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Subject: April 1, 2001 Western Snowpack Conditions and Water Supply Forecasts      Date: April 9, 2001

The following information is provided for your use in describing climate and water supply conditions in the West as of April 1, 2001. **The seasonal streamflow volume forecasts continue to show well below average conditions for much of the West, especially the Pacific Northwest, with the April 1, 2001 Columbia Basin The Dalles forecast slightly below the 1977 record minimum flow.**

## SNOWPACK

Much of the West continues to struggle with a continuing dry weather pattern that has resulted in well below average seasonal snowpacks for the Pacific Northwest as shown in Figure 1a. Snowpacks with less than 70% of average include the Truckee River / Lake Tahoe area of California and Nevada, central California, northwestern Wyoming, northern and central Utah, central Arizona and the Columbia Basin.

Of specific interest are the snowpacks in the Columbia Basin shown in Figure 1b. A special category of "less than 50% of average" has been added to show the near record minimum snowpacks in many parts of the basin. The <50% category applies to central, western and southwestern Oregon, southern Washington, southern, central and northern Idaho, northwestern Montana and southern British Columbia, Canada. The 50% to 70% of average snowpack category applies to parts of the Oregon and Washington Cascades, northeastern Oregon, north central Washington, southern, central and southeastern Idaho, western Montana and northern British Columbia, Canada.

Returning to Figure 1a, other western areas reporting slightly below to slightly above average snowpacks (70% to 110%) include scattered basins in eastern Nevada, central Utah, Colorado, southeastern Arizona and central New Mexico. Basins reporting above to much above average snowpacks (>110% to >130%) include small portions of southern Utah, southern Colorado, eastern New Mexico, and an isolated basin in northeastern Wyoming.

During March, the Columbia Basin continued its low snowpack trend established in January and February as seen in Figures 2 through 5. For the first three weeks of the month, each major sub-basin of the Columbia stayed within a few percentage points of its March 1, 2001 reading, ignoring the normal trend to increase snowpack to an April 1 peak. However, the last week of March yielded a few storms, allowing some sub-basins to increase a few percent. Canadian snowpack rose 5% to 59%, the Kootenai up 3% to 49%. That Kootenai number is not the lowest in the Columbia, with the Salmon unchanged since as last month (47%) and Oregon's John Day Basin melting snow and dropping to 44%.

In addition, central Idaho's Boise and Payette basins are at 45%, a drop of 8% from last month. Washington now has the best snowpack in the U.S. Columbia Basin, with the Yakima at 59% (up 1%) and the North Cascades at 58% (up 3%).

The overall snowpack for the Columbia above The Dalles is 54%, a new record minimum for April 1. The previous minimum was 58% in 1977.

Western and northern Alaska report well below average snowpacks (<70%), with central sections showing near average (70% to 110%) snowpack conditions. Southern sections of Alaska report above average (>110% to >130%) snowpacks.

## **MONTHLY AND SEASONAL PRECIPITATION**

March 2001 (Figure 6) was very dry in most of the West. California, western Oregon, southern Idaho, most of Montana, Wyoming and southern Arizona reported precipitation <70% of average. The Intermountain area was generally dry, 70% to 90% of average, but pockets of well above average (>110% of average) were seen in Nevada, Colorado, eastern New Mexico, southwestern Arizona and central Washington.

Similar to the snowpack, seasonal precipitation (Figure 7) in central California, western Oregon, Washington, northern and central Idaho, British Columbia, northwestern Montana and western Wyoming is less than 70% of average. The Intermountain states, including a portion of central Arizona, are reporting seasonal precipitation totals that range from slightly below to slightly above average (70% to 130%). Well above seasonal precipitation (>130%) is reported in nearly all of New Mexico, southern Arizona, southern Utah, southern Nevada and extreme eastern Montana. Alaska reports most sections between 70% and 110% of average. Extreme western sections report over 110% and 130% of average.

## **SPRING AND SUMMER STREAMFLOW**

The scarcity of snowpack is reflected in the forecasted streamflow forecast volumes for much of the West as shown in Figure 8. For the Pacific Northwest, water year 2001 streamflow will most likely take its place among one of the lowest since modern records began in 1929. The April 1, 2001 NWS/NRCS Columbia Basin April-September water supply volume forecast for The Dalles is 52.60 million acre-feet (53% of average). This forecast is 2% lower than the observed record low volume of 54.09 million acre-feet established in 1977.

For the rest of the West, well below average (<70%) spring and summer streamflows are forecast for most of California, northern Nevada, southwest, central and eastern Oregon, nearly all of Washington, Idaho, southern British Columbia, Canada, Montana, Wyoming, central and northern Utah and small portions of central Arizona.

Slightly below average (70% to 90%) spring and summer streamflows are forecast for the Willamette Basin and north central basins in Oregon, a small portion of the Washington Cascades, south central Washington, northern British Columbia, Canada, eastern and southern Utah, northern and central Colorado and portions of southeastern Arizona.

Average (90% to 110%) spring and summer streamflow are forecast for portions of southeastern Utah, south-central Colorado, and central New Mexico.

