Montana Weather/Precipitation Summary

May 1-16 2012 by NOAA's National Weather Service Great Falls Montana

May temperatures have varied from areas of below normal across the west and scattered areas in central and eastern Montana. Areas of slightly above normal temperatures are in central and eastern Montana (Fig. 3). High temperatures have been at or above normal averages for the month, while lows have been closer to average, even a little below (Fig. 1). Overall, precipitation has been below normal (Fig. 4). Statewide precipitation averages peaked on the fifth, with a secondary maximum on the tenth (Fig. 1). Winds have been lighter than normal. A gust to 67 mph was recorded at Roy. Montana was under a ridge of high pressure during May (Fig. 2). A ridge of high pressure aloft has been a little stronger than normal this month. While soil moisture has increase over the higher terrain with the snow melt, dry conditions have caused soil moisture to drop to below normal seasonal values at lower elevations. Figure 5 shows a comparison of temperature data at Great Falls for the past 12 months. This illustrates the warmer conditions of spring 2012 versus that of spring 2011.

May 1-7

Generally below normal temperatures occurred during the first week of May. Thunderstorms scattered across the state produced locally heavy rainfall and some small hail. Up to 7/8 inch hail was reported near Reserve (Sheridan) and Lost Trail Pass (Ravalli). On the fifth, nearly one inch of rain fell near Sioux Pass (Richland). Otherwise, precipitation over the central Montana island ranges on the sixth produced up to nine inches of snow in the Bears Paws and 1.13 inches of rain near Lloyd (Blaine).

May 8-16

Much warmer conditions occurred during this period. Both record high and record low temperatures were recorded across the state. On the ninth, Bozeman and Dillon set new record high temperatures. A storm system brought gusty winds and precipitation across the area on the 10th. Up to eight inches of snow fell in the Little Belts, and 4.3 inches in Bozeman. Colder air followed, with low temperatures on the 11th as low as 10F at Wisdom, 20F at Cut Bank, 21F at Kalispell and 22F at Bozeman. A rapid warm-up produced record warm conditions in Montana on the 15th and 16th. Cut Bank reached 87F on the 15th, and Butte topped out at 83F on the 16th. Huntley had the warmest high temperature at 92F.

Precipitation/convection

Severe convective weather not yet occurred in May, the normal is five days.

May summary information:

High Temperature	92°F at Huntley (16th)	**Greatest Precip**	2.18" at Zortman RAWS (Phillips)
Low Temperature	7°F at Placer Basin (7th) (Sweet Grass)		
Warmest Ave Temp	57.1°F at Sidney	**Peak Wind Gust**	67 mph at Roy (6th) ar East Glacier 72 mph at Garden Wall (9th)
Coolest Ave Temp	40.5°F at Cooke City		
Range of Temp departures	-3.4°F at Thompson Falls to +2.7°F at Alzada	**Highest Ave Wind**	13.3 mph at Cut Bank

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

Location	May 1-16	% of Norm	Oct1 – May 16	% of norm	Years
Baker	0.11	9%	3.45	57%	14
Billings	0.06	6%	4.58	65%	111
Bozeman	0.45	37%	5.68	80%	75
Butte	0.26	25%	4.22	73%	118
Cut Bank	0.06	6%	4.74	129%	105
Dillon	0.24	25%	3.49	79%	72
Glasgow	1.14	119%	5.58	127%	112
Great Falls	0.30	25%	7.17	110%	120
Havre	0.32	37%	5.37	126%	132
Helena	0.12	13%	4.82	102%	134
Jordan	0.19	17%	3.69	77%	14
Kalispell	0.22	22%	8.61	90%	118
Lewistown	0.60	42%	9.33	127%	116
Livingston	0.41	31%	5.51	75%	107
Miles City	0.12	11%	2.93	56%	135
Missoula	0.24	24%	8.89	115%	131
Mullan Pass	0.68	51%	39.70	132%	14
Wolf Point	0.94	106%	3.49	81%	14
Glendive	0.10	9%	3.74	68%	111
Sidney	0.03	3%	2.39	43%	71
BZN-MSU	0.68	43%	9.99	93%	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=tfx&type=&loc=products&fx=PCPNTOTALS

