

Montana Weather/Precipitation Summary

April 2007 By NOAA's National Weather Service Great Falls Montana

April again was a month of extremes. The first two weeks were very cold. Some areas were 10 to 20 degrees below normal during the first week, with several days of high temperatures in the 20s and 30s. There was a rapid warm up on the 14th, with temperatures into the 70s. This warm up lasted a few days before another 4 day period of cold temperatures returned. During these cold periods, snow fell in many parts of the state. Warmer temperatures returned for the last seven days of the month. Readings over 80°F were felt in many areas. Precipitation was variable, but Livingston recorded their 7th wettest April of record. For the month, the upper air pattern was close to normal for April (Figure 1).

The cold of the early part of the month was accompanied with snow. Amounts from 2-12" fell over a large portion of eastern Montana. Stanford received 0.80" of precipitation on the 2nd, for a daily record amount. After the snowfall, Harlowton dropped to -4°F on the 3rd. Another bout of snow accompanied a return to cold around the 10th. One to 3 feet of snow fell over higher elevations of northwest Montana, 6-10" over central Montana and around 4" in northeast Montana. After this fresh snowfall, Placer Basin SNOTEL reported the lowest temperature in the state on the 14th, dropping to -5°F. A cold front moved across the state on the 17th. It produced some penny-size hail at Phillipsburg. This system continued across the state with hail falling again near Glasgow on the 18th. Behind this system, cold air again poured into the state. Great Falls received 2.5" of snow, with heavy rain and snow falling over a large portion of the state. Mountains of central and western Montana received 6-12" of snow, with up to an inch of rainfall in some northwest valleys. Choteau also picked up 1.25" of rain. New daily precipitation records were set at Havre, Harlem and Shelby. See Figure 3 for a map showing precipitation anomalies across the state.

Somewhat calmer and warmer weather prevailed for the next few days. The warmth peaked on the 28th and 29th. Bozeman set a record high temperature on the 28th, reaching 83°F. Yellowtail Dam and Fort Howes reached 87°F on the 29th, for the warmest temperature of the month. This warmth preceded a change in the pattern, and a cold front that again produced thunderstorms on the 29th. Severe thunderstorms produced 67 mph winds near Livingston and other wind damage near Terry on the 29th. The weather pattern change also produced the strongest wind for the month at Logan Pass. On the 27th, the pass recorded a peak of 91 mph.

Severe weather occurred on 2 days during April. The state average is 5 days. Temperatures averaged from a few degrees above normal in the southwest to a few degrees below average in the east (Figure 2). Winds averaged near normal for the month. The highest wind speed average besides mountain peaks was at Cut Bank (13.3 mph).

Month's summary information (to date):

High Temperature	87°F at Yellowtail Dam and Ft Howes (29 th)	Greatest Precip	3.45" McLeod
Low Temperature	-4°F at Harlowton Ag (3 rd) and -5°F at Placer Basin SNOTEL (13 th)		7.20" Stahl Peak Snotel
Warmest Ave Temp	45.8°F at Glendive	Peak Wind Gust	91 mph at Logan Pass (27 th)
Coollest Ave Temp	29.0°F at West Yellowstone		
Range of Temp departures	-3.2°F at Ekalaka to +2.7°F at Bozeman Apt	Highest Ave Wind	20.2mph at Logan Pass 13.3 mph at Cut Bank

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

Location	Apr	% of Norm	Rank	Pcntl	Oct 1 – Apr 30	% of norm	Rank	Pcntl	Years
Baker	1.30	145%			5.00	125%			9
Billings	2.51	144%	87	89	8.39	121%	86	88	98
Belgrade	1.87	134%	56	80	6.70	111%	48	73	66
Butte	1.15	113%	68	60	5.13	108%	66	58	113
Cut Bank	0.34	38%			M	M			100
Dillon	1.14	120%	46	69	4.61	145%	61	91	67
Glasgow	1.06	141%	70	64	3.54	107%	54	50	107
Great Falls	2.35	168%	103	90	6.91	119%	91	80	114
Havre	2.13	245%	119	93	5.52	139%	106	83	127
Helena	0.82	90%	66	51	3.93	97%	40	31	129
Jordan	2.02	204%			4.31	125%			7
Kalispell	0.89	73%	57	50	6.84	76%	15	13	113
Lewistown	1.59	115%	78	70	6.86	103%	74	67	111
Livingston	2.83	198%	101	94	8.76	132%	99	95	104
Miles City	1.35	96%	86	67	4.14	84%	53	41	130
Missoula	0.92	84%	64	49	6.94	102%	69	55	126
Mullan Pass	1.58	58%	13	20	38.02	153%	61	92	66
Wolf Point	0.49	57%			2.14	78%			9
Glendive	1.25	102%	70	62	4.95	112%	72	67	107
Sidney	0.85	79%	35	51	2.82	62%	12	18	66
BZN-MSU	2.94	143%	115	88	13.19	155%	127	99	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>

