



Natural Resources Conservation Service  
P.O. Box 2890  
Washington, D.C. 20013

Date: **February 15, 2013**

Subject: **February 1, 2013 Western Snowpack Conditions and Water Supply Forecasts**

The following information is provided for your use in describing western climate and water supply conditions as of February 1, 2013. Updates California data

Note: *The climate values used in this report are based on the new 1981-2010 Normals. In several regions of the West, statistical comparisons to the older 1971-2000 Normals can be substantially different.*

## OVERVIEW

Temperatures were 5 to 15 degrees cooler than normal west of the Rocky Mountain divide. In sharp contrast, temperatures were 5 to 10 degrees above normal east of the Rockies. Precipitation (Fig. 1) was below to much below normal over a large portion of the western states, including northern and extreme southeast Alaska (Fig. 1a). Specifically, this included all of Washington, western Oregon, nearly all of Idaho, most of Wyoming, Utah, Nevada, and Colorado. Near normal precipitation amounts were recorded over eastern Oregon; SW Idaho/NE Nevada; the Flathead, Marias, and Musselshell basins in Montana; northeast Wyoming; and southwest Colorado. Much above normal precipitation was recorded along the Mogollon Rim in central Arizona, the Cheyenne Basin in extreme eastern Wyoming, and much of Alaska. As a result of an unusually dry January, climatologically speaking, projected seasonal water supplies in the West have declined in nearly every state and basin compared to the [January 1 forecasts](#).

## SNOWPACK

February opened with the driest regions in the West over the eastern slope of the Continental Divide from Wyoming to New Mexico (Fig. 2). The wettest regions include the Northern Sierra Nevada, parts of the Cascades, the Upper Snake River drainage, the Upper Columbia River, and southeast Alaska. Much of the West showed decreases in snowpack as noted in Fig. 3. However, much of eastern and southeastern Alaska experienced increases in snowpack.

A map containing a daily update of the westwide snowpack may be obtained from the following URL - <http://www.wcc.nrcs.usda.gov/gis/snow.html>

## SEASONAL PRECIPITATION

In a typical La Niña winter, the Western States usually experience above normal precipitation north of latitude 41°N and below normal south of 41°N. However, thus far during the 2013 Water Year, the El Niño Southern Oscillation (ENSO) has remained neutral and precipitation has been quite variable across the West. However, a La Niña signature appears to be dominating with some additional moisture in the central Arizona region (Fig. 4). For Alaska, the Susitna and Chena Basins show some surplus this Water Year while the southern and southeastern region of the state are experiencing deficits.

Monthly and seasonal precipitation maps are available from the following locations - <http://www.wcc.nrcs.usda.gov/gis/precip.html> and <http://www.cbrfc.noaa.gov/wsup/westwide/westwide.cgi>.

## **SPRING AND SUMMER STREAMFLOW FORECASTS**

The spring and summer streamflow forecasts as of February 1, 2013 are calling for normal flows scattered across the Northern Tier States and below normal flows over the Southern Tier States; including the Great Basin (Fig. 5). An exception is above flow conditions scattered across the Northern Tier States. With January's precipitation pattern influenced and enhanced by the sub-tropical jet stream, only the region near the Four-Corners resulted in an improved streamflow forecast (Fig. 6). Specifically:

The Columbia Basin forecasts decreased 10% overall, but were quite variable, showing greater than 20% decreases in the Snake, Salmon/Clearwater, and Clark Fork, but only 5-10% decreases over the Lower Columbia in Washington and Oregon. In the Missouri Basin, preliminary forecasts indicate a 5-15% decrease in the Upper Missouri mainstem tributaries and a similar drop (5-10%) in the Upper Yellowstone Basin. The only increases being shown in the Missouri Basin are for rivers and streams in the Bighorn Mountains of north-central Wyoming. Forecasts for the upper portion of the Colorado Basin are indicating a 5-15% decrease, whereas the San Juan Basin forecasts are up 5-15%. Similarly, the Rio Grande water supply outlook is projecting a 5% increase over January 1 projections. Lastly, spring and summer runoff projections in the Great Basin look to be 10-20% below January forecasts.

In summary, preliminary February 1 snowmelt runoff forecasts indicate worsening conditions as compared to January 1. Forecasts decreased 5-10% in Washington and Oregon; 10-20% in Montana, Idaho, and Utah; 10-15% in northwest Colorado. Forecasts increased 5-15% in southwest Colorado and 5% in northwestern New Mexico.

State Basin Outlook Reports can be accessed at: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>.

## **RESERVOIR STORAGE**

Statewide (average) reservoir levels (Fig. 7) show California, Idaho, Montana, Utah, and Wyoming near normal. The remainder of the Western States is below normal, especially Nevada and New Mexico.

