

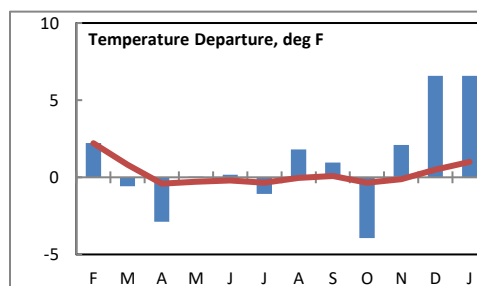
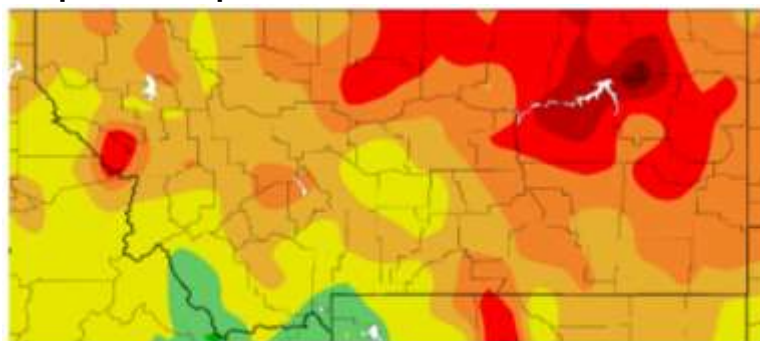
Montana Weather/Precipitation Summary

January 2021 NOAA's National Weather Service Great Falls Montana

Northwesterly flow aloft dominated during January (Fig. 1), which is normal for the month. This pattern produced much above normal temperatures for the month, with generally below normal precipitation. Winds averaged above normal.

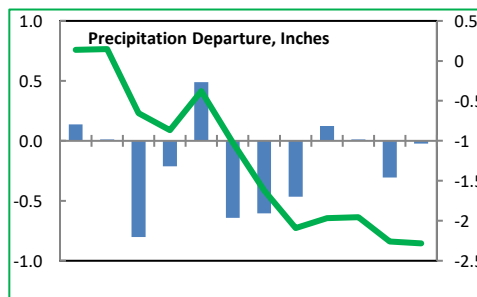
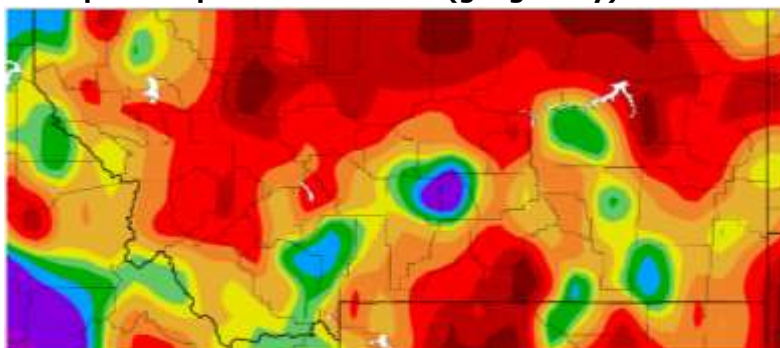
January temperature anomalies ranged from 2.7°F above normal at West Yellowstone and Dillon to 13.5°F above normal at Glasgow. The map below shows the variation in departures. The warmest average temperatures were in central and south central Montana. The warmest average temperature of 36.4°F was at Alberton, while the coolest was 13.8°F near Lake View. The highest temperature was 66°F at Billings on the 13th. The coldest temperature was -25°F near Poplar on the 26th. This was the warmest extreme minimum in January since 2006. This range of 91°F is below the January average range of 104°F. The statewide temperature average of 27.4°F was 6.6°F above normal and the 11th warmest of record. This was the warmest January since 2006. The red line on the graph shows the cumulative 12-month departure from normal, which was 1.0°F above normal. See the state summary and temperature tables below for more details.

