

# Montana Weather/Precipitation Summary

**December 2006** By NOAA's National Weather Service Great Falls Montana

In general, above normal temperatures and below normal precipitation were recorded in December across Montana. Isolated areas had above normal precipitation, but overall the state was on the dry side. Figure 1 shows the mean ridge over the state during the month. The high pressure ridge contributed to the lower than normal precipitation and above normal temperatures.

After a cool start, with some areas dropping below zero, mild to very warm temperatures prevailed until mid-month. During this period, the warmest temperature of the month occurred at Stanford, 64°F on the 8<sup>th</sup>. Little precipitation fell until new storm systems dropped precipitation along and west of the divide from the 12<sup>th</sup>-15<sup>th</sup>. This period of strong westerly flow brought some of the strongest winds recorded in Montana. On the 13<sup>th</sup>, gusts to 164 mph were recorded at Snow Slip, near the continental divide in Glacier National Park. A frontal system brought thunderstorms to central Montana on the 14<sup>th</sup>, with gusts to 79 mph at Jordan. Considerable blowing dust accompanied the strong winds. The state cooled after this frontal passage, with most of the cooling west of the divide. While eastern Montana temperatures remained above normal, western Montana and southwest valleys experienced inversions with below normal temperatures and light precipitation. West Yellowstone recorded the state's lowest temperature during this period, at -37°F. The entire state experienced some warming around Christmas, with another strong weather system bringing heavy snows to the mountains and some southwest valleys, and colder temperatures to end the year. Some southwest valley locations recorded a foot of snow, with about 8 inches in the Great Falls area. Figure 2 shows the monthly departures from normal for precipitation. During this period, winds again picked up in the normally windy areas. The Livingston area had a wind gust to 107 mph on the 26<sup>th</sup>.

Though notable windy periods occurred, winds averaged a little lighter than normal.

## **Month's summary information (to date):**

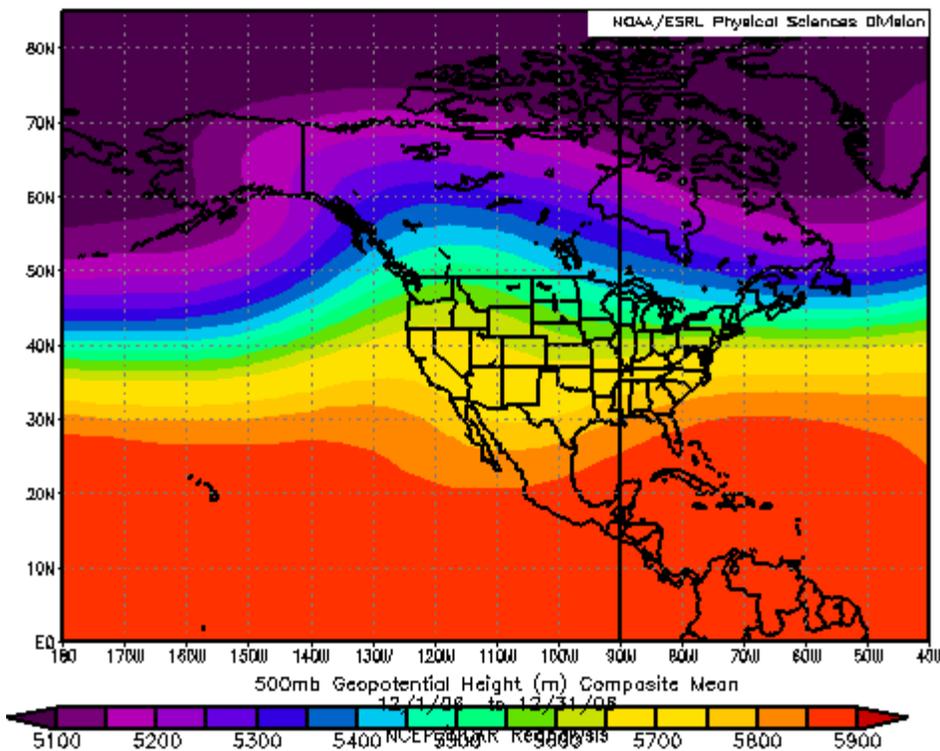
<b>High Temperature</b>	64°F at Stanford (8 <sup>th</sup> )	<b>Greatest Precip</b>	5.41" Mullan Pass
<b>Low Temperature</b>	-37°F at West Yellowstone (18 <sup>th</sup> )		7.90" Twin Lakes (w)
<b>Warmest Ave Temp</b>	32.3°F at Great Falls	<b>Peak Wind Gust</b>	164 mph at Snow Slip (15 <sup>th</sup> )
<b>Coolest Ave Temp</b>	10.5°F at W Yellowstone		
<b>Range of Temp departures</b>	-2.0°F at West Yellowstone to +10.7°F at Alzada	<b>Highest Ave Wind</b>	23.6 mph near East Glacier 21 mph at Livingston

