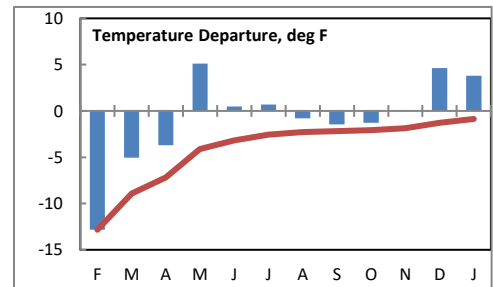
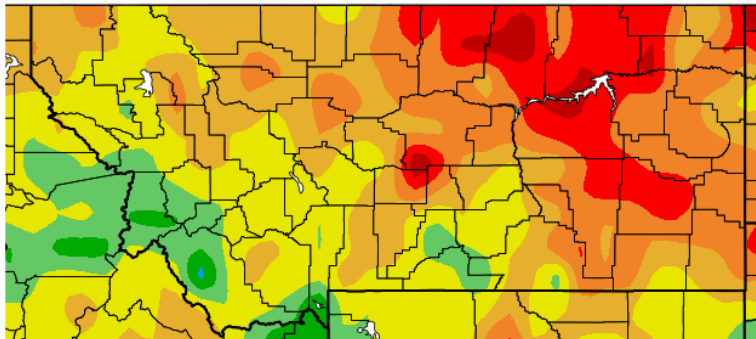


Montana Weather/Precipitation Summary

January 2019 NOAA's National Weather Service Great Falls Montana

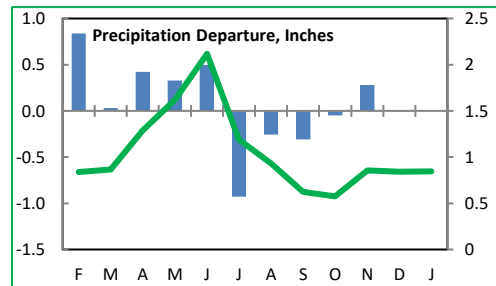
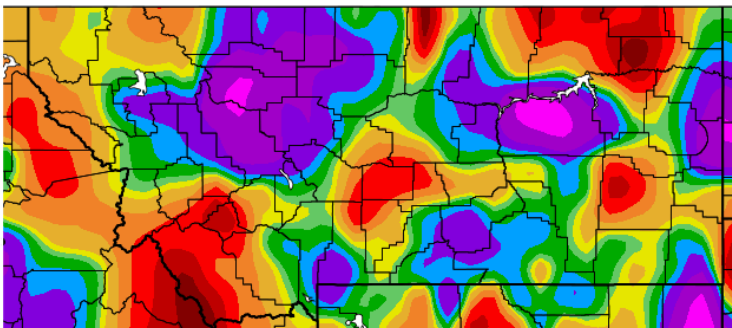
In January, upper level flow was from the northwest (Fig. 1), with the west coast ridge slightly stronger than normal. For Montana, temperatures averaged above normal most areas except over the west central and southwest. Precipitation amounts were a mixture of much above to much below normal. Winds averaged below normal most areas.

January temperature anomalies ranged from slightly below normal southwest to 8°F above normal over northeastern portions. The map below shows the variation. The warmest average temperatures were in central Montana. The warmest, Big Timber had an average temperature of 31.4°F, while the coolest was 14.1°F at Red Rock. The highest temperature was 62°F near Judith Gap on the 15th. The coldest temperature was -38°F at Whiskey Creek and West Yellowstone on the 9th. The state-wide temperature average of 24.3° was 3.8°F above normal and warmest since 2014. The red line on the graph shows the cumulative 12-month departure from normal, which is 0.9°F below normal. See the state summary and temperature tables below for more details.

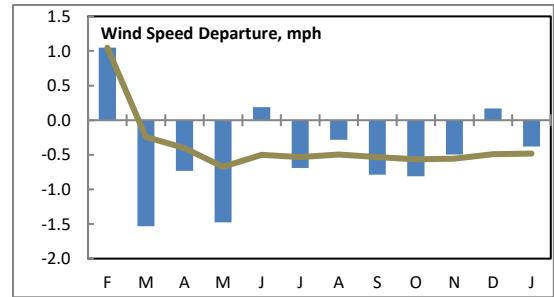


Precipitation was heaviest along the northwestern border and Glacier Park region of Montana. The highest amount (7.80-inches) fell at Flattop Mountain (Flathead). The highest amount elsewhere was 3.50-inches at Greenough. The statewide composite average of 0.78-inches was normal. The green line on the precipitation graph shows the cumulative 12-month departure from normal, which is 0.85-inches above normal. See state summary and precipitation tables below for more details. The heaviest monthly snow amount was 58-inches at Red Lodge.