## **FOR MORE INFORMATION**

The National Water and Climate Center Homepage provides the latest available snowpack and water supply information. Please visit us at <http://www.wcc.nrcs.usda.gov>

/s/

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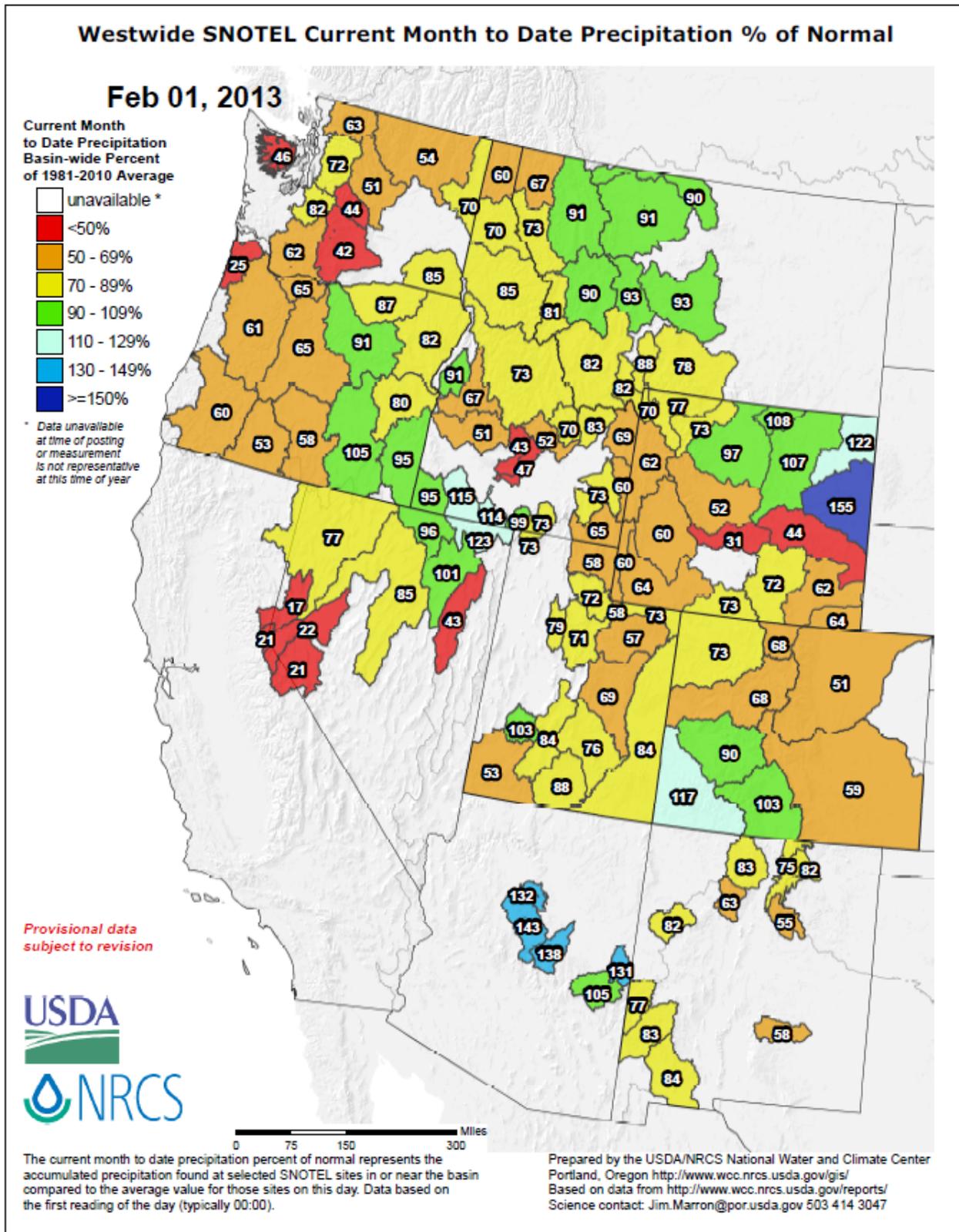


Fig. 1. January 2013 precipitation percent of average.

