



Natural Resources Conservation Service
National Water and Climate Center
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Portland, OR 97204-3224

Date: **May 14, 2003**

Subject: **May 1, 2003 Western Snowpack Conditions and Water Supply Forecasts**

The following information is provided for your use in describing climate and water supply conditions in the West as of May 1, 2003.

WATER SUPPLY OVERVIEW

As of May 1, 2003, western water supply volume forecasts continue to show significantly below average (<50%) spring and summer streamflows for the Intermountain West. Streamflow forecasts improved in the Rockies of Colorado, Wyoming, Montana and the Columbia Basin due to a very wet and cool April. In spite of a wet and cool spring for much of the West, the dry fall and winter are impacting water supply forecasts which range between 50% and 89% of average in many basins as shown in Figure 4.

This year's water supply forecasts come on the heels last year's record low, or near record low runoff in the Southwest, Intermountain West and southern Rockies. In many of these areas, this year's low snowpack is resting on very dry soils, which generally results in reduced snowmelt runoff.

SNOWPACK

The May 1, 2003 Mountain Snowpack map (Figure 1) continues to reflect below average snowpacks in the Intermountain West and eastern Oregon as a result of a warmer than average winter. Significantly below average snowpacks (<50%) are reported in central and northern Nevada and many parts of Utah. Snowpacks improved in the eastern slopes of the Rockies in Colorado and Wyoming and in the northern Rockies of Idaho and Montana during April. Several basin snowpacks in Wyoming, Colorado and Idaho edged up to average, or slightly above average snowpack (90% to 129%). Southwestern snowpacks have melted-out for the year and cool spring weather has delayed snowmelt in higher elevations of the West this year.

Utah experienced a significant wind event and warm temperatures between April 10-14, 2003. Sustained winds of 10-40 mph and temperatures up to 10 degrees above average resulted in 50% loss of mid-elevation snowpack, in part by sublimation (transition of a solid directly to a vapor without passing through an intermediate liquid phase). Many stations lost between 4 to 6 inches of snow water equivalent, of which 1 to 2 inches melted into dry soils with very little increase in measured streamflow.

Most Alaska snowpacks are significantly below, to below average (<50% to 89%). Alaska has experienced warm temperatures this winter, which have inhibited snowpack accumulation.

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

SEASONAL AND MONTHLY PRECIPITATION

Seasonal Precipitation (October 1, 2002 to April 30, 2003): Seasonal precipitation totals improved during the past month along the eastern slopes of the Rocky Mountains and the northern Rockies (Figure 2). States benefiting the most include eastern Colorado, eastern Wyoming, central and southwestern Montana, central and northern Idaho, eastern Washington, northeastern and southwestern Oregon, and California. Many of these basins now report seasonal totals of average, or above average, ranging from 90% to 150%.

In contrast to these improvements, most of the Intermountain West of western Utah, Nevada, and southeastern Oregon continue to report below average seasonal totals, ranging from 70% to 89%. A portion of north central Utah and northern Nevada report much below average seasonal totals ranging from 50% to 69%. Arizona reports seasonal totals of 50% to 69% in the south to 110% to 129% in the northwest, however a large portion of central Arizona reports seasonal totals in the 70% to 89% range. Southern Alaska's seasonal precipitation is above average (>110%) with the southwestern sections near average and most interior sections reporting below or well below average values.

April precipitation was well above average (>129%) in northeastern Colorado, western Montana, central Idaho, eastern Oregon, central Washington, southwest Oregon, Nevada, California, and British Columbia (Figure 3). For the second month in a row, the Intermountain West missed many of the storms that traversed the West. Several basins in southwestern Wyoming, eastern and southern Utah, far western Colorado, Arizona and New Mexico received less than 50% of average April precipitation. Alaska precipitation was highly variable, with less than 50% of average reported in the south, 70% to 89% of average in the north and 110% to 120% of average in the southwest.

SPRING AND SUMMER STREAMFLOW FORECASTS

As of May 1, 2003, western water supply volume forecasts continue to show significantly below average streamflow forecasts for the Intermountain West (Figure 4). Southern and central Utah, northern Nevada, southern Idaho, southeastern Oregon and central Wyoming are forecast to receive less than 50% of average spring and summer streamflows. Streamflow forecasts improved in the Rockies of Colorado, Wyoming, Montana and the Columbia Basin due to a very wet and cool April. However, because of a dry fall and winter, spring and summer water supply forecasts for many western basins still range between 50% and 89% of average. Alaska streamflows are forecast to be near or slightly below average.

