

# Weather and Climate Summary and Forecast Spring 2014

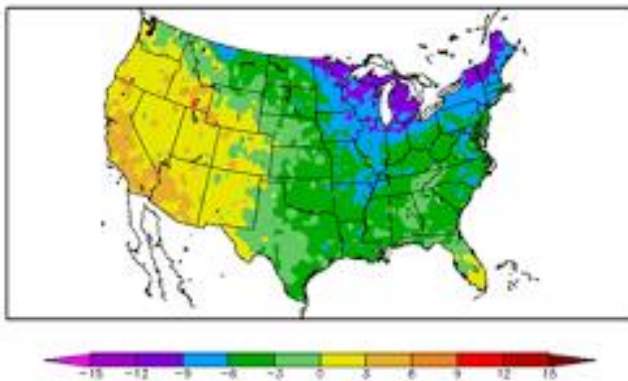
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April 11, 2014

Spring 2014 started, stopped and started again and is seemingly trying to push rapidly into summer. However, frost season remains with us for a little while longer.

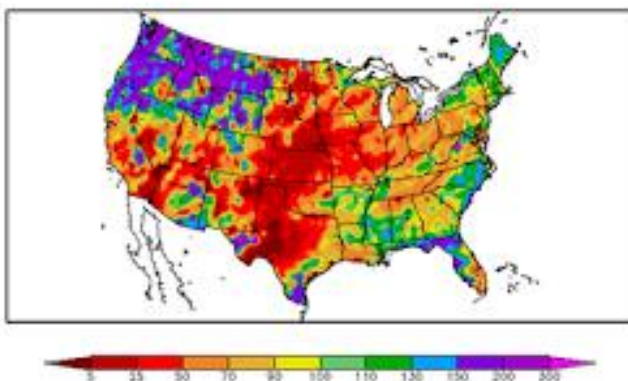
During March temperatures across the western US were warmer than normal (1 to 6 degrees) everywhere except eastern Washington (see figure below or attached). The eastern US remained cooler than normal during March, especially in the upper Midwest and northern New England. While warmer conditions prevailed in March in the west, many cold nights occurred due to high pressure events with clear skies and low humidity. Moderate to significant precipitation fell across much of the northern tier of the western US in March with generally greater than normal monthly precipitation from Northern California north to Washington and east to Montana (see figure below or attached). However, much of California across to Texas and up into the Midwest continued to see substantial deficits in precipitation in March.

The March conditions below continued the general pattern since the first of the year with a wetter and slightly cooler northern PNW and a drier and warmer southern Oregon south into California.

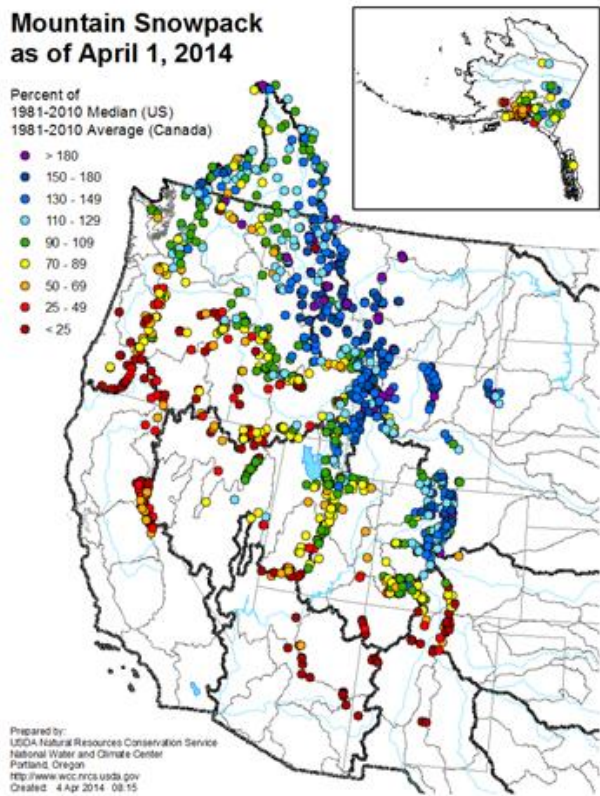
Departure from Normal Temperature (F)  
3/1/2014 - 3/31/2014



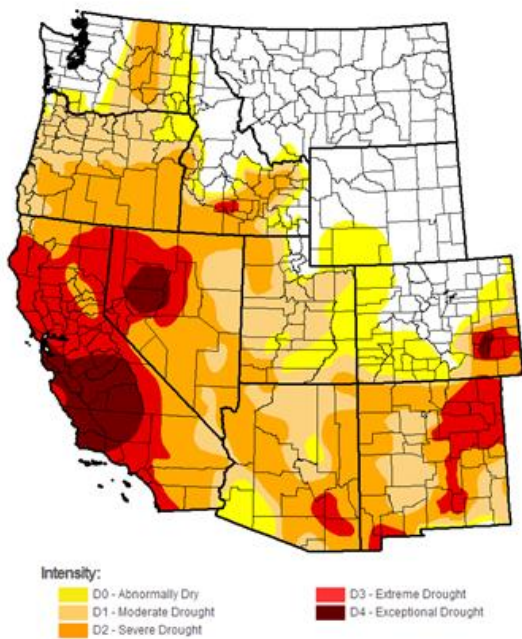
Percent of Normal Precipitation (%)  
3/1/2014 - 3/31/2014



Snowpack's across the western US improved some in the northern Cascades (see April 1st figure below or attached), but remain very low south into Oregon and California. The April snow surveys are typically the last of the winter, so what we have now is likely to be what water managers have to deal with as we head into this summer.



Following the precipitation patterns in March, drought conditions continued to improve Washington, but continue to be moderate to exceptional in Oregon and California. The US Drought Monitor continues to show that approximately 60% of the western US in a moderate to exceptional drought. California remains the driest at 95% in severe to exceptional drought, Oregon at 50% and Washington at 17% (see figure below or attached).



The long-lead forecasts for March and into early April have generally held true across the western US. Current conditions have brought a beautiful stretch of spring days, but with some scattered frost conditions. The clear spring conditions look to continue for a few more days, but will shift to a few frontal passages and rain potential over the next two weeks. The 6-10 and 8-14 day outlooks tilt the odds to being warmer than normal over the vast majority of the western US. However, precipitation potential is following a north-south pattern, with wetter than normal conditions across most of Oregon, Washington into extreme northern California, but continued drier than normal conditions into central and southern California. Extended out to 90 days (Apr-May-Jun), the Climate Prediction Center forecast is tilting the odds to moderately warm and continued dry conditions over the western US.

The 90 day forecast is bolstered by the fact that North Pacific sea surface temperatures (from the coast to the central north Pacific) remain warmer than they have been for few years now. Furthermore, while the media has played up a possible transition to El Nino conditions later this year (fall into early winter), the tropical Pacific remains ENSO-neutral (La Nada) for now without any additional influence to this spring/summer. If the El Nino conditions do materialize later this year the western US would typically see a transition to a wetter and warmer California south and a drier/warmer PNW. The timing of the onset is important for the western US, with any impact likely being pushed into the post-harvest period.

My original forecasts for this spring .... a slightly cool and wet spring from Northern California northward, and dry and warm south ... have largely played out as expected. The rest of April looks generally good as well with some rain north, but frost conditions will remain in the usual places and especially at elevation. As we transition into summer, all evidence continues to point to a warmer and drier than average season across the west.

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