrative Journals**

**Lewis** I wished to have taken one or two sets more with the moon and Aquilae, but the

clouds obscured the star. I was also anxious to have taken some sets with Aldeberan, then in reach of observation and East of the moon, but was prevented by the intervention of the clouds, which soon became so general as to obscure the whole horizon—

**Clark** A Small Shower of rain this morning until near 10 oClock. At half past 1 oClock we Set Sale under a gentle breeze from the South. A butifull Breeze from the NW this evening which would have been verry agreeable, had the Misquiter been tolerably Pacifick, but thy were raging all night, Some about the Sise of house Flais [flies].

**Floyd** prossed on under a Jentil Brees from the SE nothing worth Relating except the wind was verry villant from the South Est—

**Gass** At 12 we proceeded with a fair wind, and pleasant weather

**Ordway** cloud morning. We set out under Sail about one oClock proceeded very well the River verry crooked.

**Whitehouse** cloudy morning. The River is very Crooked in this days route

## Saturday, July 28

### Weather Diary

### Daily Narrative Journals

**Clark** Set out this morning early, the wind blou from the NW by N. A Dark Smokey Morning, some rain.

**Floyd** Rain the fore part of the day the Latter part Clear with wind from the North Est.

**Gass** had a cloudy morning

**Ordway** Cloudy morning. The wind hard from the NE Detained us Some time.

**Whitehouse** The morning still continued Cloudy. The wind Blew hard from the NE—

## Sunday, July 29

### Weather Diary

### Daily Narrative Journals

- Clark** a Dark rainey morning Wind from the WNW. Rained all last night— a Cold Day Wind from the NW Some Rain the fore part of the Day. Above this high land & on the S.S....at the commencement of this course...passed much fallen timber apparently the ravages of a Dreadfull haricane which had passed obliquely across the river from NW to SE about twelve months since. Many trees were broken off near the ground the trunks which were Sound and four feet in diameter.
- Gass** passed a bank, where there was a quantity of fallen timber
- Ordway** Rain all last night. Cloudy morning. The Missouri is much more crooked since we passed the Great River Platte than before but not so Rapid in general; & more praries, the Timber Scarser &C—
- Whitehouse** This morning was rainey, we started at sunrise.

**Monday, July 30**

**Weather Diary**

**Daily Narrative Journals**

- Clark** this Prarie is Covered with grass about 10 or 12 Inch high. a fair still evening and Cool. Great no. misquitors this evening.

**Tuesday, July 31**

**Weather Diary**

**Daily Narrative Journals**

- Clark** a fair Day. The evening verry Cool.
- Ordway** pleasant & Cool this morning the Missouri is verry crooked coures on one Side or the other all the way from the Great River Platte, but the current not So Swift as below.
- Whitehouse** having fine clear weather.

# August 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

Expedition was encamped north of present-day Omaha, Nebraska at the spot of what would become Fort Calhoun from July 30 through August 2 known as “Council Bluff.” Not associated with current-day location across the river from Omaha.

Wednesday, August 1

#### Weather Diary<sup>1,2</sup>

- 1 Reference: Moulton, Volume 2, page 433.
- 2 No weather observation tables or remarks have ever been found in the journals for this month. General weather comments are made by Clark in his daily narrative journal entries.

#### Daily Narrative Journals

**Clark** a fair morning. The air is Cool and pleasing. Wind rose at 10 oClock and blowed Steedy from the WSW agreeable Breeze all Day. Very pleasant all day. Cool fine eveninge.

**Ordway** a fair morning

**Whitehouse** This morning was clear, we remain'd still at out encampment

Thursday, August 2

#### Weather Diary

#### Daily Narrative Journals

**Clark** a verry pleasant Breeze from the SE. At Sunset...the wind Continue hard from the SE.

**Ordway** Cool & pleasant this morning The afternoon Cloudy. The wind Southerly appearence of rain.



## Friday, August 3

### Weather Diary

### Daily Narrative Journals

**Clark** at 4 o'clock [PM] Set out under a gentle Breeze from the SE. Set Sail. The Musquitos more numerous than I ever Saw them. Camped. Great appearance of wind and rain to the NW we prepare to rec've it— the air is pure and helthy So far as we can Judge—

**Floyd** embarked at 3 o'clock PM under Jentell Brees from the South Est.

**Gass** encamped....where we had a storm of wind and rain, which lasted two hours.

**Ordway** a foggy morning. No Diew last night

**Whitehouse** This morning was foggy

## Saturday, August 4

### Weather Diary

### Daily Narrative Journals

**Lewis** the suns disk was frequently obscured in the course of this observation

**Clark** at 7 o'clock last night the heavens darkened and we had a Violent wind from the NW Som little rain Succeeded, the wind lasted with violence for one hour after the wind it was clear Screen and Cool all night. Channel Confined within 200 yards....the Banks washing away & trees falling in constantly for 1 mile. The wind blew hard a head.

**Floyd** Set out erly this morning after the Rain was over it Rained Last night with wind and thunder from the NW it Lasted about an ouer prossed on the morning Clear

**Ordway** at 7 o'clock last night, a violent wind from the NW & thunder & rain which lasted about an hour then ceased blowing but hard rain followed proceeded on through a narrow part of the River which is filled with Snags & logs the River in many places is confined within 200 yards.

**Whitehouse** This morning we set off early, having fine Clear weather

**Sunday, August 5**

**Weather Diary**

**Daily Narrative Journals**

- Clark** wind from the NE. Great appearance of Wind & rain. I have observed and remark that I have not heard much Thunder & lightning and is not common in this Country as it is in the atlantic States
- Floyd** Cam 2 miles when a verry hard Storm of wind and Rain from the North (West) Est it Lasted about 2 ouers and Cleard up I have Remarked that I have not heard much thunder in this Country Lightning is Common as in other Countreys
- Gass** We set out early, but a storm of rain and wind obliged us to stop two hours. It then cleared and we continued The river here is very crooked and winding
- Ordway** a Shower came up from the NW Some wind attending it. which Detained us about 2 hours. A head wind. C. Clark was at the River below this point which is only 370 yards across

**Monday, August 6**

**Weather Diary**

**Daily Narrative Journals**

- Clark** at 12 oClock last night a Violent Storm of wind from the NW. Some rain. One pr. of Colours lost in the Storm from the big Perogue.
- Floyd** about 12 oclock Last night a villant Storm of Wind and Rain from the NW—
- Gass** proceeded....after a stormy night of wind and rain
- Ordway** a violent storm came up about 12 oClock last night of wind & rain from NW
- Whitehouse** the morning was fair

**Tuesday, August 7**

**Weather Diary**

**Daily Narrative Journals**

- Clark** last night about 8 o'clock a storm of wind from the NW lasted 3/4 of an hour. Mosquitoes more troublesome last night than I ever saw them, Set out late this morning wind from the North—
- Floyd** passed on day Clear wind from the North west— Water Good
- Ordway** last night about 8 o'clock a storm from NW of wind and rain which lasted about 3/4 of an hour. the wind N
- Whitehouse** the morning was clear

**Wednesday, August 8**

**Weather Diary**

**Daily Narrative Journals**

- Lewis** we had seen but a few aquatic fowls of any kind on the river since we commenced our journey up the Missouri. This day after we passed the river Souix...I saw a great number of feathers floating down the river Those feathers had a very extraordinary appearance as they appeared in such quantities as to cover pretty generally sixty or seventy yards of the breadth of the river. For three miles after I saw those feathers continuing to run in that manner, we did not perceive from whence they came, at length we were surprised by the appearance of a flock of Pilican.
- Clark** the wind as usual from the NW.
- Floyd** Set out this morning at the usual time day Clear wind from the NW
- Ordway** the wind from NW this River is about 80 yds wide & navigable for perogues for a considerable distance it contains a Great quantity of fish common to the country.

**Thursday, August 9**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            The fog of this morning being thick detained us until ½ past 7 oClock at which time we Set out and proceeded on under Gentle Breeze from the SE. Musquetors worse this evening than ever I have Seen them.
- Floyd**            Set out at 7 oclocks AM (we could see about us the) after the fague was Gon which is verry thick in this Cuntrey    Passed a verry Bad place in the River whare the water is verry Shellow
- Gass**             The fog was so thick this morning, that we could not proceed before 7, when we went on under a gentle breeze
- Ordway**          a foggy morning, which detained us till past 7 oClock at which time we Set out under a gentle Breeze from SE
- Whitehouse**    This morning we set out in a fog which cleared up at 8 oClock AM. The Wind blew from the South; had Good Sailing. When the wind died away, we then took our Oars and rowed.

**Friday, August 10**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            wind hard from the SW
- Ordway**          a fair day.    The wind hard from the SW (Sailed Some.)
- Whitehouse**    The morning was Clear. The musquitoes was mighty troublesome Untill The Sun rose to Some hight. The wind being fair we Sail'd the greatest part of this day.

**Saturday, August 11**

**Weather Diary**

**Daily Narrative Journals**

- Clark** about day this morning a hard wind from the NW followed by rain. The river is very Crooked. A hard wind accompanied with rain from the SE after the rain was over Capt. Lewis myself & 10 men assended a Hill.
- Floyd** Set out after a very hard Storm this morning of wind and Rain continued until 9 o'clock AM and Cleared up proseed on
- Gass** A storm came on at three o'clock this morning and continued till nine, notwithstanding which, we kept under way till ten
- Ordway** hard Showers this morning comenced at day break & lasted & detained us about an hour, hard wind from SW we proceeded on the wind hard Some Thunder, the river very crooked, after we passed this hill
- Whitehouse** At 3 o'clock AM this morning we had a rain, which was very heavy, which was immediately succeeded with a smart heavy wind from the South. At 6 o'clock we set sail

**Sunday, August 12**

**Weather Diary**

**Daily Narrative Journals**

- Clark** Set out early under a gentle Breeze from the South. The river wider than usual, and Shallow. The wind Comes round to the SE. The wind for a few hours this evening was hard and from the SE. Musquitos very troublesom until the wind rose. At one or 2 o'clock
- Floyd** Set out at the usual time proseed on under a Jentel Bree from the North Est. Sailed day Clear
- Ordway** a fair morning. We Sailed on with a SE wind
- Whitehouse** the morning was fair a Sharp Breeze of wind Blew from the South Sailed

**Monday, August 13**

**Weather Diary**

**Daily Narrative Journals**

**Clark** Set out this morning at Day light the usual time and proceeded on under a gentle Breeze from the SE. The SE wind Continues high, we took some Luner observations this evening. The air pleasant.

