

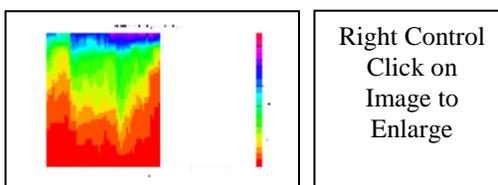


Natural Resources Conservation Service  
 P.O. Box 2890  
 Washington, D.C. 20013

Date: **May 11, 2012**

Subject: **May 1, 2012 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 May 1, 2012. For Water Year 2012 (WY-12) monthly precipitation (snow) maps by state, click this [link](#). For day to day SNOTEL percentiles for regions over the Colorado Basin for the WY-12 from the CBRFC (NOAA), click this [link](#). For example:



## OVERVIEW

A weakening “La Niña” resulted in abundant moisture over the Pacific Northwest, Sierra, and parts of the northern Montana Rockies (Fig. A). This was enough to help increase snow water-equivalent (SWE) over the Northern Cascades and Upper Columbia River Basin by up to 25 percent (Fig. 2). The Sierra, however, was unable to recover its SWE due to increased temperatures in April (Fig. 1). A very dry and extremely warm April over the Interior West helped to accelerate the snow melt peak runoff and melt out dates by as much as 4 to 6 weeks earlier than average. For the Water Year that began in October 2011, La Niña’s classic signature of a wetter Northern Tier / drier South Tier pattern over the West verified well with only a few exceptions (Fig. 3). The streamflow forecast (Fig. 4) parallels the Water Year moisture surpluses and deficits as would be expected. The streamflow forecasts were adjusted somewhat from April to May to reflect increased moisture over the Oregon Cascades and California Sierra (Fig. 5). However, the large seasonal SWE deficits over California could not be compensated for in any meaningful way. Reservoir data resemble April’s values. Despite low snowpack in California, reservoir levels reflect carryover from the abundant moisture in 2010-11. Alaska’s surplus snowfall has resulted in average to above average runoff over most of the state.

## SNOWPACK

Mountain [snowpack](#) on May 1, 2012 shows a typical La Niña precipitation pattern of wetter conditions to the north and drier to the south over the Western States (Fig. 1). Despite a very dry April over Alaska, earlier season snow cover persisted. Mountain snowpack difference between April 1 to May 1, 2012 shows that La Niña’s only surprise was the persistent accumulation of snow over the Northern Cascades and Upper Columbia River Basin. The massive decrease in snowpack over the remainder of the West was impressive with most basins exceeding 15 percent and nearly half exceeding 30 percent (Fig. 2).

## **SEASONAL PRECIPITATION**

Seasonal precipitation from October 1, 2011 to April 30, 2012 shows normal to above normal moisture over much of the Cascades, Upper Columbia, Upper Missouri, and Lower Rio Grande River Basins. Drier conditions with respect to the long-term average dominated elsewhere. General, this winter's La Niña precipitation is consistent with this pattern (Fig. 3). The apparent surplus in moisture over New Mexico was not sufficient to compensate for its year long drought.

## **SPRING AND SUMMER STREAMFLOW FORECASTS**

Seasonal water supply forecasts on May 1, 2012 shows normal to surplus flows expected over the Cascades, Upper Columbia River Basin, and Upper Missouri River Basin, and below flows south of a line from southern Oregon to northern Wyoming. Above normal flows dominate much of Alaska (Fig. 4). Change in streamflow forecast between April 1 and May 1, 2012 show increases over western Oregon, much of California, and parts of the Upper Columbia. Decreases dominated elsewhere although in most areas with increases, this did not contribute significantly to increased seasonal runoff (Fig. 5).

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

## **RESERVOIR STORAGE**

Reservoir Storage on May 1, 2012 shows similar values to April 1, 2012. The two Southwestern States (AZ, NM) have the greatest deficits while UT and WY have the greatest surpluses.

