

Fall 2010 Report
Water Resources Data System and State Climate Office

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Climate Summary: Water Year 2010

Water Year 2010 (October 2009 – September 2010) was characterized by high month to month variability in both temperature and precipitation. Drought was a growing concern going into spring. However, as described below an unusually wet start to the summer season help minimize drought impacts across much of the state. Overall, when considered across the entire 12 month period, conditions during Water Year 2010 were generally near historical averages to slightly wetter-than-average for most of the state, though isolated pockets of moderate drought remained.

Precipitation:

Water Year 2010 began with pronounced wetness over most of the state. In October 2009, a large swath of central Wyoming received > 200% of historical average precipitation (versus 1971-2000) for the month, with some locations seeing > 300%. November 2009, on the other hand, brought much of the state < 25% of historical average precipitation. Likewise November marked a start of a drying trend that would continue throughout the winter and into the early spring months. With the exception of some locations in the southeastern part of Wyoming, the entire January through March 2010 period—a critical time for the accumulation of high-mountain snows—produced 30- 65% of historical average precipitation.

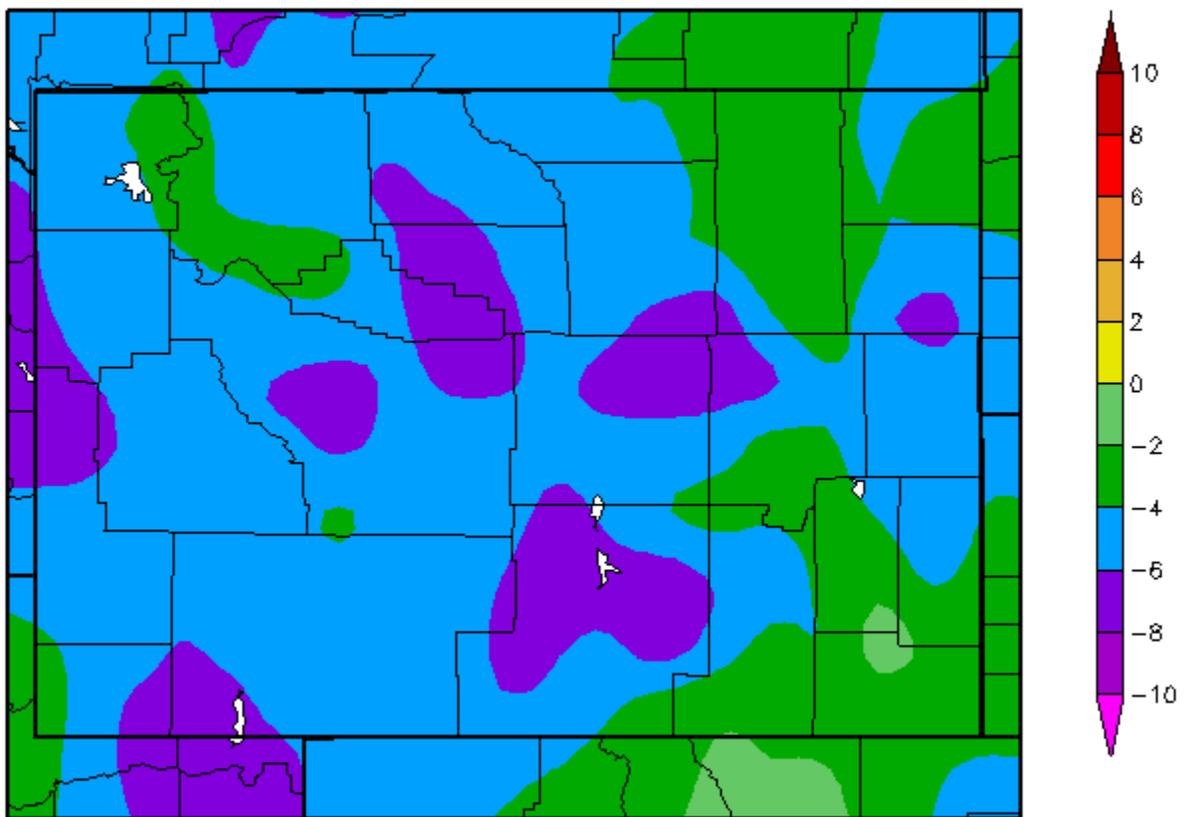
April 2010 was noticeably wetter in the far northwestern portion of the state, but this still left us with historic lows for snowfall in the headwaters of the Upper Green River. Though not as dry as the Upper Green, the Yellowstone River headwaters were also very dry by May 2010. In contrast, April wetness left several locations east of the Continental Divide with unusually high accumulated snowfall totals. Of particular note are a handful of sites in the Sierra Madres and eastern Wind River Mountains that reported water year snowfall totals in the top 95th percentile of all recorded values. On the whole, this left much of western Wyoming in moderate to severe drought by late May.