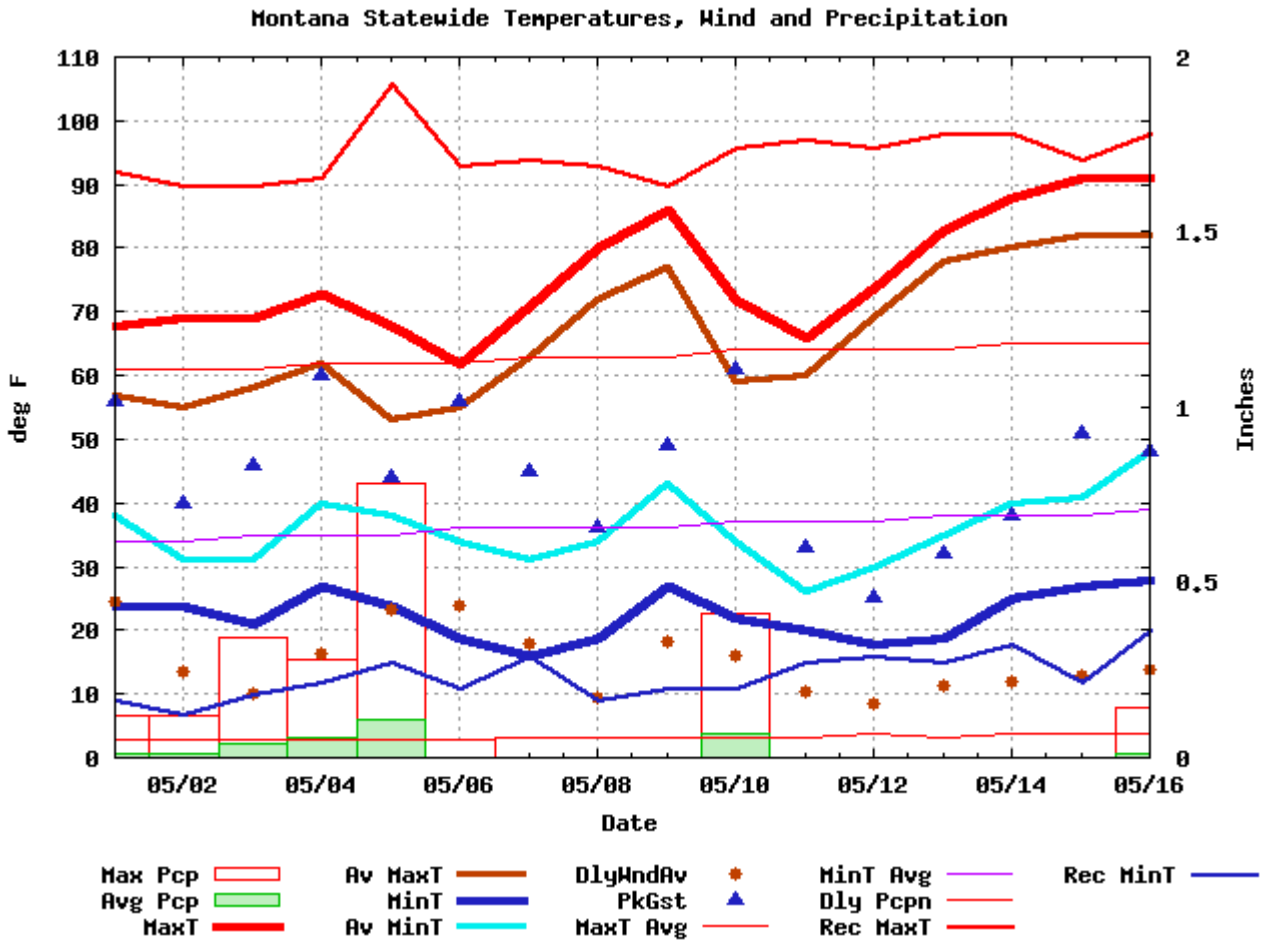
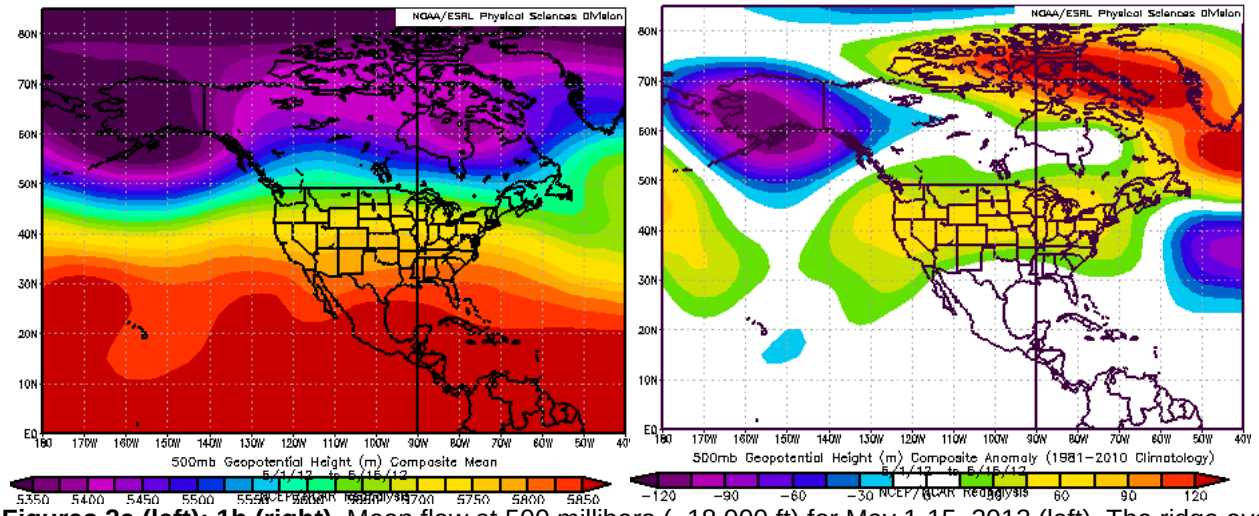