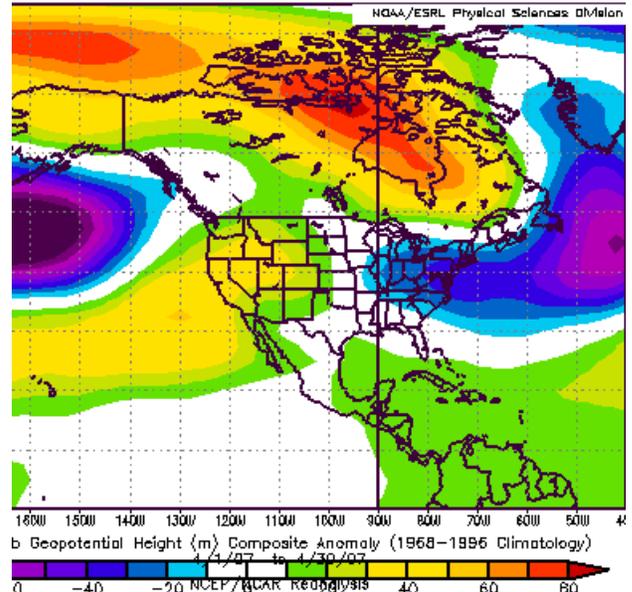
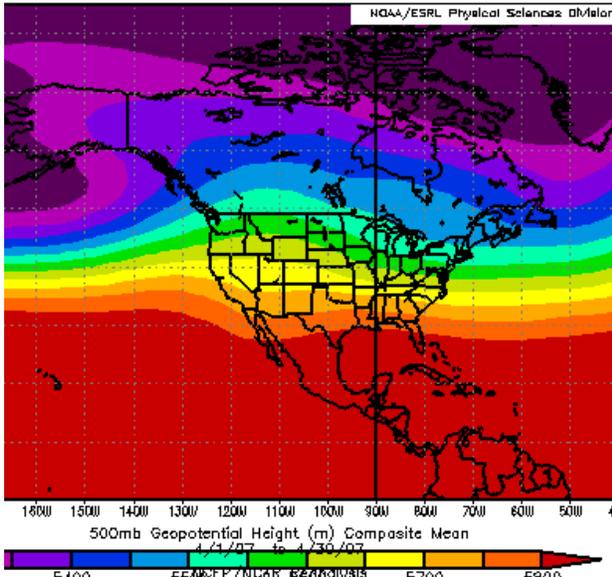


Figure 1. Mean flow at 500 millibars (~18,000 ft) April 2007 (left). The heights were above normal across the most of the western US (right). Western Montana was in a mean high pressure ridge pattern, which produced above normal temperatures west and below normal temperatures east.

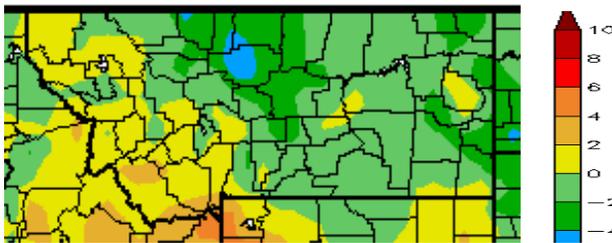


Figure 2. April temperature anomaly. Temperatures were above normal in the west and southwest, with below average across much of eastern Montana. (courtesy High Plains Climate Center)

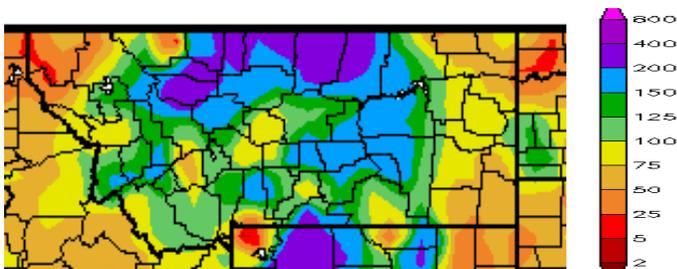


Figure 3. Precipitation anomaly (% of normal) for April. Much above normal precipitation occurred over central Montana (courtesy High Plains Climate Center).

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_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. 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=tx>