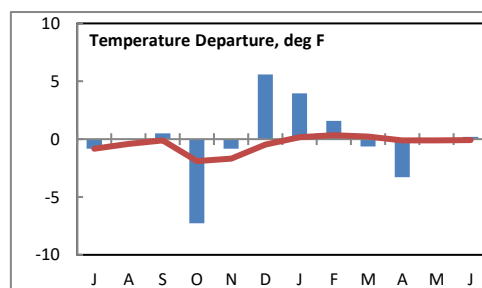
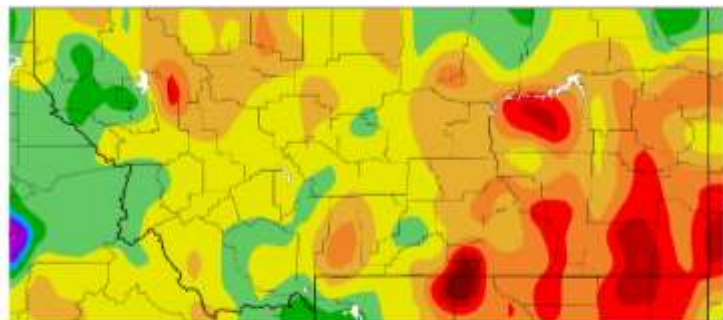


Montana Weather/Precipitation Summary

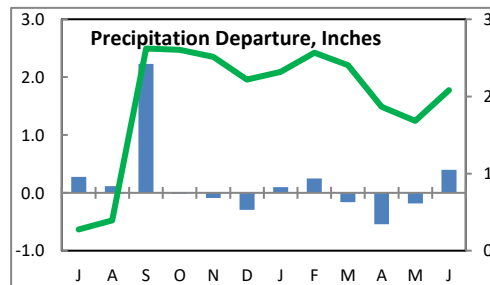
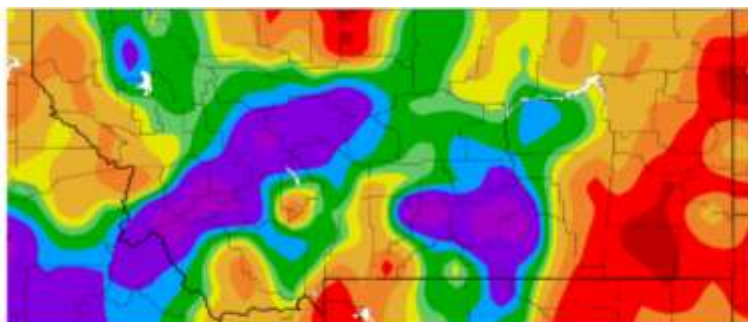
June 2020 NOAA's National Weather Service Great Falls Montana

West to southwest flow aloft dominated for much of June over Montana, which was close to normal (Fig. 1). June's average temperatures were a little below normal west and a little above normal in the southeast. Precipitation amounts were mostly below normal, with areas of above normal in the west and swaths in the east. Winds averaged above normal.

June temperature anomalies ranged from 1.9°F below normal at West Yellowstone to 3.1°F above normal at Jordan. The map below shows the variation. The warmest average temperatures were in southeast Montana. The warmest average temperature was at Broadus, with an average of 69.4°F, while the coolest was 42.2°F at Point Six (Missoula). The highest temperature was 102°F at Brandenburg on the 13th. The coldest temperature was 21°F at Yellow Mule (Gallatin) on the 8th. The statewide temperature average of 60.5°F was the 65th coolest of record. The red line on the graph shows the cumulative 12-month departure from normal, which was 0.1°F below normal. See the state summary and temperature tables below for more details.



Temperature departure from normal



Percent of normal precipitation

Precipitation was heaviest over the portions of western Montana. The highest amount (9.40-inches) fell at Darkhorse Lake SNOTEL. A location near Anaconda recorded the most at a lower elevation location (6.05"). The statewide composite of 2.90-inches was 0.40" above normal. This ranks as the 58th wettest June of record for Montana, and wettest since 2018. The green line on the precipitation graph shows the cumulative 12-month departure from normal, which is 2.08" above normal. See state summary and precipitation tables below for more details. Snow did fall on a couple of days. In the Butte area, up to 16-inches fell on the 8th, while an event later in the month (17th-18th) brought up to 17-inches to the mountains of southwest Montana.