Several low western water supply forecasts follow water year 2002's extremely low runoff for many Southwestern and Rocky Mountain basins. Specific state streamflow summaries can be obtained from the Internet location - <http://www.wcc.nrcs.usda.gov/water/snow/bor.pl>

RESERVOIR STORAGE

As of May 1, 2003, Arizona, Colorado, Nevada, New Mexico, Oregon, Utah, and Wyoming continue to report below seasonal average reservoir content (Figure 5). Reservoir storage was near seasonal average for California, Idaho, Montana and Washington. Low reservoir storage reflects the carryover dryness of last year's drought in the Rockies and Southwest.

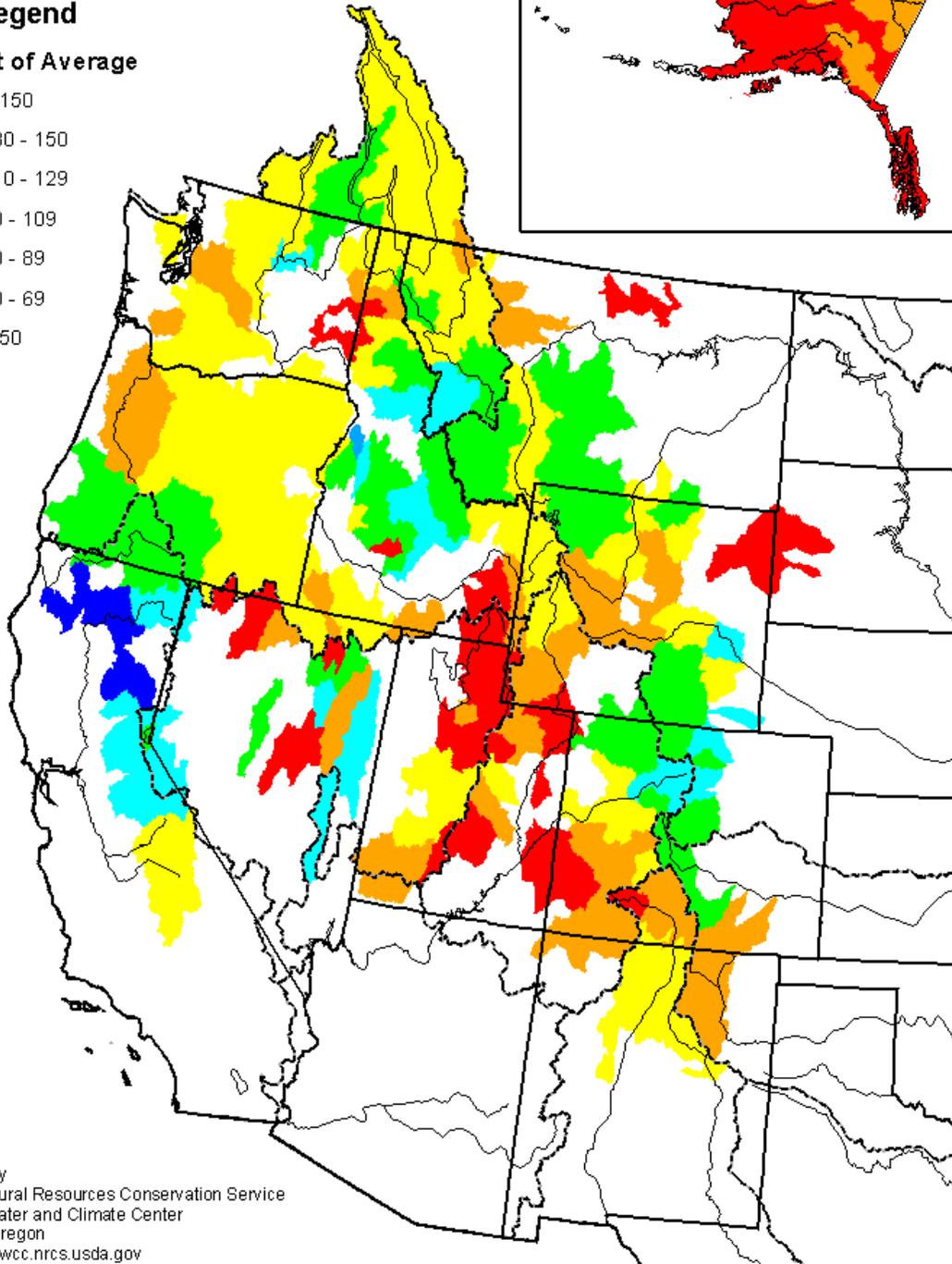
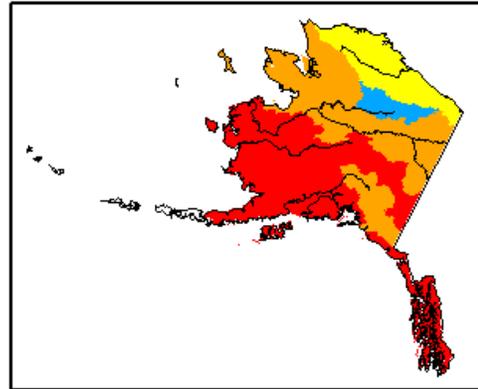
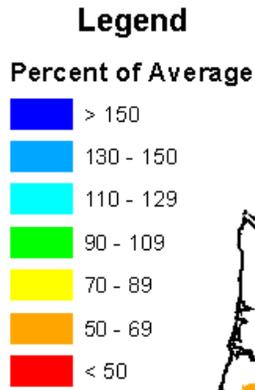
FOR MORE INFORMATION