Figure 1. Composite Daily Highest and Lowest Temperature, Averages, Daily Maximum Precipitation and Averages, Daily average wind speed and gust from 43 Airport stations from across Montana.



Figures 2a (left); 1b (right). Mean flow at 500 millibars (~18,000 ft) for May 1-15, 2012 (left). The ridge over the western portion of the continent has been stronger, with higher height values over most of the nation (right).

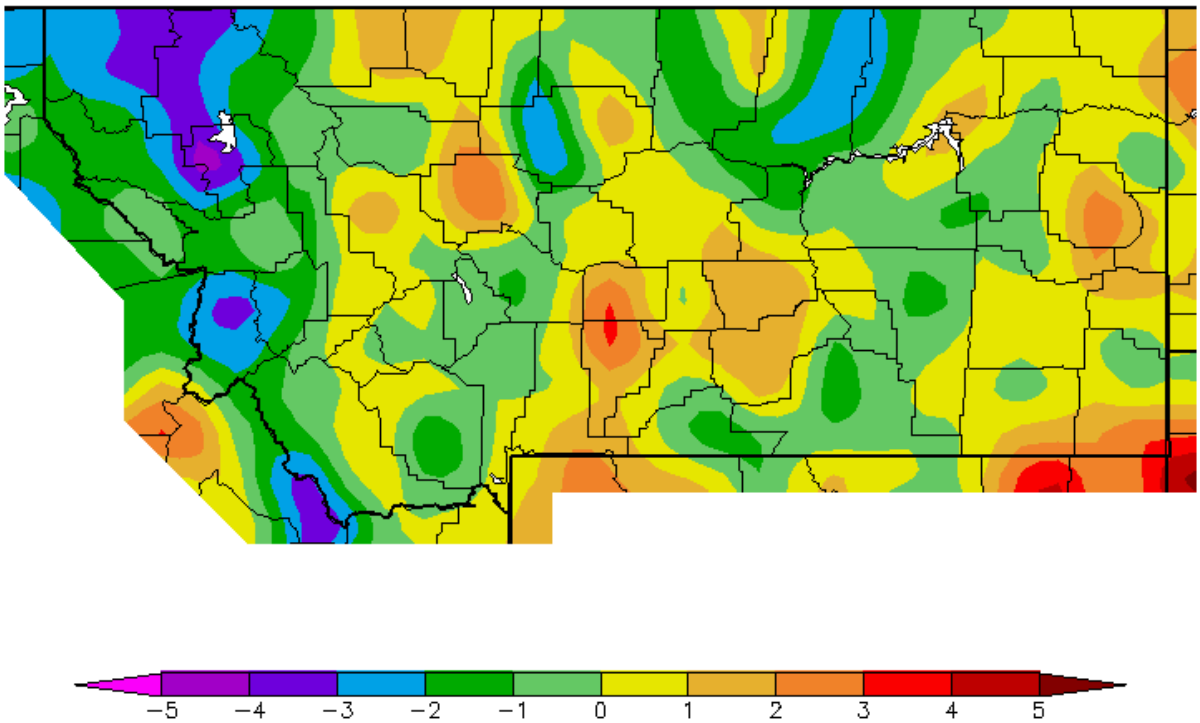


Figure 3. Temperature anomaly for May 1-15, 2012 (Western Region Climate Center).

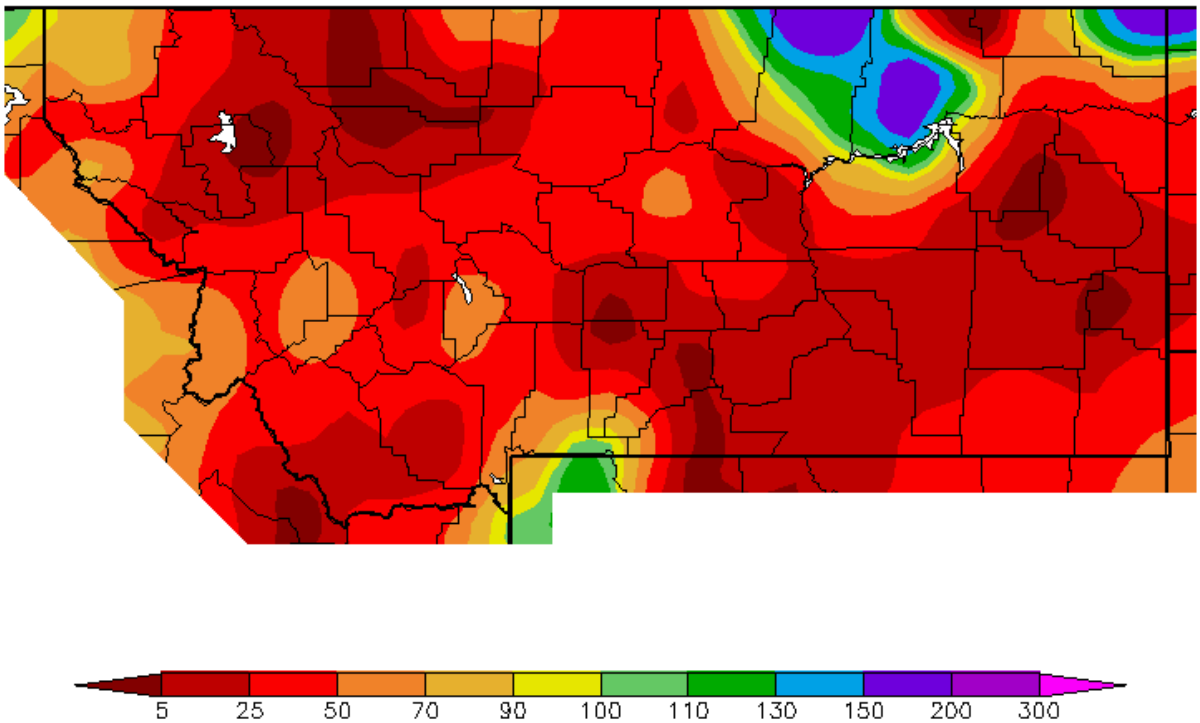


Figure 4. Precipitation anomaly (% of normal) for May 1-15l.

