

# Montana Weather/Precipitation Summary

**June 2007** By NOAA's National Weather Service Great Falls Montana

June was a month of extremes. Record highs, record lows, severe weather, heavy rain and snow fall occurred across the state. Statewide, temperatures averaged above normal for the month. The upper air pattern averaged close to normal for the month (Figure 1). A few cool periods brought late frosts to some areas in the southwest. The greatest warmth was over the southern portions, where temperatures were as much as 5 degrees above normal. Warm temperatures started early with temperatures in the mid 90s west of the divide on the 4<sup>th</sup>. Severe weather broke out as a cold front brought cooler air across the state on the 4<sup>th</sup> through 6<sup>th</sup>. The Lustre area (Valley Co), recorded wind gusts to 77 mph with a thunderstorm on the 6<sup>th</sup>. Inclement conditions continued as a large storm brought 2-4 inches of rain to southeast Montana, with some flooding. By the time the storm ended, up to 10 inches of snow fell over Sweet Grass county and 2-10 inches over the higher elevations of western Montana. Temperatures again rapidly warmed, with Alzada recording 98F on the 11<sup>th</sup>. Thunderstorms with strong winds and hail again accompanied a cold front that brought a respite from the heat.

The weekend of June 16<sup>th</sup> brought some of the most disastrous thunderstorms of the season. A thunderstorm started over north-central Montana, and plowed through Glasgow, before dying out near the North Dakota border. This storm brought large hail, funnel clouds and heavy rain throughout its path. Other severe weather on the 16<sup>th</sup> produced a tornado in the Little Belts near Utica and 2 inch hail scattered in eastern Montana. Winds peaked at 89 mph near Glasgow with this storm. Cooler conditions behind this system brought 4-8 inches of snow to Glacier National Park by the morning of the 18<sup>th</sup>.

A little more tranquil, but warm weather prevailed for the next week. Severe thunderstorms again broke out across eastern Montana on the 24<sup>th</sup>, with hail as large as baseballs in the Roundup area. A microburst produced major damage in the Roundup and Harlowton areas. A change in the weather brought cooler and windy conditions to the state on the 25<sup>th</sup>. Choteau recorded gusts to 71 mph. The cooler conditions behind this system dropped temperatures to 32F at Dillon on the 27<sup>th</sup>. This was one of the latest frosts in the Dillon area since 1988. Temperatures fell as low as 21F at Elk Park on the 26<sup>th</sup>. Temperatures again warmed rapidly, topping 100F at locations on the 28<sup>th</sup> and 29<sup>th</sup>. Flat Willow was the state's warmest on the 29<sup>th</sup>, at 103F.

With temperature averages near to slightly above normal, Bozeman and Helena ranked among their 10 warmest June's of record. Precipitation was widely variable, with pockets of much above, and pockets of much below normal (Figure 2). Much of western Montana was below normal. Winds also averaged a bit below normal. With the changeable weather during the month, several days of thunderstorms were observed. Severe weather related to thunderstorms occurred on 16 days, much higher than the average of 10 days. Two larger fires started during the month. One near Hebgen Lake, and the other in the Little Belts near Utica.

## **Month's summary information:**

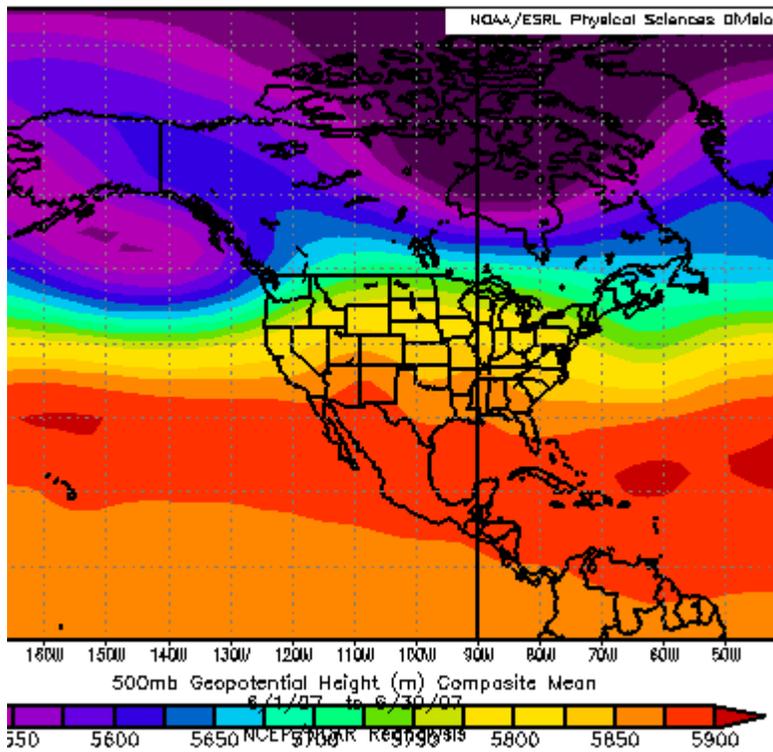
<b>High Temperature</b>	103°F at Flat Willow (29 <sup>th</sup> )	<b>Greatest Precip</b>	5.18" Shonkin
<b>Low Temperature</b>	21°F at Elk Park (26 <sup>th</sup> )		6.80" Noisy Basin Snotel
<b>Warmest Ave Temp</b>	69.3°F at Glendive	<b>Peak Wind Gust</b>	95 mph at Rudyard (29 <sup>th</sup> )
<b>Coolest Ave Temp</b>	50.7°F at Mullan Pass		
<b>Range of Temp departures</b>	-0.5°F at Valier to 5.3°F at Boulder	<b>Highest Ave Wind</b>	12.8 mph at Cut Bank

