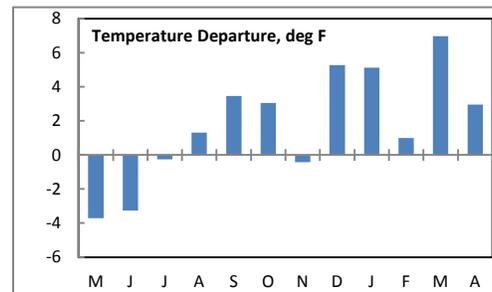


Montana Weather/Precipitation Summary

April 2012 by NOAA's National Weather Service Great Falls Montana

April temperatures averaged above normal across the state. Some areas were as much as 5 degrees above normal. The warmest departures were across the southern half of the state (Fig. 2). Precipitation distribution was mixed. Above normal precipitation fell across the north central and northeast, and scattered pockets across the rest. Some below average pockets were scattered across the state (Fig. 3). Winds were lighter than normal in April. A gust to 85 mph was recorded at Deep Creek RAWS. Montana was under mean ridge of high pressure during April (Fig. 1). Usually, a ridge of high pressure is displaced more westward, giving the state a general westerly flow. This change contributed to the above normal temperatures for the month. Refer to NCDCC's State of the Climate report for the latest monthly discussion: <http://www.ncdc.noaa.gov/sotc/>.

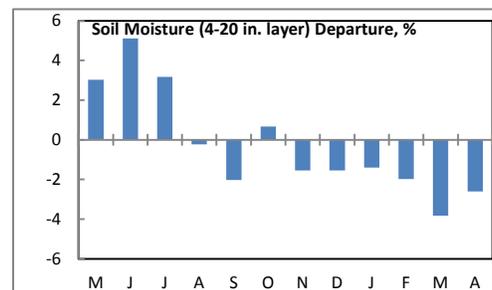
Temperatures across the state averaged 45.9F, 2.9 degrees above normal. This was the 33rd warmest April, and the sixth consecutive month with above normal temperatures (see figure on right). This was also the warmest April since 1992. Temperature anomalies were greatest over northeastern Montana (Fig. 3). For the period October through April, temperatures averaged 34.3F, or 3.4F above normal (the 5th warmest of record). This was the warmest of this period since 1999-2000. The statewide average temperature for the past 12 months is 1.8F above normal.



Precipitation varied widely across the state. Above normal departures were mainly across the north central and northeast portions (Fig. 4). Overall, April averaged 0.17-inches above normal, or 1.50-inches. This was 113% of normal, and the 28th wettest April of record. The mean precipitation excess over the past 12 months is 1.55-inches and the fourth consecutive month to average above normal precipitation statewide. For the period October through April, precipitation averaged 7.05-inches, or 0.68-inches above normal, and the 39th wettest of record. April snowfall averaged 3.4 inches across the state, or 3.3-inches below normal. This was the 42nd lowest April total of record. This was also the lowest average April snowfall since 2004. For the period from October through April, an average of 45.9 inches of snow has fallen. This is the 33rd lowest of record and the lowest since 2004-05.

Wind speeds were below normal in April. The average of 9.6 mph was 0.2 mph below average, and the 20th calmest of record. For period from October through April, an average of 9.2 mph was 0.1 mph above normal, and the 20th calmest of record.

Soil moisture conditions across the state rank as the lowest since 2002. After the very wet spring of 2011, soil moisture conditions have been mostly below-normal since August 2011 (figure on right).



April 1-5

Windy conditions of March continued for the first few days of April, with gusty winds in many areas of the state. Some of the strongest winds occurred in southwest Montana, with gusts to 60 mph at Norris Hill. Temperatures were near normal during this period, except on the 4th, when temperatures were much above normal, and Havre set a new daily high temperature of 74F.

April 6-19

This was a variable period with periods of precipitation, and bouts of both cold and warm weather. On the 5th and 6th, snow fell across most areas of the state. A point near Fishtail

(Stillwater) reported 22 inches, with amounts of 5 to 9 inches common in many areas. After the snow, high pressure caused lows to drop to 3F at Georgetown Lake on the 8th, for the month's lowest. A rapid warm-up on the 11th brought record warmth to Missoula, Butte and Bozeman. Missoula topped out at 78F and Drummond hit 81F. A storm system in central Montana brought over two inches of rain to the Highwood area, with around one inch amounts over a large portion of north central Montana. Another system pushed across southern Montana on the 13th-16th, bringing around an inch of precipitation to several locations across southern and southeast Montana.

