



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

Date: March 11, 2011

Subject: March 1, 2011 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 March 1, 2011.

OVERVIEW

A moderately strong "La Niña" continues, however, thus far, we have not seen excessive precipitation during February across much of the Pacific Northwest as would be expected. Reservoir levels are below normal over Oregon and Idaho. Most of the abundant precipitation has fallen over the Northern and Central Rockies. The Upper Colorado River Basin has benefitted during this Water-Year and this has helped increase expected water supply runoff to the Lower Colorado Basin; resulting in an unexpected reservoir surplus for Arizona. However, the dry signal of the La Niña is very apparent over the southern reaches of the Southwest with below normal reservoir levels in Nevada and New Mexico. The spring and summer streamflow forecasts are generally for normal or above normal flows across much of the West but the Southwest has been negatively impacted by La Niña.

SNOWPACK

March opened with the driest regions over much of the Pacific Northwest and Southwest (Fig. 1). Conditions worsened over the Great Basin and Interior West but only because the decreases were from initially very high values (Fig. 2). Areas that have improved during the past month include the Cascades and Northern Sierra Nevada, Black Hills, the Southern Rockies, and much of Alaska.

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 of 41°N and below normal south of 41°N. However, thus far during the 2011 Water Year, this La Niña has delivered excess moisture from southern California to Montana while moisture deficits dominate the Pacific Northwest and especially over eastern Arizona and most of New Mexico (Fig. 3). Alaska's moisture surplus improves the further north one travels.

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

SPRING AND SUMMER STREAMFLOW FORECASTS

The spring and summer streamflow forecasts as of March 1, 2011 are calling for normal flows over much of Oregon, northern Idaho, western Wyoming, western Montana, and northern California. Above normal flows are expected for the Sierra Nevada, Great Basin, northern Colorado, and southeast Wyoming including the Black Hills. Below normal forecasts are called for the Snake River in Idaho, 4-Corners region, and most of Arizona and New Mexico (Fig. 4). However, the Northern Rockies, Sierra Nevada eastward to Colorado have seen increasing flow forecast amounts since late February. Decrease flow forecasts are noted over the Interior Northwest, parts of the Great Basin, and over the Southwest (Fig. 5). The decreases over the Great Basin have more to do with decreases from exceptional high values and not because of impending water availability shortfalls. State Basin Outlook Reports can be accessed at: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>.

RESERVOIR STORAGE

Statewide (average) reservoir levels (Fig. 6), shows that about half the states have above normal totals and half below normal. Arizona and Wyoming have the largest surpluses while Nevada, New Mexico, and Oregon have the greatest deficits. No significant changes since the beginning of February.

