



United States
Department of
Agriculture

Natural
Resources
Conservation
Service

National
Water and
Climate
Center

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

The following information is provided for your use in describing climate and water supply conditions in the West as of May 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 May 1, 2001 Columbia Basin The Dalles forecast very close to the 1977 record minimum flow.**

SNOWPACK

Although April snowfall was close to average in many parts of the West, it did not materially change the water supply forecasts which are very low in the Pacific Northwest. Additionally, a significant portion of the snowpack melted as a result of warm May temperatures. Many low and middle elevation SNOTEL sites throughout the West report no snowpack. As shown in Figure 1a, snow water content is less than 70% of average westwide except for isolated area of the Washington Cascades, northern Oregon Cascades and Colorado, which experienced a significant snowstorm in late April and early May. Areas of Colorado and New now show late season snowpacks in the 110% to 130% of average category.

Of specific interest are the Columbia Basin snowpacks shown in Figure 1b. The <50% category applies to central, parts of western and southwestern Oregon, southern, central and northern Idaho. The 50% to 70% of average snowpack category applies to parts of the parts of western Oregon and Washington Cascades, northeastern Oregon, north central Washington, northern, central and southeastern Idaho, western Montana and northern British Columbia, Canada. The 70% to 90% of average category applies to the southern Washington Cascades and parts of western Montana.

On average, and in most low years, the Columbia Basin Snowpack percent of average declines in April as snowfall amounts lessen and melt gets started. This year has flirted with minimums of record for January through March, set the minimum for April 1, then has increased snowpack percentages across the basin, instead of the typical decline.

Since May 1 is past the time when SNOTEL sites reach peak snow accumulation, the averages are declining each day. Sub-basin percents of average can rise, therefore, either by accumulation or by a slower than usual melt. Not only that, but as the spring progresses warm temperatures and warm rain have greater capacity to cause steep and sudden declines in a shallow snowpack.

The overall Columbia Basin snowpack for May 1 is 58%, or 55% of a normal year's peak. This figure is well above the minimum in 1977 -- 43% of a normal May 1 snowpack. Almost every major sub-basin of the Columbia went up during April. Four sub-basins saw the most significant increases, these being well spread out geographically, north to south, in the Columbia. The Kootenay went up 10% to 59%, the Yakima up 10% to 69%, the Eastern Oregon Snake up 11% to 62%, and the John Day up 11% to 55%.

The remaining northern sub-basins went up about 5%, including Canada, now at 64% and the Pend Oreille at 60%. At the same time central Idaho saw an interesting situation with the Sawtooth Range forming a line of demarcation between increased and decreased snowpack percent of average. The Salmon to the north went up 7% to 54%, while the Boise and Payette to the south dropped 2% to 43%. That last represents the lowest snowpack in the Columbia for May. The Snake headwaters in Wyoming also declined 4% to 51%.

Even though April seems to have been a marked change in the pattern of the 2001 winter, these late increases will be short lived. The snowpacks are still well below normal and remain vulnerable to a rapid depletion.

Western, northern and southeastern 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

April 2001 (Figure 6) was generally above average in southern portions of the West. Higher elevations of northeastern Oregon and northern Idaho and Montana received above average precipitation. Alaska reported a dry month in eastern sections, near average in central locations and above average in the west. Seasonal precipitation (Figure 7) continues to display a dry pattern in the northern half of the West and wet to the south.

SPRING AND SUMMER STREAMFLOW

The scarcity of snowpack and seasonal precipitation 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 May 1, 2001 NWS/NRCS Columbia Basin April-September water supply volume forecast for The Dalles is 53.20 million acre-feet (54% of average). This forecast is 1% 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 northwestern Colorado, and central and northern Utah.

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, northern British Columbia, Canada, southeastern and southern Utah, scattered portions of California, and northern and central Colorado.

Average (90% to 110%) spring and summer streamflow are forecast for portions of 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 May 1, 2001