Percent of Normal Precipitation (%)
1/1/2019 - 1/31/2019



Winds averaged weaker than normal over the state. Statewide, January ranked as the 30th calmest January of record, with an average speed of 9.1-mph. The strongest averages were along the northern Rocky Mountain Front. The composite statewide average was 0.5-mph below 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 0.5-mph below normal. Only three of the last 12 months have had wind averages above normal.



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

After some snow fell over portions of the state on the first, the next week was very windy. The highest gust of 103 mph occurred at Deep Creek RAWS on the 3rd. Meanwhile, a gust to 94 mph registered at East Glacier. The gust of 103 mph at Deep Creek was even higher than the gust of 102 mph reported in December. This is the strongest non-thunderstorm gust in the state since November 2015 and Deep Creek's strongest gust since January 2012. Gusty winds were prevalent across the state with gusts near 60 mph over many areas east of the divide. A cold front brought areas of freezing rain to west and portions of the east slopes on the 9th and 10th. The freezing rain caused travel problems in western Montana. A milder period lasted from the 11th through 16th, when another winter storm brought snow to the state. Some heavier amounts reported from this storm were 11" at Condon, almost 6" at Whitewater and 6" at Polson. With generally near to below normal temperatures through the end of the month, there were a couple of bigger storms on the 21st and 22nd and again on the 23rd and 24th. Some areas had a foot to two feet of snow during this time. Individually, the first storm brought 8-12 inches to southeast Montana and 6-9" to north central portions. The second storm had heavier amounts, with 10" at Lincoln and Libby, 12" at Woods Bay and 17" at Red Lodge. A fast moving cold front brought windy conditions to eastern Montana again on the 27th. Gusts reached 75 mph at Judith Peak (Fergus), 69 mph at Whitehall, 68 mph at McDonalds (northeast) and 67 mph at Wilsall. On the 28th, snow fell, with 6" at Belt and 7" at Red Lodge.

Precipitation/convection

Severe convective weather occurred on 0 days in January, which is normal.

January information:

High Temperature	62°F near Judith Gap (Wheatland) (15 th)	Greatest Precip	3.50" at Greenough
Low Temperature	-38°F at Whiskey Creek SNOTEL and West Yellowstone (9 th)		8.40" at Flattop Mountain SNOTEL
Warmest Ave Temp	31.4°F at Big Timber	Peak Wind Gust	94 mph at Two Medicine (3 rd)
Coollest Ave Temp	14.1°F at Red Rock RAWs (Beaverhead)		103 mph at Deep Creek (3 rd)
Range of Temp departures	-0.8°F at Missoula to +8.4°F at Glasgow	Highest Ave Wind	18.3 mph at Livingston 22.8 mph at Deep Creek RAWs
21 city mean monthly Temperature/Normal	24.3/20.5F normal. 29 th warmest of record (since 1880). 79 th percentile.	20 city mean monthly wind speed/Normal	9.1 mph/9.2 mph; 30 th calmest of record (since 1936). 37 th percentile.
22 city mean monthly precipitation/Normal	1.15"/0.87" - 132% of normal. 39 th wettest of record (since 1880). 49 th percentile.	20 city mean monthly snowfall/Normal	11.1"/10.1" +1.0" 65 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	0.28	150%	5	73	2.60	121%	5	78	21
Billings	0.95	117%	26	21	2.80	80%	57	48	118
Belgrade	0.51	105%	38	45	2.76	97%	42	51	82
Butte	0.14	30%	113	90	1.76	75%	83	67	124
Cut Bank	0.70	350%	16	13	2.54	212%	15	13	112
Dillon	0.06	23%	56	70	1.05	66%	60	76	79
Glasgow	0.29	78%	46	36	2.88	150%	21	17	121
Great Falls	0.98	192%	35	27	2.66	106%	70	55	127
Havre	0.53	161%	55	39	1.50	86%	106	76	139
Helena	0.47	131%	80	56	1.38	72%	122	87	140
Jordan	0.72	313%	3	10	2.78	154%	8	35	21
Kalispell	1.22	92%	70	55	4.60	86%	83	66	125
Lewistown	0.52	91%	73	59	2.80	91%	80	64	124
Livingston	0.23	47%	87	73	3.10	108%	53	46	115
Miles City	0.07	22%	127	89	2.17	113%	70	49	141
Missoula	1.03	121%	61	42	5.73	150%	23	16	139
Mullan Pass	4.42	79%	42	54	20.26	113%	31	39	78
Wolf Point	0.03	10%	16	75	2.11	117%	2	5	21
Glendive	0.49	136%	48	38	2.53	112%	39	32	121
Sidney	0.21	51%	55	68	2.37	92%	35	44	79
BZN MSU	1.29	155%	22	15	6.04	129%	22	15	142
W Yellowst	1.95	99%	57	52	5.51	68%	84	79	106

Rankings and Percentiles are 1=driest, higher numbers=wetter.