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>

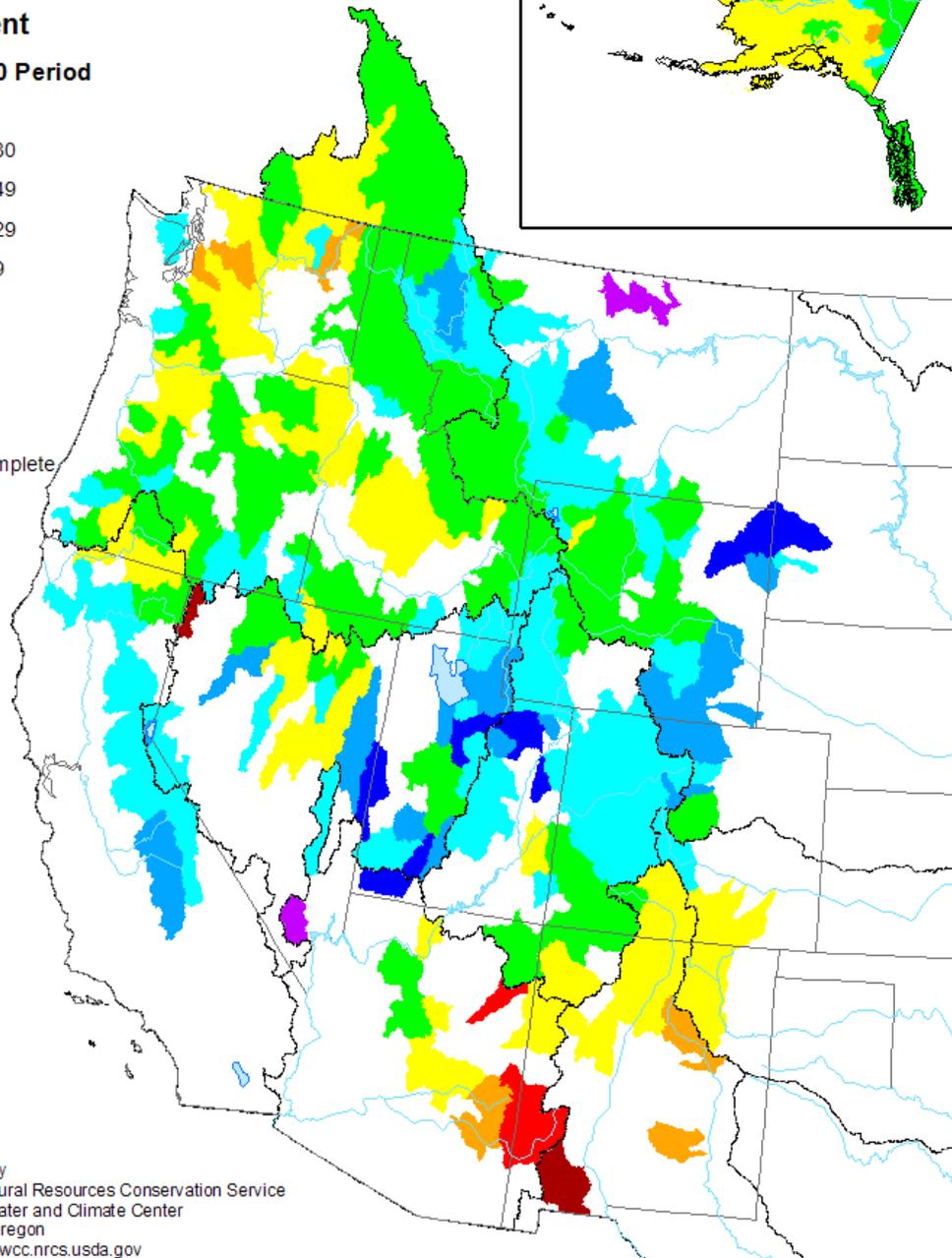
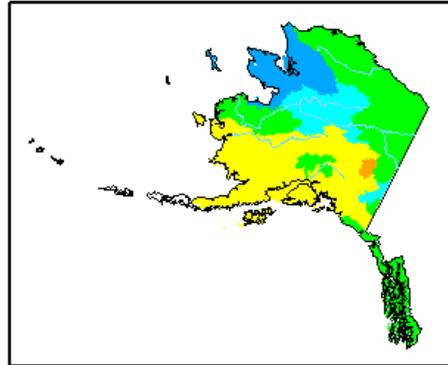
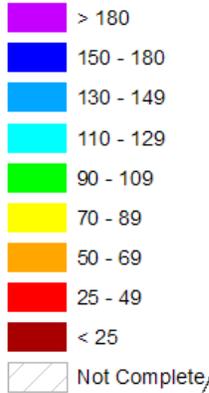
/s/

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Mountain Snowpack as of March 1, 2011

Percent
1971 to 2000 Period



Prepared by
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<http://www.wcc.nrcs.usda.gov>

Figure 1. Mountain Snowpack, March 1, 2011

<ftp://ftp.wcc.nrcs.usda.gov/support/water/westwide/snowpack/wy2011/snow1103.gif>