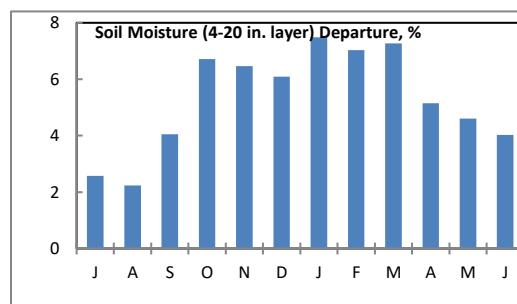
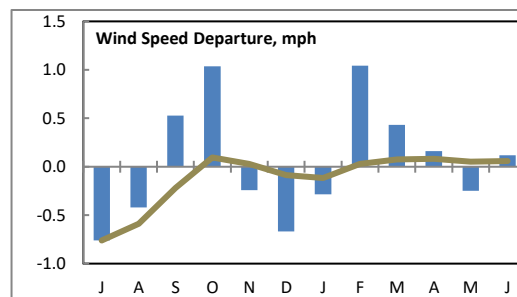
Wind speed averages were near normal. Statewide, the month ranked as the 33rd windiest June, with an average speed of 8.9-mph. The strongest averages were in along the Rocky Mountain Front. The composite statewide average was 0.1-mph above normal. The brown line of the wind

graph to the right shows the 12-month cumulative statewide wind departure from normal. The 12-month average is running at normal.

Statewide soil moisture averages continued above normal for May (right). This data is from 33 NRCS SCAN and SNOTEL, NOAA CRN and MT Mesonet stations. For June, this was the second wettest of record. June 2011 was wetter. The record began in 1995.

Refer to NCEI's State of the Climate report for the latest monthly discussion:

<http://www.ncdc.noaa.gov/sotc/>



June began with temperatures a little above normal. Severe thunderstorms swept over the east on the 4th and again on the 6th. Gusts reached 77 mph at Saint Marie from a thunderstorm on the 6th. Thunderstorms also produced a gust to 57 mph, which was their strongest June gust since 2000. This second event ushered in a period of cooler air and precipitation. Snow fell over portions of the west, with up to 19 inches at Albro Lake, 16-inches at higher elevations near Georgetown. The Butte area received nearly 14-inches, with 8-inches at Deer Lodge. Precipitation amounts ranged as high as two inches over portions of central and western Montana. On the 9th, Bozeman set a new record low temperature, dropping to 33°F. Warmer air returned with high temperatures in the 90s on the 12th and 13th. Brandenburg reached 102°F on the 13th, the state's highest temperature for the month. A cold front swept across the state on the 13th bringing strong winds with many of the thunderstorms. The southwest had a sustained period of high winds. Gusts reached 63 mph at Butte and 71 mph near Radersburg. Another storm system brought cool air and heavy precipitation to the area again from the 16th-19th. Darkhorse Lake SNOTEL reported 17-inches of snow, with one to two inches of rain over much of the southwest. Bozeman reached only 49°F on the 17th, tying their coolest maximum temperature for the day, and one of their coolest late-June high temperatures of record. Temperatures warmed rapidly again, with highs in the 90s over much of eastern Montana on the 24th. Thunderstorms spread over western and central Montana, with gusts of 74 mph at Twin Bridges and 65-mph at Floweree. Hail of 1.74-inches fell at Kila with trees blown over from thunderstorm winds in the Eureka area. Temperatures cooled for the rest of the month as a large storm affected the state. This late June storm was unusual for Montana for the amount of precipitation so late in the spring season. With a combination of stratiform and thunderstorm precipitation, the highest amounts from the 27th-30th were 4.40-inches at Wood Creek and 4.1-inches near Roundup. The port of Raymond reported 3.5-inches, with 2.70-inches in the mountains of Granite County. Thunderstorm winds reached 63-mph in Havre on the 27th. The largest hail of the month fell on the 29th, with 2.5-inch hail at Hodges (Dawson). The cold air pushed low temperatures to near freezing over portions of southwest Montana on the 30th.