## **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/

Micheal L. Golden

Acting Deputy Chief, Soil Survey and Resource Assessment

## Monthly Precipitation for April 2012

(Averaged by Hydrologic Unit)

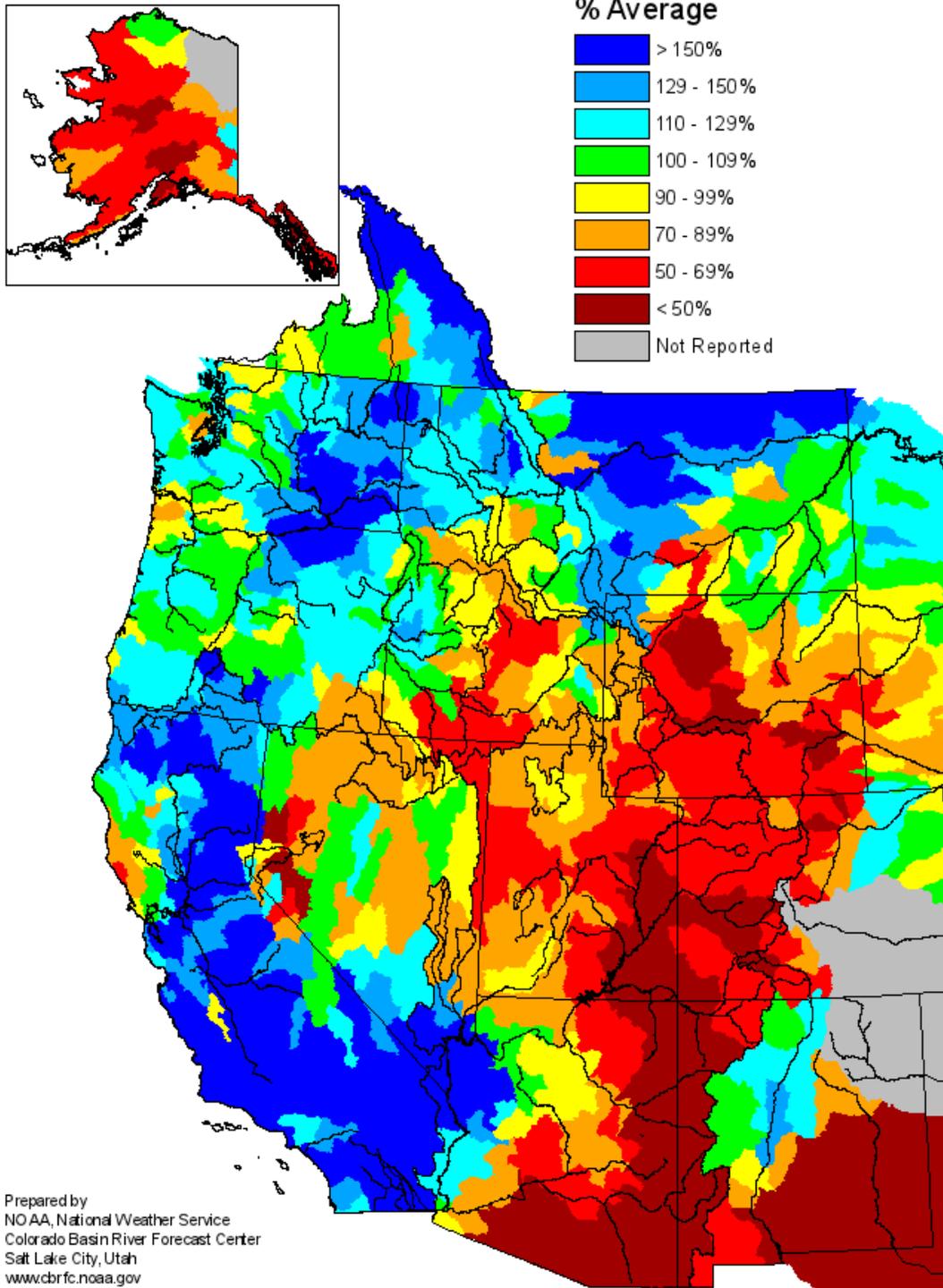


Figure A. [April 2012](#) precipitation map shows abundant moisture falling over the Northern and Westernmost Tier of the West while drier conditions dominated the Interior West, much of the Southwest, and Eastern Slope of the Rockies eastward. Alaska experienced much drier conditions overall.