**Floyd** prosed on under a Jentel Brees from the South Est— Sailed (day C) morning Cloudy about 10 ock, it Cleared up

**Gass** proceeded....with a fair wind

**Ordway** proceeded on under a gentle Breese from Souhard

**Tuesday, August 14**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine morning wind from the SE

**Whitehouse** they day was fair and pleasant

**Wednesday, August 15**

**Weather Diary**

**Daily Narrative Journals**

**Clark** [party] to examine a fire which threw up an emence smoke from the praries on the N.E. side of the river and at no great distance from camp— in the evening this Party returned and informed, that the fire arose from Some high trees which had been left burning by a small Party of Seoux and hard wind of to day. the wind Setting from that point blew the smoke from that pt. over our Camp.

**Gass** There had been fire there some days, and the wind lately blowing had caused the fire to spread and smoke to rise.

**Ordway** a pleasant morning hard wind F. NW

**Thursday, August 16**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a Verry cool morning, the winds as usual from the NW. The wind Shifted around to the SE. Every evening a Breeze rises, Sometimes before night, which Blows off the Musquitors & Cools the atmispere.

**Ordway** a pleasant morning.

**Whitehouse** This morning fine & clear

**Friday, August 17**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine morning, wind from the SE. Sent & fiered the Prarie near Camp to bring in the Mahars & Souex. A Cool evening

**Ordway** a clear morning, the wind from SE

**Whitehouse** the weather was fine

**Saturday, August 18**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine morning, Wind from the SE in the after part of the day. A fine evening. Wind SE.

**Sunday, August 19**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fine morning. Wind from the SE.

**Ordway** pleasant, S wind

**Expedition is near present-day Sioux City, IA.**

**Monday, August 20**

**Weather Diary**

**Daily Narrative Journals**

**Clark** we Set our under a gentle breeze from the SE and proceeded on verry well— Sergt. Floyd [died]. Name Floyds River, the Bluffs Sergts. Floyds Bluff— Capt. Lewis read the funeral Service over him. Proceeded to the Mouth of a little river 30 yrd wide & Camped. a butifull evening.

**Gass** a fair wind and fine weather

**Ordway** pleasant, we Set of under a gentle Breeze from SE

**Whitehouse** we Set our eairly this morning under a gentle breeze from the SE. We continued sailing on very well 'till noon, when we landed to take dinner—

**Expedition now parallels the current day Nebraska - South Dakota state line until September 8.**

**Tuesday, August 21**

**Weather Diary**

**Daily Narrative Journals**

**Clark** we Set out verry early this morning...under a gentle Breeze from the SE. Camped.



Clouds appear to rise in the west & threaten wind.

**Ordway** we Set off eairly this morning under a hard Breeze from the S. we proceeded on verry well. ....the wind blew so hard that we were obliged to take a reefe in our Sail & the Sand blew So thick from the Sand bars that we could not see the channel far ahead & it filled the air before us about a mile.

**Whitehouse** we Set out eairly this morning under a hard stiff breeze from the South.

**Wednesday, August 22**

**Weather Diary**

**Daily Narrative Journals**

**Clark** set out early wind from the South. Sailed the greater part of this day with a hard wind from the SE great deel of Elk Sign, and a great appearance of wind from the NW. Is worth remark, that my Ink after Standing in the pot 3 or four days Soaks up & becons thick

**Ordway** the current verry Swift. The wind hard from the South we proceeded on under a fine Breeze from the South.

**Whitehouse** This morning we set out early, and found the current running very Strong against us, the Wind blowing hard from the South.

**Thursday, August 23**

**Weather Diary**

**Daily Narrative Journals**

**Clark** wind blew hard (I am obliged to make the next Corses Short on ackount) of the flying Sands which raise like a Cloud of Smoke from the Bars when the wind (rise) Blows, the Sand being fine and very light and containing a breat [great] perpotion of earth and when it lights it Sticks to every thing it touches. Such Clouds that we Could Scercely See. At this time the grass is white— and in the Plain for a half a mile the distance I was out every Spire of Grass was covered with the Sand or Dust.

**Gass** proceeded...with a fair wind. But the wind changed and we were obliged to halt for the present...at five in the evening we proceeded

**Ordway** the wind favourable from the South Buffelow But this was the first I ever Saw & as great a curioustiy to me. The wind blew So hard that it detained us the most of

the afternoon, the Sand blew So thick from the Sand Island that we could not see across the River for a long time, towards evening the wind abated & we proceeded

**Whitehouse** The wind blowing hard we Jerked out Meat & overhauled several articles on board the boat. Towards evening the wind died away, We Proceeded on 'till dark

## **Expedition passes present-day Vermillion, SD**

**Friday, August 24**

### Weather Diary

### Daily Narrative Journals

**Clark** Some rain last night & this morning. Those Bluffs appear to have been laterly on fire, and at this time is too hot for a man to bear his hand in the earth at any debth, gret appearance of Coal. All the after part of the day it rain. Verry wet, a Cloudey rainy night—

**Gass** This morning was cloudy with some rain.

**Ordway** Some Small Shower rain the latter part of last night. Rainy morning. We found also a burning bank or Bluff which was verry high & had fire in it. it had a Sulpheras Smell at the Same time we had a fine Shower of Rain which lasted abt. Half an hour

**Whitehouse** We had some small showers of rain last night

**Saturday, August 25**

### Weather Diary

### Daily Narrative Journals

**Clark** a Cloudy morning assended...the Mound which the Indians Call Mountain of little people or Spirits. We Concluded it was most probably the production of nature— The Surrounding Plains is open void of Timber and leavel to a great extent: hence the wind from whatever quarter it may blow, drives with unusial force over the naked Plains and against this hill; the insects of various kinds are thus involuntarily driven to the mound by the force of the wind. From the top of this Mound we behld a most butifull landscape. At two miles further up our Dog was So Heeted & fatigued we was obliged Send him back to the Creek. Capt. Lewis much fatigued from heat the day it being verry hot & he being in a debilitated state from the precautions he was

obliged to take to prevent the effect of the cobalt, & minl substance which had like to have poisoned him two days ago. Several of the men complaining of Great thirst, deturmined us to make for the first water. We returned to the boat at Sunset, my Servant nearly exosted with heat thurst and fatigue. We Set fire to the Praries in two Places to let the Sous know we were on the river. At 3 oClock Murcky. 86 abv. 0. We set the praries on fire as a signal for the Soues to come to the river. Verry dark...some rain this evening

**Gass** we set sail with a gentle breeze from the SE

**Ordway** a fair & pleasant morning.

### **Sunday, August 26**

#### **Weather Diary**

#### **Daily Narrative Journals**

**Clark** river wide. Misquetors bad to night.

### **Monday, August 27**

#### **Weather Diary**

#### **Daily Narrative Journals**

**Clark** This morning, the morning Star was observed to be very large...more than Common. We set out under a Gentle Breeze from the SE. Above this bluff we had the Prarie Set on fire to let the Souic See that we were on the river, & as a Signal for them to Come to it. Camped...the wind blew hard from the South. A Cool & Pleasant evening. The river has fallen verry Slowly and is now low.

**Ordway** we Set off at Sun rise under a gentle Breeze from the SE

**Whitehouse** We set out at sunrise under a gentle Breeze from the SE

**Tuesday, August 28**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            The wind blew hard last night. Set out under a Stiff Breeze from S. Several Sand bars the river here is wide & Shallow full of Sand bars— Wind blows hard this afternoon from the South.
- Gass**            The day was pleasant, and a fair wind from SE
- Ordway**        a pleasant morning we Set off eairly under a fine Breeze from SE at 2 oClock PM the wind Blew hard from Sw the large pearogue drove against the Shore on NS & hole got knocked in her So that it let the water in verry rapid they began to unload.
- Whitehouse**    Wet set off early this morning with a fine Breeze from the SE; and all Sails set. About 2 oClock PM the Wind blew hard from the SW.

**Wednesday, August 29**

**Weather Diary**

**Daily Narrative Journals**

- Clark**            rained last night and Some this morning. Verry cloudy
- Gass**            At 8 o'clock last night a storm of wind and rain came on from the N. west, and the rain continued the greater part of the night. The morning was cloudy with some thunder.
- Ordway**        a hard Storm arose from the NW of wind & rain about 8 oC last night rained considerable part of the Night. Cloudy morning. Some Thunder
- Whitehouse**    a hard Storm arose from the NW last night about 8 oClock PM with wind and rain, accompanied with Thunder lightning. Cloudy this morning, some Thunder.

**Thursday, August 30**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a Foggie morning. Wind hard from the South. I will here remark a Society which I had never before this day heard was in any nation of Indians— Those who become members of this Society must be brave active young men who take a Vow never to give back let the danger be what it may; in War Parties they always go forward without Screening themselves behind trees or any thing else to this Vow they Strictly adhere their Lives— an instanc which happened not long Since, on a party in Crossing the R Missourie on the ice, a whole was in the ice imediately in their Course which might easily have been avoided by going around, the foremost man went on and was lost (drowned), the others were caught by their party and draged around—

**Gass** A foggy morning, and heavy dew.

**Ordway** A foggy morning, a heavy dew last night. The fog remained on the River late this morning & So thick that we could not See the Indians camp on the opposite Shore— at about 8 oClock the fog went away.

**Whitehouse** the fog is So thick on the river this morning that we could not See across the river, untill late in the morning.

**Friday, August 31**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a fair Day— the evening...Soon after a violent Wind from the NW accompanied with rain. The rain continued the greater part of the night. The river a rising a little.

