

Montana Weather/Precipitation Summary

August 1-17 2006 By NOAA's National Weather Service Great Falls Montana

After a hot July, temperatures tempered a bit in August, but continued above normal in many areas. Average temperatures have been from 3°F above normal in the east, to 2.5°F below normal in the west. Dryness continued most areas through mid-month, again with exceptions. Thunderstorms became more common during August, with nearly 2 inches of precipitation at some points in the state. Over 100°F temperatures were reported across the state from the 7th-10th, with the warmest 104°F at Libby on the 7th. Temperatures were not as consistently warm in August as in July. More variability was accompanied by more rainfall. A strong cold front on the 11th brought the coolest period during the summer from the 12th-13th, with high temperatures in the 70s and lower 80s. This change brought severe weather to the state. Weak disturbances also brought thunderstorms with little rain, which sparked fires in western Montana. The cooler air during this period produced the coldest reading of the month, 20°F at Clover Meadow. An unsettled period through mid-month brought even cooler air with widespread rain on the 17th. Maximum temperatures on the 17th were in the 60s and lower 70s. Mid-month, Benchmark (west of Augusta) received more than two inches of rain over a 3 day period.

Severe weather has occurred on 9 days so far. The average for August is 7 days. Severe thunderstorms brought one inch hail to southeast Montana on the 7th and 8th. The strongest wind of the month occurred near Mosby on the 9th (65 mph). A strong cold front brought hail wind strong winds across most of the state on the 11th and 12th. A major weather change on the 16th and 17th produced hail, heavy rain and strong winds over much of Montana.

Figure 1 shows the average flow pattern during the first half of August as contrasted with July. An upper level trough has dominated Montana during August, which has brought more variability to the weather pattern. Hot days continue, interspersed with cool times. The location of the trough graphically reinforces that the temperatures have been below normal in the west and above normal in the east. Thunderstorms that develop also have brought more rain than those of July. Figure 2 illustrates the precipitation departures from normal for August.

For the water year, there are still areas that remain dry. Large portions of eastern Montana are around 80% of normal precipitation for the water year. Many of these areas have experienced a very dry and warm summer, too.

Month's summary information (to date):

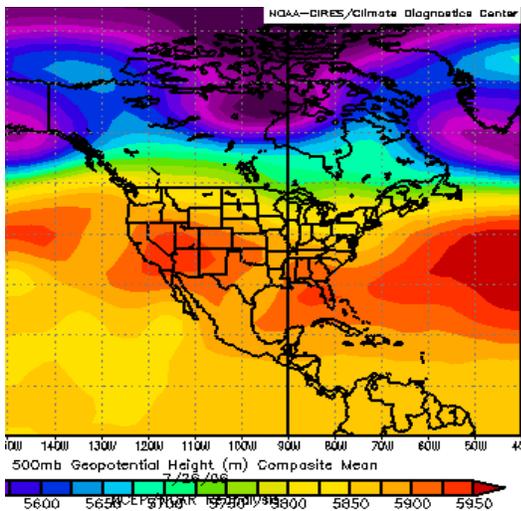
High Temperature	104°F at Libby (7 th)	Greatest Precip	2.22" at Benchmark
Low Temperature	20°F at Clover Meadow (13 th) (sw Montana)		1.70" at Waldron (WC Montana)
Warmest Ave Temp	76.8°F at Glendive	Peak Wind Gust	65 mph at South Sawmill Creek (9 th)
Coolest Ave Temp	52.8°F at Cooke City		
Range of Temp Departures	-2.5°F at Big Sky to +3.4°F at Albion and Glendive	Highest Ave Wind	10.5 mph at Glasgow

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

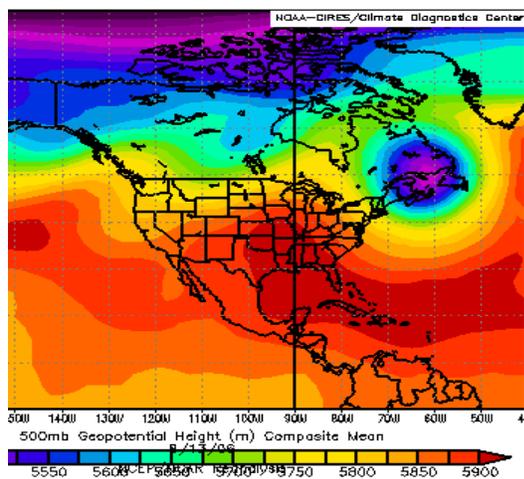
Location	Aug 1-17	% of Norm	Oct1 – Aug 17	% of norm	Years
Baker	1.19	245%	9.73	97%	8
Billings	0.42	99%	10.58	81%	96
Bozeman	0.64	112%	12.89	101%	65
Butte	0.08	12%	12.01	109%	112
Cut Bank	0.20	23%	3.97	38%	98
Dillon	0.10	19%	8.24	98%	66
Glasgow	0.33	53%	7.66	80%	106
Great Falls	0.49	59%	16.04	125%	114
Havre	0.55	92%	7.93	81%	126
Helena	0.25	39%	11.45	119%	128
Jordan	0.85	114%	9.94	101%	5
Kalispell	0.38	61%	16.23	105%	112
Lewistown	0.36	38%	15.37	99%	110
Livingston	0.33	49%	11.67	86%	100
Miles City	0.75	129%	11.10	95%	129
Missoula	0.64	111%	14.84	122%	120
Mullan Pass	0.82	108%	43.99	134%	64
Wolf Point	0.60	87%	7.94	79%	8
Glendive	0.64	91%	11.49	99%	103
Sidney	0.66	101%	12.06	99%	65
BZN-MSU	1.39	188%	18.97	113%	121

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>



a. July 2006 mean flow



b. August 1-15 Mean flow

Figure 1. Mean flow at 500 millibars (~18,000 ft), (a) July 2006. (b) August 1-15 2006. Note the difference in the flow pattern over the west between July and the first half of August. A cooler and somewhat wetter pattern has resulted in Montana.

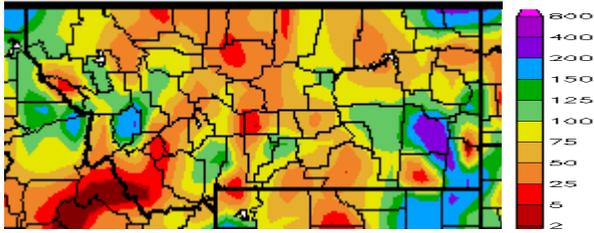


Figure 2. Precipitation anomaly (% of normal) for August 1-15. (courtesy High Plains Climate Center).

For a state map of % of normal water year precipitation (updated around the 7th of each month), go to:
http://www.wrh.noaa.gov/tfx/image.php?wfo=tx&type=data&loc=hydro&fx=watyr_pcnorm.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 can be found on the Drought Information Page of the NWS Great Falls web site at <http://www.wrh.noaa.gov/tfx/main/drought.php?wfo=tx>