## Mountain Snowpack as of April 1, 2012

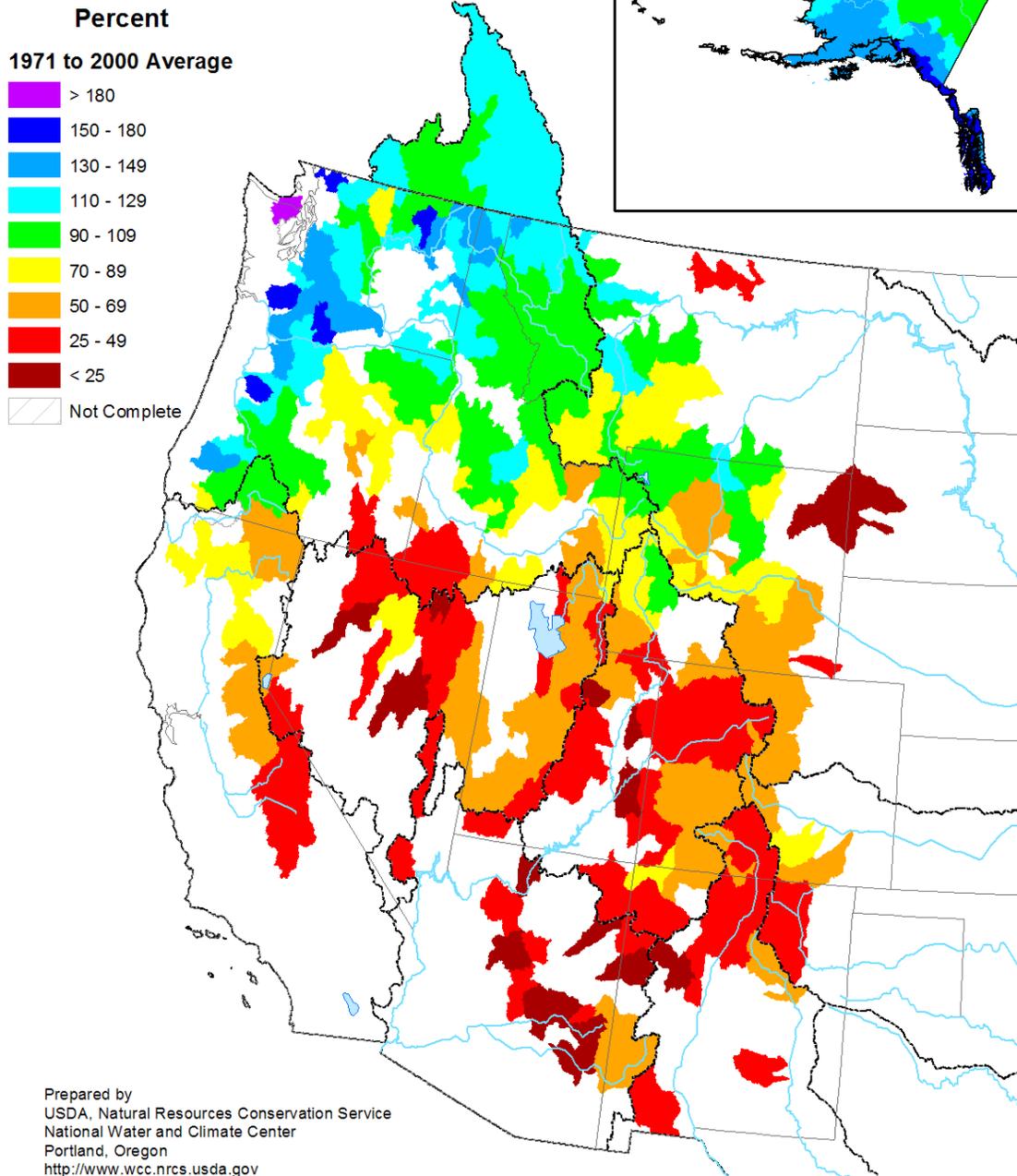