Temperature departure from normal



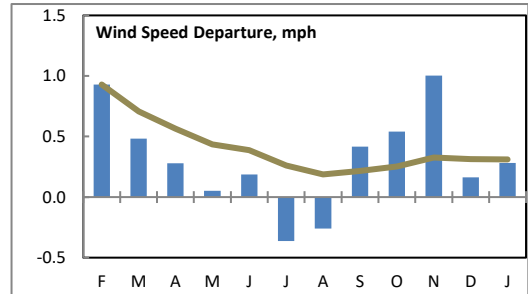
Precipitation was heaviest over mountain areas of northwest Montana. The highest amount (7.90-inches) fell over Glacier National Park, with the highest amount at a lower elevation at Heron (3.84-in) (Sanders). The month's statewide composite of 0.70" was 0.05" below normal. This ranks as the 52nd driest January of record for Montana. Most areas east of the divide were very dry. Several spots in north central Montana recorded less than a tenth of an inch. The green line on the precipitation graph shows the cumulative 12-month departure from normal, which is now 2.28" below normal. Snowfall was below normal as well. The statewide average of 4.3-in

Precipitation percent of normal (gauge only)



is the 11th lowest for January and the lowest January average since 1983. See state summary and precipitation tables below for more details.

Wind speed averages were near to above normal. Even so, statewide, the month ranked as the 37th calmest January, with an average speed of 9.3-mph. This was the strongest January average since 2014. The strongest averages were along the Rocky Mountain Front and Livingston areas. The composite statewide average was 0.3-mph above normal. The brown line of the wind graph to the right shows the 12-month cumulative statewide wind departure from normal.



Refer to NCEI’s State of the Climate report for the latest monthly discussion: <http://www.ncdc.noaa.gov/sotc/>

January was generally mild, dry and windy, with a period of below normal temperatures during the last 10 days. On the 13th, a cold front swept across the state pushing temperatures into the 50s and 60s ahead of it, and very windy conditions behind it. January wind gust records were set at many locations. The highest gusts were 95-mph at Judith Peak and 94-mph near Moore. Blowing dust caused roads to be closed over portions of north central Montana. Temperatures fell to below normal values between the 21st and 27th. Lows reached colder than -20°F over the northeast and southwest valleys. Temperatures rebounded to above normal by the end of the month. The heaviest snowfall of the month occurred at the end of the month as well. West Yellowstone measured over 10-inches over a 4-day period.

The highest daily temperatures in January occurred on five days at Alberton. West Yellowstone had the state’s lowest temperature on seven days.

Some locations setting January all-time wind gust records include: Glasgow (79-mph; old record 72-mph in 2009), Havre (78-mph; old record 68-mph in 1988), and Helena (80-mph; old record 73-mph in 1944).

Precipitation/convection

Severe convective weather occurred on zero days in January, which is normal.

January information:

High Temperature	66°F at Billings (13 th)	Greatest Precip	3.84” at Heron (Sanders)
Low Temperature	-25°F near Poplar (4 th)		7.90” at Flattop Mtn SNOTEL (Flathead)
Warmest Ave Temp	39.4°F at Alberton	Peak Wind Gust	94 mph near Moore (13 th)
Coollest Ave Temp	13.8°F at Lake View		100 mph at Deep Creek RAWS (19 th)
Range of Temp departures	+1.7°F at Mullan Pass to +13.5°F at Glasgow	Highest Ave Wind	22.7 mph at Deep Creek RAWS 19.1 mph at Livingston
21 city mean monthly Temperature/Nrml	27.4/20.8F normal. 11 th warmest of record (since 1880). 92 nd percentile.	20 city mean monthly wind speed/Nrml	9.3 mph/9.0 mph; 37 th windiest of record (since 1936). 44 th percentile.
22 city mean monthly precipitation/Nrml	0.70”/0.75” – 93% of normal. 52 nd driest of record (since 1880). 37 th percentile.	20 city mean monthly snowfall/Nrml	4.3”/10.2” – 9 th lowest of record (since 1880). 8 th percentile

