

## SUMMARY

The Pacific Northwest experienced a variety of hydrologic events during WY-2000. The water year began with below normal precipitation and above normal temperatures for the southern half of the Columbia River Basin, and near normal precipitation and below normal temperatures for the north. During the latter portion of November 1999, a series of weather disturbances moving along a stalled frontal system tapped a rich supply of moisture originating from the subtropics. This combination of weather features produced moderate to locally heavy precipitation west of The Cascades and locally heavy precipitation across higher elevations east of The Cascades. Frequent periods of light precipitation occurred in December 1999, which were focused mainly across west side basins as well as central and northern Idaho. For December 1999, precipitation was 90 percent of normal (1961-1990) at Columbia River above Coulee; 93 percent of normal at the Snake River above Ice Harbor; and 93 percent at Columbia River above The Dalles. Precipitation for the month of December was generally slightly below average except for pockets of above precipitation in western Washington, in northeast Oregon and in the Clearwater basin in Idaho. The driest conditions were in southern Idaho and southern Oregon. Precipitation during January was above average for most of Idaho and near average for the northern basins. Seasonal precipitation for the Columbia basin above The Dalles was at 104 percent of normal.

It was warmer and wetter than normal in February 2000. A split jet stream ushered a series of generally weak low pressure systems into the northern and southern tiers of the basin early in February 2000. During February 2000, snow conditions for basins in most of Washington, northern Idaho, British Columbia and western Montana remained near to slightly below average. However, snow conditions in southern basins increased dramatically with increases of 20 – 50 percent from January 1<sup>st</sup>. Runoff for January was above average in the Upper Columbia and Kootenai and near to below average for the rest of the basin. Below normal precipitation was evident across much of the Pacific Northwest during March 2000. Notable exceptions included much of central and eastern Washington and Oregon as well as southern British Columbia, where precipitation was over 130 percent of normal in a few locations. During March 2000, snow water equivalent percentages increased slightly across northern portions of the basin and decreased 3-15 percent in the southern areas of the basin. The best improvements in snow pack occurred in the Upper Columbia, Kootenai and Flathead River basins, which are important contributors to the total flow on the Columbia River at The Dalles.

During the beginning of April 2000, a ridge of high pressure along the West Coast was the dominant weather feature across the region. Dry conditions and unseasonable warm temperatures were common. The most significant precipitation was reported across northern tier basins. Snow packs had depleted sharply basin wide by the beginning of June 2000. In northern areas the June 1<sup>st</sup> snow was about 70 percent of of average, while southern portions of the basin had lost most of their snow. A reduced snow pack and slightly below average May precipitation caused a drop in the June final forecast volumes.

For Water Year 2000, the annual observed streamflow of the index streamflow stations varied from below normal in the Snake River Basin to normal at all other stations. This contrasts to the previous five years where the annual observed streamflow was above normal for all index streamflow stations. The annual observed streamflow for Columbia River at Grand Coulee and The Dalles were respectively 105% and 101% of normal, while the Willamette River at Salem was at 100% of normal. For the Snake River, however, the annual observed streamflow was only 84% of normal.

All reservoirs were successfully used to store flood runoff both from winter floods and from spring snowmelt runoff events.