Precipitation/convection

Severe convective weather occurred on eight days in June, which is 4 days below normal. This was the lowest number of days in June since 1998. On the 6th, thunderstorm gusts reached 77 mph at Saint Marie. Ekalaka had 1.75-inch hail on the 7th. On the 13th, 1.5-inch hail fell near Browning and Chester, and gusts of 71 mph occurred near Wibaux. Hail to 1.5-inches fell near Power and 1.75-inches near Kila on the 24th, with thunderstorm gusts of 65-mph near Floweree. Trees were blown over in the Eureka area. Thunderstorm dropped hail to 2.5-inches in the Hodges area (Dawson) on the 29th.

Water-year-to-Date (Oct-May)

The water-year average temperature for Montana was 33.3°F, which was 0.1°F below normal. This was the 67th coolest of record.

This season's composite precipitation was 7.65-inches, 0.95-inches below normal. This was the driest such period since 2002 and the 39th driest of record.

Seasonal snowfall (Jul-May) was 62.9-inches and 6.1-inches above normal. This was the 28th highest amount for the season and snowiest since 2017-18.

Winds averaged 9.3-mph, which was 0.1-mph above normal. This was the 29th calmest such period, but windiest since 2013.

Spring Season (Mar-May)

The average temperature for Montana was 41.4°F, which was 1.3°F below normal. This was the 51st coolest spring season of record.

This year's composite precipitation was 3.69-inches, which was 0.89-inches below normal. This was the driest such period since 2001 and the 41st driest of record.

The season's snowfall averaged 16.1-inches, which was 0.2" below normal. This was the 51st snowiest of record.

Winds averaged 9.7-mph, which was 0.1-mph above normal. This was the 36th calmest such period, but windiest since 2012.

June information:

High Temperature	102°F at Brandenburg (13 th)	Greatest Precip	6.05" near Anaconda
Low Temperature	21°F at Yellow Mule (8 th)		9.40" at Darkhorse Lake SNOTEL
Warmest Ave Temp	69.4°F at Broadus	Peak Wind Gust	77 mph at Saint Marie (6 th) (tstm)
Coolest Ave Temp	42.2°F at Point Six RAWS		77 mph at Deep Creek RAWS (13 th)
Range of Temp departures	-1.6°F at West Yellowstone to +3.1F at Jordan	Highest Ave Wind	16.8 mph at Deep Creek RAWS 13.6 mph at Cut Bank
21 city mean monthly Temperature/Normal	60.5/60.3F normal. 67 th coolest of record (since 1880). 46 th percentile.	20 city mean monthly wind speed/Normal	8.9 mph/8.8 mph; 33 rd windiest of record (since 1936). 40 th percentile.
22 city mean monthly precipitation/Normal	2.90"/2.40" - 121% of normal. 58 th wettest of record (since 1880). 59 th percentile.		

**Historical Rank of Precipitation (inches)
for the Current Month and Water Year to Date**

Location	Jun	% of Norm	Rank	Pcntl	Oct 1 - Jun	% of norm	Rank	Pcntl	Years
Baker	1.45	53%			6.87	69%			22
Billings	4.35	205%	14	11	9.74	95%	57	47	119
Belgrade	3.30	136%	20	23	8.65	82%	65	78	83
Butte	4.41	195%	10	7	8.15	90%	71	56	126
Cut Bank	2.65	104%	52	45	8.46	118%	42	37	112
Dillon	2.10	107%	29	35	4.50	61%	77	96	80
Glasgow	2.17	93%	68	55	8.89	115%	53	44	120
Great Falls	4.73	187%	18	13	12.87	125%	30	23	128
Havre	2.64	121%	58	41	7.81	107%	79	56	140
Helena	3.15	153%	31	21	8.54	110%	67	47	141
Jordan	3.20	129%			8.93	106%			22
Kalispell	4.40	172%	7	5	14.23	108%	37	29	126
Lewistown	3.64	118%	53	42	12.58	106%	61	49	124
Livingston	2.33	97%	49	41	8.66	79%	87	75	115
Miles City	1.98	79%	92	64	7.81	89%	101	70	143
Missoula	2.53	118%	45	31	11.18	103%	56	40	138
Mullan Pass	2.63	101%	39	47	36.13	107%	27	33	79
Wolf Point	3.14	116%			5.57	70%			22
Glendive	1.80	75%	95	76	7.70	85%	82	69	118
Sidney	0.83	30%	78	96	5.13	55%	72	90	80
BZN-MSU	3.56	114%	43	29	13.24	86%	86	60	142
W Yellowstone	2.86	132%	29	26	16.67	96%	55	57	95