April 20-24

Windy conditions accompanied a warming trend that started on the 20th. A location southeast of East Glacier recorded a gust to 85 mph, while winds to 72 mph were recorded just east of East Glacier. Temperatures warmed to record levels on the 22nd and 23rd at many locations across western, central and northeastern Montana. Miles City reached 91F on the 23rd, while Rudyard reached 90F. Thunderstorms moved through southwest, central and southeast Montana on the 23rd. Gusts to 65 mph occurred at Fort Smith (Carbon) and Belgrade.

April 25-30

The largest storm of the month occurred from the 27th-29th. Up to six inches of precipitation fell over the Big Snowy Mountains, and 2.5 feet of snow. High amounts also fell over the Bridgers, Highwoods, Little Belts, Bears Paws and Crazy's. Even at lower elevations, 1.5 inches of rain fell at Havre and Lewistown. This storm pushed into eastern Montana with over two inch amounts reported. Soil moisture values rebounded from the dry conditions earlier in the month.

Precipitation/convection

Severe convective weather occurred on one day in April, the normal is one.

April summary information:

High Temperature	91°F at Miles City (23 rd)	Greatest Precip	7.84" at Pistol Creek RAWS (Lake) 10.00" at South Fork Shields SNOTEL (Park)
Low Temperature	3°F at Georgetown Lake (8 th)		
Warmest Ave Temp	51.0°F at Roundup	Peak Wind Gust	72 mph near East Glacier 85 mph at Deep Creek RAWS (20 th)
Coollest Ave Temp	36.2°F at Cooke City		
Range of Temp departures	+0.0°F at St Mary to +6.6°F at Cooke City	Highest Ave Wind	14.7 mph at Fort Belknap RAWS
21 city mean monthly Temperature/Normal	45.9/43.0; 33 rd warmest of record (since 1880)	20 city mean monthly wind speed/Normal	9.6 mph/9.8 mph; 20 th calmest of record. (since 1936)
22 city mean monthly precipitation/Normal	1.50/1.33" – 113% normal; 28 th wettest of record. (since 1880)	19 city mean monthly snow/Normal	3.4/6.7; 42 nd lowest of record. (since 1881)

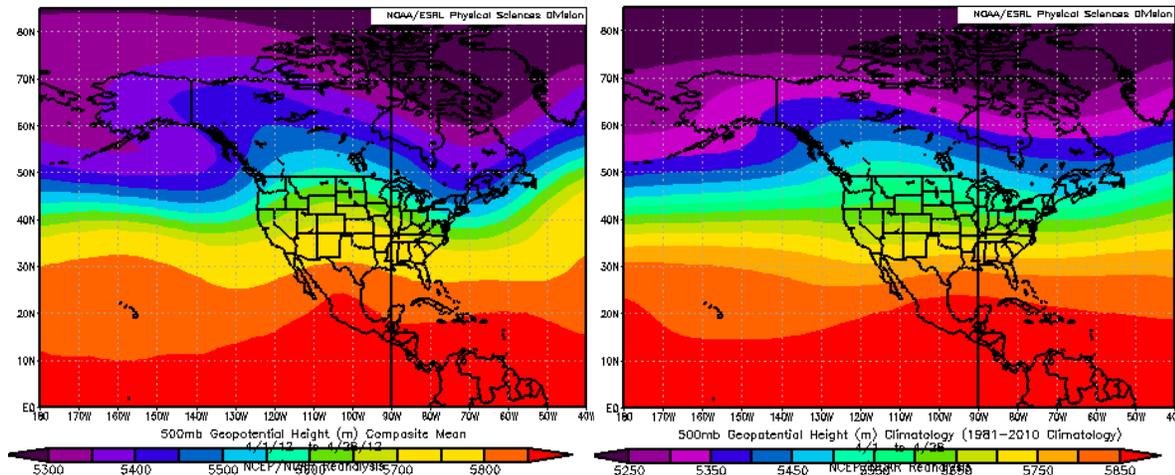
**Historical Rank of Precipitation (inches)
for the Current Month and Water Year to Date**

Location	Apr	% of Norm	Rank	Pcntl	Oct 1 – Apr 30	% of norm	Rank	Pcntl	Years
Baker	1.32	147%			3.34	84%			14
Billings	0.64	37%	31	27	4.52	65%	39	35	111
Belgrade	2.02	126%	62	82	5.23	89%	36	47	75
Butte	1.23	105%	78	65	3.96	84%	41	34	118
Cut Bank	1.27	163%	88	83	4.68	174%	92	88	105
Dillon	0.89	83%	40	55	3.25	94%	39	54	72
Glasgow	1.35	159%	93	81	4.44	129%	81	72	112
Great Falls	2.37	167%	107	88	6.87	129%	91	76	120
Havre	1.79	213%	120	90	5.05	149%	101	76	132
Helena	0.59	60%	38	28	4.70	124%	74	55	134
Jordan	0.74	69%			3.50	96%			14
Kalispell	1.31	106%	85	71	8.39	97%	61	51	118
Lewistown	3.36	238%	113	97	8.73	148%	106	91	116
Livingston	1.77	100%	84	75	5.10	85%	43	39	109
Miles City	0.94	69%	61	45	2.81	68%	17	12	135
Missoula	1.19	98%	92	68	8.65	129%	101	77	131
Mullan Pass	3.82	126%	59	83	39.02	136%	65	91	71
Wolf Point	0.97	103%			2.55	75%			14
Glendive	1.57	123%	84	71	3.64	83%	32	28	112
Sidney	1.21	115%	47	64	2.36	52%	11	14	71
BZN-MSU	3.30	143%	125	92	9.31	102%	93	70	133