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

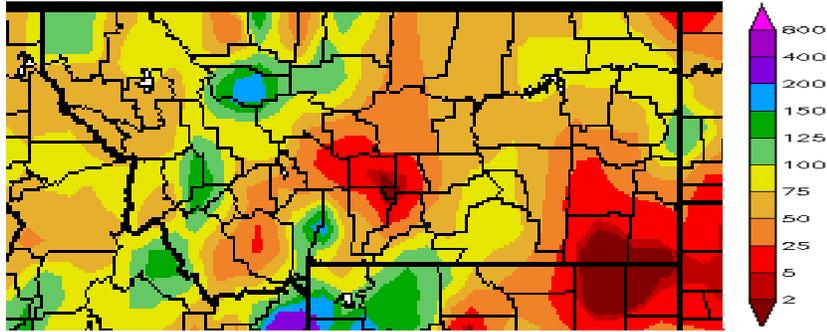
Location	Dec	% of Norm	Rank	Pcntl	Oct 1 – Dec 31	% of norm	Rank	Pcntl	Years
Baker	0.04	17%			2.01	102%			9
Billings	0.38	57%	47	48	3.33	124%	83	85	98
Belgrade	0.27	47%	16	23	3.34	134%	57	86	66
Butte	0.37	70%	43	38	2.81	146%	91	81	113
Cut Bank	0.11	33%	28	28	0.27				100
Dillon	0.09	39%	10	15	1.96	159%	56	84	67
Glasgow	0.29	78%	50	45	1.95	133%	79	72	109
Great Falls	0.59	88%	68	59	2.50	114%	75	66	114
Havre	0.27	53%	45	35	1.41	89%	56	44	127
Helena	0.38	83%	52	40	2.25	141%	87	67	129
Jordan	0.17	158%			1.47	97%			9
Kalispell	1.29	78%	51	45	3.58	88%	42	37	113
Lewistown	0.33	40%	25	23	3.33	127%	83	75	111
Livingston	0.36	63%	39	37	4.05	134%	97	93	104
Miles City	0.09	20%	18	14	1.05	50%	31	24	130
Missoula	0.70	61%	43	33	4.36	148%	102	80	127
Mullan Pass	5.41	127%	39	58	22.09	183%	66	99	67
Wolf Point	0.08	44%			0.77	59%			9
Glendive	0.23	59%	33	29	1.34	72%	44	41	108
Sidney	0.20	41%	15	22	0.81	38%	9	14	66
BZN-MSU	1.64	208%	112	88	6.63	189%	124	97	128

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>



**Figure 1.** Mean flow at 500 millibars (~18,000 ft) December 2006. The heights were 60 to 80 meters above normal over Montana. This contributed to the above normal temperatures in Montana.



**Figure 2.** Precipitation anomaly (% of normal) for December (courtesy High Plains Climate Center).

For a state map of % of normal water year precipitation (updated around the 7<sup>th</sup> of each month), go to:  
[http://www.wrh.noaa.gov/tfx/image.php?wfo=tfx&type=data&loc=hydro&fx=watyr\\_pcptnorm.png](http://www.wrh.noaa.gov/tfx/image.php?wfo=tfx&type=data&loc=hydro&fx=watyr_pcptnorm.png)

For the latest information on mountain snow pack from the NRCS, go to:  
<http://www.mt.nrcs.usda.gov/snow/index.html>

For the latest U.S. Drought Monitor, issued weekly by the Climate Prediction Center (CPC), go to:  
<http://www.drought.unl.edu/dm/monitor.html>

All reported data is preliminary. Further inquiries about the moisture conditions can be directed to Dave Bernhardt or Gina Loss at (406) 453-2081. 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=tfx>