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

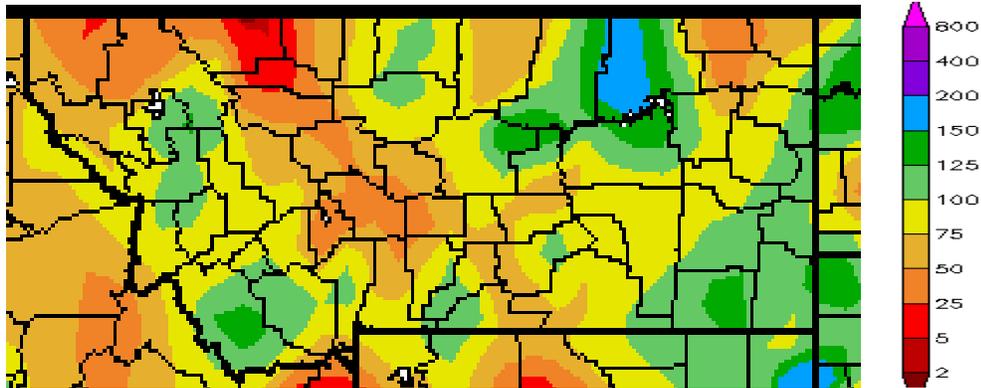
Location	Jun	% of Norm	Rank	Pcntl	Oct 1 – Jun 30	% of norm	Rank	Pcntl	Years
Baker	3.43	135%			12.43	153%			9
Billings	1.12	59%	37	37	13.44	119%	82	84	98
Belgrade	2.32	96%	29	41	11.78	108%	53	80	66
Butte	2.07	100%	59	52	10.04	113%	70	62	113
Cut Bank	0.23	9%							99
Dillon	2.21	125%	46	68	8.72	129%	53	79	67
Glasgow	3.28	149%	76	69	13.43	186%	102	95	107
Great Falls	1.00	45%	11	10	10.72	102%	61	54	114
Havre	1.86	98%	51	40	9.77	127%	92	72	127
Helena	1.44	79%	42	33	8.62	113%	68	53	129
Jordan	1.92	75%			12.34	167%			7
Kalispell	0.95	41%	16	14	10.38	78%	77	68	113
Lewistown	2.31	79%	36	32	14.10	113%	81	73	111
Livingston	1.44	64%	28	27	13.21	115%	78	76	102
Miles City	2.28	94%	61	47	10.93	115%	89	68	130
Missoula	1.49	86%	50	39	10.81	103%	68	54	125
Mullan Pass	2.29	84%	28	41	41.51	136%	56	85	66
Wolf Point	3.25	119%			10.68	145%			9
Glendive	0.60	23%	1	1	8.93	99%	50	48	104
Sidney	3.04	109%	44	65	7.89	84%	19	29	66
BZN-MSU	2.31	81%	40	31	20.91	144%	122	96	127

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) June 2007. Though in a mean ridge position, the heights were close to normal across Montana.



**Figure 2.** Precipitation anomaly (% of normal) for June. Much above normal precipitation occurred over southwest and much of eastern Montana (courtesy High Plains Regional 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\\_pcntnorm.png](http://www.wrh.noaa.gov/tfx/image.php?wfo=tfx&type=data&loc=hydro&fx=watyr_pcntnorm.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. 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>