**Gass** A clear morning.

**Ordway** pleasant morning directly after a hard Strom arose of the wind and rain from the NW which lasted 2 hours. Rained considerable part of the night

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

# September 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

**Expedition camps just up-river from present-day Gavin Dam near future historical site of Fort Yankon along the border of Nebraska and South Dakota.**

**Saturday, September 1**

#### Weather Diary<sup>1,2</sup>

- 1 Reference: Coues, Volume III, pages 1267, 1284; Moulton, Volume 3, pages 130-132; Thwaites, Volume 6, Part II, page 175.
- 2 Weather observations which ceased entirely after July 23 begin again on September 19, as far as known records indicate, except for casual observations in Clark's daily narrative journals. (Moulton, 1986, 2: 433)

#### Daily Narrative Journals

- Clark** Set out under a gentle Breeze from the South (Raind half the last night), River rose 3 Inches last night. Some hard wind and rain, Cloudy all day— the river wide
- Gass** During last night we had hard wind and some rain, which continues to fall occasionally during the day—
- Ordway** we proceeded on under an unsteady Breeze from SW
- Whitehouse** the morning was rainy

**Sunday, September 2**

#### Weather Diary

#### Daily Narrative Journals

- Clark** The wind being hard a head from the NW. Verry Cold. Some rain all day much Thunder & lightning. Water riseing. At Sunset the [wind] lulled and cleared up Cold—
- Gass** At 1 o'clock last night we had hard thunder, lightning and rain, which continued about two hours. About twelve (noon), the wind blew so hard down the river, that

we could not proceed, and we landed on the north side it was cloudy and rained till 4 when it cleared up.

**Ordway** a hard Storm arose the latter part of last night ½ past 1 oC of wind & rain from NW which lasted abt. 2 hours. Cloudy this morning we Set off eairly. Sailed a Short distance with a SE wind & in less than 2 hours the wind Shifted in to the NW which blew hard a head The wind shifted into the North & Blew So heard that we were obliged to lay by at a high Bluff The weather is Cool & rainy to day

**Whitehouse** Last night we had a hard Storm of Wind, accompanied with Rain which was very heavy. It lasted for near 2 hours. Cloudy this morning.

### Monday, September 3

#### Weather Diary

#### Daily Narrative Journals

**Clark** Set out at Sun rise, verry Cold morning clear and but little wind from the NW. The river wide and riseing a little. Scercely any timber in Countrey except a little on the river.

**Ordway** a Cool & pleasant morning we Set off at Sun rise, the wind blew from the west a swift current

**Whitehouse** cool and pleasant this morning.

### Tuesday, September 4

#### Weather Diary

#### Daily Narrative Journals

**Clark** a verry Cold wind from the SSE.

**Ordway** the wind Shifted to the South & blew verry hard we hoisted Sail ran verry fast a Short time. Broke our mast, we [the] sand flew from the Sand bars verry thick the water shoots in to the Missiouri verry Swift, & has thrown the Sand out, which makes a Sand bar & Sholes from the mouth a considerable distance

**Whitehouse** the wind blowing fresh, we set all our Sails & proceeded on Sailing fast,

**Wednesday, September 5**

**Weather Diary**

**Daily Narrative Journals**

**Clark** set our early, the wind blew hard from the South Sailed.  
**Gass** We set sail early this morning with a fair wind, and had a clear day.  
**Ordway** the wind Blew hard from the South  
**Whitehouse** we Sailed on

**Thursday, September 6**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a Storm this morning from the NW at day light which lasted a few minites, Set out after the Storm was over and proceeded on a hard wind from the NW a head. The morning and day verry Cold. The river rising a little.  
**Gass** We set out early and had cloudy morning. About 9 o'clock it began to rain and we had strong wind ahead.  
**Ordway** a cloudy morning the wind from the NW the current Swift & Shallow  
**Whitehouse** cloudy weather this morning

**Friday, September 7**

**Weather Diary**

**Daily Narrative Journals**

**Clark** a verry Cold morning. Wind SE.  
**Gass** had a clear day  
**Ordway** a fair, cool morning the wind from NW  
**Whitehouse** a clear morning



**Expedition enters solely into present-day South Dakota and leaves the north central border of Nebraska.**

**Saturday, September 8**

**Weather Diary**

**Daily Narrative Journals**

**Lewis**            the evening was cloudy, which prevented my taking the altitude of any fixed star.

**Clark**            Set out early and proceeded on under a Gentle breese from the SE. Hill on the SS recently burnt—

**Gass**            had a clear day and fair wind from the SE

**Ordway**        a pleasant morning. The wind from the SE we proceeded on under a gentle breeze Capt. Clark....travelled over a riged and mountanious Country without water & rising 5 or 600 feet, where these hills had been lately burned over by the natives—

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

**Sunday, September 9**

**Weather Diary**

**Daily Narrative Journals**

**Clark**            a fair Day wind from the SE. The river shallow

**Monday, September 10**

**Weather Diary**

**Daily Narrative Journals**

**Clark**            a Cloudy dark morning. Set out early under a Gentle Breeze from the SE. The river very Shallow and falling. We proceeded on under a Stiff Breeze.

**Gass**            We had a foggy morning, but move on early

**Ordway** a foggy morning we Sailed on verry well

**Whitehouse** a foggy morning

## **Tuesday, September 11**

### **Weather Diary**

### **Daily Narrative Journals**

**Clark** at Dark in a heavy Shower of rain, it Continued to rain the greater part of the night, with a hard wind from the NW Cold— a Cloudy morning. The river is verry Shallow & wide. At 12 oClock it became Cloudy and rained hard all the after noon, & most of the night, with a hard wind from the NW.

**Gass** We set sail before day light with a fair wind at 1 o'clock it began to rain And we continued our voyage, until night, though it rained very hard

**Ordway** Sailed on The boat sailed on Rained so hard my gun got wet loading

**Whitehouse** We set out this morning at an early hour, with a fair wind & clear pleasant weather; and proceeded sailing on. We proceeded on & it began to rain very hard, The Rain continued untill 7 oClock in the evening.

## **Wednesday, September 12**

### **Weather Diary**

### **Daily Narrative Journals**

**Clark** a Dark Cloudy Day the wind hard from the NW. The water Swift and Shallow, it took 3/4 of the day to make one mile. Rains a little all day.

**Gass** had a cloudy day the boat had much difficulty in passing on account of the sand bars and strong current

**Ordway** the wind shifted Since last night in to the North. The current swift & wind a head. We had some difficulty owing to the river being Shallow.

**Whitehouse** Clouday. The current running, so rapid against us

## **Thursday, September 13**

## Weather Diary

### Daily Narrative Journals

- Clark** A Dark Drizzley Day. The winds from the NW. Verry Cold morning and day. Rains. Water is verry Shallow being Crouded with Sand Bars. Musquitors verry bad, wors than I have Seen them, qts [quantities] of mud wash into the rivr from a Small rain.
- Gass** the morning was cloudy with some rain and wind ahead
- Whitehouse** cloudy and had rain . High wind.

**Friday, September 14**

## Weather Diary

### Daily Narrative Journals

- Clark** water wide & Shallow. Some drizzely rain in the forepart of this day. Cloudy & Disagreeable and Som hard heavy Showers. All wett. The rain Continued the Greater part of the day. The Soil of those Plains washes down into the flats, with the Smallest rain & disolves & mixes with the water...what mud washed into the river within those few days has made it verry muddy. A rainy evening and night. In My ramble I observed, that all those parts of the hills which was Clear of Grass easily disolved and washed into the river and bottoms, and those hils under which the river run, Sliped into it and disolves and mixes with water of the river, the bottoms of the river was covered with the water and mud frome the hills about three Inches deep—those bottoms under the hils which is Covered with Grass also [receives?] a great quantity of mud.
- Gass** We proceeded as yesterday, and with the same kind of weather. Had considerable difficulty in getting along, on account of the shallowness of the river
- Ordway** a foggy morning. Cloudy. The water shallow. Some Rain.
- Whitehouse** a great foggy morning, a cloudy day, some rain. Water is So Shallow that we had to waid

**September 15 through 17 the party was camped near Chamberlain, SD.**

**Saturday, September 15**

**Weather Diary**

**Daily Narrative Journals**

**Clark** the White River...is 400 yds wide....Current regularly Swift, much resembling the Missouri. Camped...This creek [American Crow Creek] raised 14 feet last rain. This evening is very Cold. Great many wolves of different Sorts howling about us. The wind is hard from the NW this evening.

**Gass** A cloudy morning. Passed White River...the current and colour of the water are much like those of the Missouri

**Ordway** hard rain the greater part of last night. We proceeded on till night with a head wind.

**Whitehouse** the weather cloudy this morning.

**Sunday, September 16**

**Weather Diary**

**Daily Narrative Journals**

**Clark** we concluded to ly by at this place the ballance of this day and the next, in order to dry our baggage which was wet by the heavy showers of rain which had fallen within the last three days. The clouds during this day and night prevented my making any observations. These extensive planes had been lately birnt and the grass spring up and was about three inches high. Cloudy all day.

**Ordway** Cool & Clear we Camped on SS in a handsome bottom of thin Timbered land, lately burned over by the natives, it had grown up again with Green Grass which looked beautiful.

**Monday, September 17**

**Weather Diary**

**Daily Narrative Journals**

**Lewis** to amuse myself on shore with my gun and view the interior of the country...the shortness and virdue [verdure] of grass gave the plain the appearance throughout it's

whole extent of beautiful bowling green in fine order. The surrounding country had been burnt about a month before and young grass had now sprung up to height of 4 inches presenting the live green of the spring. This scenery already rich pleasing and beautiful, was still further heightened by immense herds of Buffalo deer Elk and Antelopes...I do not think I exaggerate when I estimate the number of Buffalo which could be compressed at one view to amount to 3000....drank of the water of a small pool which had collected on this plain from the rains which had fallen some days before.

**Clark** Dried all those articles which had got wet by the last rain. A fine day. Wind from the SW.

**Gass** As the weather was fair we remained here during the day.

**Ordway** a pleasant day

## **Tuesday, September 18**

### **Weather Diary**

### **Daily Narrative Journals**

**Lewis** this day saw the first brant on their return from the north—

**Clark** wind from the NW Modrt. The wind a head proceed very Slowly. A Cole night for the Season. Before night the wind being very hard & a head all day.

**Gass** the day was clear and pleasant

**Ordway** a fair morning We camped on the South Side in a small grove of Timbers, 2 hours earlier than usual the wind being a head,

**Whitehouse** Clear & pleasant weather this morning

## **Expedition begins long trip around the Big Bend (known also as the Grand De Tour) of the Missouri in central South Dakota.**

## **Wednesday, September 19**

### **Weather Diary**<sup>3</sup>

the leaves of some of the cottonwood begin to fade. Yesterday saw the first Brant passing from the NW to SE—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SE	71a	f	SE	-	-	-

3 Both Captains resume observations in the Weather Diary including two daily weather temperature, state of weather and wind direction readings. Neither recorded any information about the rise and fall of the river during the month. No explanation has ever been found from the Captains as to the absence of data from July 23, 1804 for remarks and more striking, from May 14, 1804 for weather observation data. For additional remarks see Moulton (1987, 3: 132).