Mountain Snowpack Change between February 1 and March 1

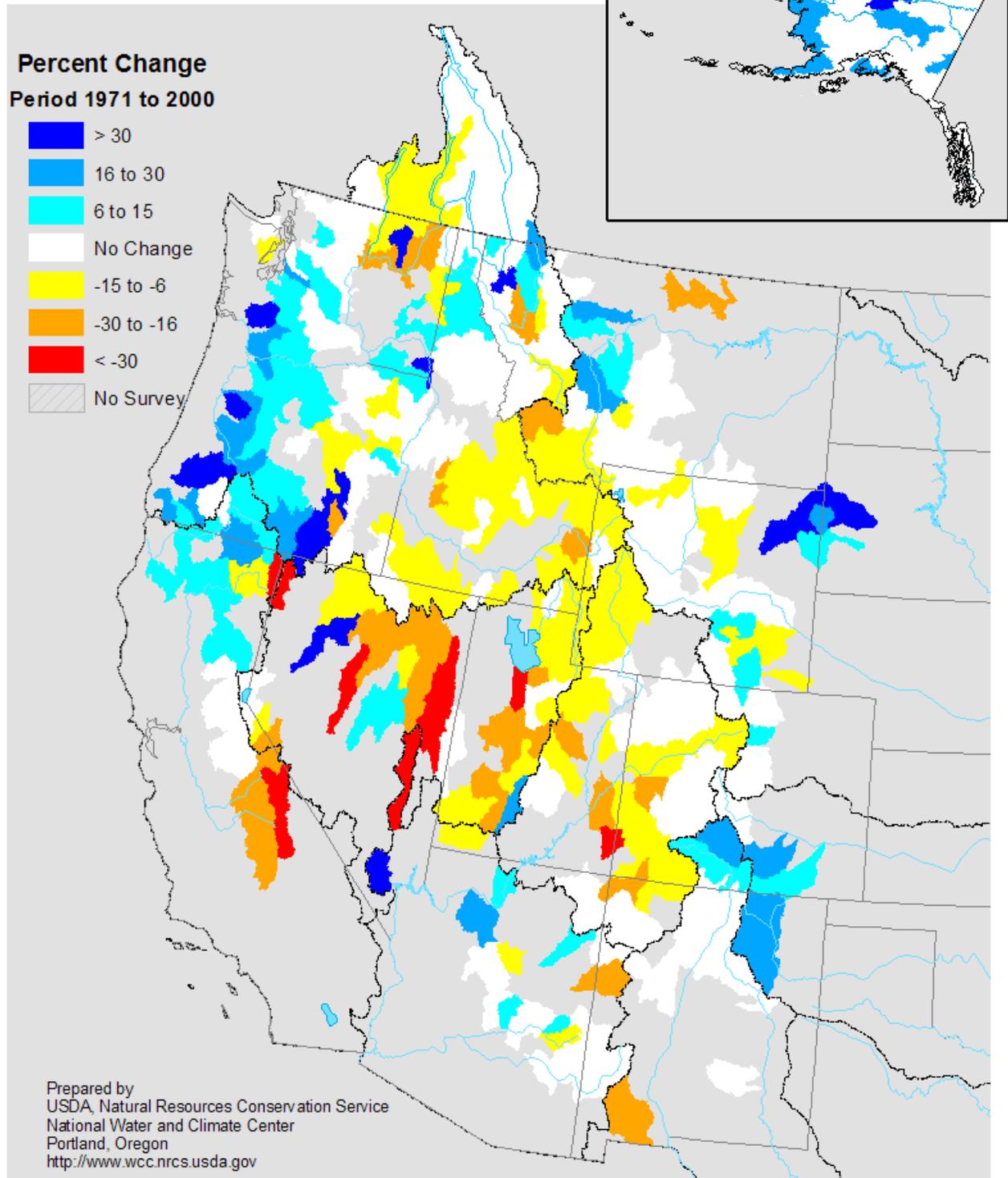


Fig. 2. Mountain Snowpack Difference between, February 1 to March 1, 2011
<ftp://ftp.wcc.nrcs.usda.gov/support/water/westwide/snowpack/wy2011/difsnow0311.gif>

Seasonal Precipitation, October 2010 - February 2011

(Averaged by Hydrologic Unit)