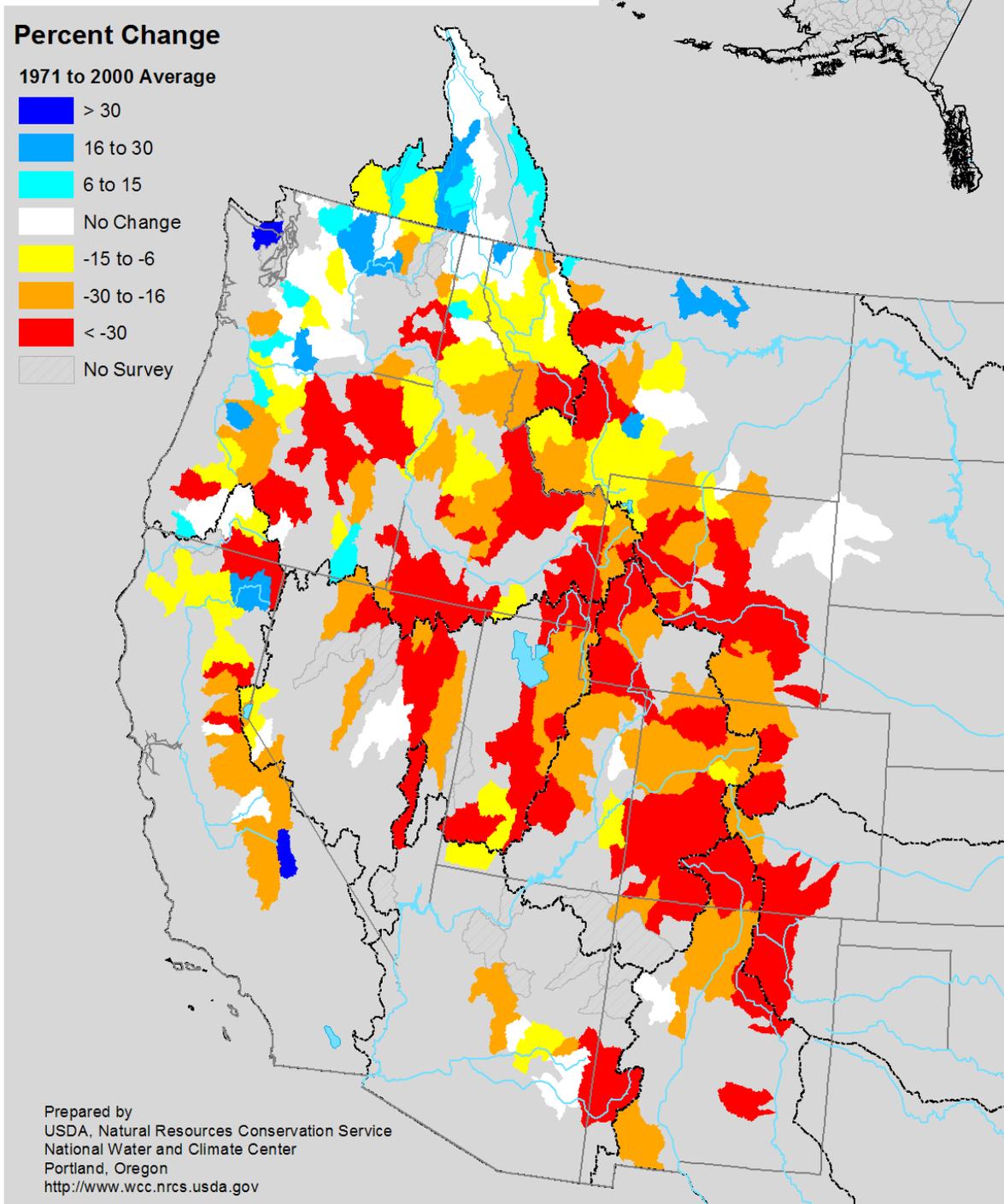