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/ RON MARLOW

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Mountain Snowpack as of May 1, 2003



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

Figure 1. May 1, 2003 Snowpack

Seasonal Precipitation, October 2002 - April 2003

(Averaged by Hydrologic Unit)

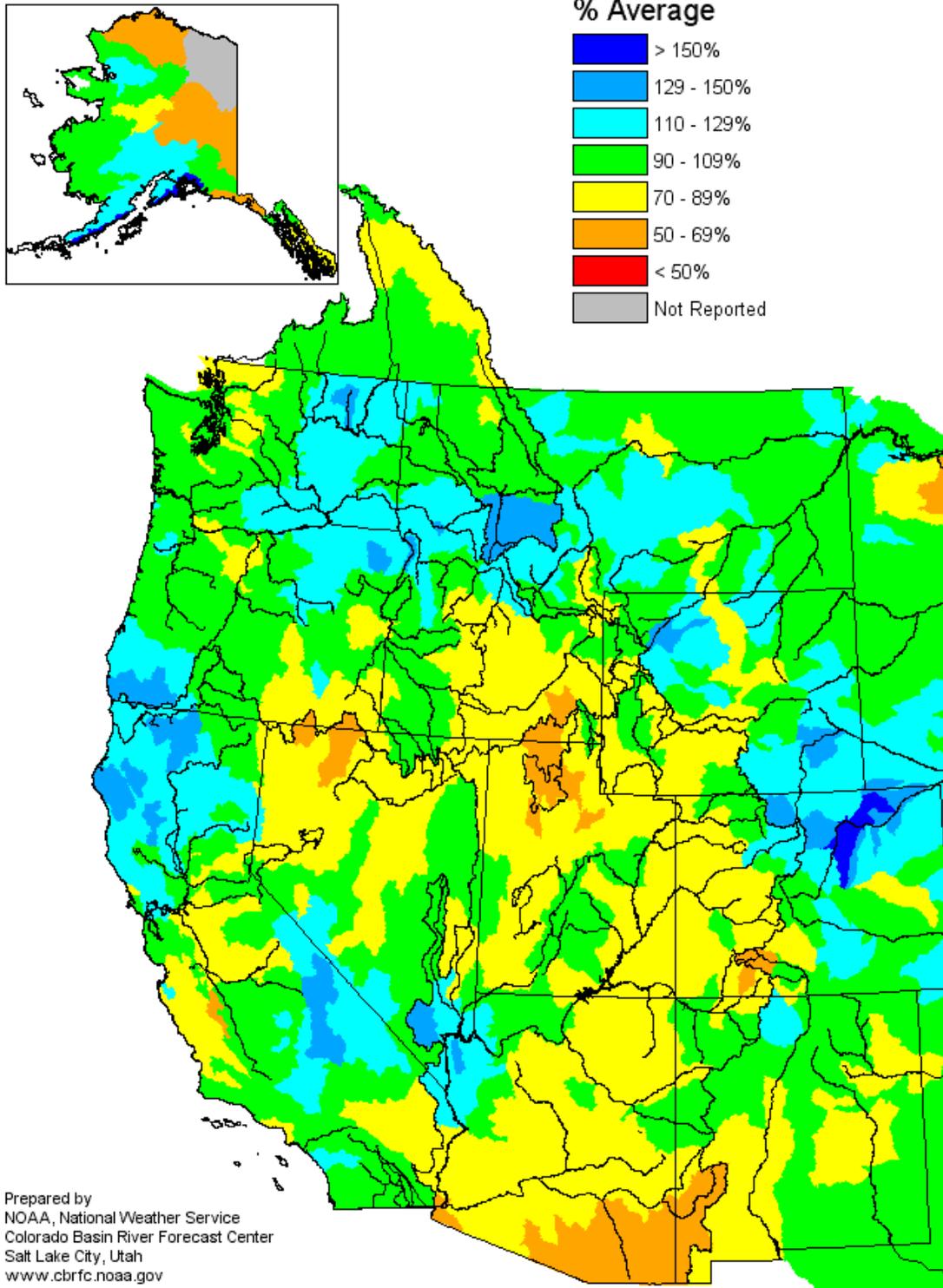


Figure 2. Seasonal Precipitation to Date Starting October 1, 2002

Monthly Precipitation for April 2003

(Averaged by Hydrologic Unit)