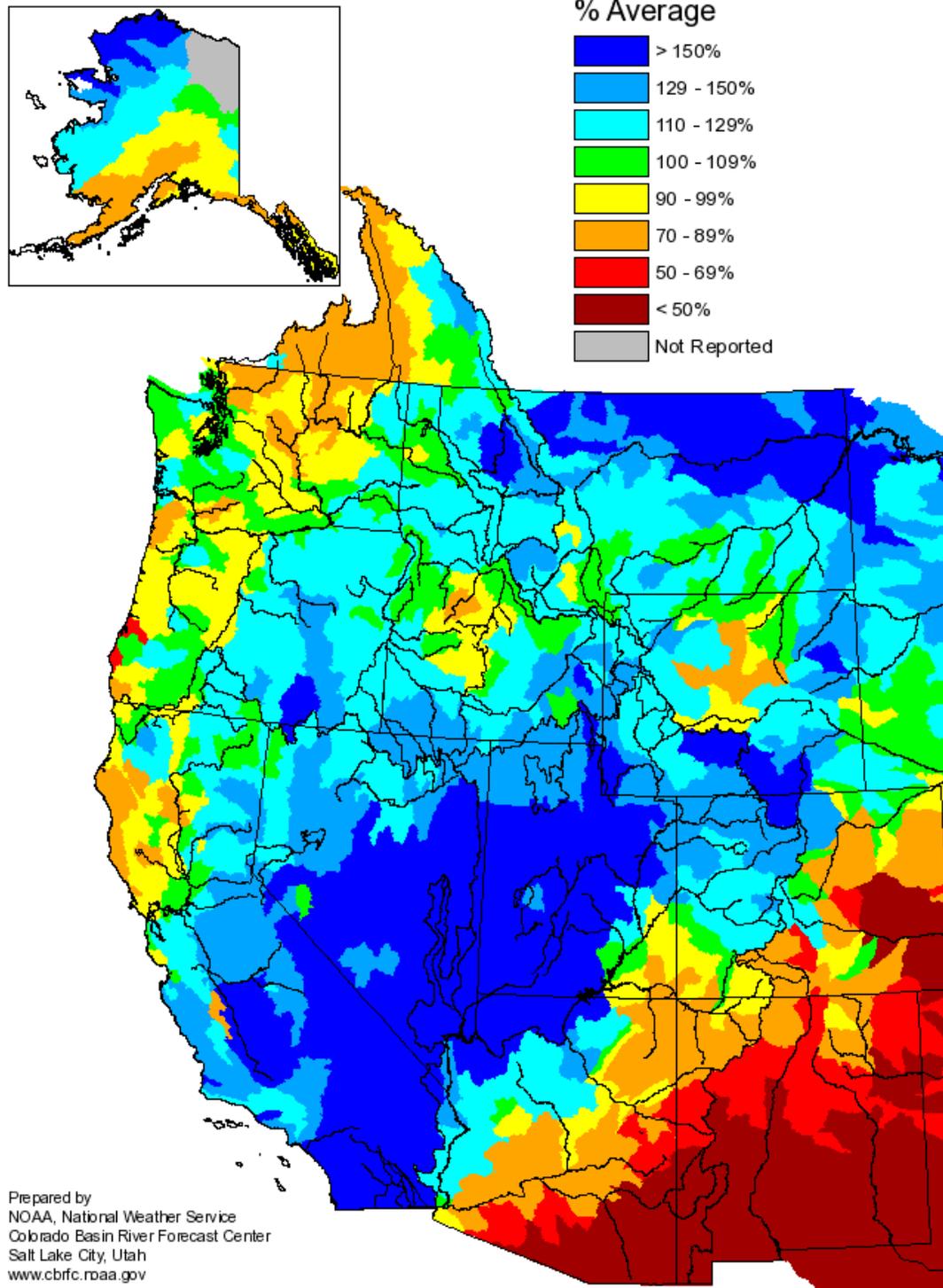