February 1, 2013 Water Supply Forecast Summary

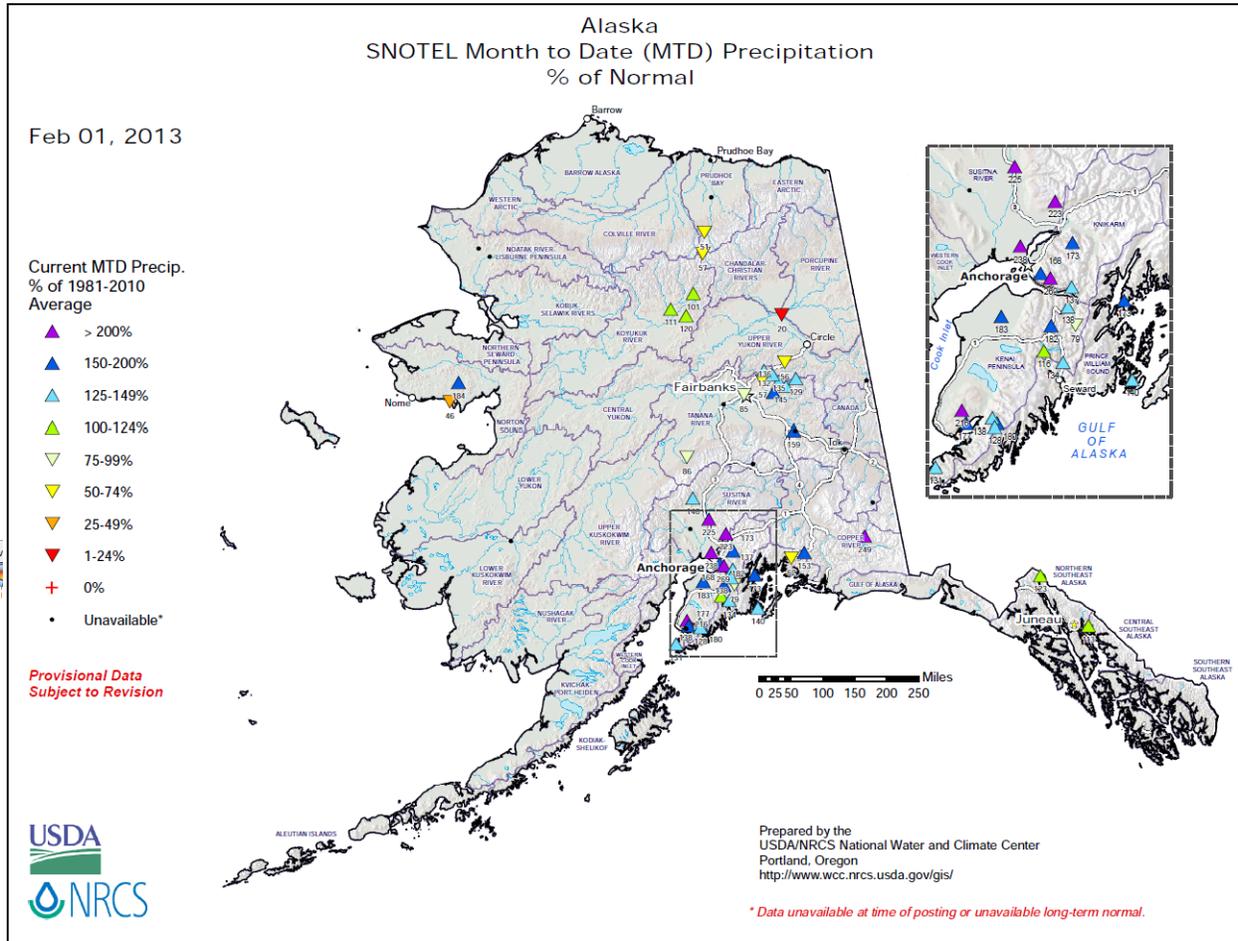


Fig. 1a. [January 2013](#) Alaska precipitation percent of average. Click link for an enlarged map.