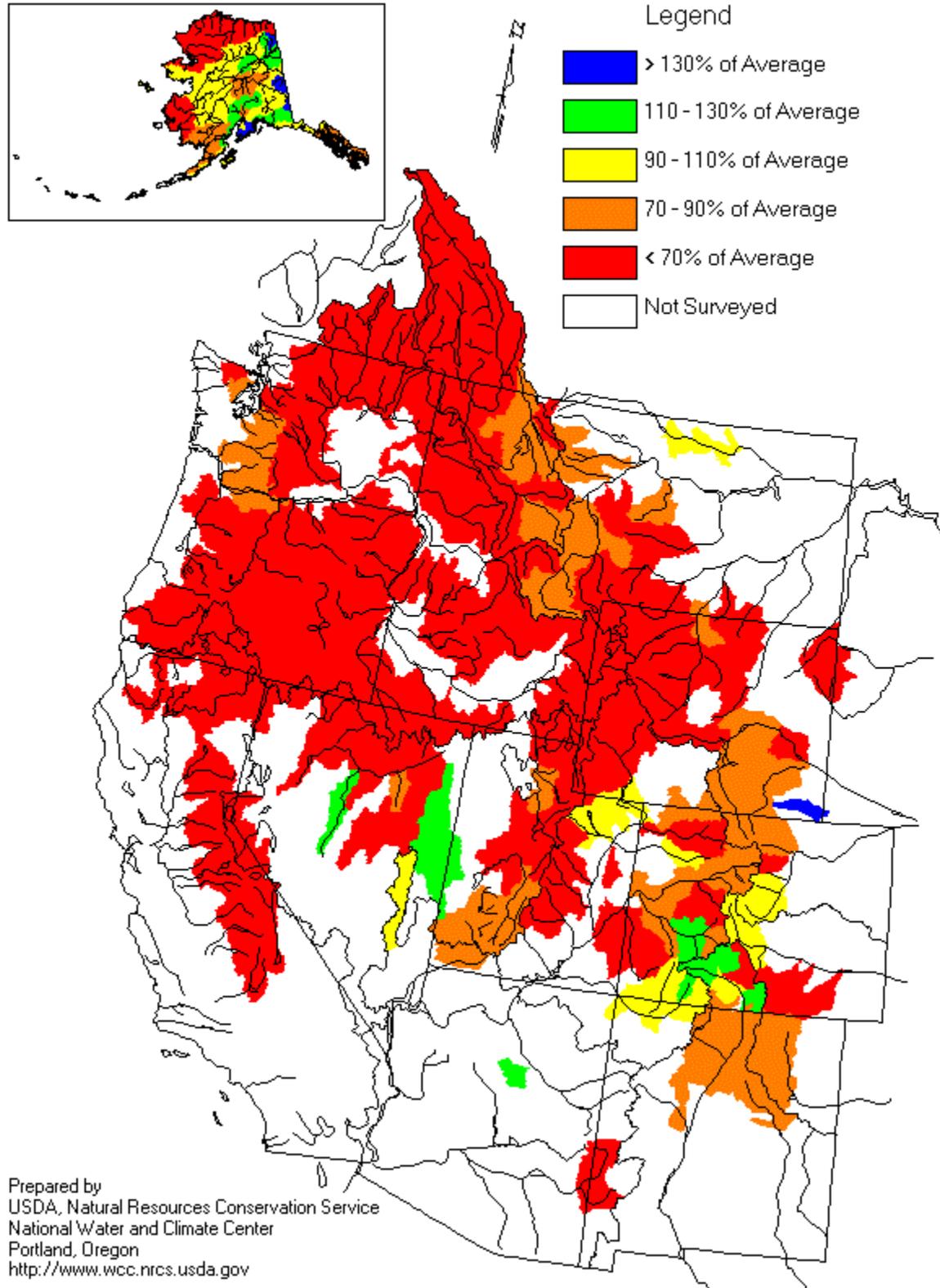
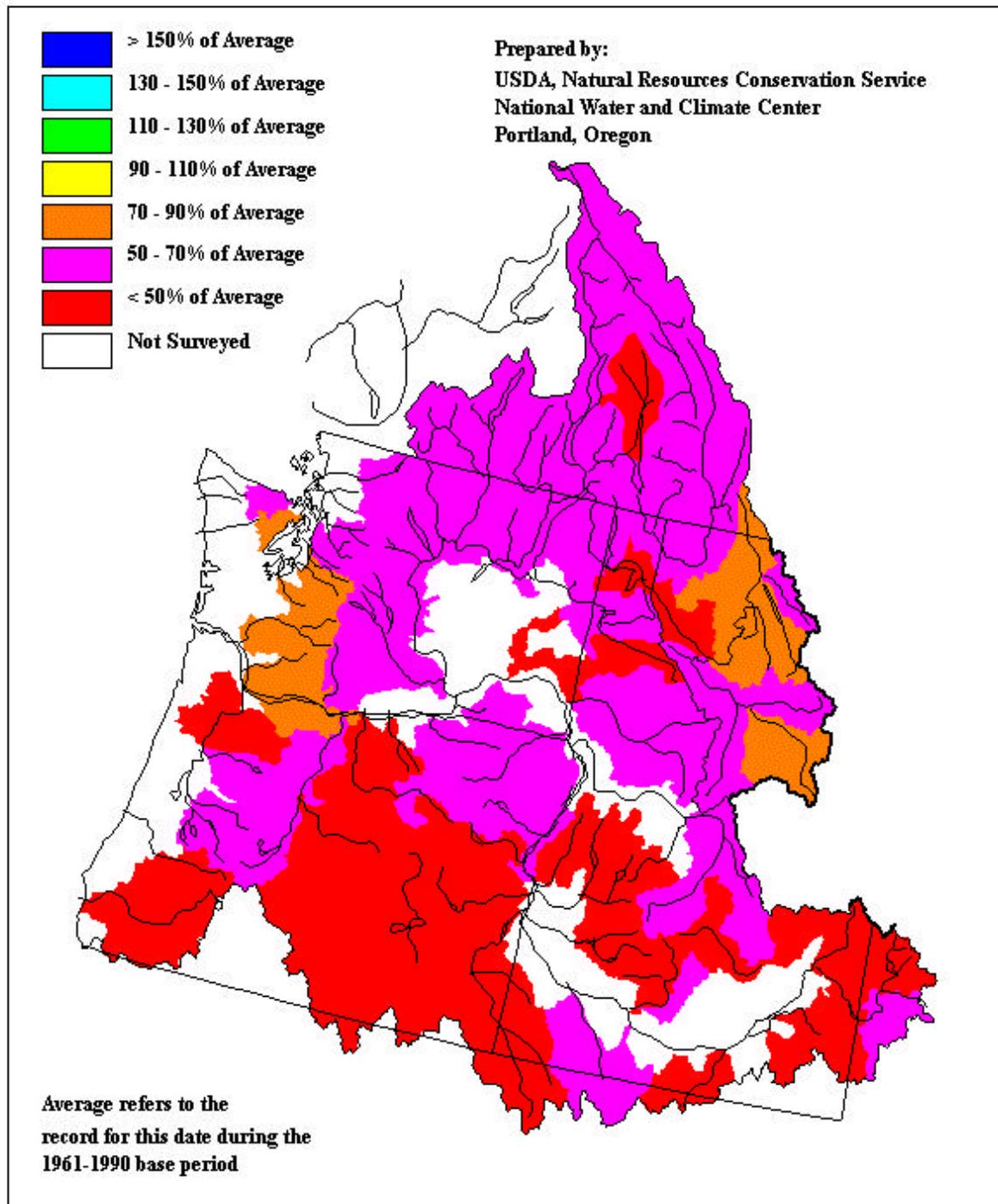