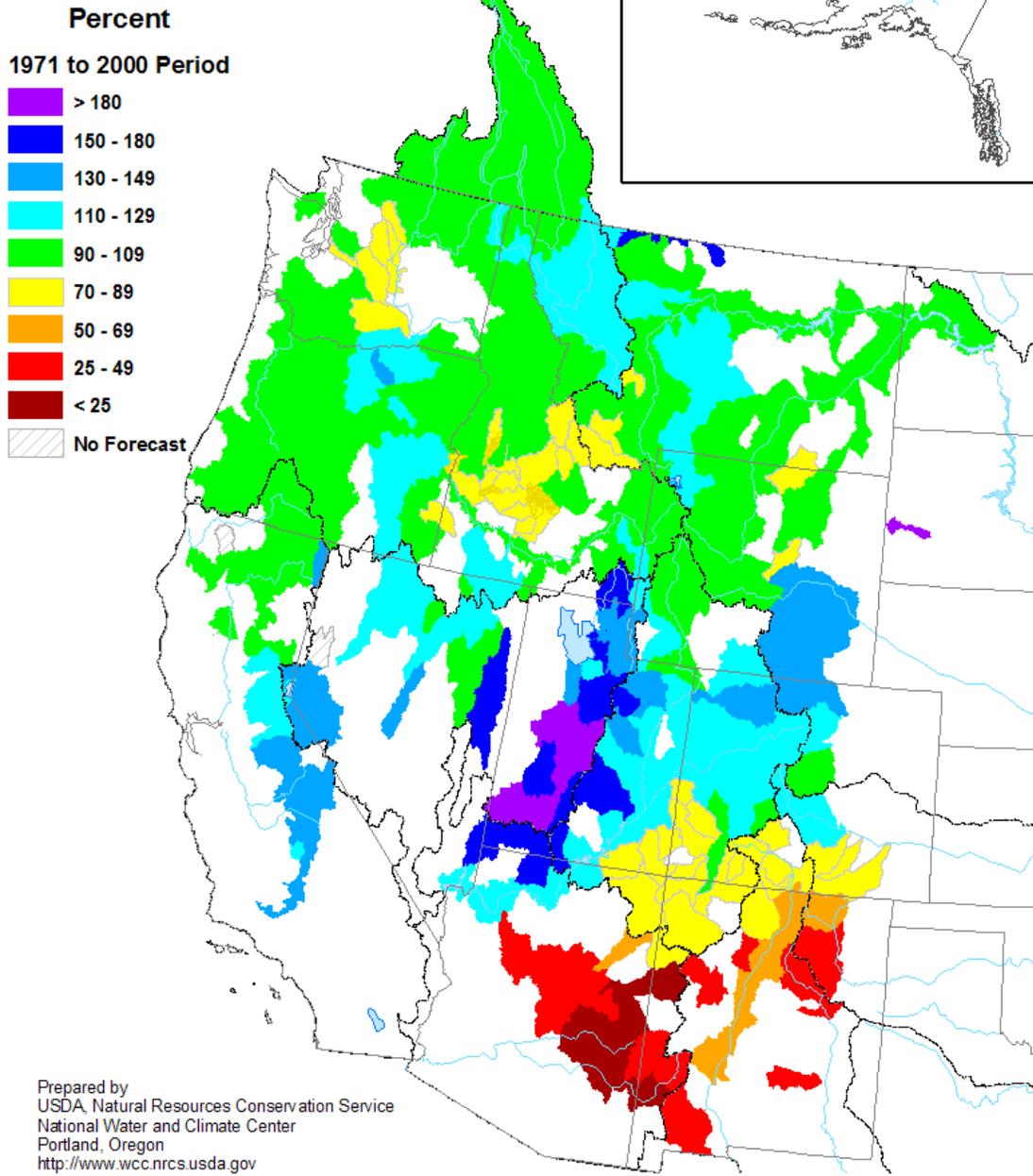