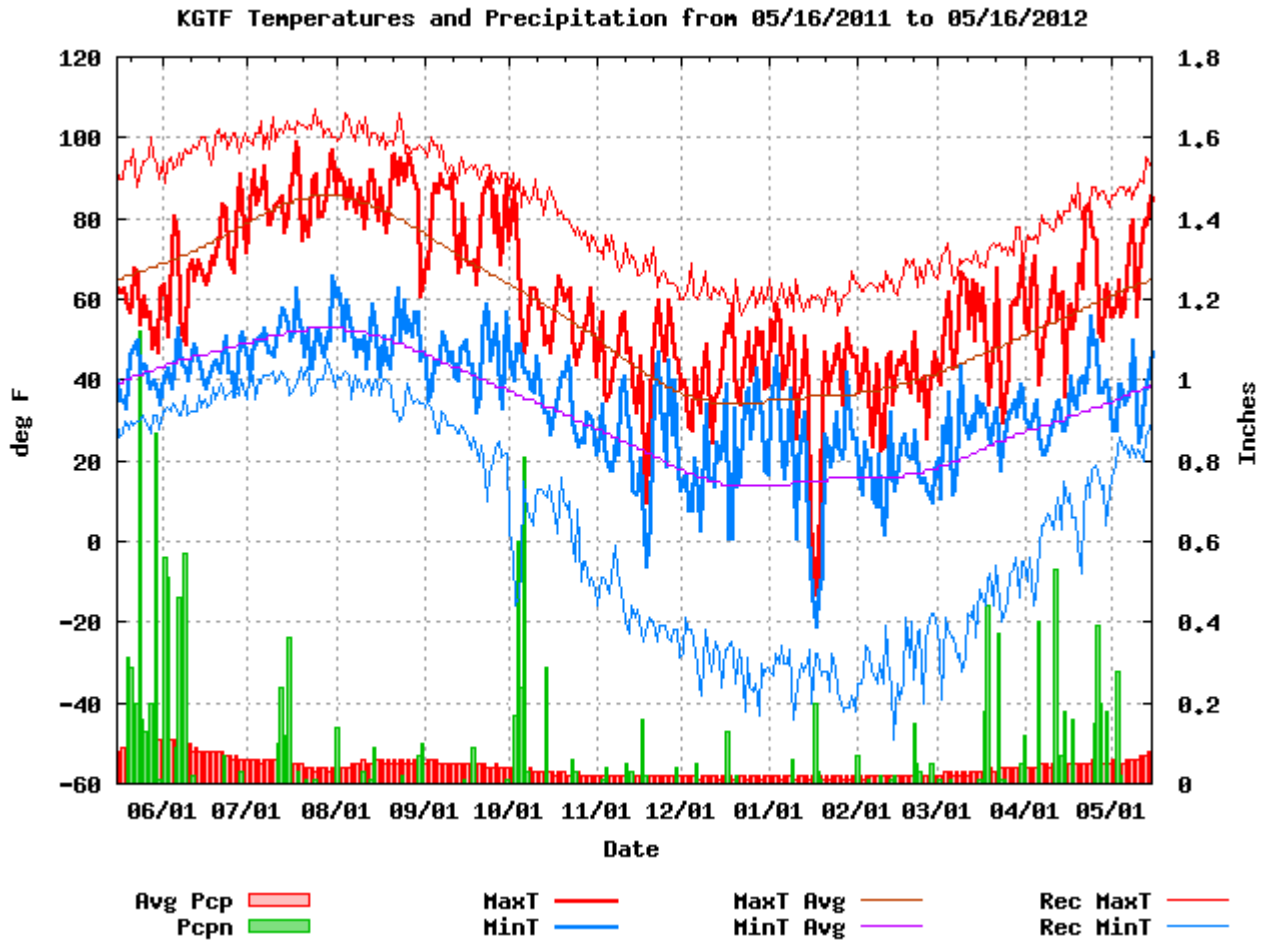


Figure 5. Temperature and precipitation data for Great Falls for the past year. While temperatures were near to below normal in spring 2011, in 2012 they are above normal, with some record high temperatures set.

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=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

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=tfx. 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.