# Mountain Snowpack as of February 1, 2013

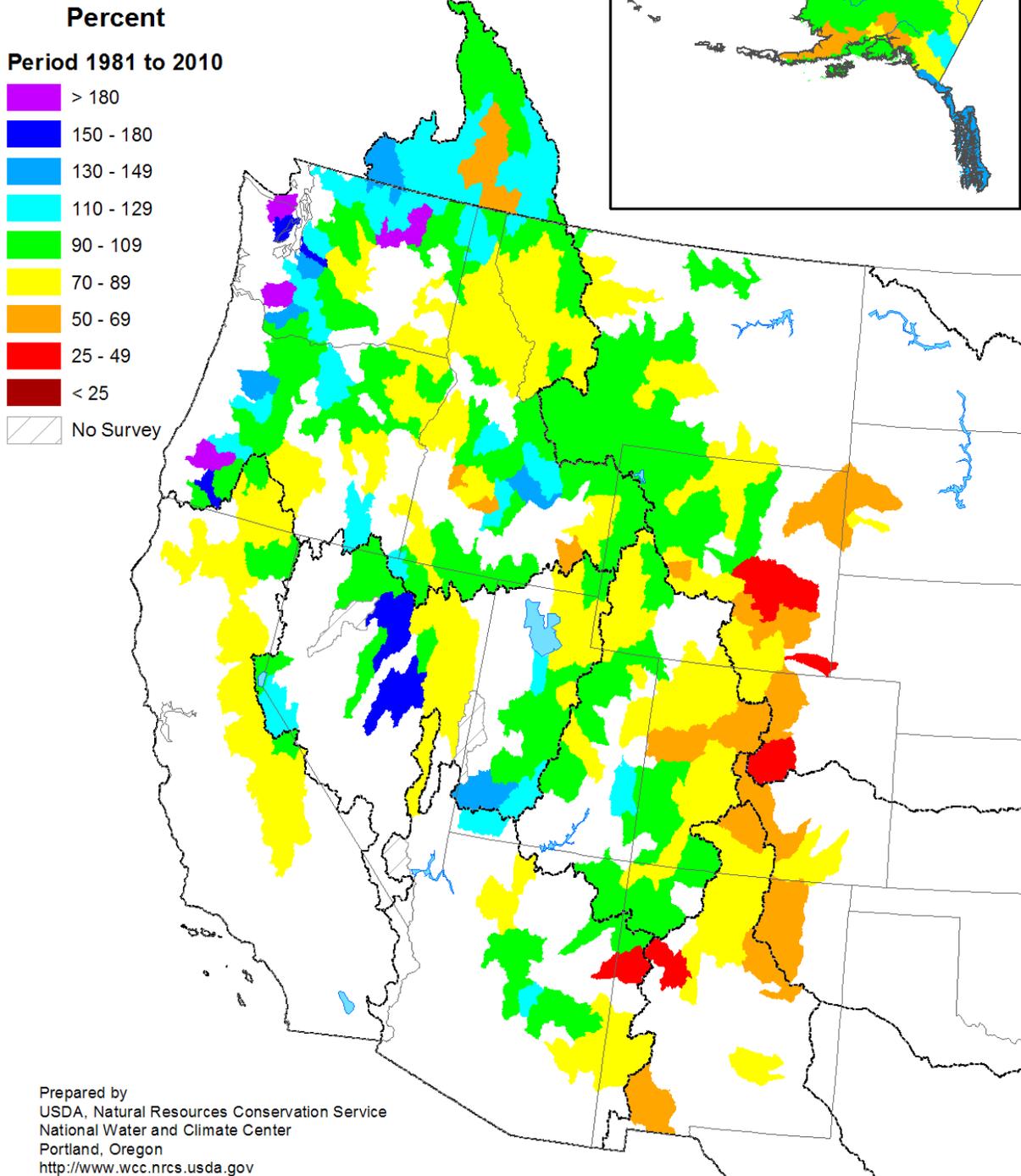


Fig. 2. Snowpack values on 1 February 2013. Note the alternating pattern of surpluses and deficits across the West.

## 2013 Mountain Snowpack Change in percent between January 1 and February 1

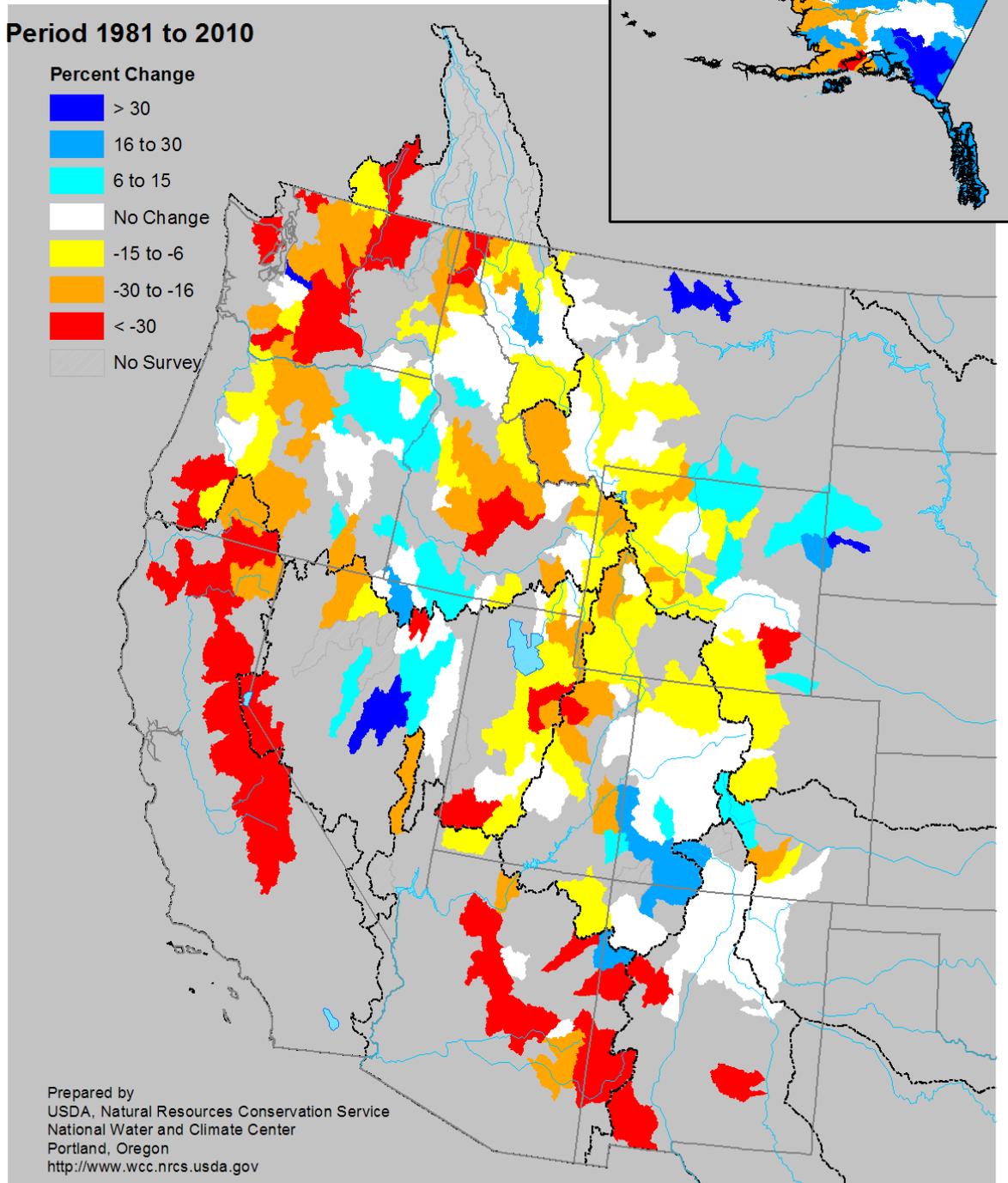


Fig. 3. Mountain Snowpack changes between, January 1 to February 1, 2013. The lack of precipitation in January is quite evident. This map is a correction to the earlier one sent this morning.