### Daily Narrative Journals

**Clark** a Cool morning clear & Still. The wind from the SE. The wind being favourable for the boat all day. Here Commences a Butifull Countrey on both Sides of the Missourie. A fine evening.

**Ordway** a pleasant morning we proceeded on under a fine Sailing Breeze from ESE

**Whitehouse** fine clear weather this morning

### Thursday, September 20

#### Weather Diary

the antelope is now ruting, the swallow has disappeared 12 days

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f	SE	70a	f	SE	-	-	-

### Daily Narrative Journals

**Clark** a fair morning wind from the SE

**Gass** had a clear day and fair wind. From these and others of the same kind, the Missouri gets its muddy colour. The earth of which they are composed dissolves like sugar; every rain washes down great quantities of it, and the rapidity of the stream keeps it mixing and afloat in the water

**Ordway** a fair morning proceeded on under a gentle Breeze from the E the current swift the moon Shined pleasant all night—

**Whitehouse** fine weather a clear day & fair wind. These bluffs were of a black Colour; from those and others of the same kind, it is supposed that the Water of the Mesouri river, derives its muddy colour; the black Mud lying on those black bluffs, melting like Snow at every Rain. At 10 oClock PM the Bank of the River on the side we were encamped began to fall in, It fell in so fast

**Friday, September 21**

**Weather Diary**

Antilopes rutting, as are the Elk, the Buffaloe is nearly ceased—the latter commence the latter end of July or first of August

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	88a	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** the river here is wide nearly a mile in width— we observe an emence number of Plover of Different kind Collecting and takeing their flight Southerly, also Brants which appear to move in the same Direction. This day is worm, the wind which is not hard blows from the SE.

**Ordway** a clear & pleasant morning

**Whitehouse** fine pleasant weather a clear day.

**Saturday, September 22**

**Weather Diary**

a little foggy this morning, a great number of green leged plove passing down the river, also some geese & brant—

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

**Daily Narrative Journals**

- Clark**            a Thick fog this morning untill 7 oClock which detained us.
- Gass**            We embarked early in a foggy morning
- Ordway**        a foggy morning.
- Whitehouse**    This morning we sett out early, having some fog, about 8 oClock AM the fog clear away

**Sunday, September 23**

**Weather Diary**

aire remarkably dry-plumbs & grapes fully ripe— in 36 hours two Spoonfuls of water aveporated in a sauser

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SE	86	f	SE	-	-	-

**Daily Narrative Journals**

- Clark**            Days & nights equal. Set out early under a gentle Breeze from the SE. We observed a great Smoke to the SW which is an Indian Signal of their haveing discovered us.
- Ordway**        a fair pleasant morning    the wind favourable from SE
- Whitehouse**    fine clear weather

**Expedition passes the location of the present-day State Capitol of South Dakota, Pierre.**



Monday, September 24

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	E	82	f	W	-	-	-

Daily Narrative Journals

**Clark** a fair morning and day. Set out early, wind from the East. The wind from the SE— Teton river [Bad River] is 70 yards wide at the mouth...has a considerable Current.

**Gass** We set sail early with fair weather

**Ordway** a Clear and pleasant morning. Proceeded on under a gentle breeze from SE

Tuesday, September 25

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50	f	SW	79	f	W	-	-	-

Daily Narrative Journals

**Clark** a fair morning the wind from the SE.

**Ordway** A clear and pleasant morning.

Wednesday, September 26

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54	f	W	78	f	SW	-	-	-

Daily Narrative Journals

**Clark** all in Spirits this evening wind hard from the SE.

**Ordway** a clear and pleasant morning

Thursday, September 27

Weather Diary

Saw a large flock of white Gulls with wings tipped with black

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52	f	W	86	f	SW	-	-	-

Daily Narrative Journals

**Ordway** a clear and pleasant morning

Friday, September 28

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45	f	SE	80	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** proceeded on under a Breeze from the SE.

**Gass** we went off under a gentle breeze of wind.

**Ordway** A clear and pleasant morning. ...we then Set off under a gentle Breeze which happened to be favourable.

**Whitehouse** We then set out with a fair fine breese of Wind

**Saturday, September 29**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	f	SE	67	f	SE	-	-	-

**Daily Narrative Journals**

**Gass** had fair weather

**Ordway** the weather fair

**Whitehouse** We set off early this morning, fine clear weather

**Sunday, September 30**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	c a r	SE	52	c a r	SE	-	-	-

### Daily Narrative Journals

- Clark** between 7 & 9 oClock we proceeded on under a Double reafed Sail, & Some rain. Some rain & hard wind at about 10 oClock. We proceeded on under a verry Stiff Breeze from the SE, the Stern of the boat got fast on a log and the boat turned & was verry near filling before we got her righted, the waves being verry high, The Chief on board was So fritined at the motion of the boat which in its rocking caused Several loose articles to fall...he rain off and hid himself This day is cloudy & rainy— verry Cold & wind— a verrey Cold evening.
- Gass** a cloudy morning. The wind was fair and we made 9 miles by 10 o'clock. We halted and spoke to them and then went on under a fine breeze of wind. A short time before night, the waves ran very high and the boat rocked a great deal, which so alarmed our old chief, that he would not go any further.
- Ordway** we set off eairly under a fine Breeze of wind from the E. The weather being cool, cloudy a mist of rain our officers gave each man of the part a draghm. We hoisted our Sails & Salied.... The barge....she Swang round in the stream the wind being So had from E that caused the waves to run high the Boat got in the trough & She rocked verry much before we could git hir Strait we hoisted Sail and cam Strait. Sailed verry fast.
- Whitehouse** a cloudy morning. We proceeded on with a favourable breeze of Wind, towards evening, the Waves rain very high and out boat Rocked exceedingly—

# October 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is in north central South Dakota between present-day Chamberlain and Mobridge.

Monday, October 1

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

the leaves of the ash popular & most of the shrubs begin to turn yellow and decline

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	c	SE	46	c	SE	-	-	-

<sup>1</sup> Reference: Coues, Volume III, pages 1267-68, 1284-85; Moulton, Volume 3, pages 220-223; Thwaites, Volume 6, Part II, pages 176-177.

#### Daily Narrative Journals

**Clark** the wind blew hard from the SE all last night, verry Cold. Set out early, the wind Still hard. The Current jentle river still verry wide and falling a little. The wind So hard we Came to & Stayed 3 hours after it Slackened a little we proceeded on round a bend, the wind in the after part of the day a head. Continued on with the wind imediately a head. Verry windy & Cold—

**Gass** the morning was cloudy but the wind fair and we sailed rapidly. The sand bars are so numerous, that we had great difficulty to get along.

**Ordway** we Set of as usal under a hard Breeze from E Sailed on verry well past an island the wind Blew so hard that it was difficult to find the channel hoisted Sail at 2 oC where the wind came a head.

**Whitehouse** a cloudy morning. Fare wind. Hoisted all sail and made great headway. Sailed on rapidly

Tuesday, October 2

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
39	f	SE	75	c	NW <sup>2</sup>	-	-	-

2 Clark's Journal Codex C lists this wind direction as "N."

Daily Narrative Journals

**Clark** a Violent wind all night from the SE. Slackened a little we proceeded on. Some black clouds flying. The mid day very warm. The after part of this day is pleasant then very windy and Cold. The wind changed to the NW & rose very high and hard and Cold from the NW Continud. Cold, the current of the river less rapid as below the Chien, & retains less Sediment than below.

**Gass** we set sail before day light

**Ordway** the wind Shifted to NW

Wednesday, October 3

Weather Diary

the earth and sand which form the bars of the river are so fully impregnated with salt that it shoots and adheres to the little sticks which appear on the surface it is pleasant & seems nitrous

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	c	NW	45	c a r & f	NW <sup>3</sup>	-	-	-

3 Clark's Journal Codex C lists this wind direction as "N."

Daily Narrative Journals

**Clark** the NW wind blew very hard all night with Some rain. A Cold morning. Some rain this after noon— saw Brant & white flocks flying Southerly in large flocks—

**Gass** The morning was cloudy, and some rain fell. About 12 o'clock the wind began to blow so hard down stream, that we were unable to proceed, and we halted under

some high bluffs, At 3 we continued our voyage.

**Ordway** the wind raised at 1 oClock last night & blew hard from NW & continues to blow this morning. So that it detained us untill 1./2 past 7 oClock. Cloudy. Some Thunder last night. A little rain this morning. The wind so hard a head that we halted about noon at a black Bluff SS. Delayed about 3 hours & proceeded on 3 miles found we had the rong channel the water shallow

**Whitehouse** This morning it was cloudy, attended with some Rain. We sett of at half past 7 oClock and proceeded on, the Wind blowing hard down the River from the West; we came too at 9 oClock AM and lay by 'till 3 oClock PM.

**Thursday, October 4**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38	c a r	NW	50	c	NW	-	-	-

**Daily Narrative Journals**

**Clark** the Wind blew all night from the SW, Some rain. Set out, the wind hard a head. The day verry Cool. The evening verry Cold and wood Scerce, make use of the Drift wood.

**Gass** the water was so shallow and sand bars so numerous.

**Friday, October 5**

**Weather Diary**

slight white frost last night— brant & geese passing to South

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36	f	NW	54	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** frost this morning. the evening is calm and pleasant. River about the Same width, the Sand bars as nomenclature, the earth Black and many of the Bluffs have the appearance of being on fire.

**Gass** This morning there was a white frost; the day clear and pleasant.

**Ordway** a white frost this morning. Clear & Cool.

**Whitehouse** Some whight frost last night. The day clear and pleasant.

**Saturday, October 6**

**Weather Diary**

frost as last night— saw teal, mallard, & Gulls large.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43	f	NW	60	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a cool morning, Cold Wind from the North.

**Gass** had a clear day.

**Whitehouse** clear pleasant weather this morning

**Sunday, October 7**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45	c	SE	58	f	SE	-	-	-



**Daily Narrative Journals**

**Clark** a Cloudy morning. Some little rain frost last night. We proceeded on under a gentle Breeze from the SW before 10 oClock AM. Wind hard from the South, a fine evening.