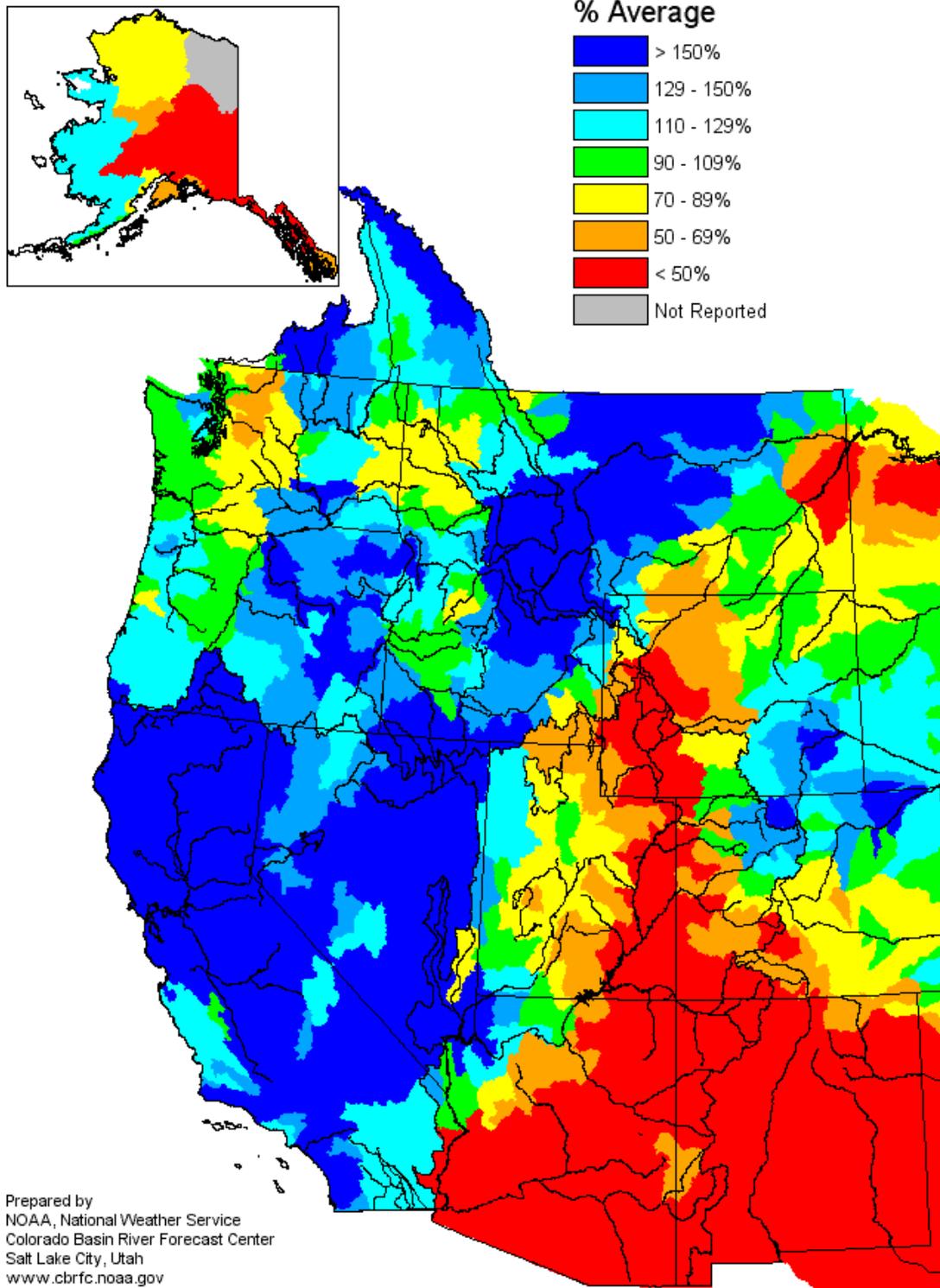