Figure 1a. Mountain Snowpack

Mountain Snow Water Equivalent

as of May 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

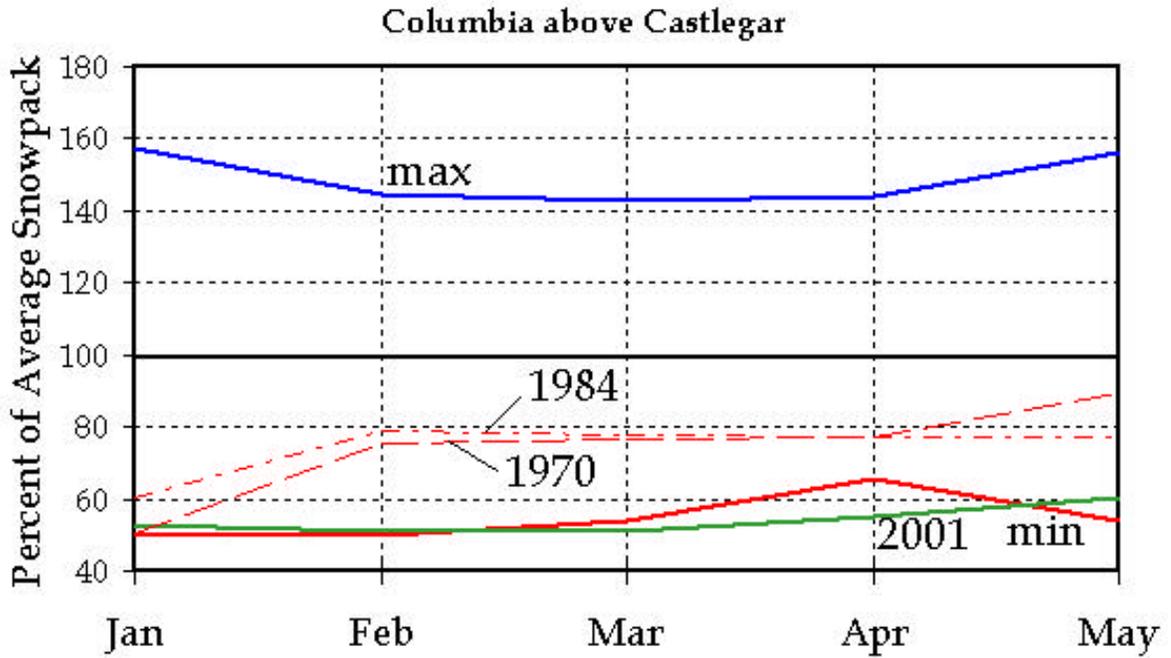


Figure 2. Composite Snow Index for Mountain Snowpack - Columbia above Castlegar

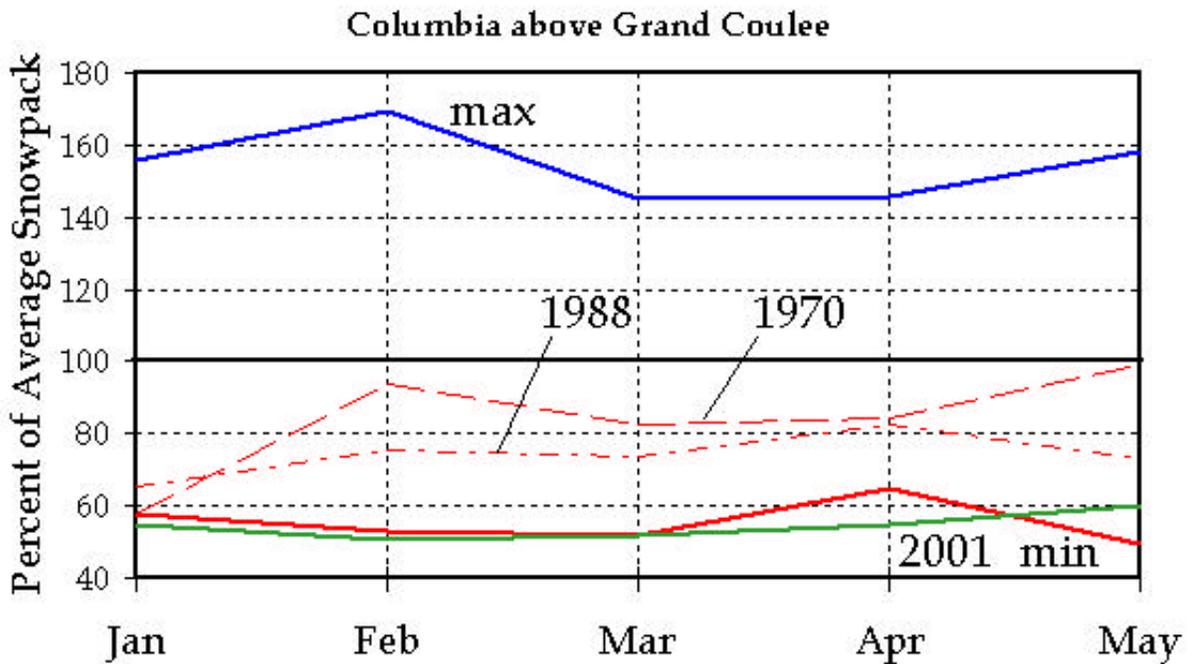


Figure 3. Composite Snow Index for Mountain Snowpack - Columbia above Grand Coulee