Rankings and Percentiles are 1=wettest, higher numbers=drier.

For an automated version of this chart, updated daily, go to

<http://www.wrh.noaa.gov/tfx/dx.php?wfo=tfx&type=&loc=products&fx=PCPNTOTALS>

**Historical Rank of Average Temperature (°F)
for the Current Month and Water Year to Date**

Location	Jun	Normal	Rank	Pcntl	Oct 1 - Jun	Normal	Rank	Pcntl	Years
Baker	64.7	59.1	37	34	35.9	35.7	50	47	106
Billings	65.4	64.7	30	34	41.0	41.4	43	49	86
Belgrade	58.7	59.1	41	48	36.4	36.1	33	38	85
Butte	55.0	55.7	68	53	33.7	33.5	63	50	126
Cut Bank	58.3	57.8	40	35	34.3	35.8	67	60	111
Dillon	56.6	58.1	52	67	35.0	36.4	61	80	76
Glasgow	65.9	64.0	30	24	36.4	35.4	34	27	124
Great Falls	60.2	59.8	74	58	37.6	38.3	84	68	123
Havre	63.4	62.2	48	34	35.8	36.4	67	47	140
Helena	61.8	62.1	44	31	39.5	38.7	21	14	140
Jordan	65.6	62.5	32	31	38.6	36.1	24	24	97
Kalispell	58.6	58.3	53	43	38.2	37.4	34	28	119
Lewistown	58.3	58.1	55	44	35.7	36.7	71	60	117
Livingston	59.9	58.7	50	42	39.6	38.7	54	46	115
Miles City	66.4	65.6	62	44	38.4	38.3	60	43	138
Missoula	59.9	60.9	59	46	39.7	39.7	30	23	126
Mullan Pass	49.3	49.7	19	43	31.4	31.6	23	52	43
Wolf Point	64.4	63.3			35.1	34.2			22
Glendive	65.4	66.5	74	59	38.2	38.8	52	43	120
Sidney	63.2	66.1	57	59	35.5	38.1	35	37	97
W Yellowstone	50.3	51.8	60	61	27.5	27.6	65	70	93

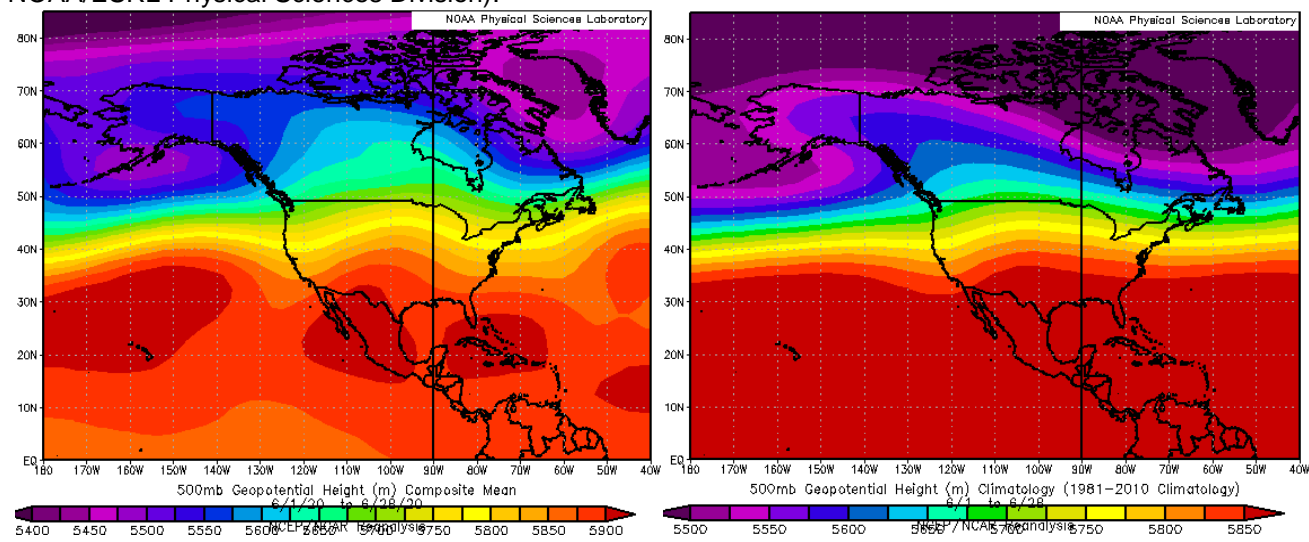
Rankings and Percentiles are 1=coldest, higher numbers=warmier.