**Gass** had a clear day. Came to the Cerwercerna (Moreau) River about 90 yards wide. It is not so sandy as the Missouri, and the water is clear with a deep channel.

**Ordway** a clear and pleasant morning a Small Shower of rain The wind more from the S Sailed on

**Whitehouse** clear weather this day

**Expedition passes present-day Mobridge, SD.**

**Monday, October 8**

**Weather Diary**

arrived at Recare vilage,

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	f	NW	62	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a cool Morning, wind from the NW.

**Gass** The morning was pleasant The river here is very shallow and full of sand bars.

**Ordway** a pleasant morning the wind from the North.

**Whitehouse** pleasant weather this morning

**Tuesday, October 9**

**Weather Diary**

wind blew hard this morning drove the boat from her anker, came to Shore, some brant & geese passing to the south, {spoke to them recares }

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45	c	NE	50	c a r	N	-	-	-

**Daily Narrative Journals**

**Clark** A windey rainy night, and cold, Some rain, and the [wind] Continued So high & cold So much So we Could not Speek with the Indians to day. The day continued Cold and windey Some rain. The wind verry high. I observed Canoos...cross the river at the time the waves were as high as I ever Saw them in the Missouri— This evening very cold &c &c

**Gass** The day was stormy, and we remained here

**Ordway** blustering cold wind this morning. Some Showers of rain. Some chiefs & other Indians came to See us; but it being So cold & windy that they did not assemble for counsel.

**Whitehouse** This day we had Stormy weather, we lay by. A Stormy day.

**Wednesday, October 10**

**Weather Diary**

had the mill erected shewed the savages its operation, spoke to them shot my airgun. The men traded some articles for robes, the savages much pleased, the French chief lost his presents by his canoe overseting

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42	f a r	NW	67	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine forming wind from the SE. at 11 oClock the wind Shifted to NW

**Ordway** a pleasant morning

### Thursday, October 11

#### Weather Diary

no fog or dew this morning nor have we seen either for many days since the 21<sup>st</sup> of Sepr.---  
received the answer at the 1<sup>st</sup> Chief, set out

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43	f	NW	59	f	NW	-	-	-

#### Daily Narrative Journals

**Clark** a fine morning the wind from the SE. all Tranquillity—

**Gass** A clear day.

**Ordway** a clear and pleasant morning the wind from the NW

### Friday, October 12

#### Weather Diary

set out at 2 in the evening

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42	f	S	65	f	SE	-	-	-

#### Daily Narrative Journals

**Clark** the evening Clear & pleasant Cooler

**Gass** We had a pleasant morning  
**Ordway** a clear and pleasant morning  
**Whitehouse** this morning we had pleasant weather

**Saturday, October 13**

**Weather Diary**

cottonwood all yellow and the leaves begin to fall, abundance of grapes and red burries—

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

**Daily Narrative Journals**

**Clark** a fine Breez from SE. Camped. Cold & Some rain this evening. The river narrow current jentle  
**Gass** had a cloudy day  
**Ordway** Cloudy about 12 oClock it rained Some.  
**Whitehouse** we Set off eairly clouday, about 12 oClock it rained some.

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

**Sunday, October 14**

**Weather Diary**

the leaves of all the trees as ash, elm &c except the cottonwood is now fallen—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42	r	SE	40	r	SE	-	-	-

**Daily Narrative Journals**

**Clark** Some rain last night all wet & Cold, we Set our early the rain contind all day. The wind a head from NW. The evening wet and disagreeable. The river Something wider more timber on the banks

**Gass** We had a cloudy morning and some rain. It rained slowly during the whole of the day.

**Ordway** Cloudy & rain. It rained slowly the greater part of the Day.

**Whitehouse** Cloudy. Some rain. It continued raining all this day

**Monday, October 15**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46	r	N	57	f a r	NW	-	-	-

**Daily Narrative Journals**

**Clark** Rained all last night. The evening was pleasent, wind from the NE.

**Gass** It rained all last night, and we set out early in a cloudy morning.

**Ordway** Some rain last night. Cloudy morning.

**Whitehouse** rained all last night.

**Tuesday, October 16**

**Weather Diary**

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

45	c	NE	50	f	NE	-	-	-
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**Daily Narrative Journals**

**Clark**            Some rain this morning. Wind hard a ahead from the NW.

**Gass**            had a clear morning.

**Ordway**        a clear and pleasant morning we proceeded on under a gentle breeze from the SW

**Wednesday, October 17**

**Weather Diary**

saw a large flock of White geese with Black wings, Antilopes are passing to the black hills to winter, as is their custom

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47	f	NW	54	f	NW	-	-	-

**Daily Narrative Journals**

**Clark**            a fine morning the wind from the NW. The wind rose So high that the Boat lay too all Day. The leaves are falling fast— the river wide and full of Sand bars—

**Gass**            had a clear morning. At half past ten the wind blew so hard down the river that we were obliged to halt.

**Ordway**        the weather clear. The wind from NW towards evening the wind abated So that we proceeded on untill some time after dark before we found a good place to camp.

**Whitehouse**    the Wind blowing hard against us at West, so that it occasion'd our getting on slowly, part of the day. The River running strong against us

**Thursday, October 18**

**Weather Diary**

hard frost last night, the clay near the water edge was frozen, as was the water in the vessels exposed to the air.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30	f	NW	68	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine Day

**Gass** We had a clear pleasant morning with some frost.

**Ordway** a clear and pleasant morning white frost & forst Some last night.

**Friday, October 19**

**Weather Diary**

no Mule deer seen above the dog river none at the recares

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43	f	SE	62	f	S	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. Set out early under a gentle Breeze from the SE. All the Streems falling from the Hills or high lands So brackish that the water Can't be Drank. This day is pleasent.

**Gass** Early this morning we renewed our voyage, having a clear day and a fair wind

**Ordway** a clear and pleasant morning a gentle breeze from the South

**Whitehouse** This morning being clear, we sent our Hunters out, and proceeded on our Voyage with a fair wind;

**October 20 and 21 they pass the location of the present-day State Capitol of North Dakota, Bismarck.**

**Saturday, October 20**

**Weather Diary**

much more timber than usual— Saw the first black haws that we have seen for a long time—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44	f	NW	48	f	N	-	-	-

**Daily Narrative Journals**

**Clark** Set our early this morning and proceeded on, the wind from the SE. The wind hard all Day from the N.E. & East

**Gass** We were early under way this morning, which was very pleasant.

**Ordway** a pleasant morning

**Whitehouse** this morning, having pleasant weather

**Sunday, October 21**

**Weather Diary**

the snow ½ inch deep (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31	s	NW	34	s	NW	-	-	-



**Daily Narrative Journals**

- Clark** a verry Cold night. Wind hard from the NE. Some rain in the night which freesed as it fell, at Day light it began to Snow and Continud all the fore part of the day. A Cloudy afternoon. Camped. verry Cold ground Covered with Snow.
- Gass** We had a disagreeable night of sleet and hail. It snowed during the forenoon, but we proceeded early on our voyage
- Ordway** Some frozen rain last night Snow this morning. The wind from NE the current swift. Snowed Slowly untill 12 oClock. A cool and chilley day.
- Whitehouse** Last night we had rainy disagreeable Weather, We set out early this morning, Shortly after we had some Snow,

**Monday, October 22**

**Weather Diary**

the snow 1/2 inch deep. (Lewis)

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

**Daily Narrative Journals**

- Clark** we Set out early, the morning Cold
- Gass** Some snow fell last night, and the morning was cloudy and cold. At 9 we saw 11 Mandans, who, notwithstanding the coldness of the weather, had not an article of clothing except their breechclouts. At 10 o'clock the day became clear and pleasant.
- Ordway** Some Snow last night. We set off eairly Cloudy & cool this morning.
- Whitehouse** This morning was Cold & Cloudy, at One oClock PM the weather cleared off and became pleasant.

Tuesday, October 23

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32	s	NW	45	c	NE	-	-	-

Daily Narrative Journals

**Clark** a cloudy morning Some Snow. Camped. Cold & Cloudy.

**Gass** Some snow again fell last night, and the morning was cloudy. At 8 it began to snow, and continued snowing to 11, when it ceased.

**Ordway** a little Snow last night A cloudy morning

**Whitehouse** about 8 oClock (AM) it began to snow

Wednesday, October 24

Weather Diary

arrived at a mandane hunting camp visited the lodge of the chief

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
33	s a f	NW	51	c a s	NW	-	-	-

Daily Narrative Journals

**Clark** a Cloudy day. Some little Snow in the morning.

**Gass** We set out early in a cloudy morning. At 9 it began to rain and continued to rain for an hour.

**Whitehouse** This morning was Cloudy, we set off early as usual. At 9 oClock AM it began to rain

Party arrived in the vicinity of where they believe they should stay during the winter, in present-day North Dakota west of the present-day town of Washburn. After traveling up river through October 30 looking for a suitable location for winter quarters, they return down river a few miles, where they commenced building Fort Mandan.

Thursday, October 25

Weather Diary

this evening passed a rapid and sholde place in the river were obliged to get out and dragthe boat— all the leaves of the trees have now fallen— the snow did not lye.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31	c	SE	50	c	SE	-	-	-

Daily Narrative Journals

**Clark** a Cold morning. Set our early under a gentle Breeze from the SE by E. Wind Shifted to the SW at about 11 oClock and blew hard untill 3 OCK. Clouded up. The wind blew verry hard this evening from the SW. Verry Cold.

**Gass** The morning was pleasant, and we set sail early with a fair wind.

**Ordway** a clear morning. We Set off eairly under a fine breeze from the S. Sailed on

**Whitehouse** a fair wind & pleasant weather this morning

Friday, October 26

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42	f	SE	57	f	SE	-	-	-

**Daily Narrative Journals**

**Clark** wind from the SE.  
**Gass** had a clear morning.  
**Ordway** a clear morning  
**Whitehouse** This morning we had clear & pleasant Weather

**Saturday, October 27**

**Weather Diary**

camp for the purpose of speaking to the five villages....at the place we intended to fix our camp

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
39	f	SW	58	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** a fine worm Day  
**Gass** The morning was clear and pleasant  
**Ordway** a clear and pleasant morning  
**Whitehouse** We had pleasant weather, and we set out early, and proceeded on our Voyage.