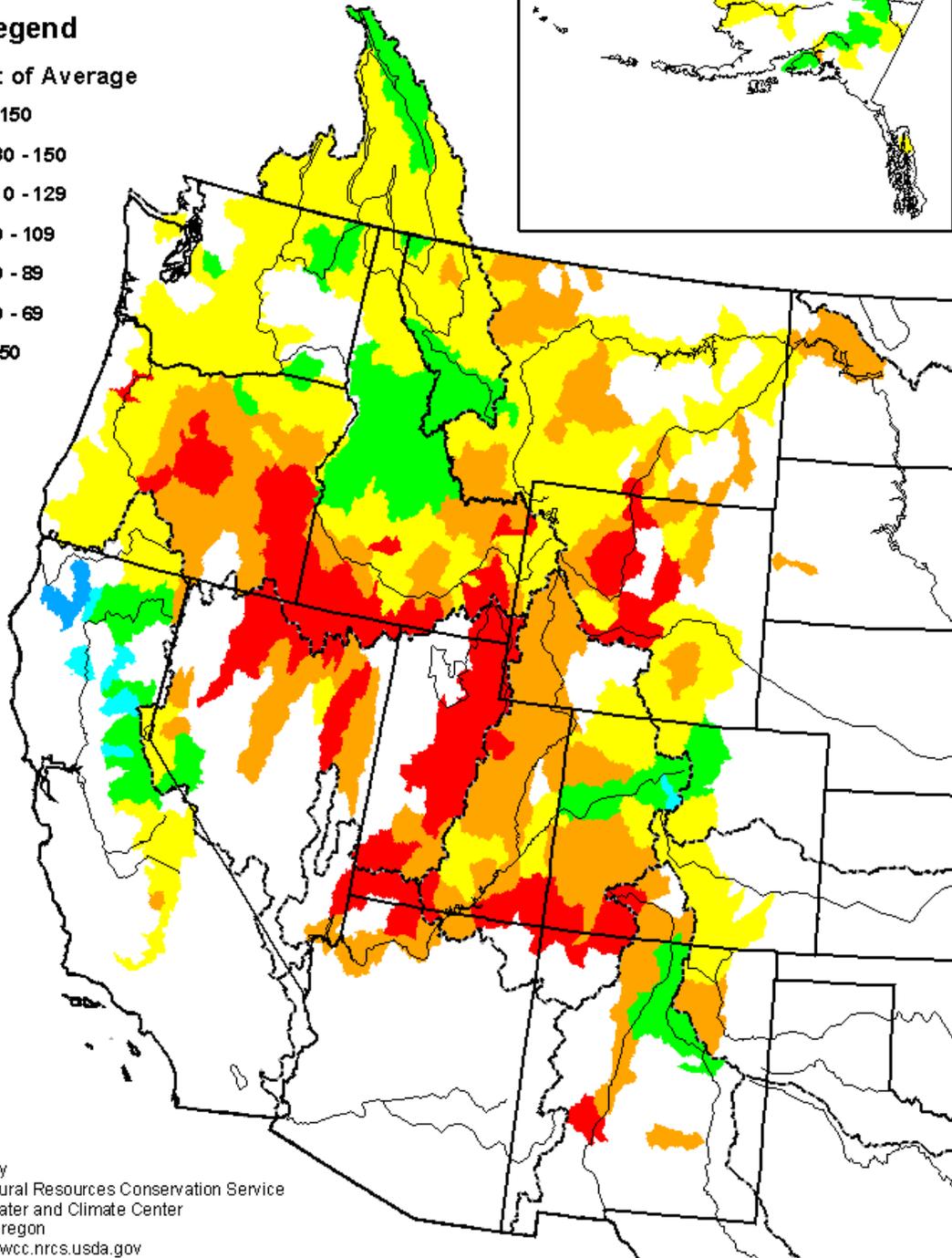