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

Location	Jan	% of Norm	Rank	Pcntl	Oct 1 - Jan	% of norm	Rank	Pcntl	Years
	Baker	0.03	9%	92	5	1.07	45%	80	16
Billings	0.23	42%	95	78	3.19	103%	46	38	120
Belgrade	0.64	149%	29	33	2.08	77%	59	70	84
Butte	0.19	46%	107	84	1.58	67%	89	70	127
Cut Bank	0.02	8%	106	92	2.86	164%	13	11	114
Dillon	0.10	45%	52	63	0.36	22%	81	100	81
Glasgow	0.07	16%	64	50	2.12	94%	52	42	123
Great Falls	0.18	33%	112	86	3.25	115%	48	37	129
Havre	0.02	5%	139	98	1.59	77%	100	71	141
Helena	0.28	73%	105	73	2.88	132%	50	35	142
Jordan	0.26	59%	64	62	1.13	45%	78	80	97
Kalispell	1.39	100%	57	44	7.08	127%	23	17	127
Lewistown	0.46	80%	86	68	2.51	83%	96	77	125
Livingston	0.40	84%	65	53	3.37	104%	47	39	118
Miles City	0.22	80%	100	69	1.37	77%	110	76	144
Missoula	0.50	52%	122	84	4.46	102%	56	39	141
Mullan Pass	6.60	136%	22	26	25.88	140%	11	12	82
Wolf Point	0.04	14%	49	62	0.75	45%	71	93	76
Glendive	0.12	34%	106	83	1.42	63%	90	72	124
Sidney	0.12	28%	68	83	0.98	38%	73	90	81
BZN MSU	1.09	129%	39	26	3.68	77%	103	71	144
W Yellowst	2.53	131%	32	27	9.01	109%	31	28	110

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	Jan	Normal	Rank	Pcntl	Oct 1 - Jan	Normal	Rank	Pcntl	Years
	Baker	30.3	18.3	2	1	33.8	28.0	3	2
Billings	33.0	26.9	11	8	37.7	34.7	14	11	123
Belgrade	25.2	21.3	14	15	31.1	28.7	14	15	86
Butte	24.0	19.9	33	25	28.9	26.8	43	33	127
Cut Bank	27.8	22.0	13	11	32.4	29.4	15	13	112
Dillon	25.4	24.1	22	27	31.1	30.3	29	37	77
Glasgow	27.3	13.9	2	1	31.3	26.4	10	7	126
Great Falls	31.3	25.4	21	16	35.8	32.6	27	21	124
Havre	28.2	17.5	9	6	32.6	28.2	15	10	141
Helena	30.5	22.8	10	6	35.0	31.1	7	4	141
Jordan	29.8	18.7	3	2	33.7	28.9	5	4	101
Kalispell	29.9	23.9	7	5	33.0	30.6	47	38	122
Lewistown	28.2	23.7	21	17	33.5	31.0	22	18	120
Livingston	31.2	28.8	27	22	36.9	34.6	17	14	118
Miles City	28.0	20.0	11	7	34.0	30.7	17	12	139
Missoula	30.1	25.3	10	7	33.5	31.9	22	17	128
Mullan Pass	23.9	23.4	15	33	29.1	27.5	7	10	59
Wolf Point	24.1	13.1	4	4	29.5	25.6	11	13	76
Glendive	26.3	18.7	11	9	31.8	30.5	28	22	125
Sidney	25.0	16.4	8	8	31.0	28.3	14	14	98
W Yellowst	16.0	13.3	26	23	21.6	21.2	56	49	114

