

Montana Drought/Precipitation Summary

December 2005 By NOAA's National Weather Service Great Falls Montana

December started out with a continuation of a northerly flow that began after Thanksgiving. The first 18 days of the month averaged as one of the coldest periods of record, but late month warming caused record high temperatures to be set on Christmas day. Snow continued at the higher elevations through mid-month, with lower elevations remaining dry. The typical winter pattern of valley fog and clouds predominated west of the divide. During the first few days of the month, periods of heavy snow were observed at many locations. Big Fork and Kalispell received about a foot of snow on the 5th. Kalispell had 11 inches of snow on the ground by the 19th. Snow over the southeast set a new record for consecutive days of snowfall at Billings. By December 6th, they had received snow on 11 days in a row. A cold front moving south from Canada struck Montana on the 5th. Winds gusted over 60 mph at Choteau, with blizzard conditions seen from Kalispell, to Great Falls and Lewistown. Arctic air poured across the state, with several record lows observed west of the divide, as low as -34°F at Potomac. Several locations in central Montana set daily snowfall records on the 5th, with as much as 8 inches in the Hobson and Lewistown areas. West Yellowstone recorded the lowest in the state during this time, reaching -45°F on the 7th. This temperature set a daily cold temperature record for the state. The Lewistown area was again hit around the 13-14th with heavy snowfall. Seventeen inches were measured, along with blizzard conditions. This was one of the heaviest snows in recent memory at Lewistown. By early in the month, Half Moon Pass, south of Lewistown, had recorded 120 inches of snowfall for the season. Record snow depths were seen at Great Falls early in the month and at Lewistown by mid-month. Finally, after enduring one of the coldest first 18 days of December on record, a high pressure ridge aloft dominated for most of the rest of the month. This brought warmer air and Chinook winds returned to eastern Montana. During this warm period, Fort Benton and Stanford reached 64°F for the state's highest temperature on the 25th. The warmer temperatures largely melted the snow at lower elevations east of the divide by Christmas day. The early month cold, and late month warmth produced a monthly average close to the long-term normal temperature. The last week of the month brought a series of storm, that mainly affected southwestern Montana. Over three feet of snow fell at higher elevations during this period. By month's end, some higher elevations had over six feet of snow on the ground. Winds continued below average. A few locations ranked among their 10 calmest years. The peak wind gust was 94 mph on the 9th at Deep Creek, southeast of East Glacier Park.

Statewide, precipitation was variable in amount. Higher elevations in the west received very heavy snowfall, while plains locations and mountain valleys east of the divide were much below average. Cut Bank recorded their 4th driest December of record. Mullan Pass recorded their wettest December since 1999.

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

Location	Dec	% of Norm	Rank	Pcntl	Oct 1 – Dec 31	% of norm	Rank	Pcntl	Years
Baker	0.45	190%			2.36	120%			8
Billings	0.44	66%	53	55	3.80	142%	88	91	97
Belgrade	0.68	119%	45	69	3.73	150%	60	92	65
Butte	0.75	142%	79	71	2.73	142%	88	79	112
Cut Bank	0.01	3%	4	4	0.96	79%	51	52	99
Dillon	0.09	39%	10	15	1.89	154%	55	83	66
Glasgow	0.37	100%	58	53	1.55	105%	58	54	108
Great Falls	0.29	43%	32	28	2.67	122%	81	71	114
Havre	0.42	82%	64	51	2.10	133%	88	70	126
Helena	0.63	137%	84	66	2.34	146%	91	71	128
Jordan	0.57				2.44	161%			9
Kalispell	1.72	104%	51	40	3.95	97%	41	32	128
Lewistown	0.77	93%	67	61	3.71	141%	92	84	110
Livingston	0.55	96%	59	56	3.59	118%	89	86	103
Miles City	0.35	78%	53	41	3.01	143%	113	88	129
Missoula	1.13	98%	79	61	4.24	144%	99	79	126
Mullan Pass	5.97	140%	41	62	12.86	107%	33	50	66
Wolf Point	0.13	72%			0.98	75%			8
Glendive	0.57	146%	79	71	3.80	203%	104	97	107
Sidney	0.22	45%	16	24	3.17	148%	58	89	65
BZN-MSU	0.97	123%	82	65	6.01	172%	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>

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_pcptnorm.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=tfx>