Figure 3. Monthly Precipitation - April 2003

Spring and Summer Streamflow Forecasts as of May 1, 2003

Legend
Percent of Average

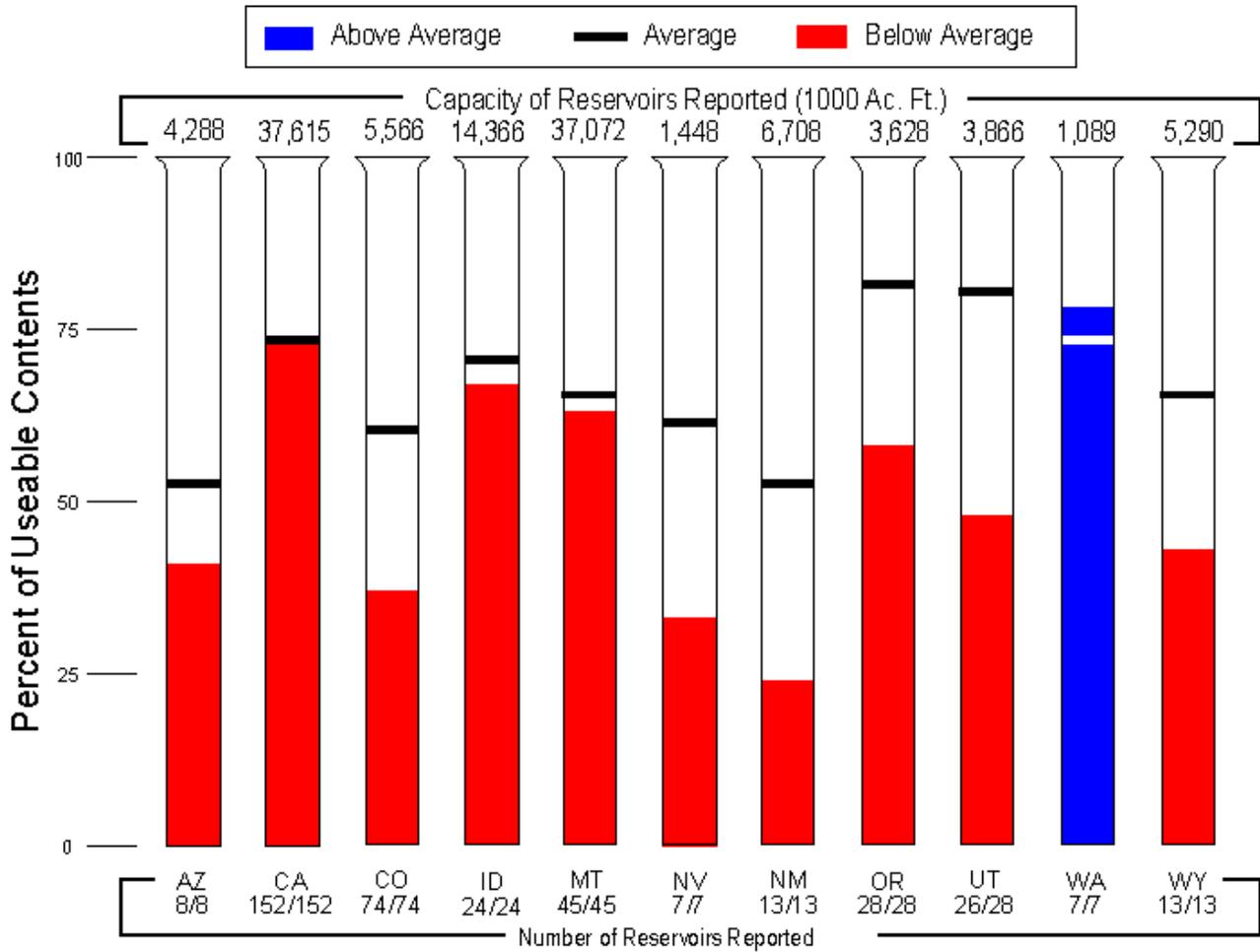
- > 150
- 130 - 150
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- < 50



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Figure 4. Seasonal Water Supply Forecasts - May 1, 2003

Reservoir Storage as of May 1, 2003



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

Figure 5. Current Reservoir Storage - May 1, 2003