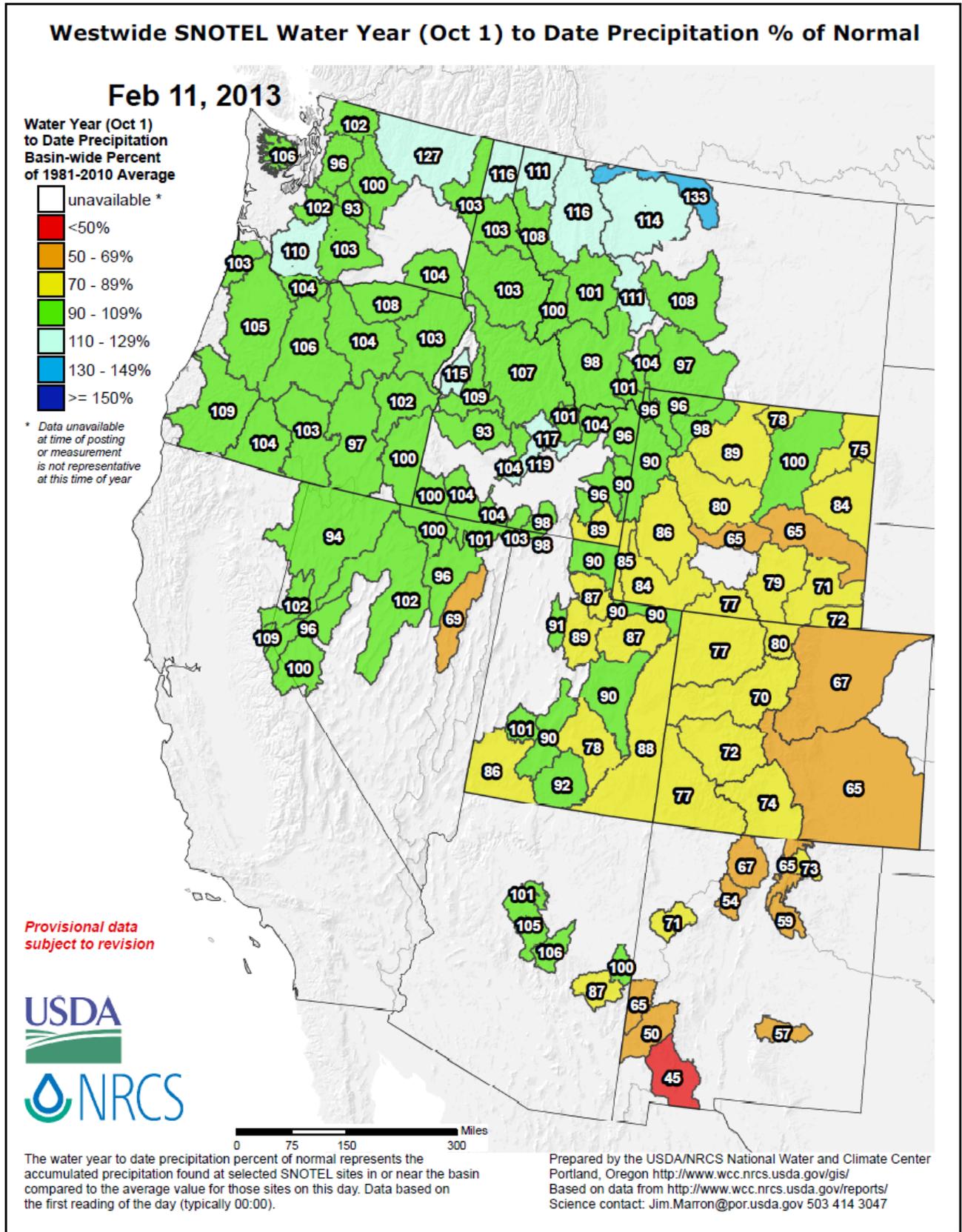


Fig. 4: To date, the Water Year precipitation percent of normal.