Above average (110% to > 130%) spring and summer streamflow are forecast for only a few basins in southern Colorado and central and northern New Mexico.

The Alaska water supply forecasts are generally between 70% and 110% of average with the exception of the Anchorage area that is between 110% and 130% of average.

## **RESERVOIR STORAGE**

Major western storage reservoirs (Figure 9) in Montana, Nevada, Oregon and Washington report below average storage level for this time of year. Arizona, California, Colorado, Idaho, and Utah report near average storage. Above average storage levels are reported in New Mexico and Wyoming.

## **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/ PHIL PASTERIS

Team Leader, Water and Climate Services, National Water and Climate Center

### Mountain Snowpack as of April 1, 2001

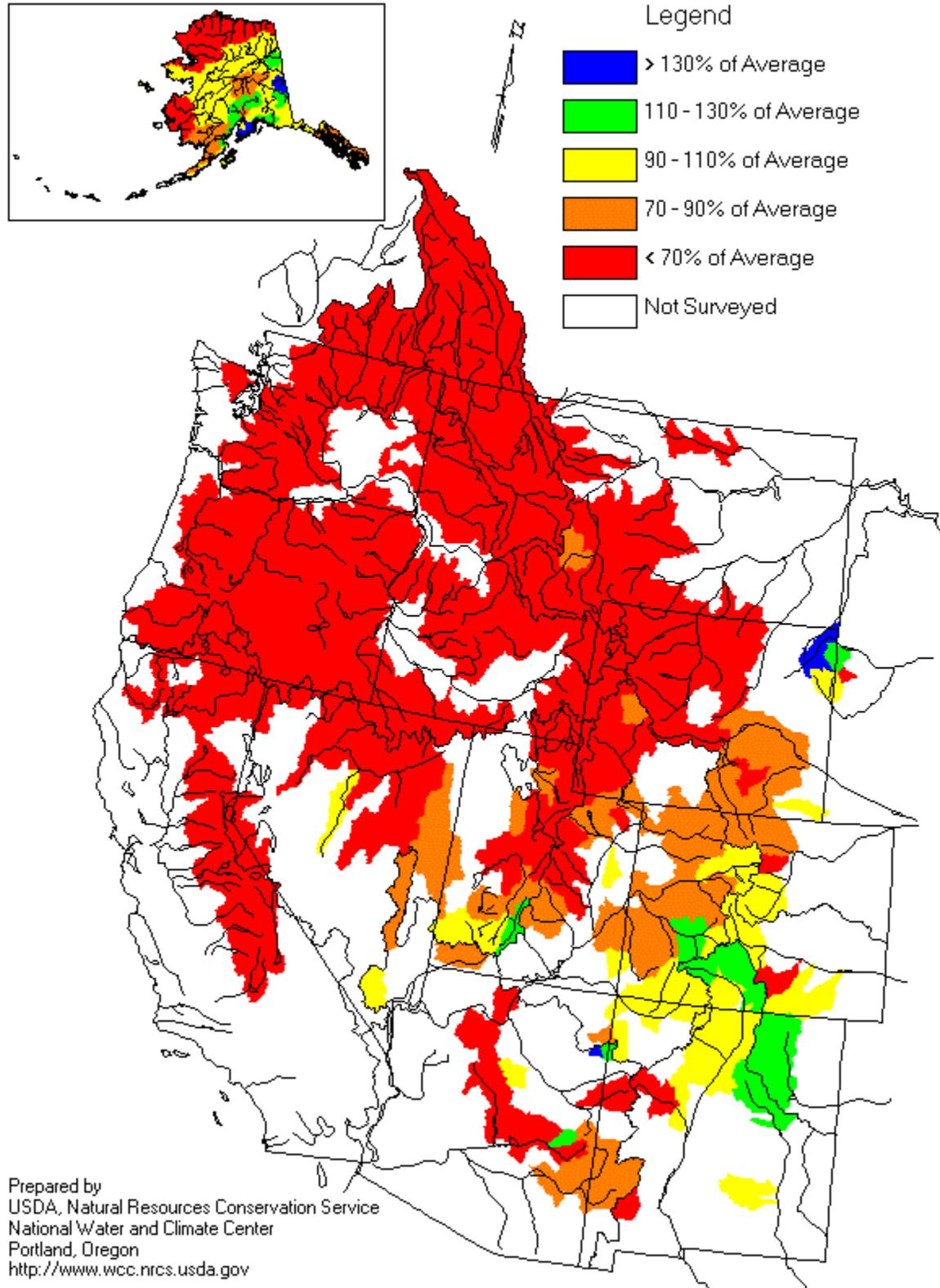
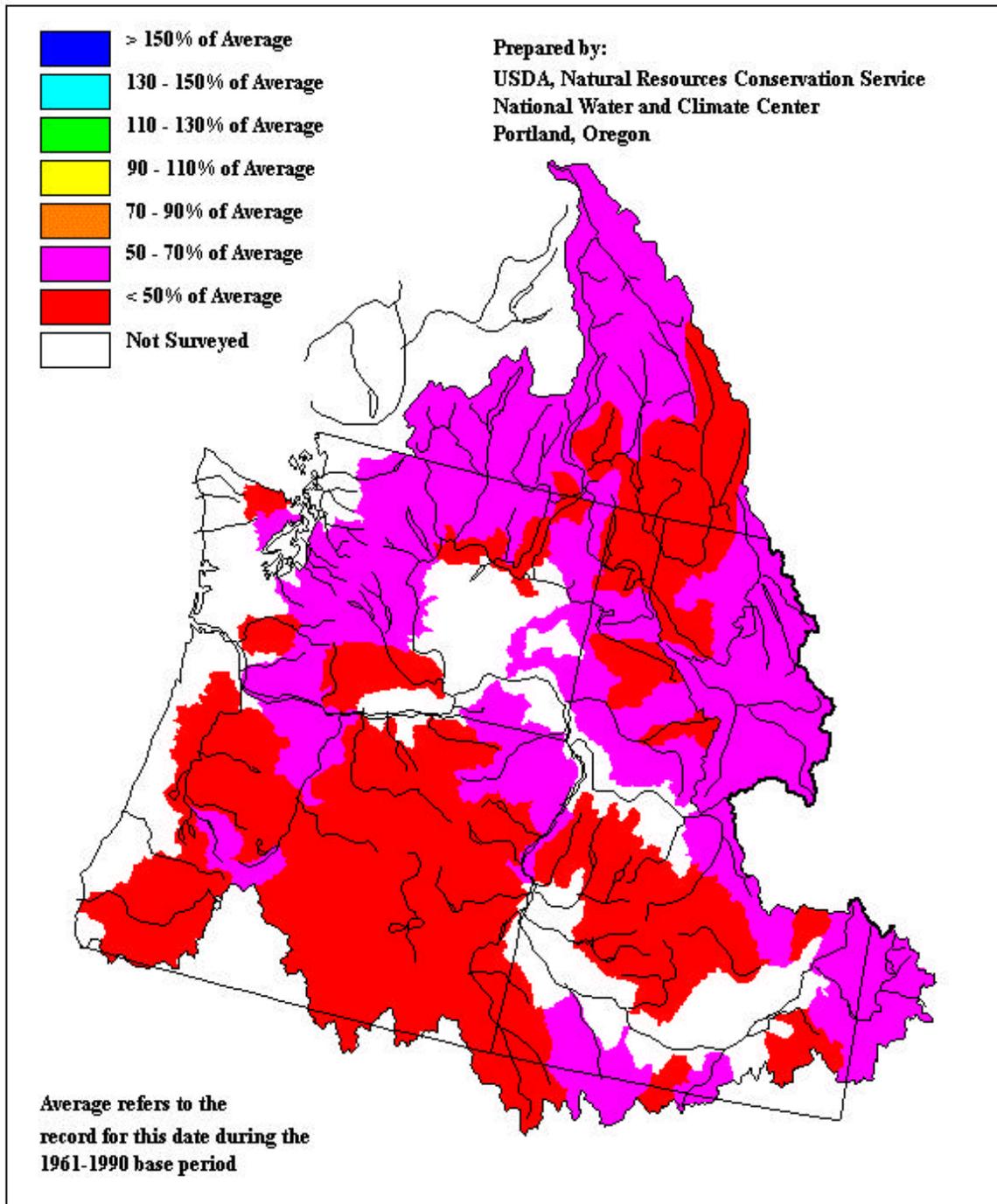