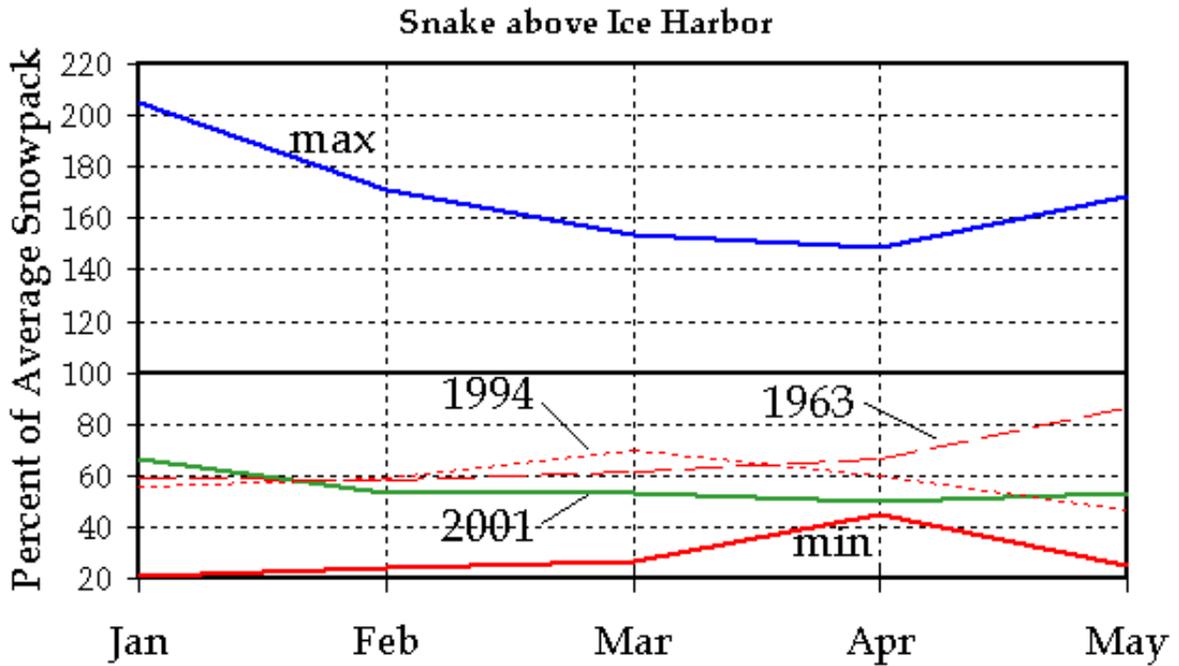


Figure 4. Composite Snow Index for Mountain Snowpack - Snake above Ice Harbor

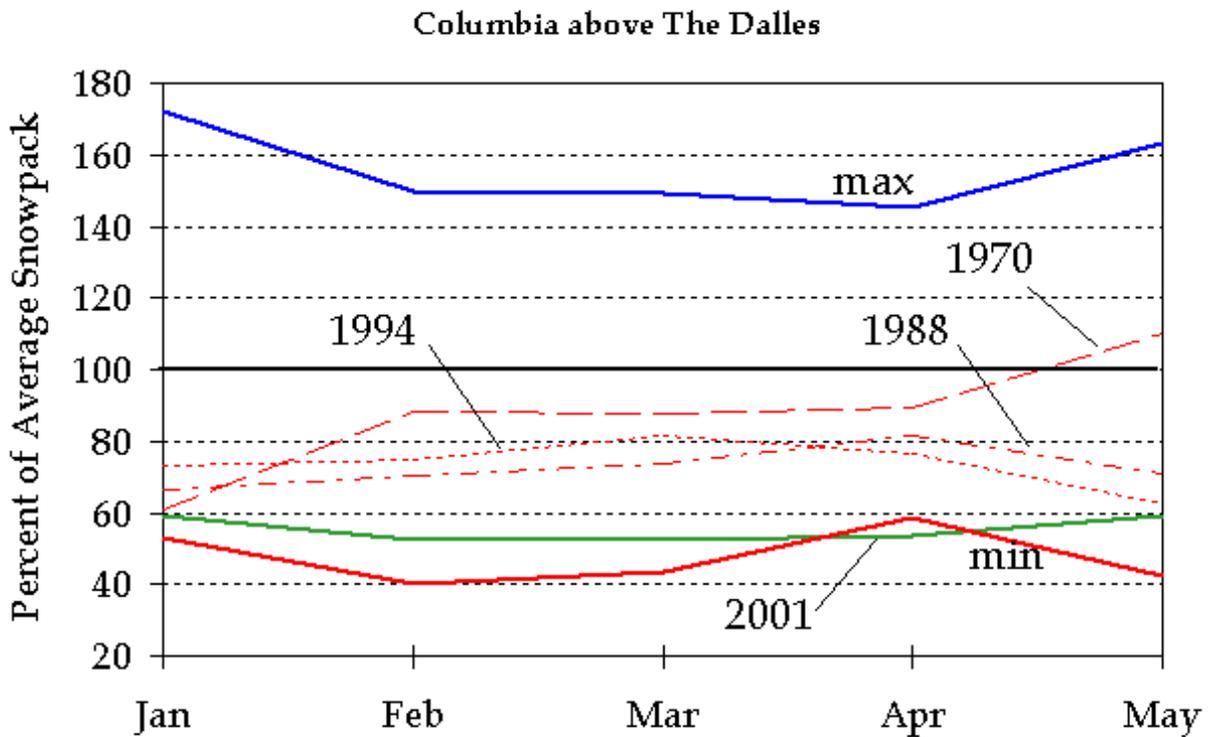


Figure 5. Composite Snow Index for Mountain Snowpack - Columbia above The Dalles

Monthly Precipitation for April 2001

(Averaged by Hydrologic Unit)