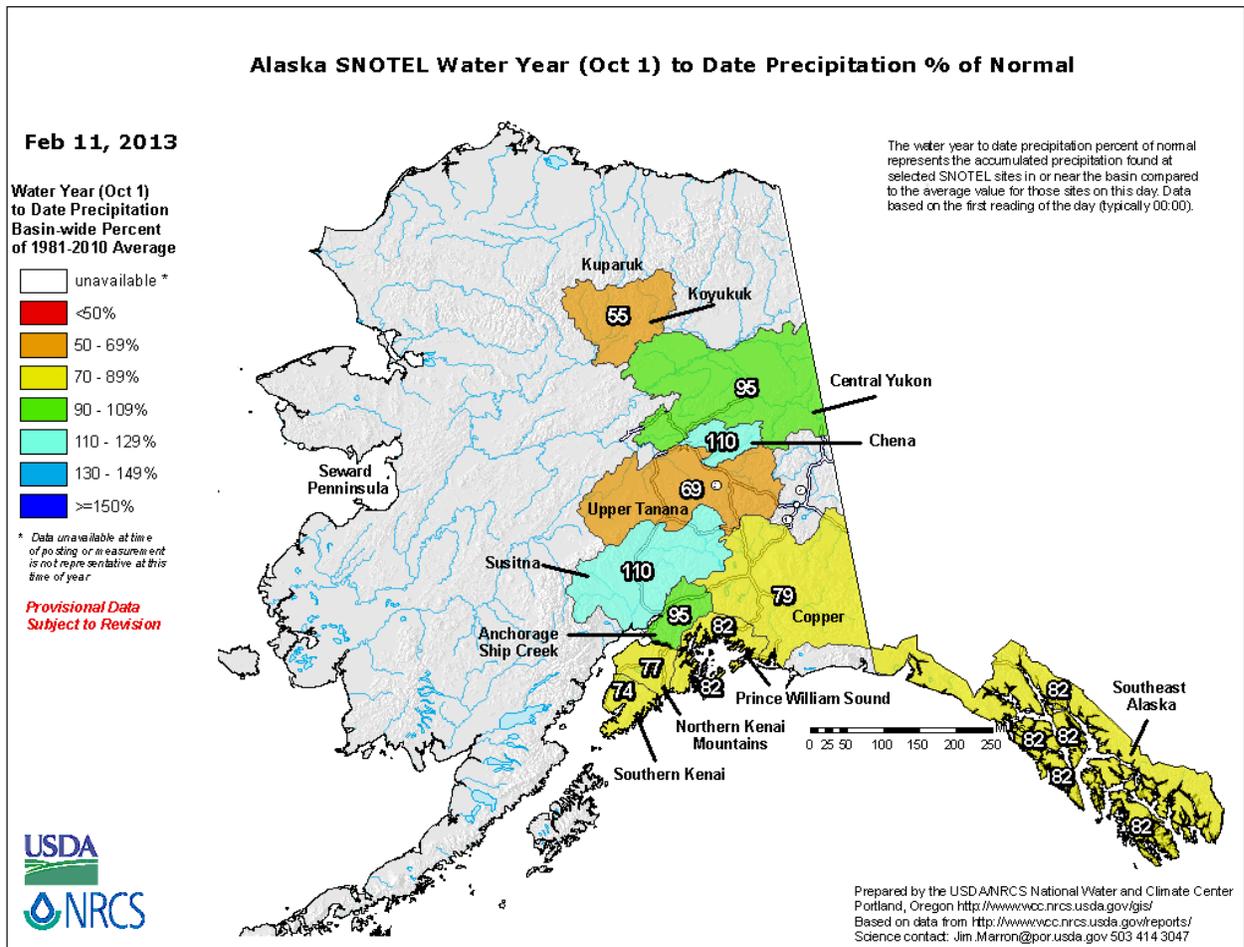
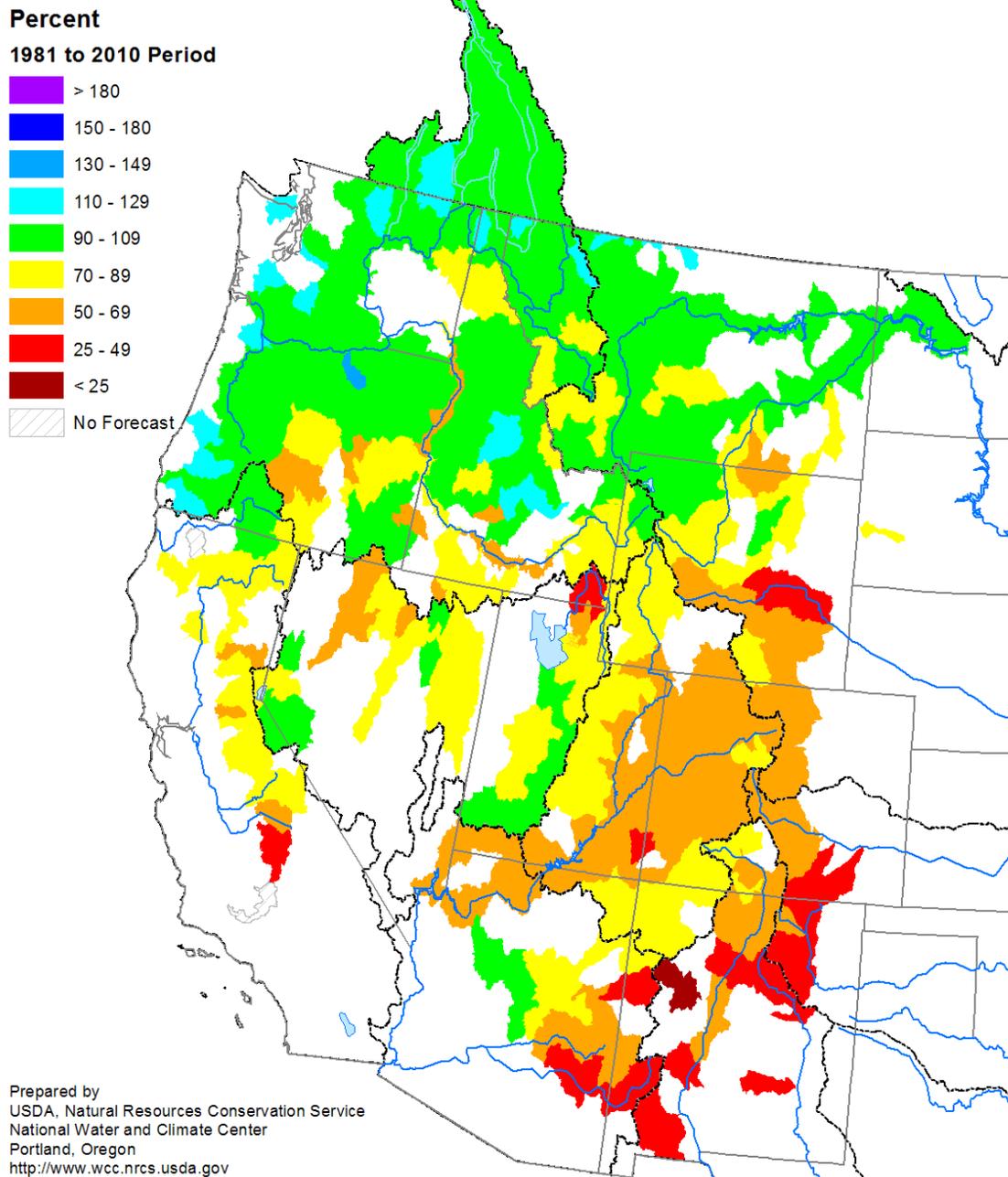