Figure 1a. Mountain Snowpack

## Mountain Snow Water Equivalent

as of April 1, 2001 (in relation to the average for this date)



United States Department of Agriculture -- Natural Resources Conservation Service  
in cooperation with  
The Province of British Columbia -- Ministry of the Environment

Figure 1b. Columbia Basin Mountain Snowpack

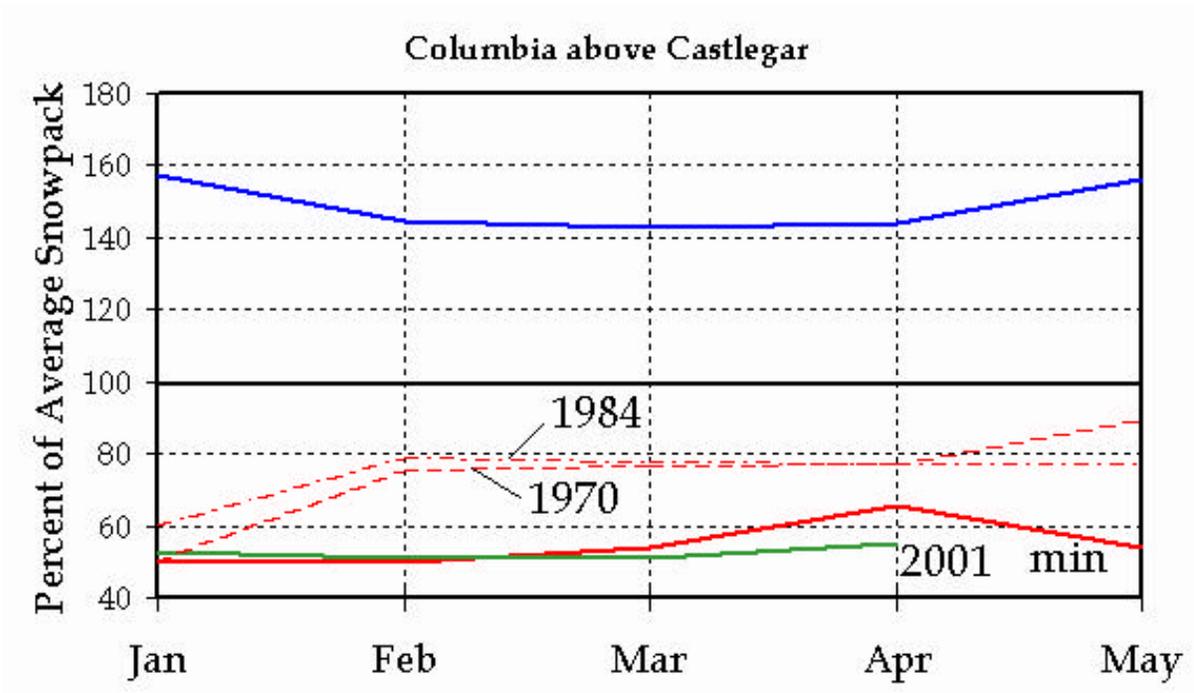


Figure 2. Composite Snow Index for Mountain Snowpack - Columbia above Castlegar

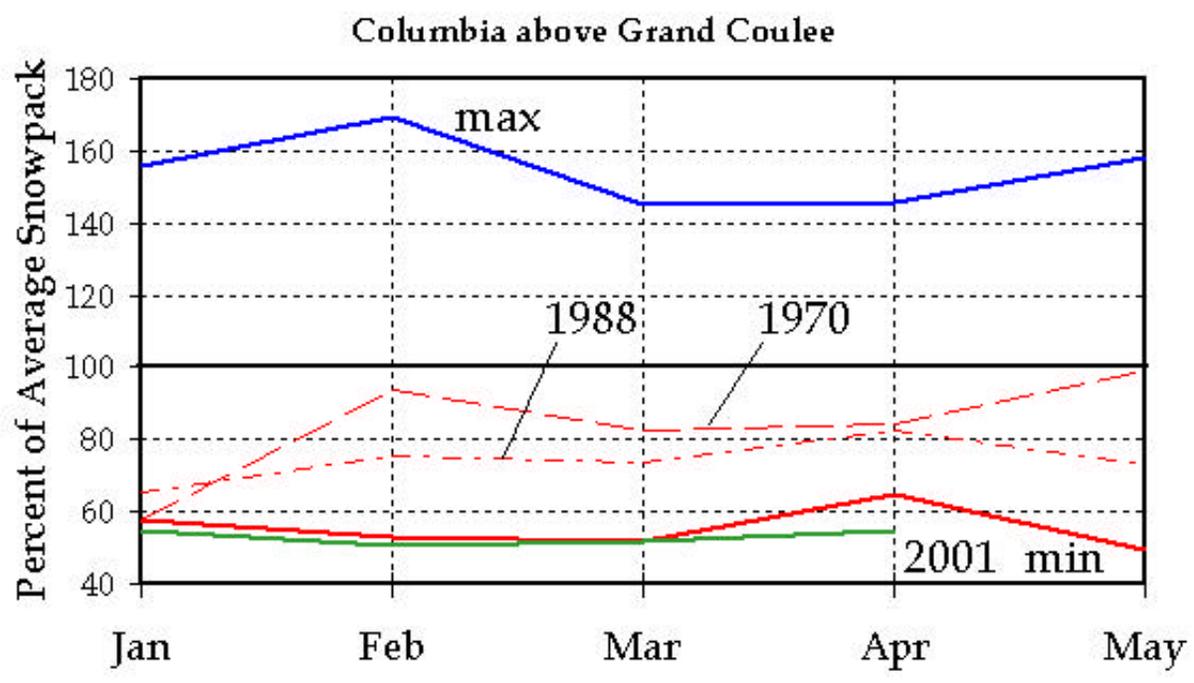


Figure 3. Composite Snow Index for Mountain Snowpack - Columbia above Grand Coulee