Figure 1. Mountain **Snowpack** on May 1, 2012 shows a typical La Niña pattern of accumulated wetter conditions to the north and drier to the south over the Western States. However, much of Alaska's abundant accumulated moisture has been unexpected during this La Niña and cool phase of the Pacific Decadal Oscillation. In Alaska, the Panhandle region has had above normal snows as was expected.

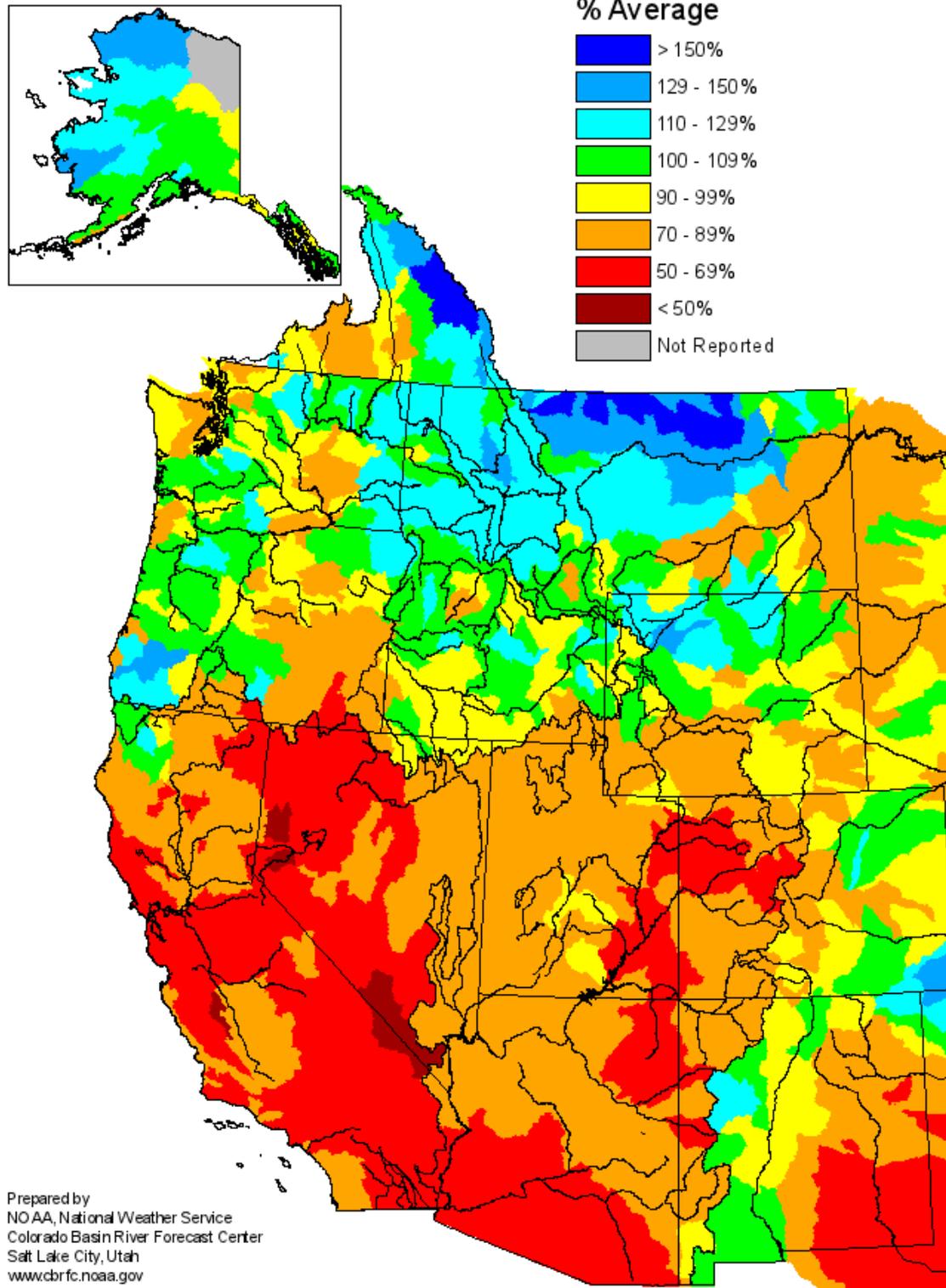
# Mountain Snowpack Change between April 1 and May 1



**Fig. 2. Mountain Snowpack Difference between, April 1 to May 1, 2012 shows that La Niña’s supply of moisture was fading over much of the Northern Tier States; with a few exceptions. Most river basins saw a decrease of 16 to more than 30 percent drop in snowpack. This was 4 to 6 weeks sooner than the long term average dates**

# Seasonal Precipitation, October 2011 - April 2012

(Averaged by Hydrologic Unit)



**Figure 3. [Seasonal Precipitation](#), October 1, 2011 to April 2012 shows normal to above normal moisture over the Cascades, Upper Columbia River, Northern Rockies, and Upper Rio Grande River Basins. Drier conditions with respect to the long-term average dominate elsewhere. General, this winter's La Niña precipitation pattern has verified nicely with a few exceptions.**