**Sunday, October 28**

**Weather Diary**

wind so heard that we could not go into council

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

**Daily Narrative Journals**

- Clark** a windey Day, fair and Clear. The wind So violently hard from the SW we could not meet the Indians in Council
- Gass** The day was clear, and we remained here; but could not sit in council, the wind blew so violent.
- Ordway** a clear morning. The blew verry high from the NW
- Whitehouse** This morning, we had fine clear weather, which continued the whole day, the wind commenced blowing and blew so hard, that we could not sit in Council with the Savages

**Monday, October 29**

**Weather Diary**

we Spoke to the Indians in council— tho’ the wind was so hard it was extreemly disagreeable. The sand was blown on us in clouds—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32	f	SW	59	f	SW	-	-	-

**Daily Narrative Journals**

- Clark** A fair fine morning. At 10 oClock the SW wind rose verry high— this evening...The Prarie was Set on fire (or Cought by accident) by a young man of the Mandins, the fire went with Such velocity that it burnt to death a man and woman, who Could not Get to an place of Safty, one man a woman & Child much burnt and Several narrowly escaped the flame— This fire passed our Camp last about 8 oClock PM it went with great rapidity and looked Tremendious
- Gass** We had again a clear day
- Ordway** a clear and pleasant morning
- Whitehouse** This morning we had fine clear weather.

**Tuesday, October 30**

**Weather Diary**

Capt. Clark visited the island above to look out a place for winter encampment, but did not succeed

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32	f	SW	52	f	SW	-	-	-

**Daily Narrative Journals**

**Clark** in the evening...the Wind SE.

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

**Ordway** a clear and pleasant morning

**Whitehouse** This day we had clear & pleasant weather,

**Wednesday, October 31**

**Weather Diary**

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

**Daily Narrative Journals**

**Lewis** The river being very low and the season so far advanced that it frequently shuts up with ice in this climate we determined to spend the Winter in this neighbourhood.

**Clark** a fine morning. The wind blew hard all the after part of the day from the NE and Continued all night to blow hard from that point, in the morning it Shifted NW.

**Gass** A pleasant morning.

**Ordway** a clear and pleasant morning. The wind Blew high from the South

**Whitehouse** This morning we had fine pleasant Weather,

# November 1804

## Lewis and Clark Expedition

### Weather Diary & Daily Narrative Journals

The Expedition is in the vicinity of the Mandan Villages west of present-day Washburn, North Dakota in search of a location to build their winter camp.

Thursday, November 1

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

the winds blue so heard this day that we could not descend the river until after 5 PM when we left our

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31	f	NW	47	f	NW	-	-	-

<sup>1</sup> Reference: Coues, Volume III, pages 1268-69, 1285; Moulton, Volume 3, pages 247-250; Thwaites, Volume 6, Part II, pages 178-179.

#### Daily Narrative Journals

**Lewis** The wind blew so violently during the greater part of this day that we were unable to quit our encampment; in the evening it abated.

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

**Ordway** a clear & [illegible] morning the wind high from the NW, cool the wind abated. But the River So Shallow that we Struck the Sand bars.

**Whitehouse** This morning the wind blew So fresh and hard from the South that we Could not set off at the time appointed. At 3 oClock we set of,

The Expedition established Fort Mandan on November 2, 1804 and remain here in winter quarters until they leave on April 7, 1805.



**Friday, November 2**

**Weather Diary**

the boat dropped down to our winter station & formed a camp

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

**Daily Narrative Journals**

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

**Ordway** a cloudy morning

**Whitehouse** This morning we began to build the Fort, having pleasant weather for 14 days

**Saturday, November 3**

**Weather Diary**

wind blew hard all day (Lewis) wind hard this evening (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32	f	NW	53	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning wind hard from the west.

**Gass** A clear day

**Ordway** a clear and pleasant morning

**Whitehouse** Pleasant

**Sunday, November 4**

**Weather Diary**

wind hard this evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31	f	NW	43	c	W	-	-	-

**Daily Narrative Journals**

**Clark** a fine morning. The wind rose this evening from the East & Clouded up—

**Ordway** cold last night & white frost this morning. Clear and pleasant.

**Whitehouse** Pleasant

**Monday, November 5**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30	c	NW	58	c	NW	-	-	-

**Daily Narrative Journals**

**Clark** the Greater part of this day Cloudy, wind moderate from the NW.

**Ordway** a clear and pleasant morning

**Whitehouse** Pleasant

**Tuesday, November 6**

**Weather Diary**

some little hail about noon—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31	c	SW	43	c	W	-	-	-

**Daily Narrative Journals**

**Clark** last night late we wer awoke by Sergeant of the Guard to See a northern light, which was light, (but) not red, and appeared to Darken and Some times nearly obscured (about 20 degrees above horizon — various Shapes), and open, many times appeared in light Streeks, and at other times a great Space light & containing floating Collomns which appeared to approach each other & retreat leaveing the lighter space at no time of the Same appearence. This morning I rose at Day light the Clouds to the North appeared black. At 8 oClock the [wind] begun to blow hard from the NW and Cold, and Continud all Day.

**Ordway** it was uncommon light in the north the Greater part of last night. A clear morning. About 9 oC it clouded up cold look likely for Snow

**Whitehouse** Pleasant

**Wednesday, November 7**

**Weather Diary**

a few drops of rain this evening— saw the arrora. borialis at 10 PM it was very brilliant in perpendiculer collumns frequently changing position—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43	c	s	62	c	S	-	-	-

**Daily Narrative Journals**

**Clark** a temperate day. Cloudy and fogging all day

**Ordway** a Cloudy morning.

**Whitehouse** Pleasant

**Thursday, November 8**

**Weather Diary**

Since we have been at our present station the River has fallen about nine inches

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38	c	S	39	c	W	-	-	-

**Daily Narrative Journals**

**Clark** a Cloudy morning

**Ordway** Cloudy

**Whitehouse** Pleasant

**Friday, November 9**

**Weather Diary**

very head frost this morning—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
27	f	NW	43	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a very hard frost this morning. Day Cloudy wind from the NW. Great number of wild gees pass to the South, flew very high

**Ordway** a hard white frost last night. a clear and pleasant morning

Whitehouse Pleasant

Saturday, November 10

Weather Diary

many gees passing to the South— saw a flock of the crested cherry birds passing to the south

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

Daily Narrative Journals

**Clark** the Day raw and Cold wind from the NW. the Gees Continue to pass in gangues as also brant to the South. Some Ducks also pass.

**Ordway** Cloudy & cold.

**Whitehouse** Pleasant

Sunday, November 11

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	NW	60	f	NW	-	-	-

Daily Narrative Journals

**Clark** a Cold Day. The large Ducks pass to the South.

**Ordway** a clear and pleasant morning

**Whitehouse** Pleasant

Monday, November 12

Weather Diary

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

Daily Narrative Journals

**Clark** a verry Cold night. Wind Changeable verry cold evening, freeing all day. Some ice on the edges of the river. Swans passing to the South.

**Ordway** Clear & cold this morning. A verry hard frost. froze some last night.

**Whitehouse** Pleasant

Tuesday, November 13

Weather Diary

large quantity of drift ice running this morning the river has every appearance of closing for the winter

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18	s	SE	28	c a s	SE	F	1	1/2

<sup>2</sup> “Lewis here resumes noting the fall and rise of the river, which was only possible while they remained in one place during the day.” (Moulton, 1987, 3: 250) However, later as they resumed their journey they would take river observations but not for a 24-hour period. While at Fort Mandan, the river observations were taken at sunrise for a 24-hour period.

Daily Narrative Journals

**Clark** The Ice began to run in the river ½ past 10 oClock PM. Snowed all day, the Ice ran thick and air Cold.

**Ordway** Snowey morning the Ice run considerable fast in the river. The Ice running against their legs. Their close frooze on them. One of them got 1 of his feet frost bit. It hapned that they had some wiskey with them to revive their Spirits.

Whitehouse Pleasant

Wednesday, November 14

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24	s	SE	32	c a s	SE	R	1	0

Daily Narrative Journals

**Clark** a Cloudy morning. Ice running verry thick, river rose ½ Inch last night. Some Snow falling.

**Ordway** a Snowey morning.

**Whitehouse** Pleasant

Thursday, November 15

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22	c	NW	31	c a s	NW	R	-	1/2

Daily Narrative Journals

**Clark** a Cloudy morning. The ice run much thicker than yesterday. Dispatched a man with order to the hunters to proceed without Delay thro the floating ice, The wind Changeable— Swans passing to the South— but fiew fowls water to be Seen—

**Ordway** Cloudy The Bow of the pearogue was cut with the Ice &.C

**Whitehouse** Pleasant

**Friday, November 16**

**Weather Diary**

very hard frost this morning attached to the limbs and boughs of the trees—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
25	c	NW	30	f	SE	R	-	1/4

**Daily Narrative Journals**

**Clark** a very white frost, all the trees all Covered with ice, Cloudy

**Gass** about now, the weather became very cold, and the ice began to run in the river.

**Ordway** a cold frosty night. the Trees were covered with frost which was very coarse white & thick even on the Bows of the trees all this day. Such a frost I never Saw in the States. The air very thick with fogg from the R.