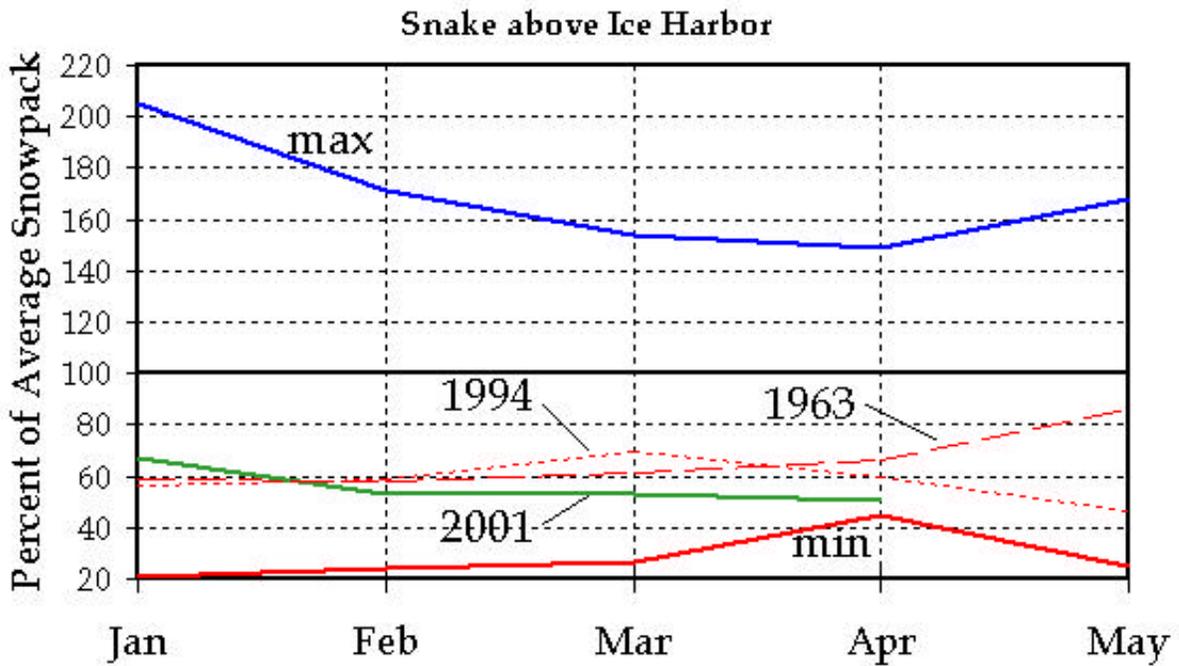


Figure 4. Composite Snow Index for Mountain Snowpack - Snake above Ice Harbor

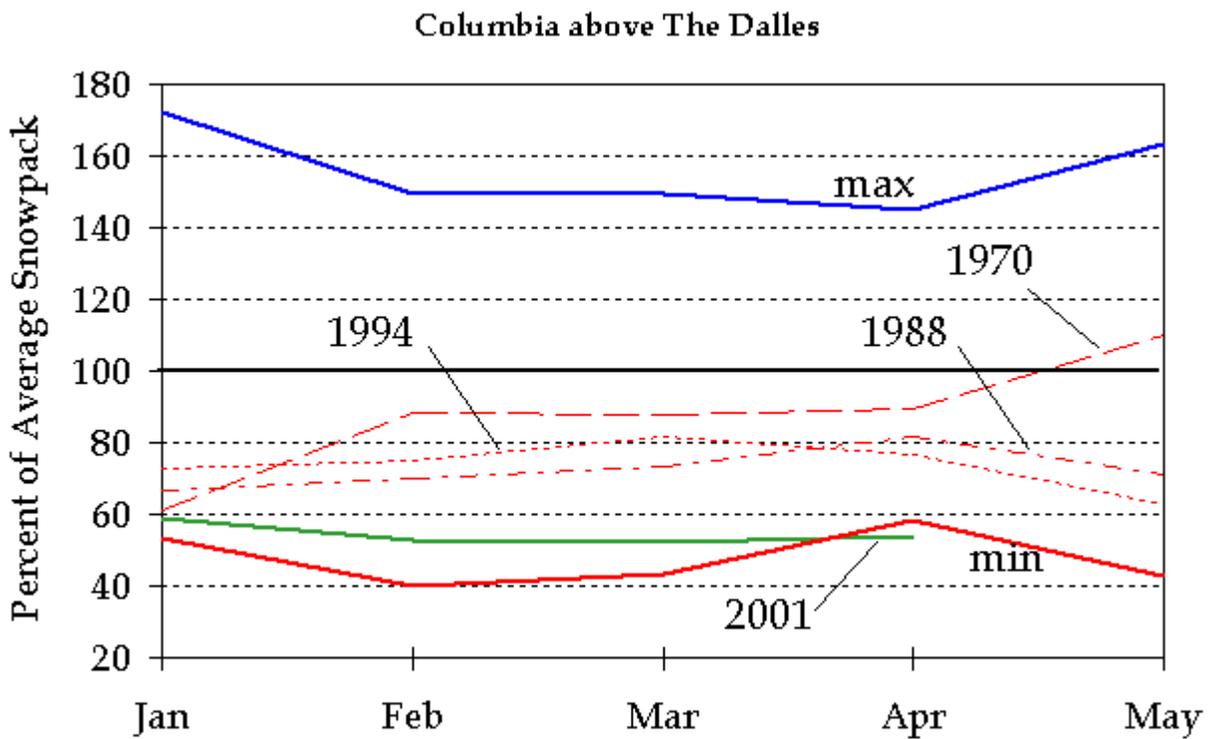


Figure 5. Composite Snow Index for Mountain Snowpack - Columbia above The Dalles

# Monthly Precipitation for March 2001

(Averaged by Hydrologic Unit)