### Spring and Summer Streamflow Forecasts as of May 1, 2012

Percent  
1971 to 2000 Average

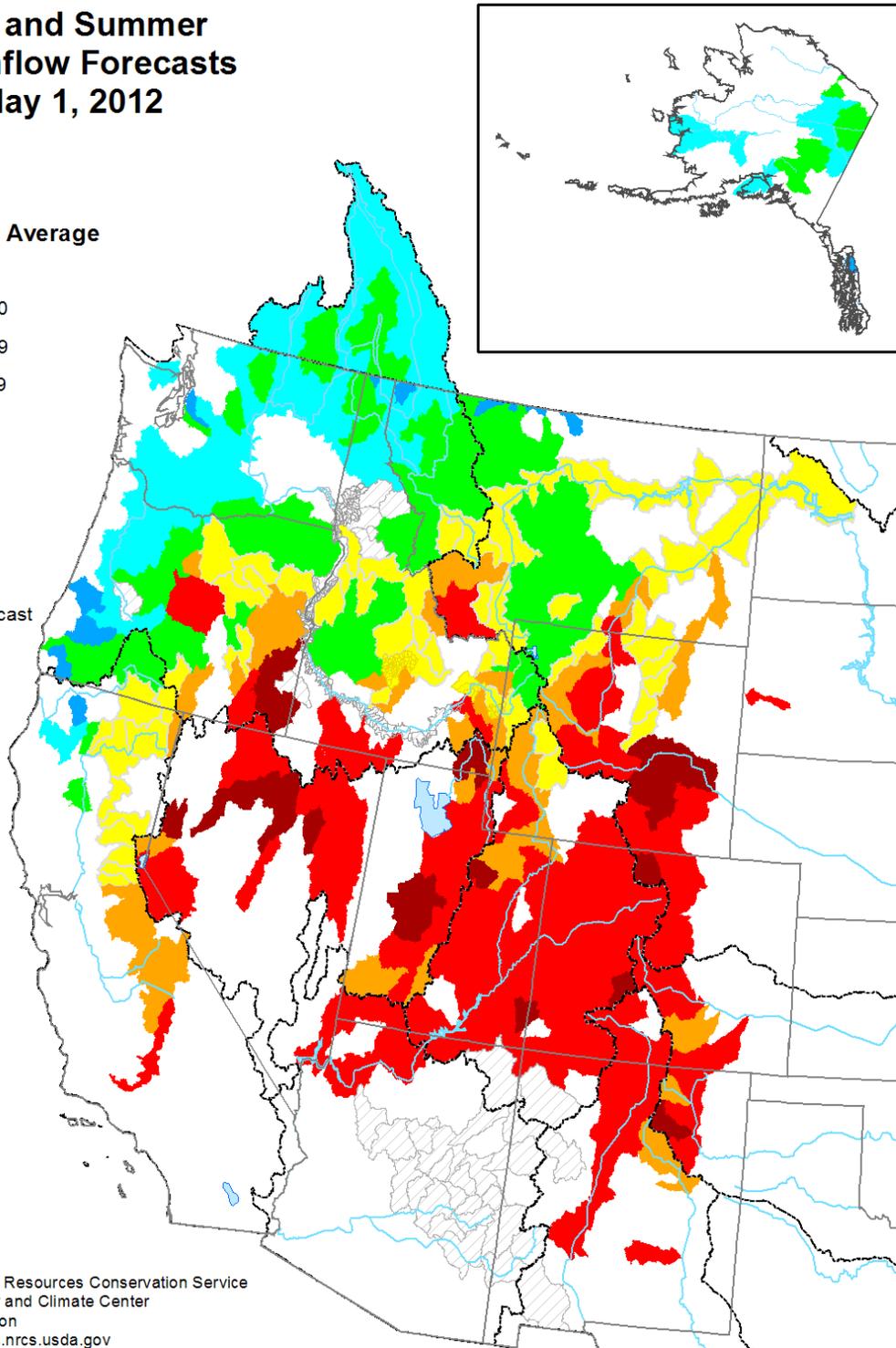
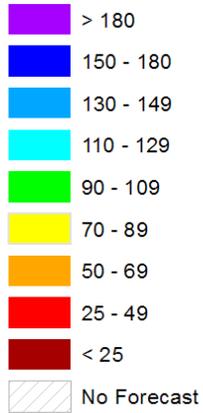


Figure 4. [Seasonal Water Supply Forecasts](#) on May 1, 2012 shows normal to surplus forecasts values over the Cascades and Upper Columbia River Basin. Below average flows south of a line from northern California to Wyoming (excluding Yellowstone area). Normal to above normal flows dominate parts of Alaska.