**Saturday, November 17**

**Weather Diary**

the frost of yesterday remained on the trees until 2 PM when it descended like a shower of snow— swans passing from the N

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	SE	34	f	SE	R	-	1/4

**Daily Narrative Journals**

**Clark** a fine morning, last night was Cold. The ice thicker than yesterday.

**Ordway** a cold clear morning. The frost fell from the trees by the Sun Shining upon them.



**Sunday, November 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30	f	SE	38	f	W	R	-	1/4

**Daily Narrative Journals**

**Clark** a Cold morning. Some wind.

**Ordway** clear & cold.

**Monday, November 19**

**Weather Diary**

the runing ice had declined

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32	f	NW	48	f	NW	R	1	0

**Daily Narrative Journals**

**Clark** a Cold day. The ice continue to run. The wind bley hard from the NW by W

**Ordway** the River Riseing the wind from SW the weather moderates as the day is pleasant.

**Tuesday, November 20**

**Weather Diary**

little soft ice this morning; that from the boarder of the river came down in such manner as to endanger the boat

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35	f	NW	50	f	W	R	1	1/4

**Daily Narrative Journals**

**Clark** a verry hard wind from the W. all the after part of the day. A temperate day.

**Gass** had fine pleasant weather

**Ordway** clear & pleasant the day warm. The work go on as usal.

**Wednesday, November 21**

**Weather Diary**

we got into our hut yesterday evening.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
33	c	S	49	f	SE	R	-	-

**Daily Narrative Journals**

**Clark** a fine Day. Some wind from the SW.

**Gass** had fine pleasant weather

**Ordway** cloudy & warm

Thursday, November 22

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
37	f	W	45	f	NW	R	-	1/2

Daily Narrative Journals

**Clark** a fine morning. A warm Day fair afternoon.

**Gass** had fine pleasant weather

**Ordway** pleasant & warm

Friday, November 23

Weather Diary

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

Daily Narrative Journals

**Clark** a fair warm Day, wind from the SE. The river on a Stand having rose 4 Inches in all

**Gass** had fine pleasant weather

**Ordway** pleasant & warm

Saturday, November 24

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36	f	NW	34	f	NW	-	-	-

Daily Narrative Journals

**Clark** a warm Day. The wind from the SE—

**Gass** had fine pleasant weather

**Ordway** warm & pleasant. The work continued on as usual.

Sunday, November 25

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34	f	W	32	f	SW	-	-	-

Daily Narrative Journals

**Clark** a fine day warm & pleasant. River fall 1 ½ inch.

**Gass** had fine pleasant weather

**Ordway** a pleasant morning.

**Monday, November 26**

**Weather Diary**

wind blew very hard,

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
15	f	SW	21	f	W	-	-	-

**Daily Narrative Journals**

**Clark** a little before day light the wind shifted to the NW and blew hard and the air Keen & Cold all day, Cloudy and much the appearance of Snow; but little work done to day it being Cold &c.

**Gass** had fine pleasant weather

**Ordway** cold & windy.

**Tuesday, November 27**

**Weather Diary**

much drift ice running in the river—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10	f	SE	19	c	SE	F	3	0

**Daily Narrative Journals**

**Clark** a cloudy morning after a very Cold night, the River Crowded with floating ice. Wind from the NW. The river fell 2 inches. Very Cold and began to Snow at 8 o'clock PM and Continued all night— at day the Snow ceased.

**Gass** on this night the snow fell seven inches deep

**Ordway** cold & chilly, the Ice Ran in the River thick.

Wednesday, November 28

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12	s	SE	15	s	E	F	4	0

Daily Narrative Journals

**Clark** a cold morning wind from the NW. river full of floating ice, began to Snow at 7 oClock AM and continued all day. A verry disagreeable day— no work done to day. River fall 1 Inch to day.

**Gass** stormy

**Ordway** Snowed hard the Greater part of last night. Snow this morning. the wind from N.E. the River falling.

Thursday, November 29

Weather Diary

the snow fell 8 inches deep— it drifted in heeps in the open grows—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14	c a s	NE	18	f	W	F	2	1/2

Daily Narrative Journals

**Clark** a verry Cold windey day wind from the NW by W. Some Snow last night. The depth of the Snow is various in the wood about 13 inches. The river Closed [frozen over] at the village above and fell last night two feet. A Cold after noon wind as usual NW. River begin to rise a little.

**Gass** This day was clear, but cold.

**Ordway** the Snow fell yesterday and last night about 12 Inches on a level. a cold Frosty clear

morning. ...the river fell abt. 2 feet last night So that our Boat lay dry on Shore.

**Friday, November 30**

**Weather Diary**

the indians pass over the river on the ice— (Lewis) returned in the evening on the ice. (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
17	f	W	23	f	W	F	-	-

**Daily Narrative Journals**

**Clark** Chief said...The Snow is deep and it id Cold, our horses Cannot Travel thro the plains in pursute. I then Paraded & Crossed the river on the ice and Came down on the N. Side, the Snow so deep, it was verry fatiguing arived at the fort after night. A Cold night. The river rise to its former hite—

**Gass** This day was clear, but cold.

**Ordway** a clear Sharp frosty morning. Froze hard last night.

**Whitehouse** On our arrival at the Village, the Chiefs of both nations, concluded, not to go fight those Indians with us, they saying the Weather was cold, and the Snow was deep, (being upwards of 18 Inches on the Ground)

# December 1804

## 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.

Saturday, December 1

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

Ice thick      wind hard

Sunrise			4 PM			Missouri River <sup>2</sup>		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b0	f	E	6	f	SE	R	1	0

<sup>1</sup> Reference: Coues, Volume III, pages 1269, 1285; Moulton, Volume 3, pages 264-266; Thwaites, Volume 6, Part II, pages 179-181.

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

#### Daily Narrative Journals

**Clark**            wind from the NW.

**Gass**            The day was pleasant

**Ordway**        the morning fair.



**Sunday, December 2**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	NW	36	f	NW	R	-	1

**Daily Narrative Journals**

**Clark**            The latter part of last night was very warm and Continued to Thaw when the wind shifted to the North...before 11 oClock [AM]. River rise one inch.

**Gass**            The day was pleasant, and the Snow melted fast.

**Ordway**        a pleasant thoughy [thawing?] morning

**Monday, December 3**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	NW	30	f	NW	R	-	1

**Daily Narrative Journals**

**Clark**            a fine morning, the after part of the day Cold & windey, the wind from the NW.

**Gass**            moderate weather

**Ordway**        cold & windy.

Tuesday, December 4

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18	f	N	29	f	N	R	-	1

Daily Narrative Journals

**Clark** a Cloudy raw Day. Wind from the NW. The river rise one inch.

**Gass** moderate weather

**Ordway** clear & cold

Wednesday, December 5

Weather Diary

Wind blew excessively hard this {morning} night from NW

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14	c	NE	27	s	NE	-	-	-

Daily Narrative Journals

**Clark** a Cold raw morning, wind from the SE. Some Snow. A little Snow fell in the evening at which time the wind Shifted round to NE.

**Gass** moderate weather

**Ordway** cloudy & cold look likely for Snow.

**Thursday, December 6**

**Weather Diary**

Capt. Clark was hunting the Buffalo this day with 16 Men— several of the men frosted killed 3 buffalo himself and the party killed 4 others

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	s	NW	11	c a s	NW	-	-	-

**Daily Narrative Journals**

**Clark** The wind blew violently hard from the NNW with Some Snow. The air Keen and Cold. The Thermometer at 8 oClock AM Stood at 10 dgs. above 0— Cold after noon. River rise 1 ½ inch to day.

**Gass** was so cold and stormy, we could do nothing. In the night the river froze over, and in the morning was covered with solid ice an inch and a half thick.

**Ordway** a cold Blustry morning. Some Squalls of Snow & wind high it being So disagreeable weather that we delayed on the work.

**Friday, December 7**

**Weather Diary**

last night the river blocked up with ice which was 1 ½ inches thick in the part that had not previously frozen—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
a0 <sup>3</sup>	f	NW	1	c	NW	R	2	1/2

3 Clark's Journal Codex C lists this temperature as "0 a"

**Daily Narrative Journals**

**Clark** The weather so excesive Cold. A verry Cold day. Wind from the NW. The Thermometer Stood this morning at 44 d. below Brezing [freezing]. The Thermometer Stood this Morning at 1 d. below 0. Three men badly frost bit to day—

**Gass** A clear cold morning.  
**Ordway** a clear cold frosty morning. as the River Shut up last night the Ice had not Got Strong enofe to bear the Buffalow out in the middle of the R.

**Saturday, December 8**

**Weather Diary**

The ice 1 ½ inch thick on the part that had not previously frozen. (Lewis) I hunt 3 men frosted. (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	s	NW	5	f a s	NW	-	-	-

**Daily Narrative Journals**

**Clark** a verry Cold morning, The Thermometer Stood at 12 d. below zero, which is 42 d. [44 is correct reading] degrees below the freezing point, wind from the NW. This day being Cold Several men returned a little frost bit, one of [the] men with his feet badly frost bit, my Servents feet also frosted & his P— s a little, I feel a little fatigued haveing run after the Buffalow all day in Snow many Places 10 inches Deep, generally 6 or 8. 2 reflecting Suns to Day [parhelion].

**Gass** In our hunt of yesterday, two men had their feet frost bitten. Captain Clark and another party went out though the cold was extreme, to hunt One man got his hand frozen; another his foot; and some more got a little touched.

**Ordway** the weather is 12 degrees colder this morning than I ever new it to be in the States. Clear the wind NW the air thick with Ice all this day, like a fog—

**Sunday, December 9**

**Weather Diary**

went hunting with a part of fifteen men killed 10 Buffaloe and 1 deer staid out all night (Lewis) “no blanket” (after referring to Lewis’s remaining out all night) (Clark)

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

7a	f	E	10	f	NW	-	-	-
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**Daily Narrative Journals**

**Clark** The thermometer Stood this morning at 7<sup>0</sup> above 0, wind from the E. The Sun Shown to day Clear.

**Ordway** the morning pleasant but not So cold as it was yesterday

**Monday, December 10**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10b	c	N	11	c	N	R	-	1 1/2

**Daily Narrative Journals**

**Clark** a very Cold Day, The Thermometer to day at 10 & 11 Degrees below 0. Capt. Lewis had a Cold Disagreeable night last in the Snow on a Cold point with one Small Blankett. The Buffaloe Crossed the river below in emence herds without brakeing in. The men which was frost bit is gitting better. The rise 1 ½ inch. Wind North.

**Gass** This day was very cold; an experiment was made with proof spirits, which in fifteen minutes froze into hard ice.

**Ordway** a Cloudy cold morning. The Weather Gits colder very fast So that the Sentinel had to be relieved every hour. The weather is [blank] degrees colder this evening than it was this morning. Blanket cappoes provided for each man who Stood in need of them &.C.

**Tuesday, December 11**

**Weather Diary**

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

21b	f	N	18	f	N	F	-	1/2
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### Daily Narrative Journals

**Clark** a very Cold morning. Wind from the North. The Thermomettr at (4 oClock AM at 21<sup>0</sup>) Sunrise at 21<sup>0</sup>. Below 0 which is 53<sup>0</sup> below the freezing point and getting colder, the Sun Shows and reflect reflects two imigies, the ice floating in the atmespear being So thick that the appearance is like a fog Despurceing [mirage?]. At night all the hunters returned, Several a little frosted. Continued Cold all day. River at a Stand.