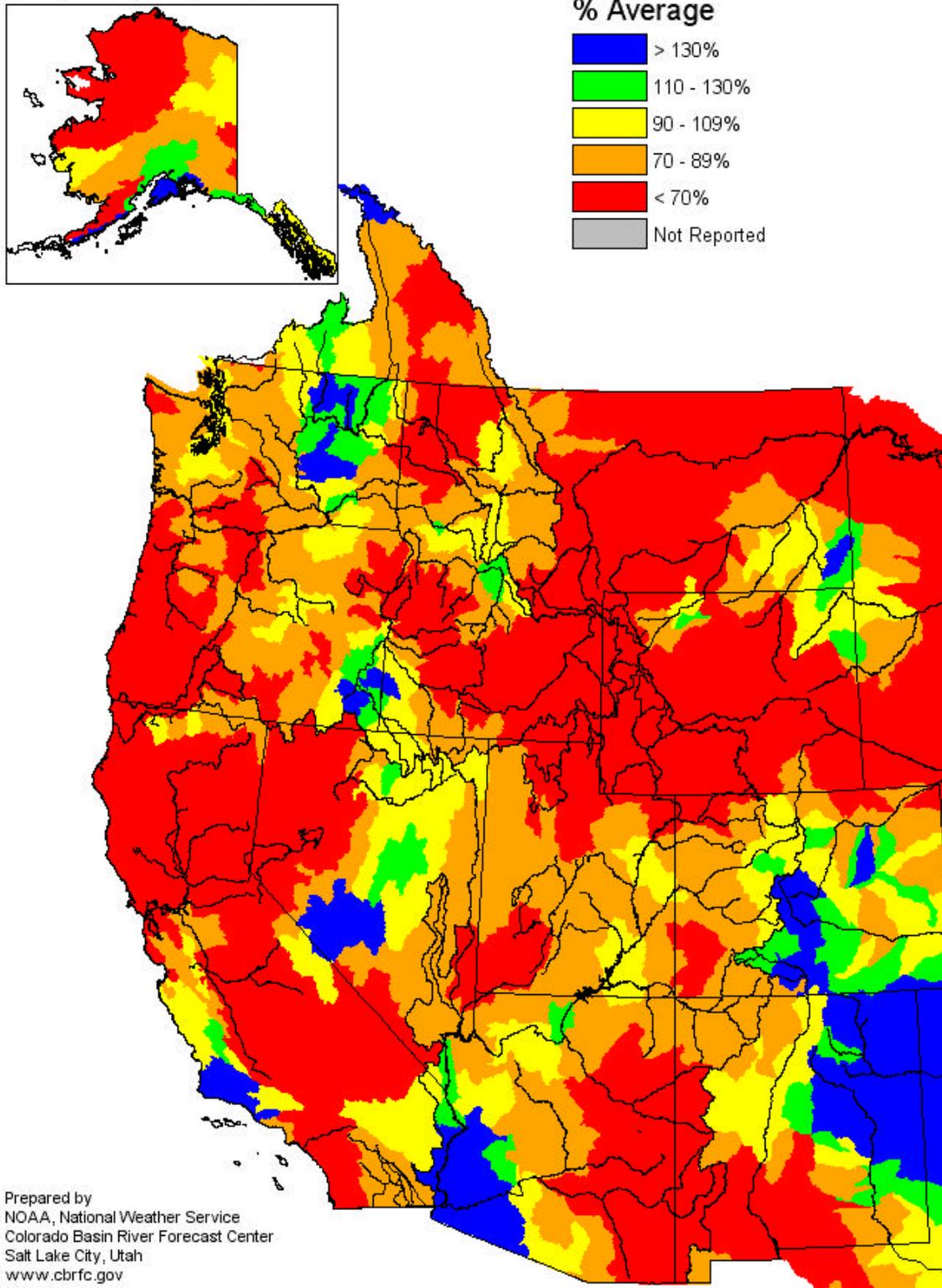


Figure 6. Previous Month's Precipitation

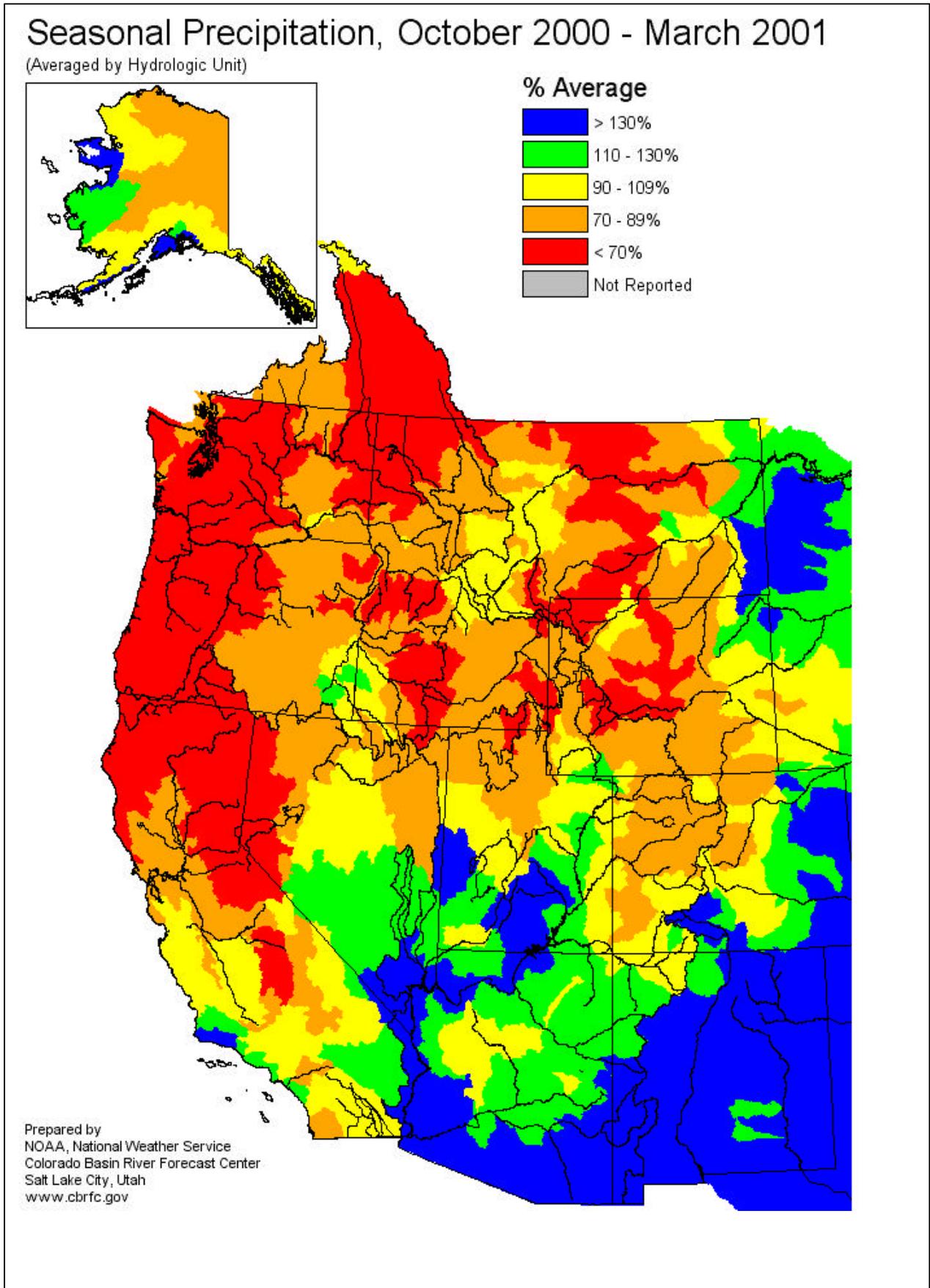


Figure 7. Seasonal Precipitation to Date beginning in October 2000

