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Wyoming's Climate: January 2011

The climate of January 2011 was characterized by significant drying in many parts of Wyoming, but it was also marked by high spatial variability in precipitation. Generally speaking, mountain snowpack remains high compared to much of the previous decade, yet many observing stations in the valleys and basins were dry for the month. Similarly, over a distance of 50 miles one might go from a site that received > 200% of its historical average precipitation for the month to a location that received < 5%.

Generally speaking, southwestern Wyoming was quite dry during the month of January, whereas the northeast tended toward wetness. In Evanston (far southwest Wyoming), for example, the entire month passed with only 0.01" of precipitation recorded. In contrast, locations such as Sundance and Newcastle near the boarder with South Dakota reported 150 to > 200% of historical average (calculated from 1971-2000) precipitation. Located in the Bighorn Basin of northwestern Wyoming, the two stations at Cody and Powell recorded 0.02 and 0.00" of precipitation for the month, respectively. Parts of neighboring Bighorn and Washakie Counties, on the other hand, were well above average for the same period.

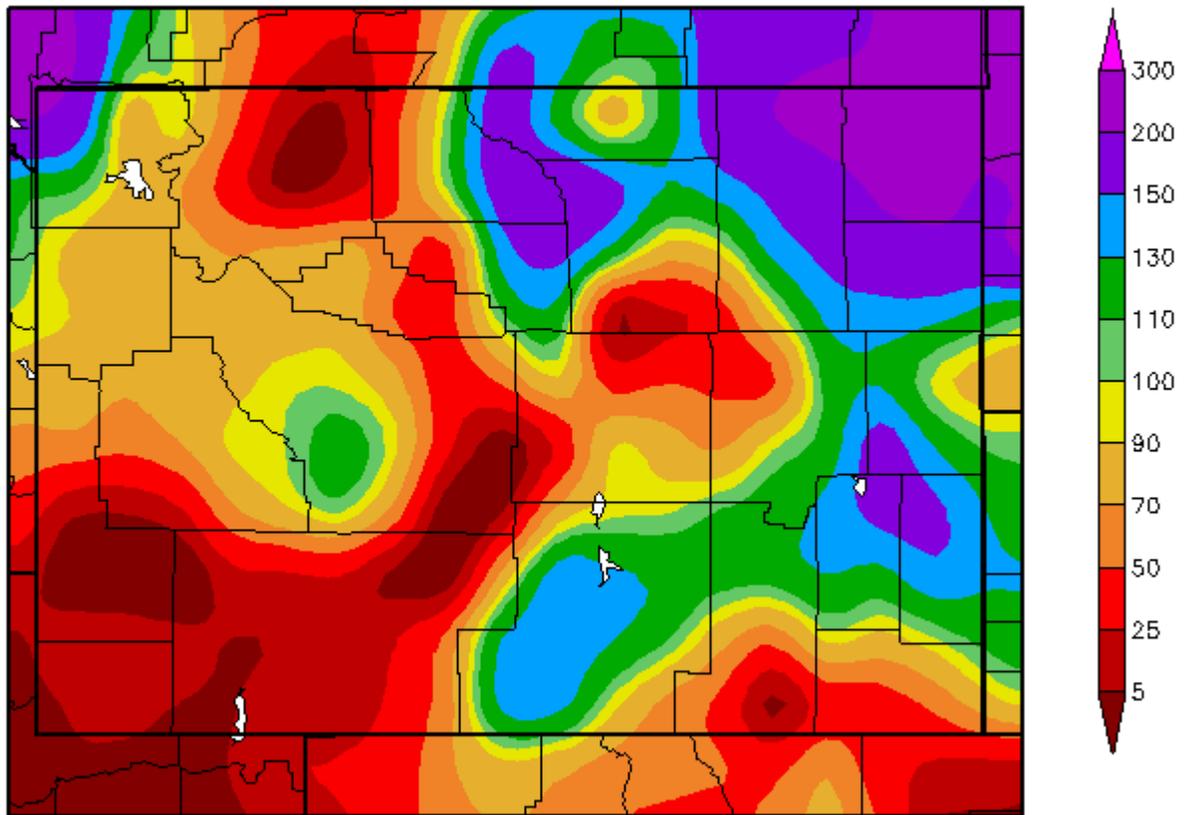
Regarding high-country snowpack, by the end of January state average snow water equivalent (SWE) was at 117% of historical average (compared to 1971-2000), which is far better than 73% of average for the same date last year. The Shoshone basin in the northwest corner of Wyoming had the lowest SWE of any drainage in the state, but values still topped 105% of average. The Upper Bear basin in the far southwest reported 140% of average SWE, which was the highest recorded for any drainage. This high snowpack in the Upper Bear is especially notable when one considers how dry Evanston, the largest municipality in this basin, has been in recent weeks (see above).