Figure 3. Seasonal Precipitation, October 1, 2010 to February 2011.

Ref: <http://www.cbrfc.noaa.gov/wsup/wetwide/precip/westS201102.png>

Spring and Summer Streamflow Forecasts as of March 1, 2011



**Figure 4. Seasonal Water Supply Forecasts - March 1, 2011
(Alaska not forecast in March)**

Ref: <ftp://ftp.wcc.nrcs.usda.gov/support/water/westwide/streamflow/wy2011/strm1103.gif>

Change in Spring and Summer Streamflow Forecasts from February 1 to March 1, 2011

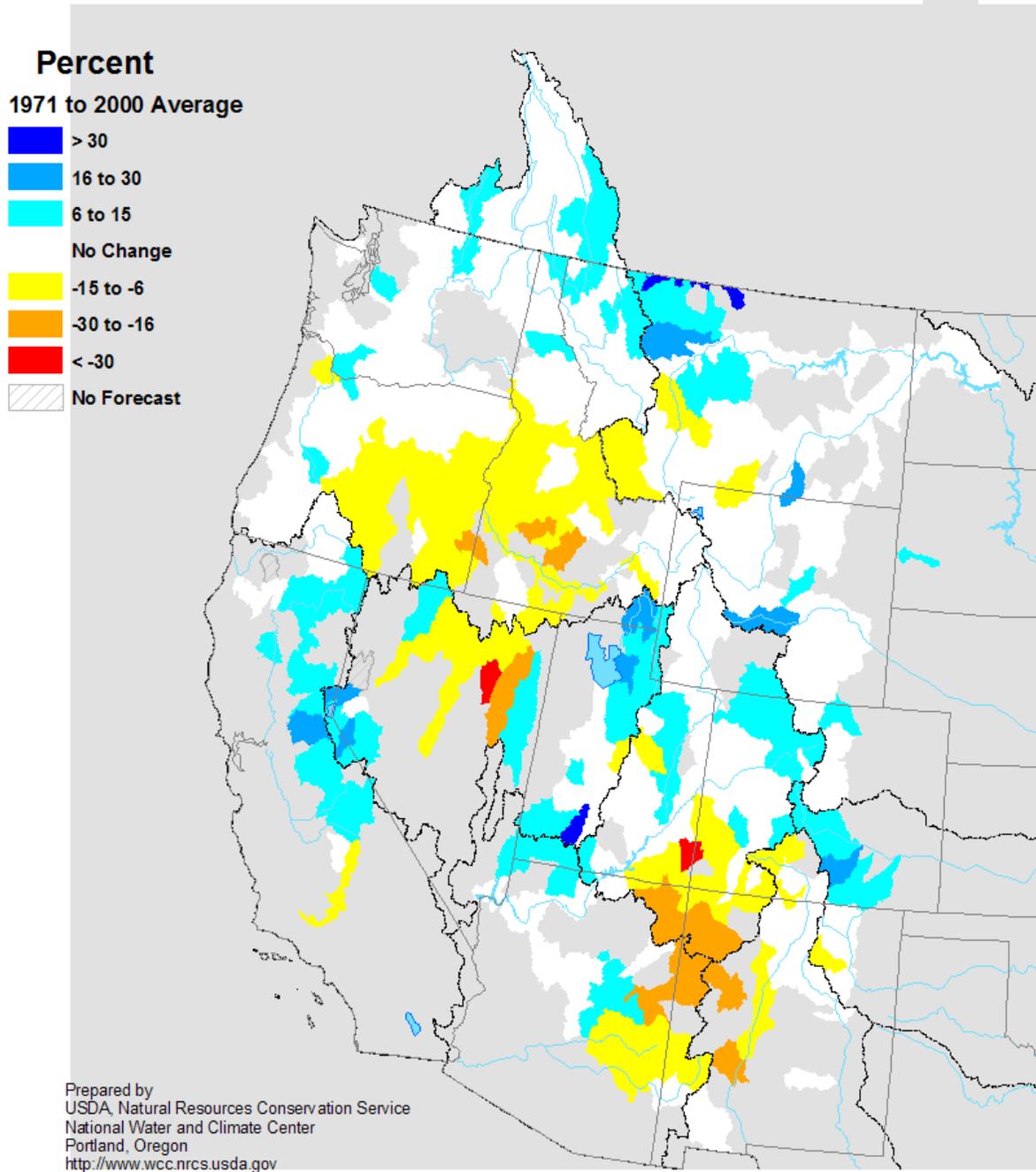
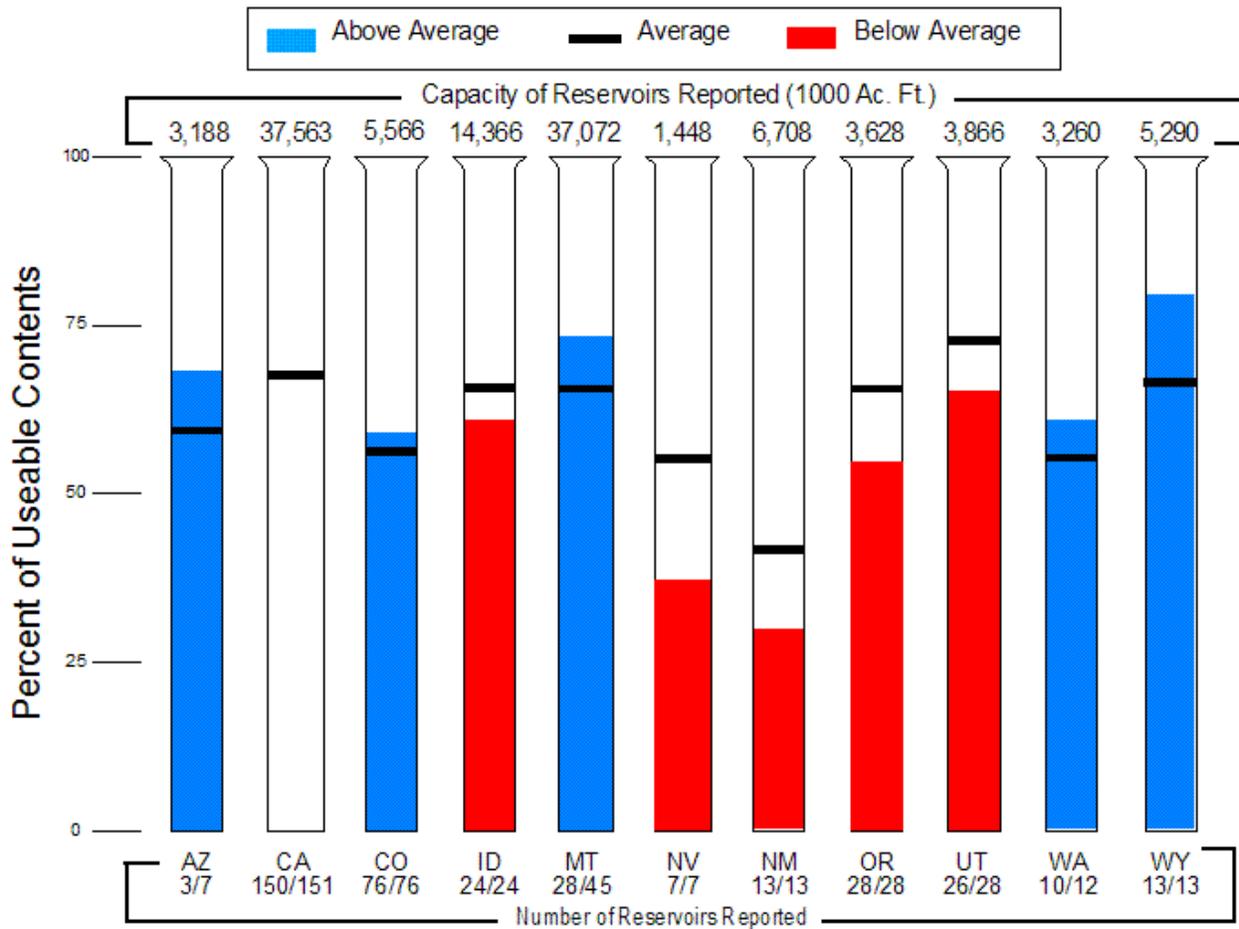


Fig. 5. Change in streamflow forecast between February 1 and March 1, 2011.

Note: California will be available later.

Ref: <http://ftp.wcc.nrcs.usda.gov/support/water/westwide/streamflow/wy2011/difstrm0311.gif>

Reservoir Storage as of March 1, 2011



Prepared by: USDA, Natural Resources Conservation Service, National Water and Climate Center, Portland, OR
<http://www.wcc.nrcs.usda.gov>

Figure 6. Reservoir Storage - March 1, 2011. California data will be available in the near future.

<http://www.wcc.nrcs.usda.gov/cgibin/resvgrph2.pl?area=west&year=2011&month=03>