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					Oct 1 -				Years
	Jan	Normal	Rank	Pcntl	Jan	Normal	Rank	Pcntl	
Baker	22.9	17.5	19	17	30.0	27.4	36	33	106
Billings	28.8	27.1	29	33	35.4	34.4	34	39	85
Belgrade	22.5	21.1	25	29	29.4	28.3	31	36	84
Butte	19.9	19.6	61	48	27.0	26.4	71	57	124
Cut Bank	26.0	22.1	24	21	31.1	29.4	27	24	110
Dillon	24.9	22.7	24	31	29.7	29.4	50	66	75
Glasgow	22.2	13.8	10	7	29.7	26.0	17	13	124
Great Falls	29.7	25.2	26	20	34.2	32.2	46	37	122
Havre	24.6	18.0	25	17	31.7	27.9	23	16	139
Helena	24.9	23.1	42	30	32.8	30.8	35	25	139
Jordan	24.8	17.2	17	16	31.0	27.6	28	28	99
Kalispell	26.1	23.8	31	25	31.7	30.1	45	37	120
Lewistown	27.7	23.6	23	19	31.9	30.7	45	38	118
Livingston	30.5	27.0	29	24	34.6	33.1	55	47	116
Miles City	26.3	19.5	19	13	31.8	29.6	39	28	137
Missoula	25.0	25.8	49	38	31.9	32.0	58	46	126
Mullan Pass	26.5	22.2	6	12	29.0	26.8	7	15	42
Wolf Point	19.9	11.9	3	10	28.3	24.6	5	20	21
Glendive	23.3	18.9	25	20	32.7	30.1	17	14	123
Sidney	20.5	17.3	21	22	28.3	28.8	34	35	96
W Yellowst	13.0	12.5	45	48	20.4	19.9	66	69	96

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

Location					Oct 1 -				Years
	Jan	Normal	Rank	Pcntl	Jan	Normal	Rank	Pcntl	
Baker	11.8	11.0	4	14	10.7	10.9	11	53	20
Billings	14.7	13.0	16	18	12.8	11.9	23	27	83
Belgrade	4.0	5.0	44	81	4.5	5.2	38	70	54
Butte	3.9	5.3	49	89	4.9	5.6	37	67	55
Cut Bank	14.9	14.4	36	47	14.2	13.9	35	45	77
Dillon	9.6	10.0	41	62	8.9	9.3	50	77	65
Glasgow	10.7	9.5	10	12	9.6	9.7	39	52	74
Great Falls	13.9	14.5	44	54	13.0	13.9	59	73	80
Havre	11.8	9.4	16	12	10.8	9.3	14	10	130
Helena	4.5	5.9	127	91	5.3	6.1	132	95	139
Jordan	7.8	7.3	12	33	7.4	7.4	20	56	35
Kalispell	3.0	4.6	114	95	3.7	4.5	112	94	119
Lewistown	10.3	10.4	42	55	9.4	10.0	58	75	77
Livingston	19.9	20.0	33	60	17.9	17.8	30	56	53
Miles City	10.0	9.6	21	16	9.3	9.7	51	39	128
Missoula	5.7	4.3	22	25	3.9	4.5	67	80	84
Mullan Pass	3.2	5.6	29	100	4.5	5.8	28	100	28
Wolf Point	8.5	7.5	4	15	7.6	7.4	9	40	21
Glendive	9.8	10.0	12	44	9.4	10.1	23	85	27
Sidney	9.4	9.4	11	32	8.75	9.1	19	63	30
W Yellowst	4.7	7.1	4	100	4.90	6.2	5	100	5

