



Montana Drought Status by County - September 2010









Map Key

-  Continental Divide
-  Drought Impact Type

Drought Status

September 2010

-  No Drought - Moist
 -  No Drought
 -  Slightly Dry
 -  Moderately Dry (Drought Alert)
 -  Severely Dry
 -  Extremely Dry
- } (Severe Drought)

Drought Impact Types - **A** = Agricultural - Soil Moisture, Range conditions

H = Hydrological - Water Supplies, Streamflow, Groundwater

Drought Alert - Governor's Drought

Advisory Committee strongly encourages local officials to convene local drought committees.

Severe Drought - Local officials should have local drought planning efforts underway or should reconvene the local drought committee at the earliest opportunity.

For recommended responses, see the Montana Drought Plan

Montana County Drought Status

By September 2010, the Montana Drought Status map indicated that 55 of the state's 56 counties were rated in the No Drought category, Carbon County being the exception rated as Slightly Dry. By mid-June the National Oceanic and Atmospheric Administration (NOAA) acknowledged that a La Nina event was in its formative stages as the El Nino of 2009-2010 faded with the start of cooling of Eastern Pacific equatorial waters. According to the National Climate Data Center (NCDC), the period of November 2009 through March 2010, which captures the peak period for influence of El Nino, was the 4th driest for that period in Montana since 1895. Impacts to Montana included less than normal valley and mountain precipitation with the exception of the central and eastern parts of the state where temperatures were cooler and precipitation higher than average.

Following a season end with mountain snowpack at around 70 percent of average statewide, the NRCS streamflow forecast called for as little as 50 percent for the Bitterroot and lower Clark Fork river basins into July, assuming average precipitation occurring May through July. But as the El Nino dissipated, well above average precipitation occurred throughout the summer statewide, eventually providing high yields for crops, average to above average streamflow, and a very quiet wildfire season through August. According to NCDC, the period of March 2010 through July 2010 was the 20th wettest such period since 1895 for Montana.

In 2010, cooler and wetter conditions prevailed over the eastern two-thirds of the state during winter and statewide from late spring through summer. One explanation could be that the Pacific Decadal Oscillation (PDO) went into its cool phase for the first time since 1977. The PDO is a long-term climate anomaly cycle usually lasting around 30 years. Another factor explaining a plentiful water year was that poor hydrologic conditions dating from the past 8 or more years have improved in the past two years as favorable conditions returned in the form of good sub-soil moisture, higher stream base flow, good reservoir carry over storage, and moisture of forest fuels. With soils saturated, summer precipitation ran off to stream courses sustaining flows throughout summer.

This fall both the ENSO (La Nina) and PDO will be in their wet and cool phases. According to the NOAA August 5, 2010 ENSO Update, "La Niña conditions are expected to strengthen and last through the Northern Hemisphere winter 2010-11." The mountain snowpack and summer water supply should resemble the La Nina of 2008-2009 when the PDO delivered generously in terms of mountain and valley precipitation, a significant factor in completing recovery from hydrologic drought dating to 2000. According to the National Agricultural Statistics Service August 28 Crop-Weather Report, water year precipitation through August 29 ranges from 90- to 130 percent of average statewide.



<http://nr.is.mt.gov/drought/>



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