Fig. 4a: To date, the Alaskan [Water Year](#) precipitation percent of normal. [Click link for an enlarged version.](#)

## Spring and Summer Streamflow Forecasts as of February 1, 2013



**Fig. 5. Seasonal Water Supply Forecasts - February 1, 2013**  
(Alaska not forecast in February). California data is now included in this report.

## Change in Spring and Summer Streamflow Forecasts from January 1 to February 1, 2013

Period 1981 to 2010

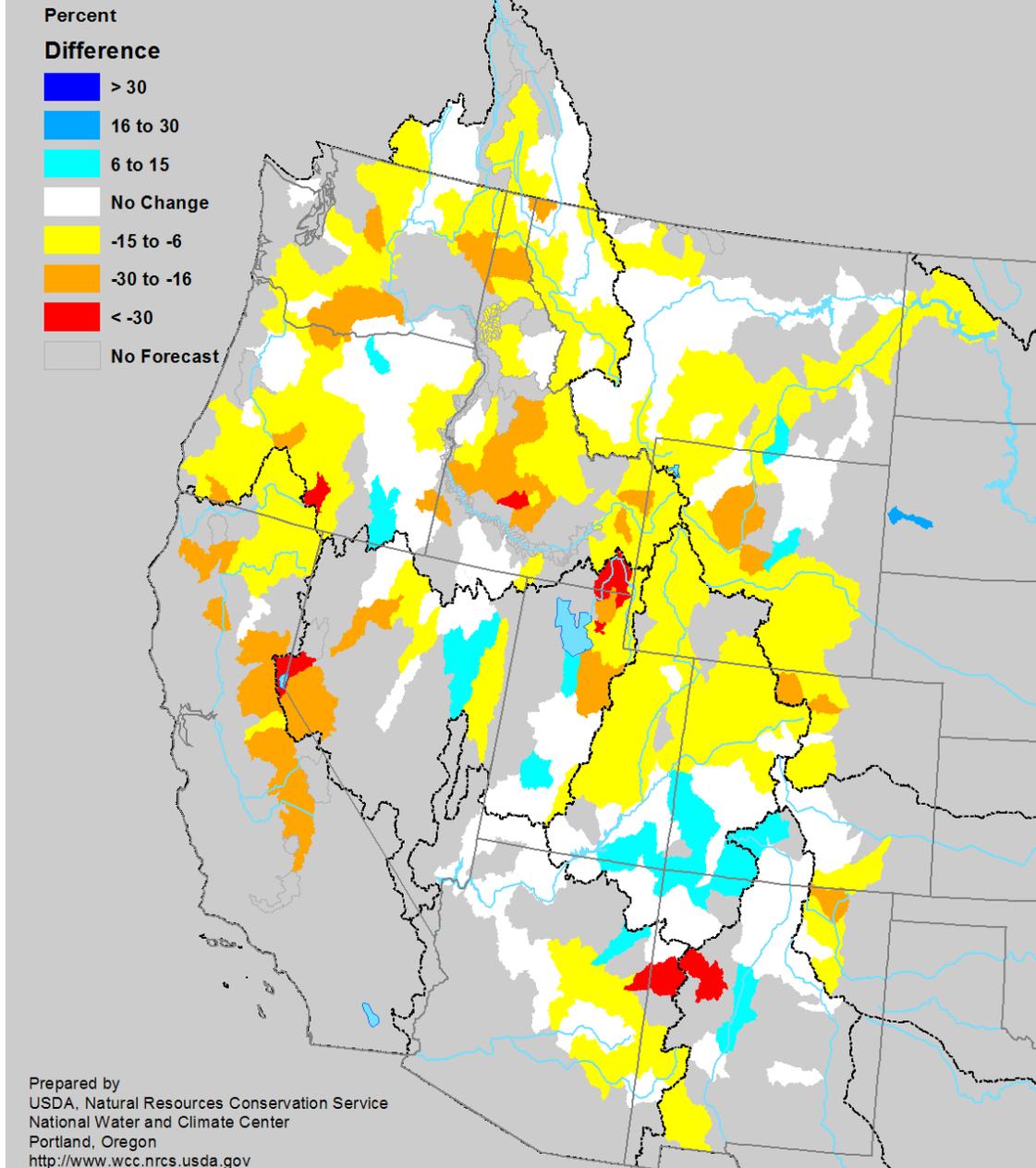
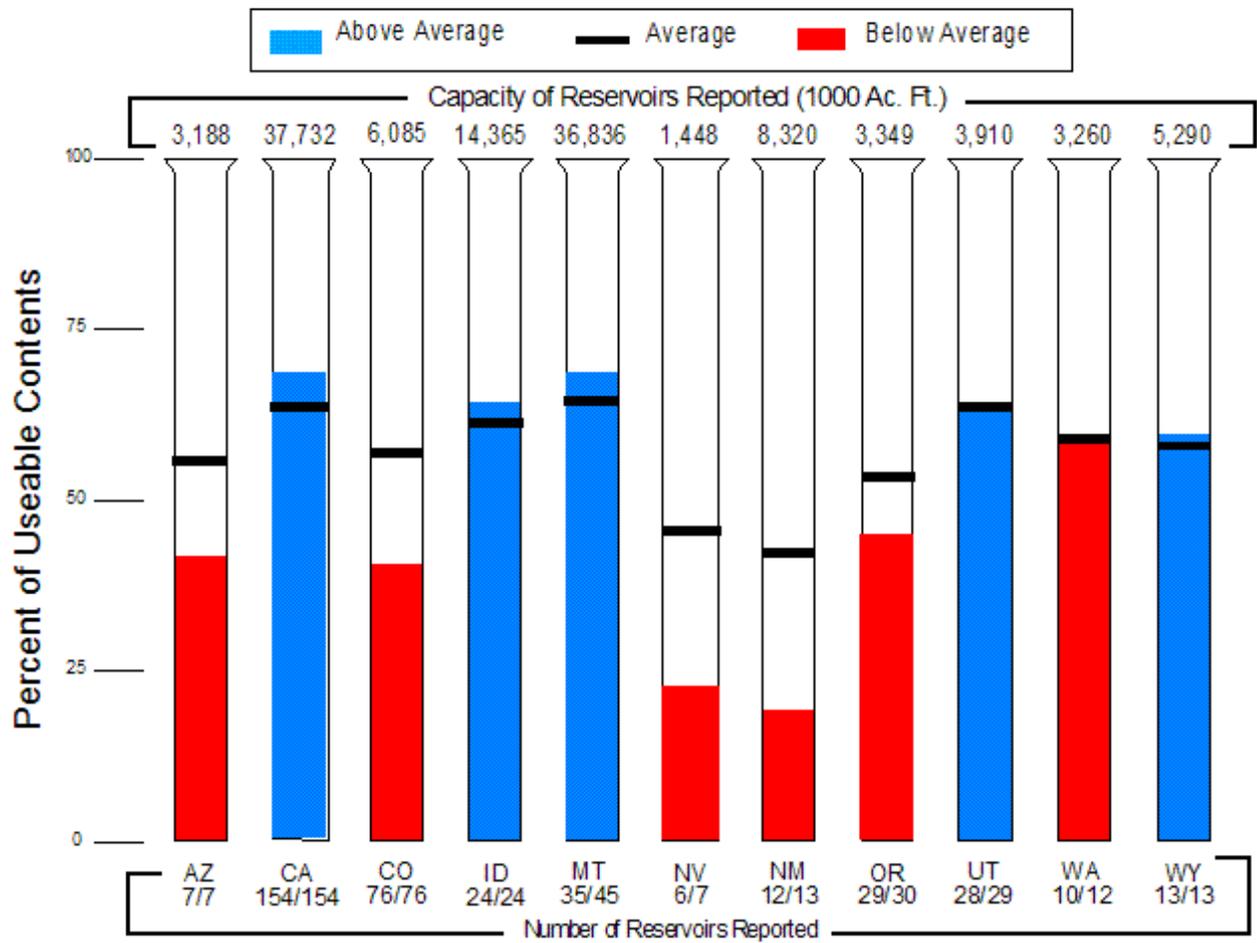


Fig. 6. Change in streamflow forecast between January 1 and February 1, 2013. The lack of blues and the preponderance of yellows, oranges, and some reds is not a good trend for this time of year. California data is now included in this report.

## Reservoir Storage as of February 1, 2013



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Fig.. 7. Reservoir Storage - [February 1, 2013](#).