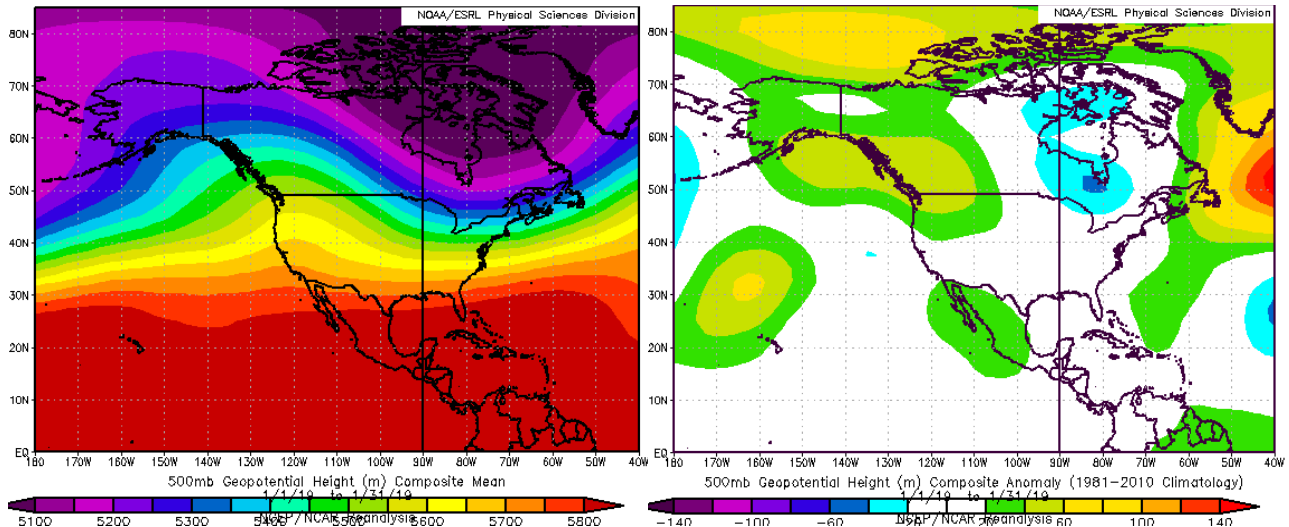
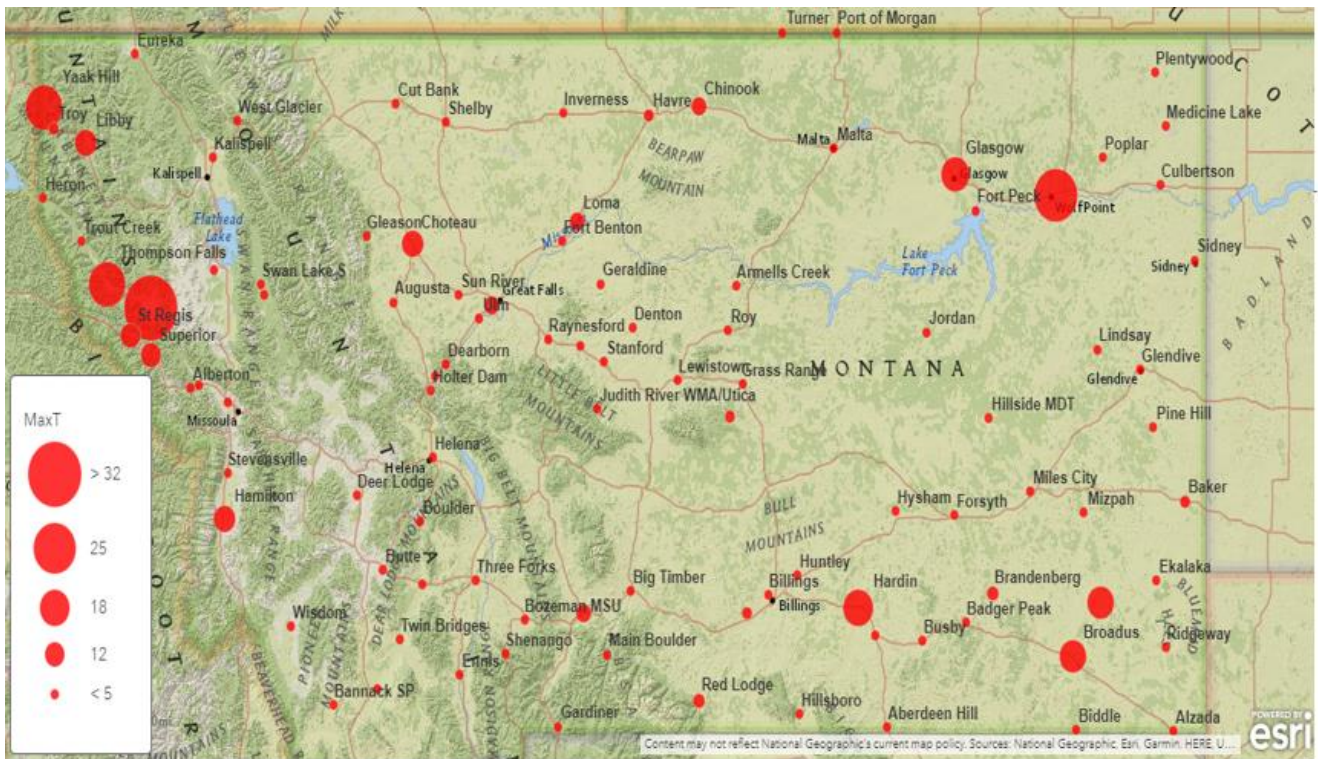
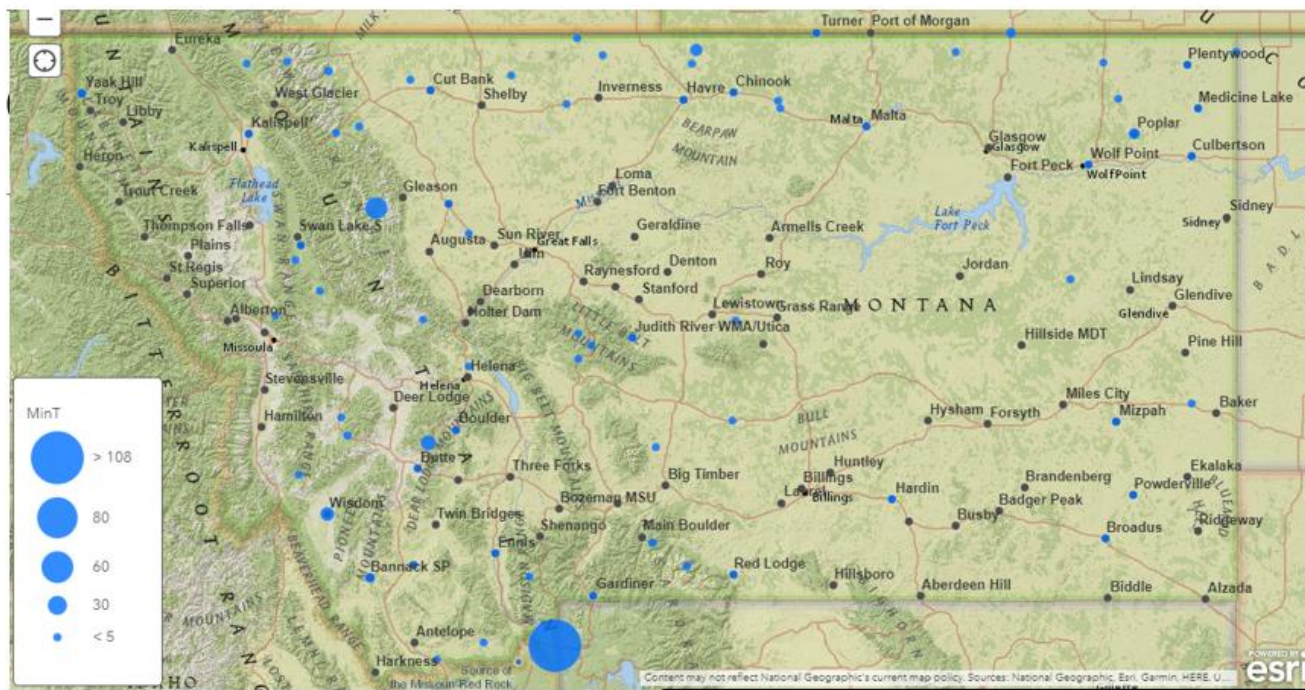


Figure 1. Mean flow at 500 millibars (~18,000 ft) for this month (upper left) and departure from normal (upper right).



- Most areas of the state were represented.
- Plains had 32 days with the highest temperature
- The next was Wolf Point with 26 days
- The next was a 22 day tie with Thompson Falls and Yaak Hill

Locations and number of days with the lowest reported temperature in Montana in 2018



- Most areas of the state were represented.
- West Yellowstone had 108 days with the lowest temperature
- The next was Gates Park with 37 days, and they report only about 5 months of the year
- The next was Elk Park with 21 days

Locations and number of days with the lowest reported temperature in Montana in 2018

Figure 2. The above maps show the frequency distribution of the highest and lowest daily temperatures recorded across Montana in 2018. Plains recorded the highest temperature in the state on 32 days while West Yellowstone had the lowest temperature on 108 days of the year.

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.neic.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=ftx>. 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.