

# Weather and Climate Summary and Forecast Spring 2014

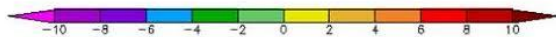
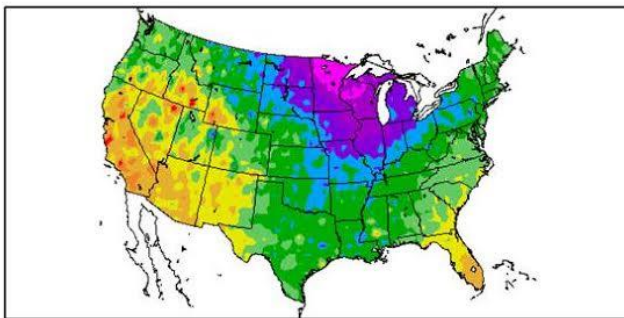
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March 8, 2014

The past month has provided some sorely needed precipitation over the western United States with more to come, albeit not likely enough to catch up.

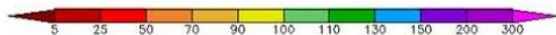
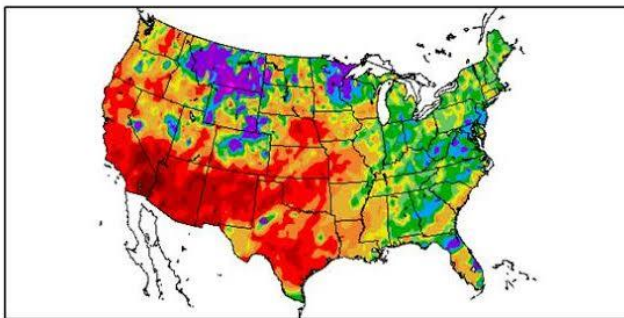
For February, temperatures across the western US were split north-south from central Oregon across central Idaho and down along the Rockies into west Texas. South and west of this line, temperatures were generally warmer than normal (1 to 6 degrees) while north and east of this line temperatures were much below normal (1 to 10 degrees) Moderate to significant precipitation fell across much of the western US in February with generally greater than normal monthly precipitation from the Bay Area northward and into the Northern Rockies. However, Southern California across to Texas have continued to see substantial deficits in precipitation in February.

From December through February extreme Northern California and the Pacific Northwest saw below normal temperatures, while the rest of California and much of the intermountain west and southwest was above normal (see figure below). Precipitation during February allowed some of Washington and Oregon to catch up, but December through February ends up moderately dry for much of the west, especially California and across the southwest.

Departure from Normal Temperature (F)  
12/1/2013 - 2/28/2014



Percent of Normal Precipitation (%)  
12/1/2013 - 2/28/2014

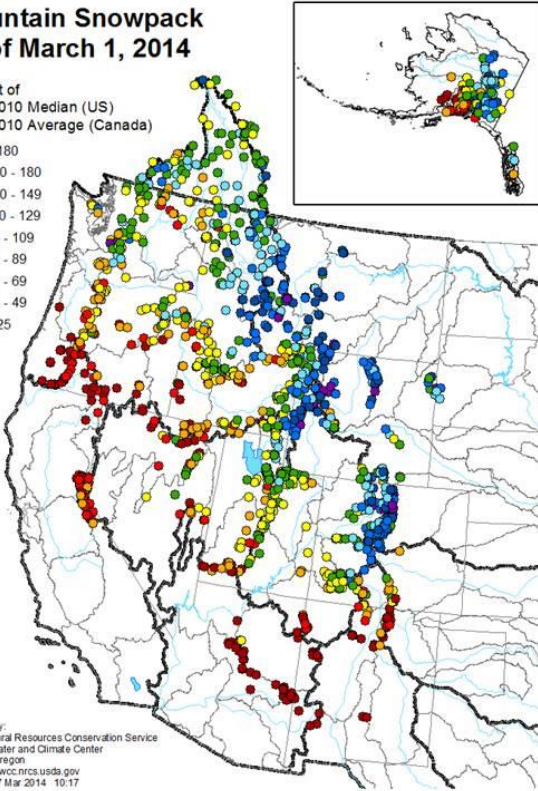


As of March 1st snowpack's across the west are running from less than 25% up to 70% of normal in the Sierra Nevadas to the Cascades of Oregon, and 90 to over 100% of normal in Washington (see figure below). The Rockies from Montana south into Colorado continue to show higher than normal snowpacks.

### Mountain Snowpack as of March 1, 2014

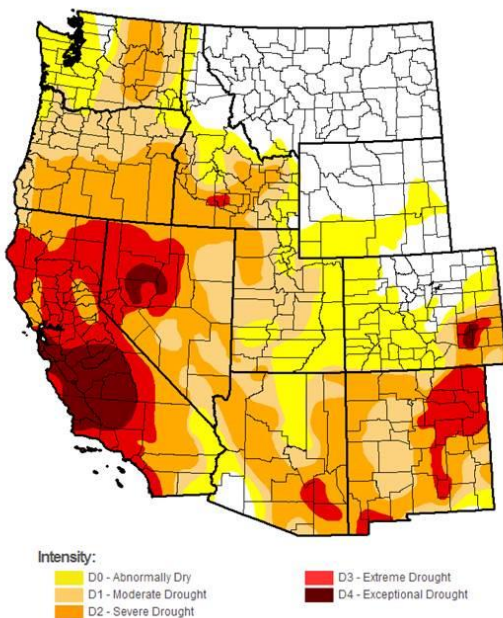
Percent of  
1981-2010 Median (US)  
1981-2010 Average (Canada)

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25



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Drought conditions have gotten somewhat better in Washington, but continue to be moderate to exceptional in Oregon and California. The US Drought Monitor currently has 60% of the western US in a moderate to exceptional drought. California remains the driest at 91% in severe to exceptional drought, Oregon at 53% and Washington at 24% (see figure below).



Intensity:

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

The 30 day forecast for February largely held true with a shift toward more systems moving into the western US. Will March provide similar conditions and provide some more precipitation across the west? While there are a couple of frontal passages expected over the next two weeks, both the 6-10 and 8-14 day outlooks tilt the odds to being a warmer and drier period than normal. Later in the month models are hinting at a cold event, which will increase frost risk up and down the west coast. The dynamics for spring cold events make them difficult to model, so we will need to keep an eye on the period from March 20 through the end of the month. I will send out an update once I see any model agreement.

Extended out to 90 days (Mar-Apr-May), the Climate Prediction Center forecast is tilting the odds to slightly warm and dry over most of the west. Temperatures during this period are currently forecast to be above normal in California, while closer to normal in Oregon and Washington. Rainfall conditions throughout the west are less clear in the CPC 90 day outlook, indicating greater likelihood of dry coastal areas from California north into the PNW, but much of the rest of the west having an equal chance of being slightly above to slightly below normal precipitation.

While the current Climate Prediction Center observations and models continue to indicate that ENSO-neutral (La Nada) conditions will persist into the Northern Hemisphere summer of 2014, the latest update is pointing it a good chance for El Nino conditions to develop by the fall. El Nino conditions typically mean 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.

I am still leaning to a slightly cool and wet spring (close to normal), especially from Northern California northward, but would not expect it to be wet enough to make up the deficits. California looks to remain dry with early growth conditions bringing some frost risk.

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