

# Montana Drought Summary

January 1, 2003

## **Montana precipitation summary, December 2002.**

East of the Continental Divide, precipitation was again lacking over most of Montana. Along the extreme eastern border areas, snowfall was seen early in the month, which pushed the monthly totals to over one-half inch in an area from near Wibaux to Plentywood. Otherwise the heaviest precipitation fell in and near mountainous areas.

West of the Continental Divide, valley locations were generally dry, with less than 50 percent of the monthly average received. Mountain locations again recorded higher amounts, with some Snotel stations receiving over eight inches of water equivalent precipitation for the period was generally near normal.

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

Location	Dec 1 - Dec 31	% of Normal	October 1 - Dec 31	% of Normal	Rank as Driest	Years on Record
Billings	0.25	37	1.41	53	15th	69
Bozeman	0.07	12	0.87	36	3rd	62
Butte	0.15	28	0.67	35	3rd	84
Cut Bank	0.16	48	0.50	40	18th	110
Dillon	0.24	104	0.37	30	3rd	65
Glasgow	0.06	16	0.61	41	13th	110
Great Falls	0.37	55	0.95	43	10th	110
Havre	0.08	15	0.77	48	12th	123
Helena	0.05	10	0.71	44	7th	123
Kalispell	1.24	75	2.05	50	11th	103
Lewistown	0.31	37	1.85	70	21st	77
Livingston	0.25	44	0.66	26	2nd	54
Miles City	0.03	6	0.51	24	4th	109
Missoula	0.55	48	1.05	36	3rd	54

For an automated version of this chart, updated daily, go to  
<http://www.wrh.noaa.gov/cgi-bin/greatfalls/getproduct.pl?PCPNTOTALS>

For a state map of % of normal water year precip (updated around the 7<sup>th</sup> of each month), go to  
[http://www.wrh.noaa.gov/Greatfalls/txf.php?TEXT+wateryear\\_percent.html](http://www.wrh.noaa.gov/Greatfalls/txf.php?TEXT+wateryear_percent.html)

For the latest information on streamflows from the USGS, go to  
<http://mt.waterdata.usgs.gov/nwis/sw>

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>

## **Montana precipitation forecast.**

As of January 1st, CPC forecasts the dry conditions to persist and even expand across Montana for the period through March 2003. The outlook through May, issued by CPC on December 19th, predicts a below normal precipitation for the state. Graphics and text relating to these outlooks, and additional long range forecasts can be found at

[http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/seasonal\\_forecast.html](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/seasonal_forecast.html)

These forecasts are based on a moderate El Niño expected to persist through early spring. For the latest details on El Niño, go to

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory)

This document is posted on the internet at [http://www.wrh.noaa.gov/Greatfalls/drought\\_semi.pdf](http://www.wrh.noaa.gov/Greatfalls/drought_semi.pdf). Any further inquiries about the drought can be directed to Dave Bernhardt, Gina Loss, or Ken Pomeroy 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/Greatfalls/txf.php?HTML+drought>.