Historical Rank of Average Wind Speed (mph) for the Current Month and Water Year to Date

Location	Jun	Normal	Rank	Pcntl	Oct 1 - Jun	Normal	Rank	Pcntl	Years
Baker	11.3	11.6			11.1	11.3			22
Billings	9.4	9.3	58	67	11.8	11.1	31	36	84
Belgrade	5.9	6.2	37	65	5.8	5.8	29	52	55
Butte	6.2	7.6	47	82	5.5	6.5	42	75	56
Cut Bank	13.6	12.2	16	20	14.6	13.3	12	14	78
Dillon	9.4	8.4	14	19	10.2	9.4	16	23	66
Glasgow	10.8	10.9	21	27	10.5	10.5	40	53	75
Great Falls	10.7	10.6	41	49	12.7	12.8	44	53	82
Havre	11.0	9.0	8	5	11.0	9.3	6	4	131
Helena	7.8	7.9	103	73	7.2	7.0	101	72	140
Jordan	9.3	8.8	13	34	8.8	8.1	7	17	36
Kalispell	6.3	6.2	67	55	5.8	5.5	110	91	121
Lewistown	8.5	8.6	47	60	10.0	9.7	31	39	78
Livingston	11.0	10.4	32	56	16.6	15.3	19	35	53
Miles City	10.0	10.2	43	33	10.0	10.3	47	36	129
Missoula	5.8	6.8	74	87	4.9	5.5	71	83	85
Mullan Pass	4.7	5.4	22	70	5.0	5.8	27	93	29
Wolf Point	8.1	8.5			8.1	8.2			22
Glendive	10.2	10.3	16	57	10.0	10.4	21	75	28
Sidney	9.9	8.9	5	14	9.0	9.3	23	74	31
W Yellowstone	7.1	6.7			6.4	6.6			6

Rankings and Percentiles are 1=winiest, higher numbers=calmer.

Figure 1. Mean flow at 500 millibars (~18,000 ft) for this month (left) and climatology for the month (right) (from NOAA/ESRL Physical Sciences Division).



For the latest information on mountain snowpack from the NRCS, go to: <https://www.wcc.nrcs.usda.gov/gis/snow.html>

For the latest U.S. Drought Monitor, issued weekly by the National Drought Mitigation Center, USDA and NOAA, go to: <http://droughtmonitor.unl.edu/>

These data are preliminary and have not undergone final QC by NEIC. Therefore, these data are subject to revision. Final and certified climate data can be access at the National Environmental Information Center (NEIC) <http://www.ncei.noaa.gov>. Many more links are on the Drought Information Page of the NWS Great Falls web site at <http://www.wrh.noaa.gov/tfx/main/drought.php?wfo=txf>. The climatological record for normals is 1981-2010. The ranking period for temperature, precipitation and snowfall is since 1880. The ranking period for wind speeds is since 1936. The ranking period for soil moisture is since 1995.