June 2010 brought extreme wet conditions to much of the state. Portions of Sweetwater, Fremont, Carbon, Natrona, Albany and Goshen counties received 200 – 300 % of historical average precipitation. One area stretching south from Rawlins into the Sierra Madre Mountains experienced its wettest June in fifty or more years of record. In turn, heavy June precipitation contributed to significant flooding on the North Platte River system. July through September 2010 was generally dry, but the effects of late spring and early summer storms helped stave off most drought impacts. One exception was Sublette County, where moderate drought prevailed throughout much of the water year.

Temperatures:

All things being equal, a lack of snowfall had set the stage for significant drought starting in Spring 2010. However, cooler-than-average temperatures played an important role in keeping snowpack in the high country, while also reducing demand for water. In particular May 2010 was unusually cool, with much of the state experiencing temperatures 4-6° F below historical averages. While beneficial in many ways, these cooler temperatures also contributed to the unexpectedly large and rapid runoff that lead to flooding in southeastern Wyoming during the months of June and July.

Departure from Normal Temperature (F)
5/1/2010 – 5/31/2010

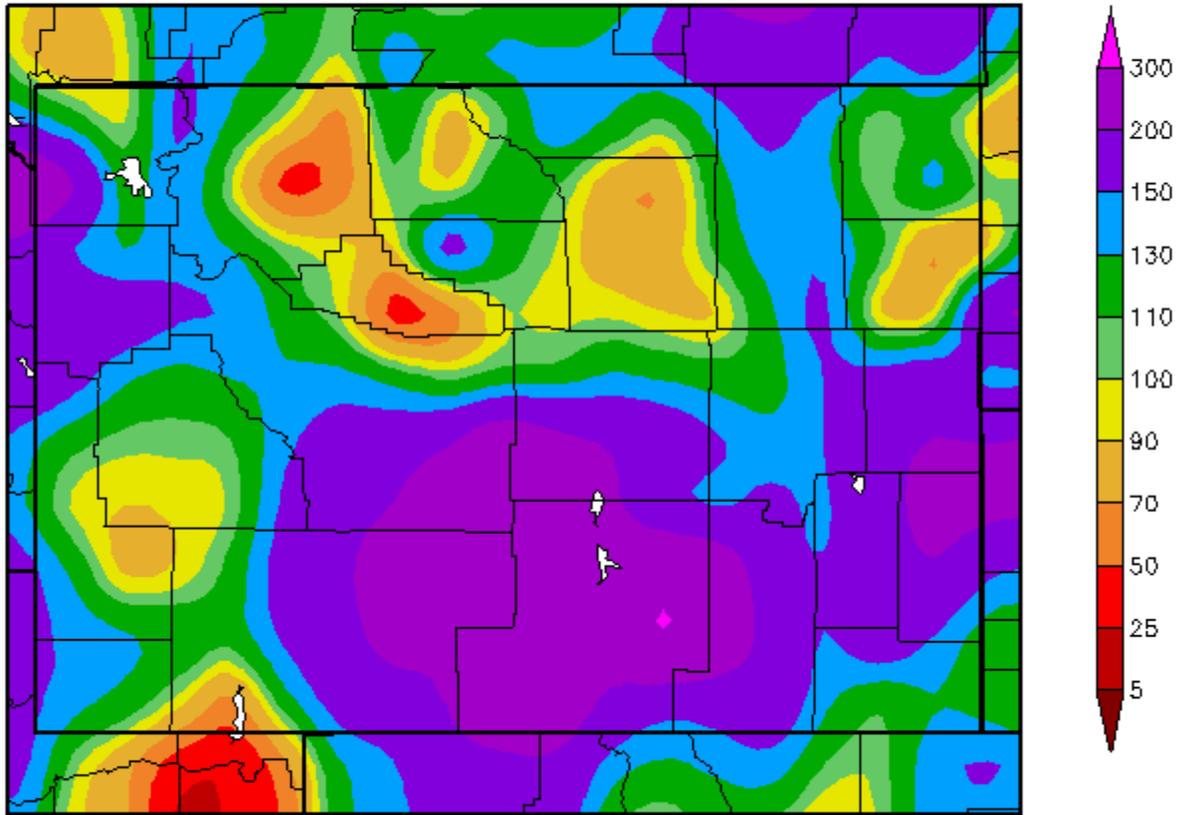


Generated 6/11/2010 at HPRCC using provisional data.

NOAA Regional Climate Centers

Map showing unusual coolness in May 2010.

Percent of Normal Precipitation (%)
6/1/2010 – 6/30/2010



Generated 7/11/2010 at HPRCC using provisional data.

NOAA Regional Climate Centers

Portions of southern Wyoming received very high amounts of precipitation in June 2010.

More information and updates can be found at: <http://www.wrds.uwyo.edu> and http://www.wrds.uwyo.edu/sco/climate_office.html. Special thanks to the National Weather Service's Cheyenne and Riverton Offices and the High Plains Regional Climate Center for supplying data used in this report.