## Change in Spring and Summer Streamflow Forecasts from April 1 to May 1, 2012

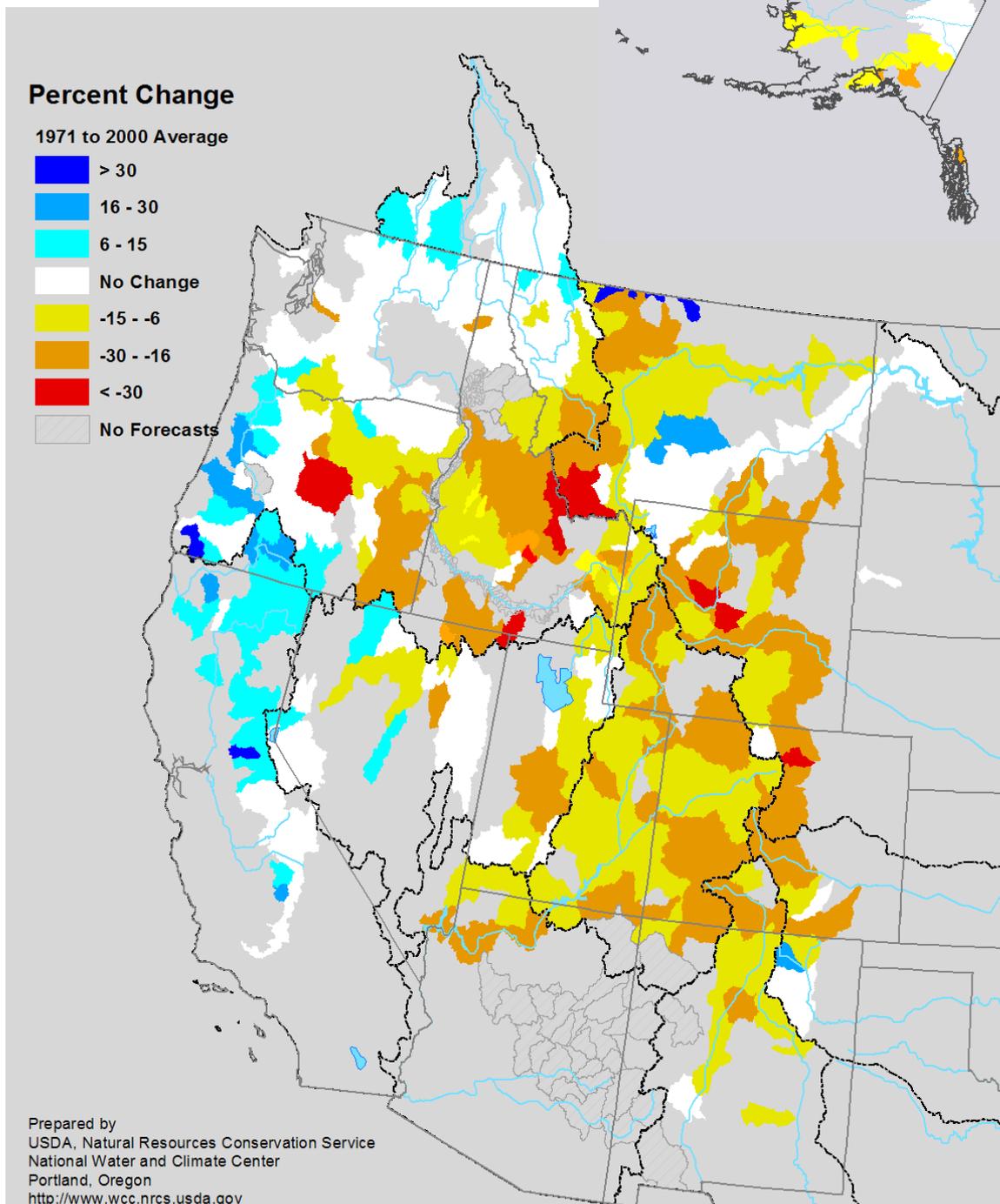
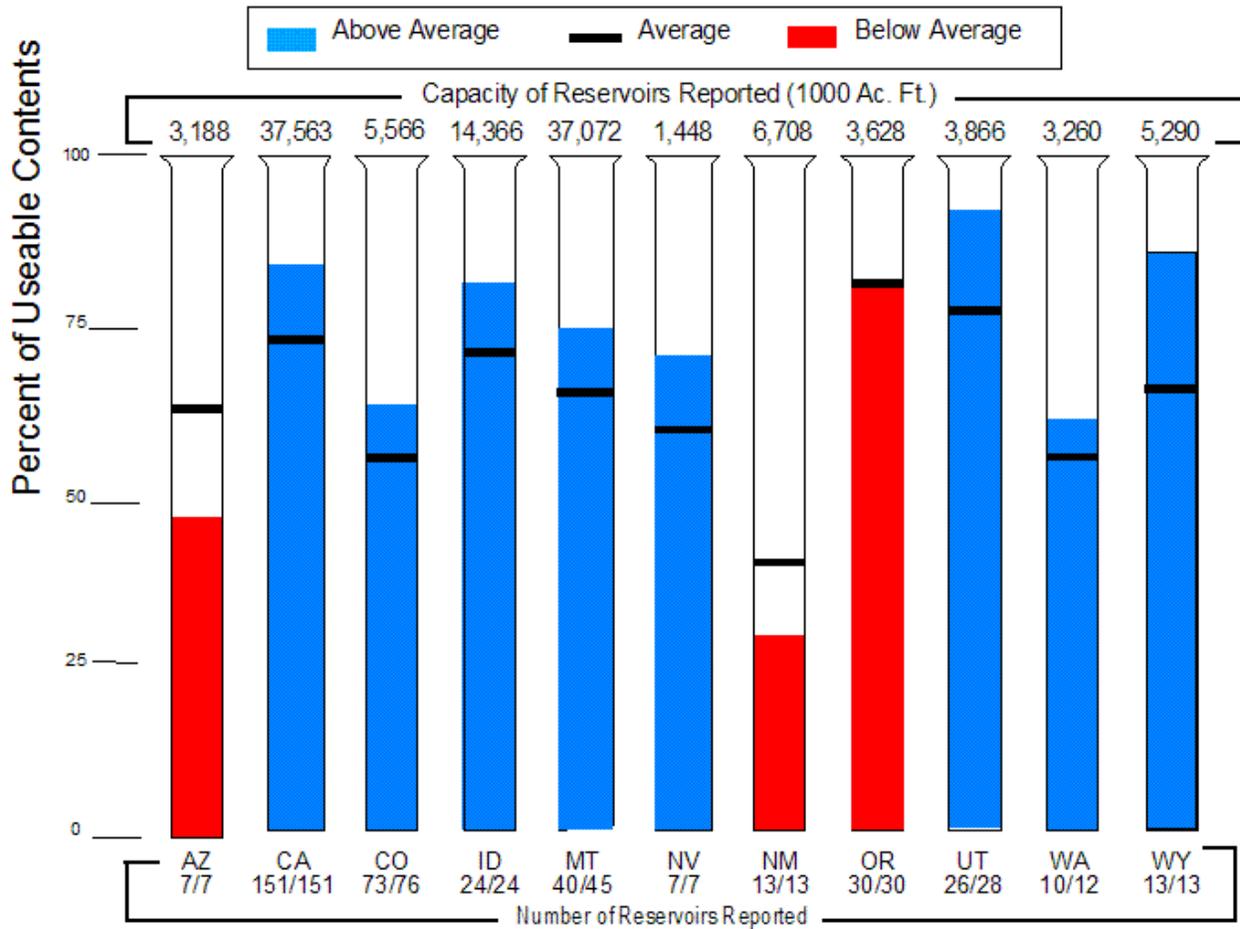


Fig. 5. [Change in streamflow](#) forecast between April 1 and May 1, 2012 shows decreases over much of the West. Some increase flow forecasts are noted over the Oregon Cascades. In northeastern New Mexico, the difference map shows a 16-30% increase in the forecast for Cimarron near Cimarron. This is a change in the **March**-June forecast due to a “high” observed adjusted streamflow volume in April. This area is still very dry. The May-June forecast, is calling for only 24% of average flow. The same holds true for much of the Sierra.

## Reservoir Storage as of May 1, 2012



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

Figure 6. **Reservoir storage** on May 1, 2012 shows similar values to April 1, 2012. The two Southwestern States (AZ, NM) have the greatest deficits while the remainder of West has the surpluses (except Oregon which is near average).