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=txf&type=&loc=products&fx=PCPNTOTALS>



Figures 1a (left); 1b (right). Mean flow at 500 millibars (~18,000 ft) for April (left). The ridge over the central portion of the continent was stronger and more eastward than normal (right).

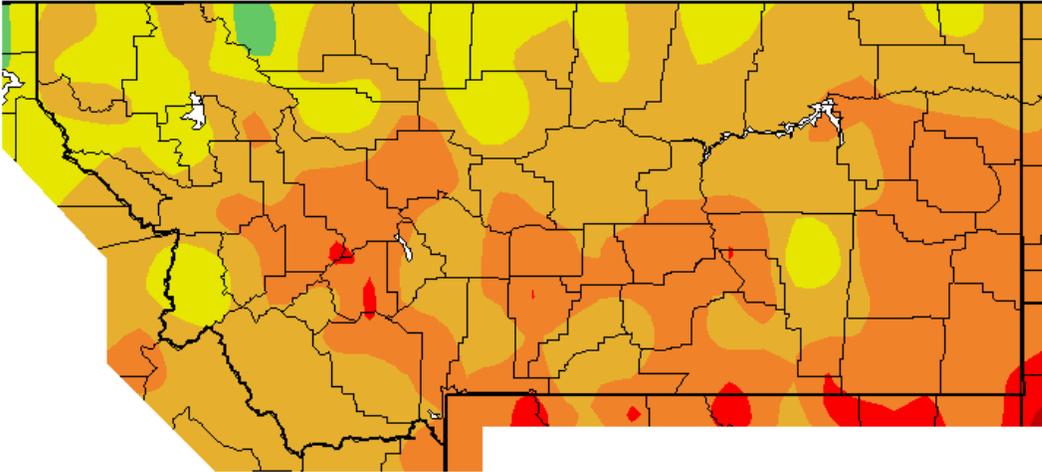


Figure 2. Temperature anomaly for April. Temperatures averages were above normal. (Western Region Climate Center).

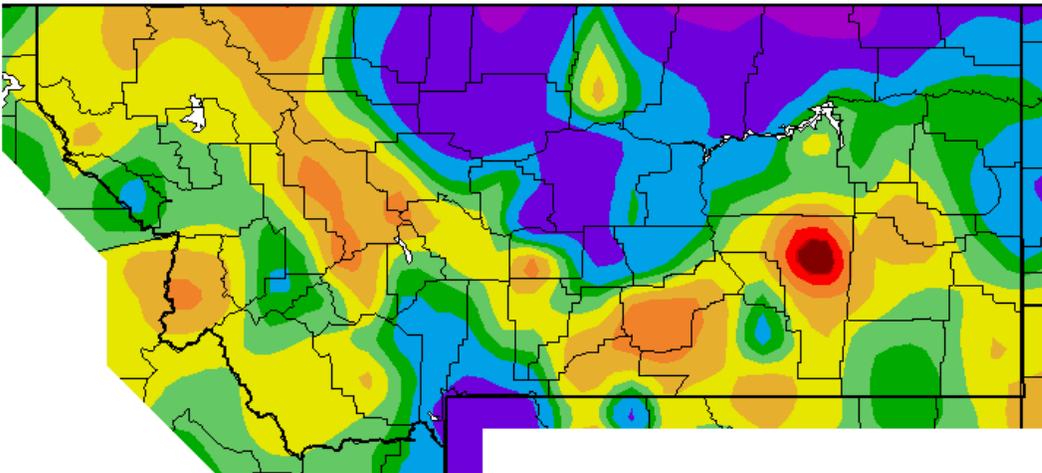


Figure 3. Precipitation anomaly (% of normal) for April.

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>

These data are preliminary and have not undergone final QC by NCDC. Therefore, these data are subject to revision. Final and certified climate data can be access at the National Climatic Data Center (NCDC) <http://www.ncdc.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=tx>. 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.