**Gass** Captain Lewis and Captain Clarke thinking the weather too cold to hunt, set men down to the camp to bring up the remainder of the meat The cold was so severe they could do nothing with the other two buffalo

**Ordway** a clear cold morning.

Wednesday, December 12

### Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38b	f	N	16	f	N	-	-	-

### Daily Narrative Journals

**Clark** a Clear Cold morning, wind from the North. The Thormometer at Sun rise Stood at 38<sup>0</sup> below 0, moderated untill 6 oClock at which time it began to get Colder. I line my Gloves and have a cap made of the Skin of the Lynx. the weather is So Cold that we do not think it prudent to turn out to hunt in Such Cold weather, or at least untill our Consts. are prepared to under go this Climate. I measure the river from bank to bank on the ice and make it 500 yards

**Gass** We all remained at the garrison, the weather being intensely cold.

**Ordway** Clear and cold. The frost was white in the Guard chimney where their was a fire kept all last night. It is Several degrees colder this morning than it has been before, so that we did nothing but git wood for our fires. our Rooms are verry close and warm, So we can keep ourselves warm and comfortable, but the Sentinel who Stood out in the open weather had to be relieved every hour all this day.



Thursday, December 13

Weather Diary

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

Daily Narrative Journals

**Clark** The last night was very cold & the frost which fell Covered the ice old Snow & those parts which was naked 1/6 of an inch, The Thermometer Stands this morning at 20<sup>0</sup> below 0, a fine day. Find it impossible to make an Observation with an artificial Horsison. River falls

**Gass** The weather this day, began to be more moderate.

**Ordway** clear frosty morning but not So cold as it was yesterday

**Whitehouse** Extremely cold

Friday, December 14

Weather Diary

Capt. Clark sets out with a hunting party on the ice with three small sleds—

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

Daily Narrative Journals

**Lewis** out hunting...much Snow, very cold. 52<sup>0</sup> below freesinge.

**Clark** a fine morning. Wind from the SE. The murckerey Stood at 0 this morning. A very Cold night, Snowed.

**Gass** This day was more moderate, and light snow showers fell. The snow fell about



three inches deep.

**Ordway** Cloudy & moderate this morning

**Whitehouse** Extremely cold

**Saturday, December 15**

**Weather Diary**

snow fell one 1/2 inch— ....inform me that many buffaloe have visited ....they came from the west.

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

**Daily Narrative Journals**

**Lewis** out hunting...much Snow, very cold.

**Clark** a Cold Clear morning. The Snow fell 1 1/2 inches deep last night. Wind North—

**Gass** A cloudy day. Some slight showers of snow fell during the day.

**Ordway** Cloudy cold and Snowey. Although the day was cold & Stormy we Saw Several of the chiefs and warries were out at a play which they call [blank] (a Mandan hoop and pole game)

**Whitehouse** Extremely cold. Some Snow fell that made the Air warmir to night

**Sunday, December 16**

**Weather Diary**

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

**Daily Narrative Journals**

- Clark** a clear Cold morning, the Thermt. at Sun rise Stood at 22<sup>0</sup> below 0, a verry Singaler appearance of the Moon last night, as She appeared thro: the Frosty atmispear—
- Gass** A clear cold day.
- Ordway** Clear & cold.
- Whitehouse** Captain Clark and his party...had remain'd all night in the woods, & some Snow falling last night, the Weather became more moderate, it being extremely Cold the three preceding days—

**Monday, December 17**

**Weather Diary**

at 8 PM this evening the Thertr. Stood at 42 b.o.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
43b <sup>4</sup>	f	N	28	f	N	R	-	3

<sup>4</sup> Clark's Journal Codex C lists this temperature as "45 b" and "43 b" in Voorhis No. 4."

**Daily Narrative Journals**

- Clark** A very cold morning. The Thrmt. Stood at 43<sup>0</sup> (45) below 0. about 8 oClock P M. the thermometer fell to 74<sup>0</sup> below the freesing pointe—
- Gass** This was a cold clear day and we all remained in the garrison.
- Ordway** a clear & cold morning. The Thurmometer Stood at about 35 fat. It has been Several degrees lower Some days past.
- Whitehouse** This day was clear and cold weather.

**Tuesday, December 18**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32b	f	W	16	f	SW	R	-	1

**Daily Narrative Journals**

**Clark** The Thermometer the Same as last night. Mr. Haney & La Roche left us for the Grosventre Camp, Sent out 7 men to hunt for the Buffalow, they found the weather too cold & returned. The River rise a little.

**Gass** A very cold day. At 9 we returned and found the men from the NW Company had set out on their return, notwithstanding the severity of the weather.

**Ordway** very cold last night So that the Sentinel had to be relieved every half hour dureing all last night. A clear Sharp morning. The Thurm. S,. at 42 ds. Hunters....some of them went out on the hills but found it So cold that they would not follow the Buffo in the praries so they returned to the Fort.

**Whitehouse** This day we had very Cold weather. The North West Traders left us this morning, having come to take their leave of our Officers and Men, and proceeded on their Journey notwithstanding the coldness of the weather—

**Wednesday, December 19**

**Weather Diary**

began to Piquet the Fort on the river side—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	Sw	16	f	S	R	-	1

**Daily Narrative Journals**

**Clark** The wind from SW the weather moderated a little. River rise a little.

- Gass** This was a more pleasant day
- Ordway** the weather has moderated Some Since yesterday morning. Half the men out at a time & relieved every hour, it being too cold to be out all the time.
- Whitehouse** We had clear weather & a pleasant day

**Thursday, December 20**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	c <sup>5</sup>	NW	37 <sup>5</sup>	f <sup>5</sup>	NW <sup>5</sup>	R <sup>5</sup>	-	3 1/2 <sup>5</sup>

<sup>5</sup> “There are several discrepancies between Lewis and Clark on this date; in Codex C Clark’s sunrise weather is “f”; his 4 p.m. temperature is “22a”; his 4 p.m. weather is “c” his 4 p.m. wind is “W” his river rise is 2 inches. His table in Voorhis No. 4 agrees with Lewis.” (Moulton, 1987, 3: 266)

**Daily Narrative Journals**

- Clark** The wind from the NW, a moderate day. The Thermometr 37<sup>0</sup> (24<sup>0</sup>) above 0, which gives an oppertunity of putting up our pickets next to the river, nothing remarkable took place to Day. River fall a little.
- Gass** quite warm and pleasant
- Ordway** Some cloudy & Warm this morning, but a pleasant day
- Whitehouse** a quite warm day. Moderate weather. The Snow melted fast.

**Friday, December 21**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	NW	22	c	W	R	-	2

**Daily Narrative Journals**

**Clark** a fine Day worm and wind from the NW by W.  
**Gass** quite warm and pleasant  
**Ordway** the morning clear & warm  
**Whitehouse** We had still pleasant and warm Weather, and the Snow continued melting

**Saturday, December 22**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	NW	23	f	NW	R	-	2 1/2

**Daily Narrative Journals**

**Gass** The weather continued clear, pleasant and warm.  
**Ordway** pleasant moderate weather.  
**Whitehouse** clear fine pleasant warm weather to day

**Sunday, December 23**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	c	SW	27	c	W	F	-	1

**Daily Narrative Journals**

**Clark** a fine Day.

**Gass** The weather continued pleasant  
**Ordway** a clear and pleasant morning.  
**Whitehouse** The weather still continued clear and pleasant

**Monday, December 24**

**Weather Diary**

Snow verry inconsiderable complete the fort (Lewis) Snow very much (Clark)

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	s	SW	31	c a s	W	F	-	2 1/2

**Daily Narrative Journals**

**Clark** A fine Day  
**Gass** Some snow fell this morning; about 10 it cleared up, and the weather became pleasant.  
**Ordway** Some Snow this morning the afternoon pleasant.  
**Whitehouse** Some Snow fell this morning, at about 10 oClock AM it cleared away, and we had fair weather the remainder of the day

**Tuesday, December 25**

**Weather Diary**

Snow verry inconsiderable

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
15	s	NW	20	c a s	NW	F	-	1

**Daily Narrative Journals**

**Gass** we hoisted the American flag in the garrison, and its first waving in fort Mandan was celebrated with another glass—

**Ordway** cloudy

**Wednesday, December 26**

**Weather Diary**

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18	c	NW	21	f	NW	-	-	-

**Daily Narrative Journals**

**Clark** a temperate day

**Ordway** pleasant

**Thursday, December 27**

**Weather Diary**

The trees all this day with the white frost which attached itself to their boughs

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

**Daily Narrative Journals**

**Clark** a little fin Snow, weather something Colder than yesterday. Wind hard from the NW.

**Ordway** cloudy Some Snow

Friday, December 28

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	f	N	13	f	NW	R	-	2 1/2

Daily Narrative Journals

**Clark**           blew verry hard last night, the frost fell like a Shower of Snow, nothing remarkable to day, the Snow Drifting from one bottom to another and from the leavel plains into the hollows &c.

**Ordway**        clear & cold. High wind.

Saturday, December 29

Weather Diary

the wind blue verry hard last night.   the frost fell like a shower of snoe

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
9b	f	N	3	f	N	R	-	1

Daily Narrative Journals

**Clark**           The frost fell last night nearly a 1/4 of an inch Deep and Continud to fall untill the Sun was of Some hite, the Murcurey Stood this morning at 9 d below 0 which is not considered Cold, as the Changes take place gradually without long intermitions

**Ordway**        clear & cold.



Sunday, December 30

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	N	11	f	N	R	-	1/2

Daily Narrative Journals

**Clark** Cold the Termtr. At 20 d below 0

**Ordway** clear & cold this morning.

Monday, December 31

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10b	f	SE	12	c	SW	R	-	1 1/2

Daily Narrative Journals

**Clark** a fine Day, some wind last night which mixed the Snow and Sand in the bend of the river, which has the appearance of hillocks of Sand on the ice, which is also Covered with Sand & Snow, the frost which falls in the night continues on the earth & old Snow &c &c.

**Ordway** a clear & cold morning.

**Whitehouse** nothing particular ocured Since christmas but we live in peace and tranquillity in our fort. The weather continued pleasant & the Air Serene—<sup>6</sup>

<sup>6</sup> This ends the Lewis and Clark Expedition Weather Diary and narrative journal entries for the year 1804. The Journal entries continue the following day, January 1, 1805.