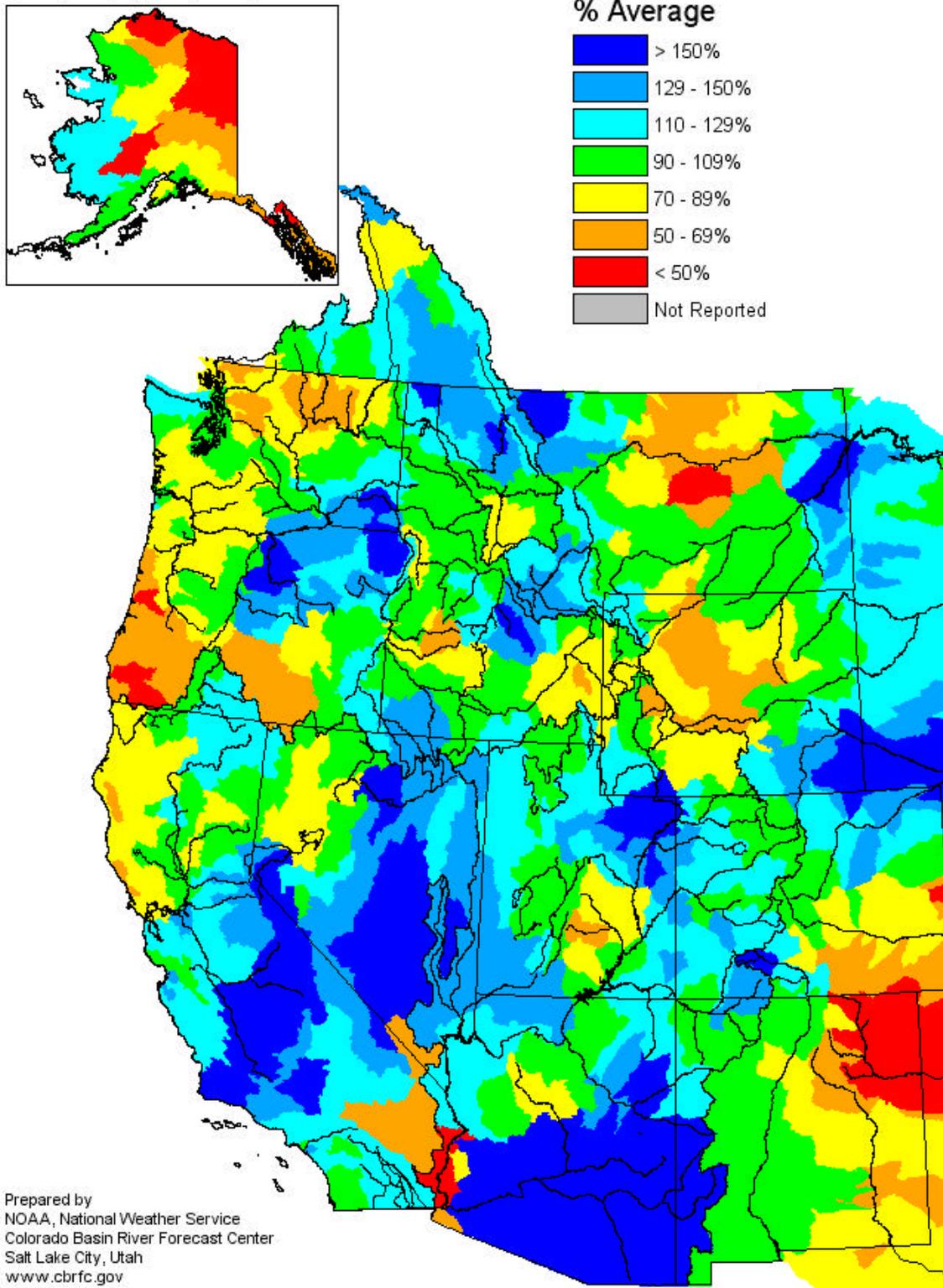
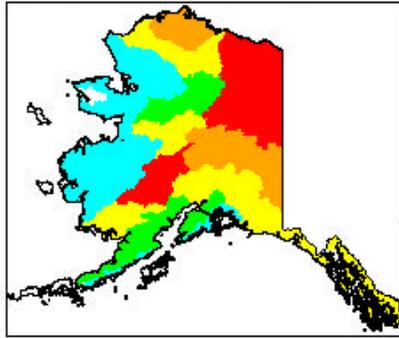