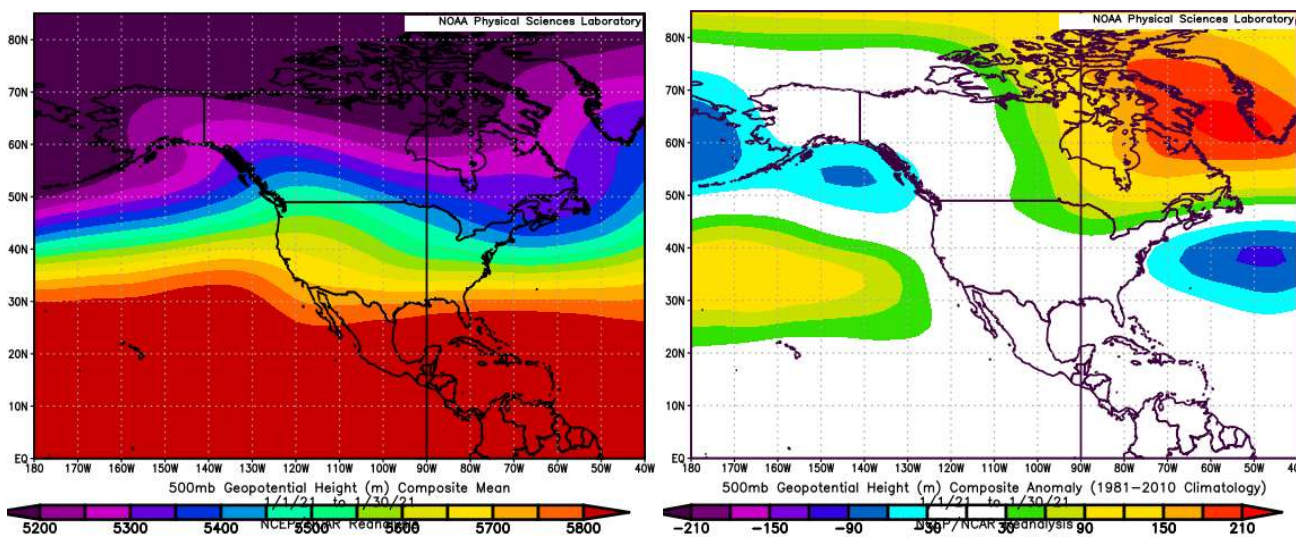
Rankings and Percentiles are 1=coldest, higher numbers=warmer.

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

Location	2	Normal	Rank	Pcntl	Oct 1 - MM	Normal	Rank	Pcntl	Years
Baker	10.8	10.9			11.0	10.9			23
Billings	12.0	13.0	61	71	12.9	11.9	19	21	85
Belgrade	4.5	4.8	41	71	5.0	5.0	31	55	56
Butte	4.5	4.5	38	66	4.8	5.1	43	75	57
Cut Bank	15.3	14.5	31	39	15.4	14.0	15	18	79
Dillon	9.4	10.3	47	70	10.0	9.4	22	32	67
Glasgow	10.6	9.5	11	13	9.7	9.7	39	51	76
Great Falls	14.3	13.7	42	49	14.6	13.3	25	29	83
Havre	11.6	10.2	24	17	11.5	10.1	7	5	132
Helena	6.1	5.5	95	67	6.2	5.9	103	73	141
Jordan	9.0	7.5	4	8	8.5	7.6	2	3	37
Kalispell	3.1	4.0	114	93	4.2	4.2	114	93	122
Lewistown	10.7	10.3	35	44	10.7	10.0	24	29	79
Livingston	19.1	20.5	40	71	19.5	18.5	14	24	55
Miles City	9.7	9.4	34	26	9.7	9.6	37	28	130
Missoula	4.0	3.8	61	71	3.8	4.0	68	79	86
Mullan Pass	3.7	5.5	30	94	5.3	5.7	27	90	30
Wolf Point	8.3	7.5			7.6	7.5			23
Glendive	10.3	9.9	10	34	10.0	10.0	13	45	29
Sidney	9.5	9.0	10	27	9.18	9.0	12	38	32
W Yellowst									

Rankings and Percentiles are 1=windiest, 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 Laboratory](http://www.noaa.gov)).



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 NCEI. Therefore, these data are subject to revision. Final and certified climate data can be access at the National Centers for Environmental Information (NCEI) <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 1991-2020. 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.