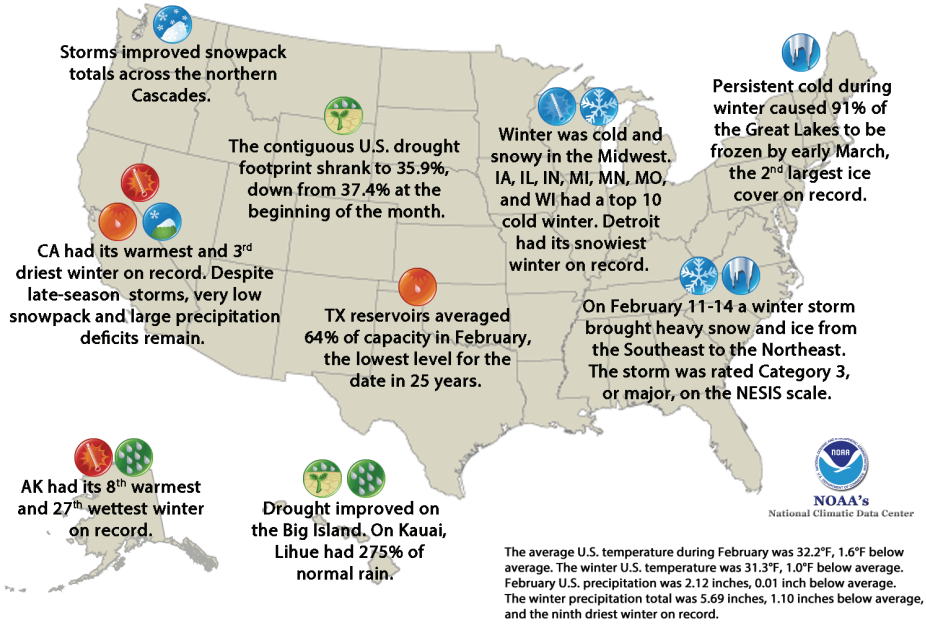
Quarterly Climate Impacts and Outlook

The Western States
Spring 2014

National Summary — *Significant Events for Winter 2014*

Strong snowpack in Rockies contrasts extreme drought in Southwest



Western US:
Snowpack varied significantly across the West in early 2014, with above-average conditions in the Rockies and **less than 50% of average snowpack** in the Sierra-Nevadas and the Southern Cascades. The healthy Colorado River Basin snowpack will mitigate impacts to Southern California and other parts of the Southwest.

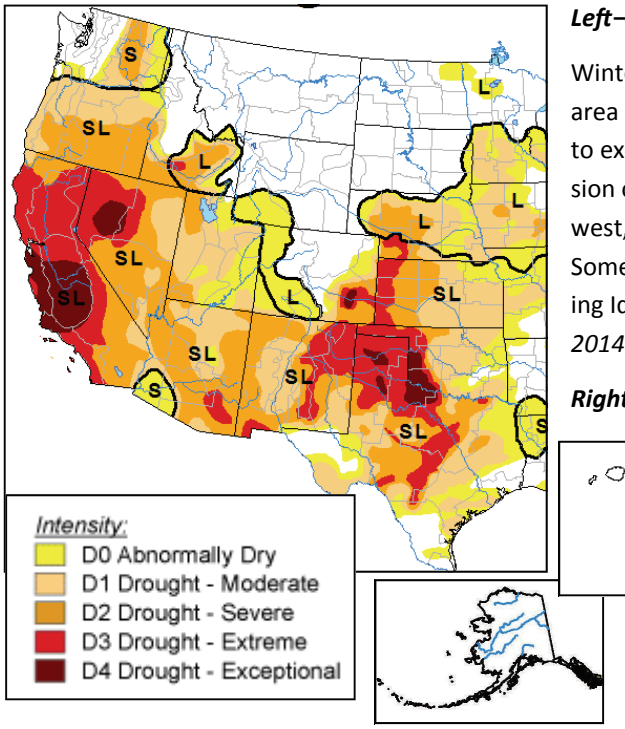
Missouri River Basin:
February 2014 was **Montana's 7th wettest February** on record and **Wyoming's 8th wettest**.

Southern Great Plains:
The area of Oklahoma in **extreme drought has tripled** since January 1st.

Hawaii:
Extreme seasonal beach erosion triggered by a large swell event occurred along the north shore of Oahu, Hawaii in December, threatening and undermining several beachfront homes.

Drought and Temperature in the West — *for Winter 2014*

Drought in the West



***Left*—US Drought Monitor:**

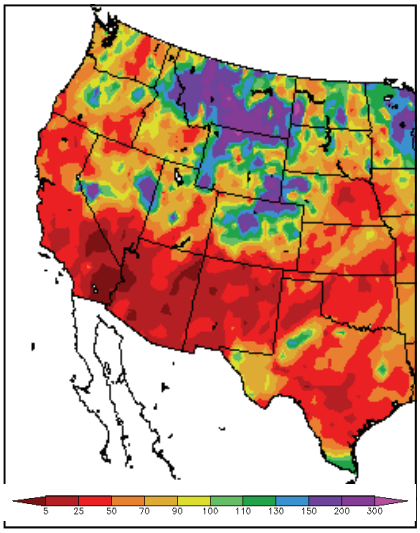
Winter brought a 10% increase in the area of the West designated as D2-D3 (severe to exceptional drought). Most of the expansion or degradation was seen in the Southwest, with California particularly hard-hit. Some areas experienced improvement, including Idaho, Wyoming and Montana. *March 25, 2014.* (*droughtmonitor.unl.edu*)