### Spring and Summer Streamflow Forecasts as of April 1, 2001

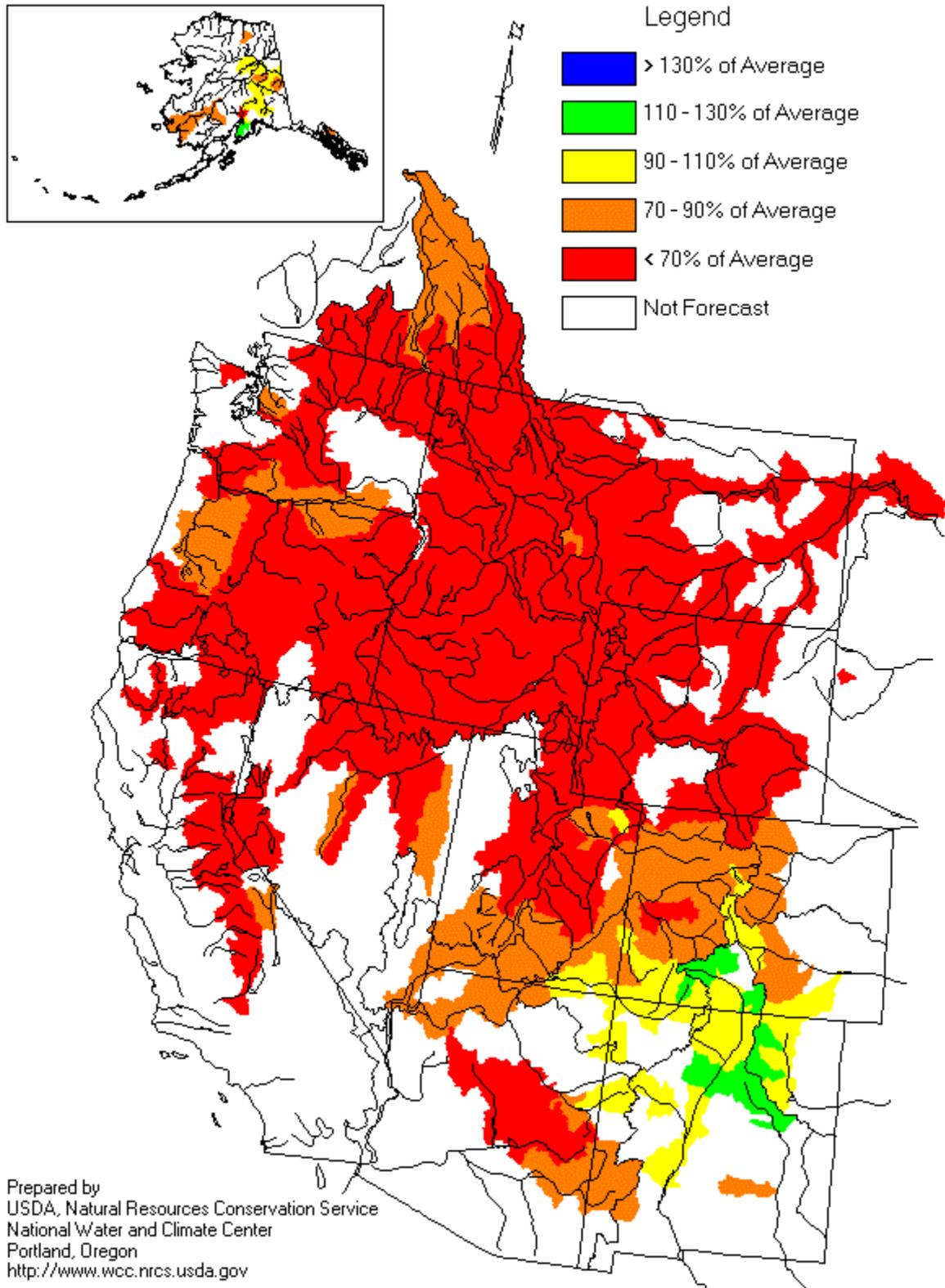
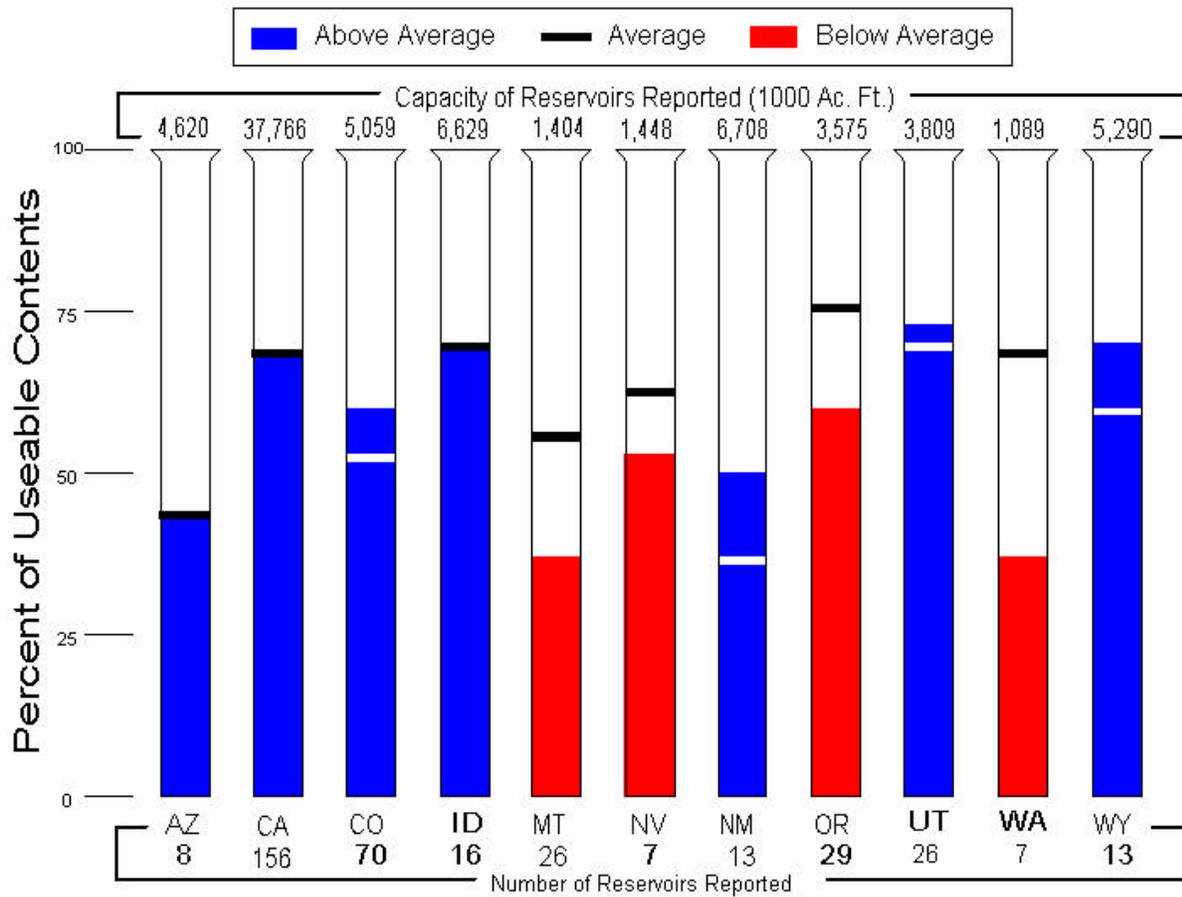


Figure 8. March 1 Seasonal Water Supply Forecasts

### Reservoir Storage as of April 1, 2001



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

Figure 9. Current Reservoir Storage