On the whole, temperatures for January 2011 were unremarkable. When averaged over the entire month, temperatures were near or slightly above the long-term (vs. 1971-2000) mean. Generally speaking, the month featured two cold snaps; one in the days immediately following New Years, and one centered on the 10th and 11th. In both cases temperatures tended to be 10 to 15° F below average, and few records were broken. Warm temperatures were the story on January 28, with some locations in southeastern Wyoming (e.g., Cheyenne) approach 60° F. The month ended with plummeting temperatures as an Arctic front entered the region on January 31.

According to the U.S. Drought Monitor, Wyoming remained nearly drought free through the month of January 2011 (see <http://www.drought.unl.edu/dm/monitor.html>). In fact, the state is now enjoying its smallest area in drought since late 2009. However, given precipitation deficits that have developed at some lower-elevation sites over the past 30 days, it will be essential to monitor for the potential of drought onset in coming weeks and months.

This report was prepared by the Wyoming State Climate Office, which is a division of the Wyoming Water Resources Data System at the University of Wyoming. More information 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, Rapid City, Salt Lake and Riverton Offices and the NRCS Casper Office for supplying much of the data used in this report.

Percent of Normal Precipitation (%) 1/1/2011 - 1/31/2011

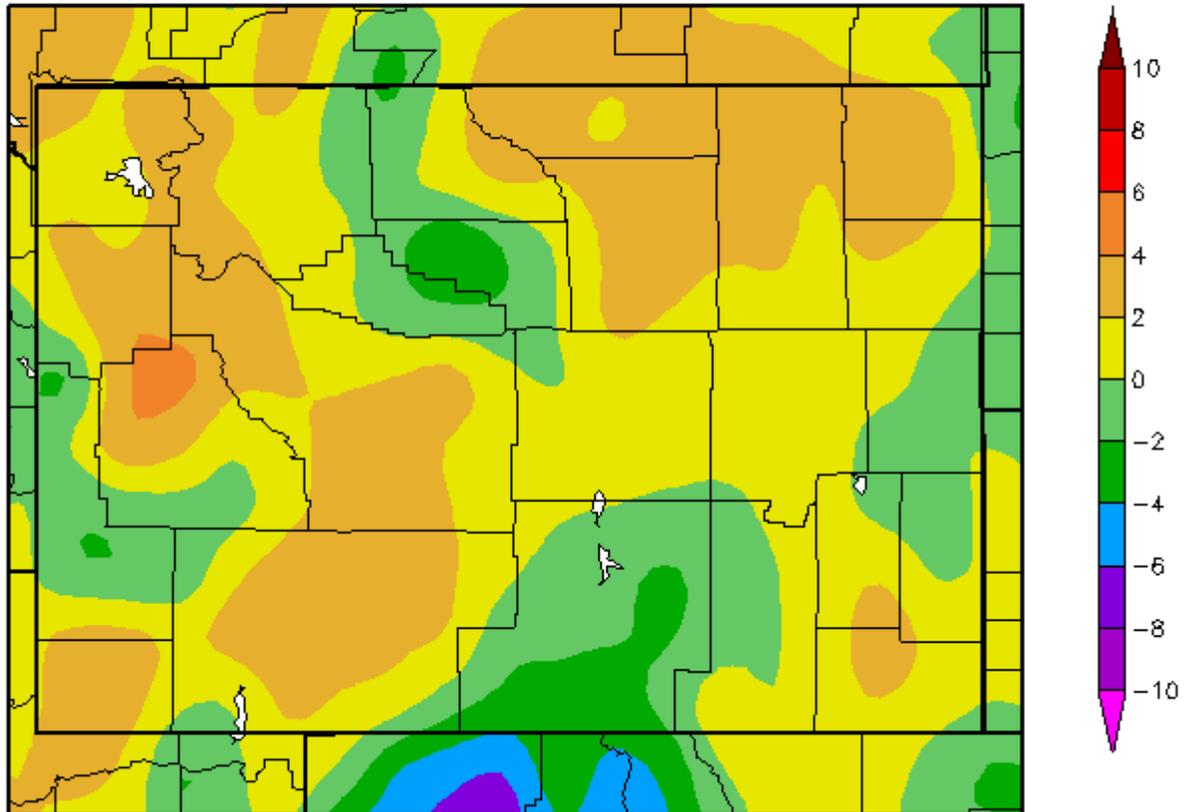


Generated 2/2/2011 at HPRCC using provisional data.

Regional Climate Centers

Map showing January 2011 precipitation as a percentage of historical averages (vs. 1971-2000 "normal period) for Wyoming. Courtesy of the High Plains Regional Climate Center.

Departure from Normal Temperature (F) 1/1/2011 - 1/31/2011



Generated 2/2/2011 at HPRCC using provisional data.

Regional Climate Centers

Map showing mean January 2011 temperatures as departures from historical averages (vs. 1971-2000 "normal period) for Wyoming. Courtesy of the High Plains Regional Climate Center.