***Right* — Percent of Normal Precipitation:**

Precipitation was well below average in the Southwest during the winter. California, which was already below average precipitation, experienced 50% or less of its average precipitation in what should be its wettest season. (*hprcc.unl.edu*)

Percent of Normal Precipitation

December 1, 2013 — February 28, 2014



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Drought Impacts, Weather Variability and Related News

NIDIS Reauthorized

Congress passed, and the President signed into law, reauthorization of the National Integrated Drought Information System (NIDIS) in early March.

The Western Governors' Association promoted the creation of NIDIS in 2006, and has since worked with NOAA and other partners to champion the system's deployment and secure reauthorization.

Devastating Mudslide Follows Heavy Rains

Heavy rains in the Cascade mountains — nearly twice the normal precipitation for the month of March, in some areas — were likely a factor in the devastating mudslide on March 22, 2014, in Oso, Wash., that has left more than 20 people dead.

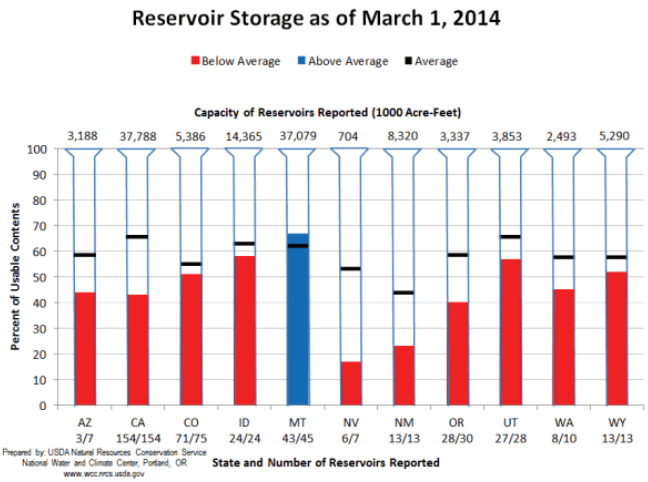
Drought, Cold Raise Concerns for Agriculture

Dry conditions in California have necessitated out-of-season irrigation and fallowing of fields. California rangelands are in poor condition, as well; supplemental feeding or relocation of herds has become necessary.

New Mexico farmers are preparing for a short irrigation season as they will only receive 1/6 of their full water allocations.

Extended cold in the Missouri River Basin led to concerns over the winter wheat crop. Producers will have to wait until the crop breaks dormancy to discover the extent of the damage.

Reservoir storage below avg. in several states

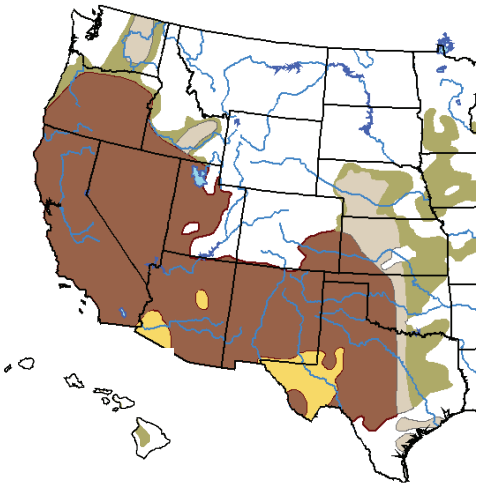


Reservoir Storage as of March 1, 2014. *Graph by the Natural Resources Conservation Service (wcc.nrcs.usda.gov).*

Reservoir levels are near or below average for the Western states, with low storage levels in the Southwest. Despite near-record September precipitation in New Mexico, three of the state's four largest reservoirs remain at 15% or less of storage capacity. The largest, Elephant Butte, is at only 15% of capacity.

Regional Outlook for Drought, Fire and Flood Risk

Drought Outlook: Dry conditions likely to persist across Southwest into June



Above: US Seasonal Drought Outlook; valid March 20 - June 30, 2014. (cpc.ncep.noaa.gov)

Drought is expected to persist across the Southwest and into Oregon. Other NOAA models (not shown) indicate that temperatures across most of the West will likely be above normal through the spring and into June. Precipitation is likely to be below average for the Pacific coastal region, particularly in northern California.

Wildfire potential above normal in CA this spring; Flood risk moderate in Dakotas

Map by Predictive Services, National Interagency Coordination Center. (nifc.gov)

***Left* — Significant Wildfire Potential for May & June 2014 —** Wildland fire potential is normal across most of the West with the exception of California. That state's wildfire season typically begins in October, so the above-average risk for spring is noteworthy.

***Above* — Flood Risk for Spring 2014 —** Minor to moderate flooding is projected for the northern plains based on the potential for snow-melt and rain-on-snow events. This projected flooding is not atypical. (nws.noaa.gov/hic/nho/)

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