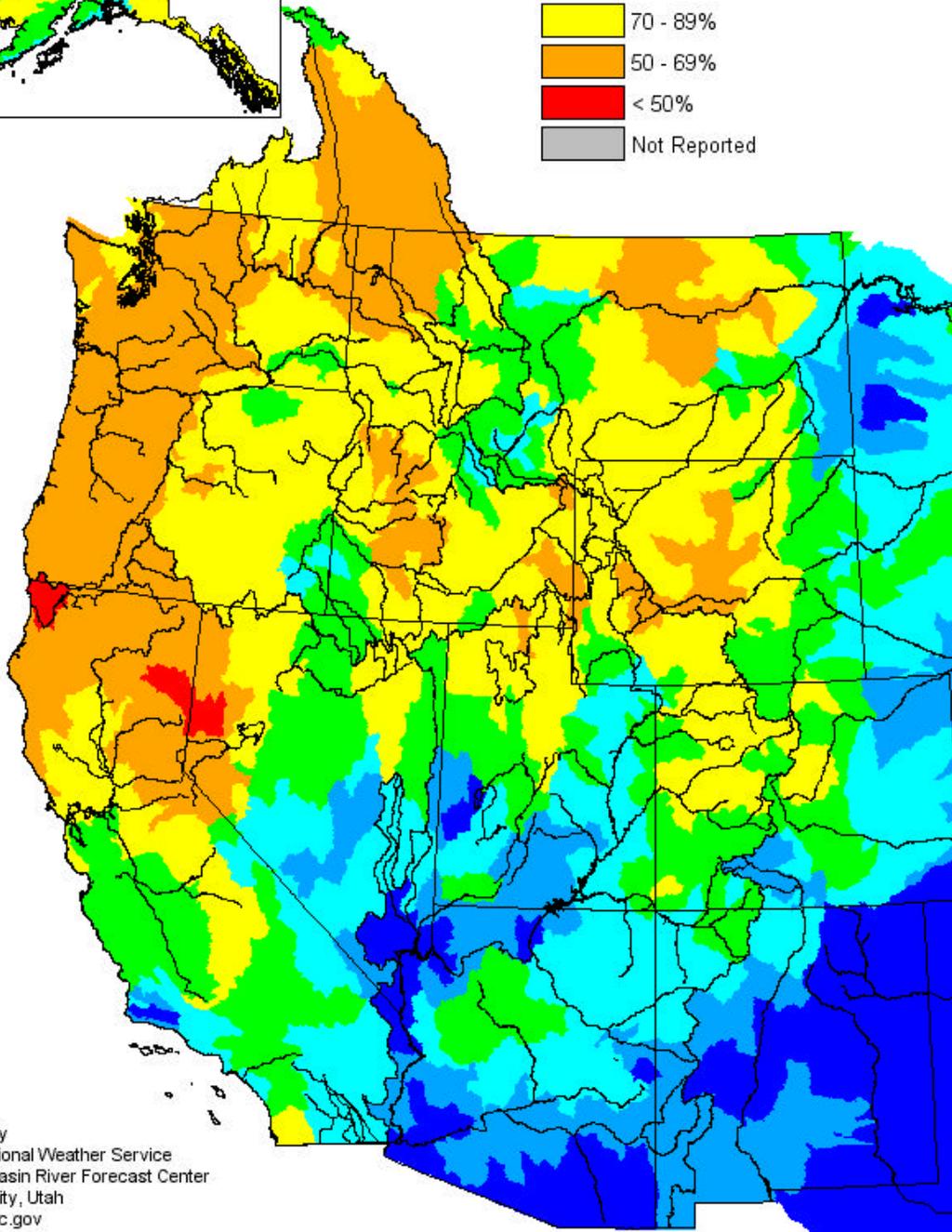
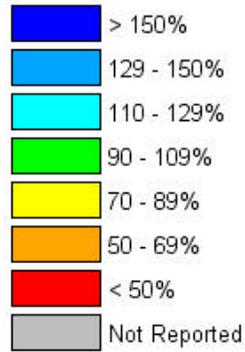
Figure 6. Previous Month's Precipitation

Seasonal Precipitation, October 2000 - April 2001

(Averaged by Hydrologic Unit)



% Average



Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.gov

Figure 7. Seasonal Precipitation to Date beginning in October 2000

Spring and Summer Streamflow Forecasts as of May 1, 2001

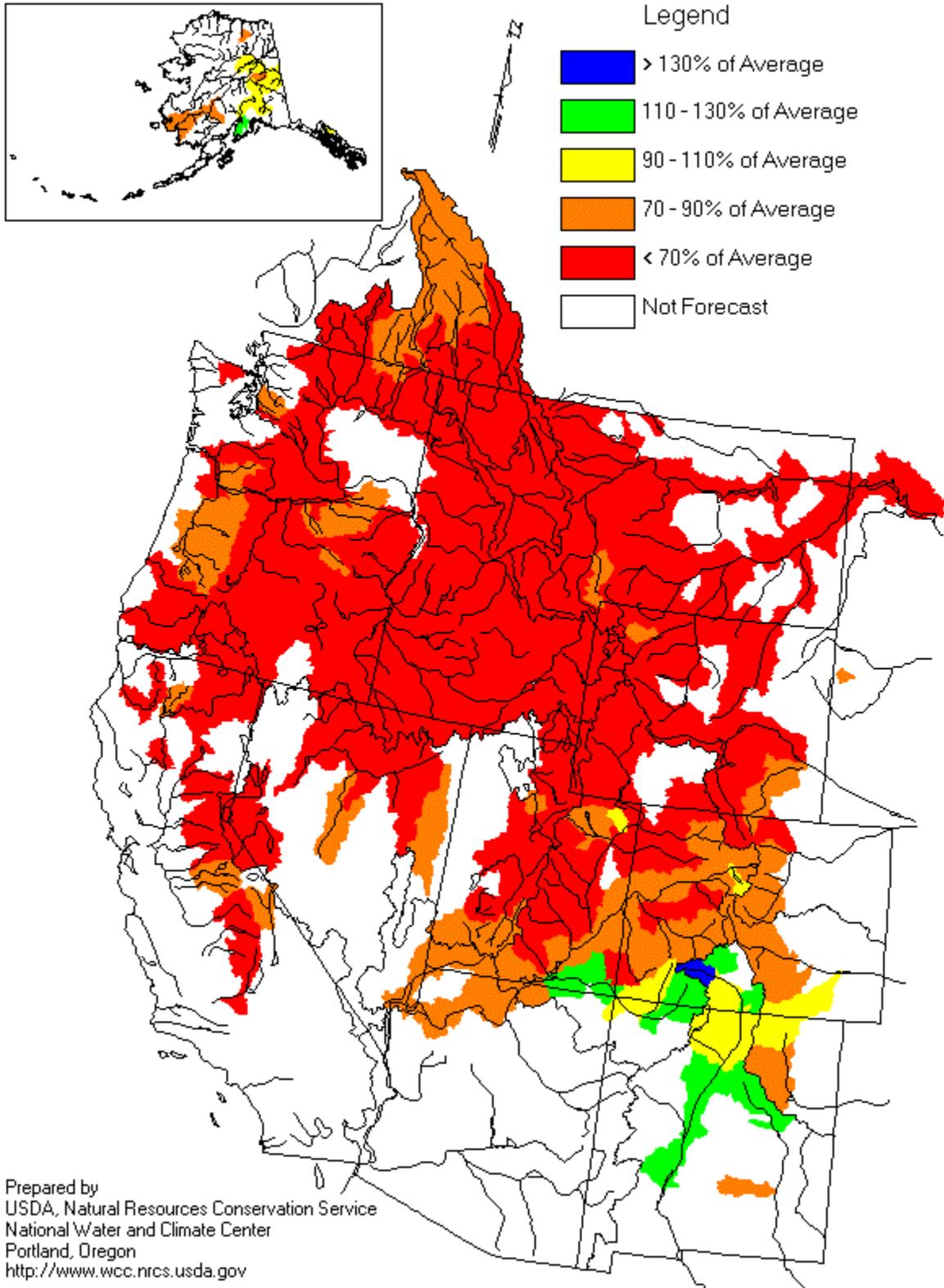
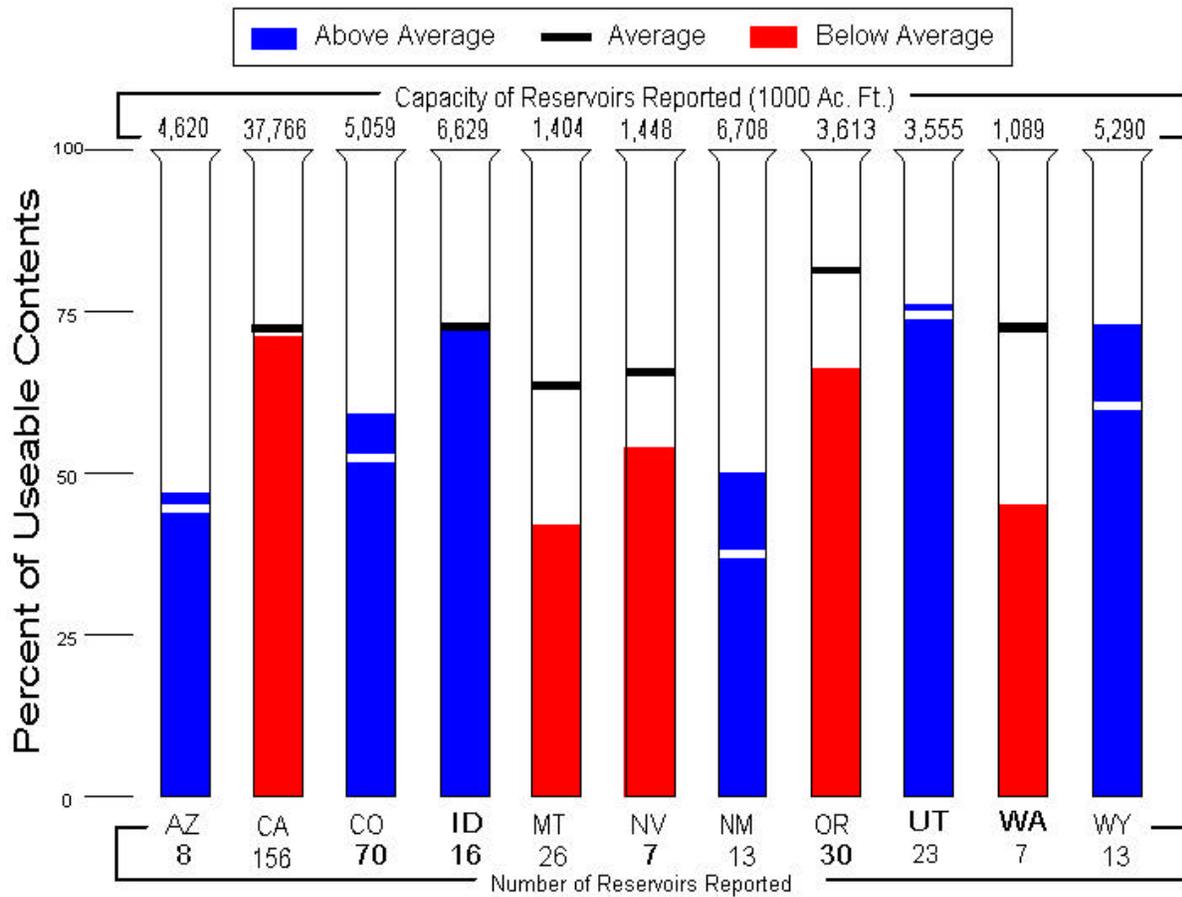


Figure 8. May 1 Seasonal Water Supply Forecasts

Reservoir Storage as of May 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