



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 N.E. Oregon, Suite 200, Portland, Oregon 97232

Telephone (503) 238-0667

Fax (503) 235-4228

www.critfc.org

TO: Technical Management Team (TMT)
FROM: Kyle Martin, *Senior Hydrologist*, CRITFC Hydro Program
DATE: November 5th, 2003

SUBJECT: **Summary of Water Year 2003 Weather**

At the request of TMT, this memo summarizes monthly weather events that impacted basin flows and fish migrations during Water Year 2003 (October 2002 - September 2003). Autumn saw warmer than normal temperatures and below normal precipitation patterns. Precipitation totals for Columbia at The Dalles in October, November, and December were 33%, 57%, and 102%, respectively, and mean basin wide temperature departures were -3.2, +1.2, and +5.2 degree F. Many new record high temperature records were set across the region.

Winter was a mixed bag. Record breaking warmth in the lower 60s occurred in January. Precipitation totals for Columbia at The Dalles in January and February were 116% and 69%, respectively. Mean basin wide temperature departures were +7.3 and +0.3 degree F.

As *El Nino* died out in late winter, a “fire hose” of precipitation kicked in for spring. Near normal temperatures were noted. Precipitation totals for Columbia at The Dalles in March, April, and May were 175%, 130% and 85%, respectively. Mean basin wide temperature departures were +1.5, -0.3, and -0.1 degree F.

A dry hot summer was in store for migrating salmon. Many record-breaking daily high temperatures were set from early June through early September. Precipitation totals for Columbia at The Dalles in June, July, August, and September were 50%, 20%, 56%, and 83%, respectively. Mean basin wide temperature departures were +2.2, +4.9, +3.0, and +2.3 degree F.

Cumulative precipitation totals for Water Year 2003 for Columbia at The Dalles ended at 85%. The driest basins were the Upper Snake (75%), Snake River Plain (70%), and Flathead plus Kootenai (74%). The Umatilla and lower John Day basins fared the best at 102% (Figure 2).

CRITFC’s climate outlook for WY 2004 is for near normal precipitation but cold winter temperatures. UW Climate Impacts Group suggests that WY 2004 runoff will be near normal (Figure 3) with a probable January-July volume forecast of 110 MaF (or 102%) for the Columbia at The Dalles. (<http://www.hydro.washington.edu/Lettenmaier/Projects/fcst/index.htm>) The NOAA-NCEP climate forecasts offer above normal temperatures and near normal precipitation.

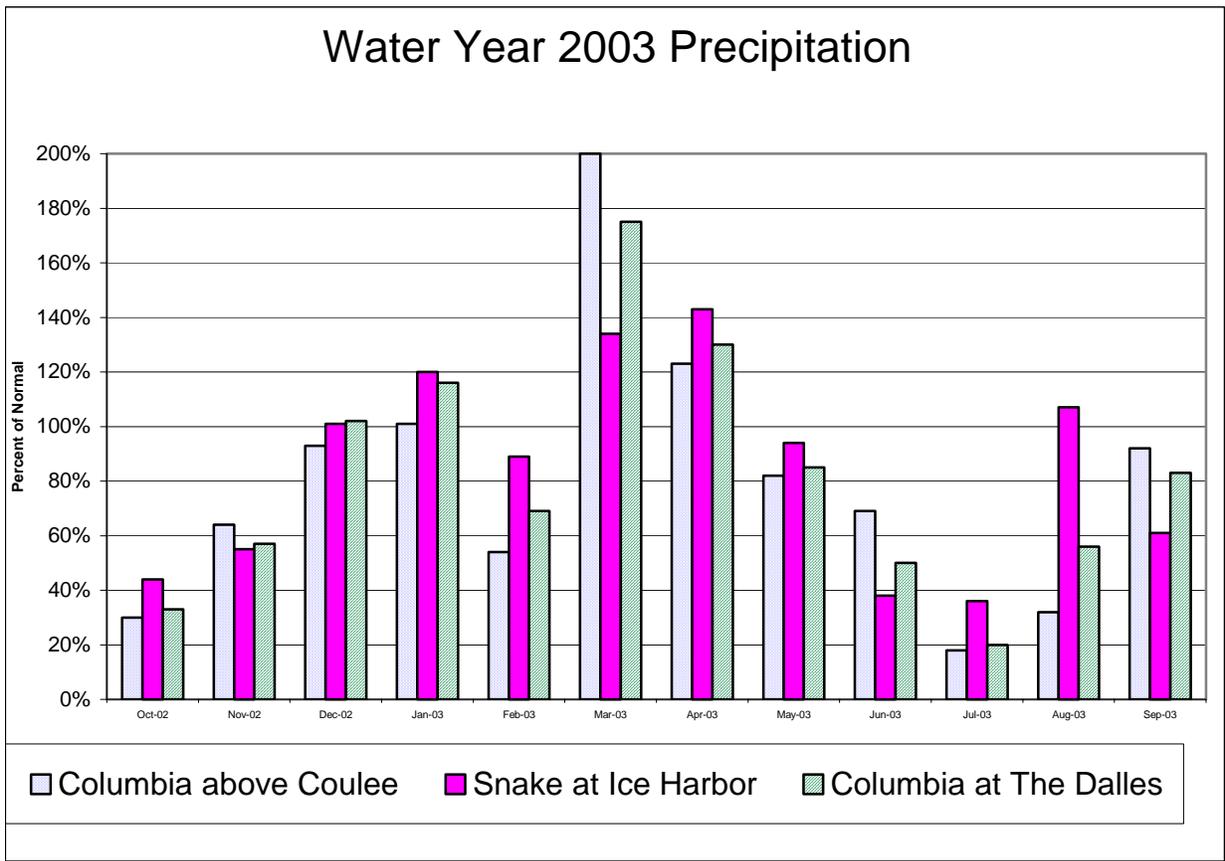


Figure 1. Water Year 2003 Division Precipitation Summary (using NOAA-NWRFC data).

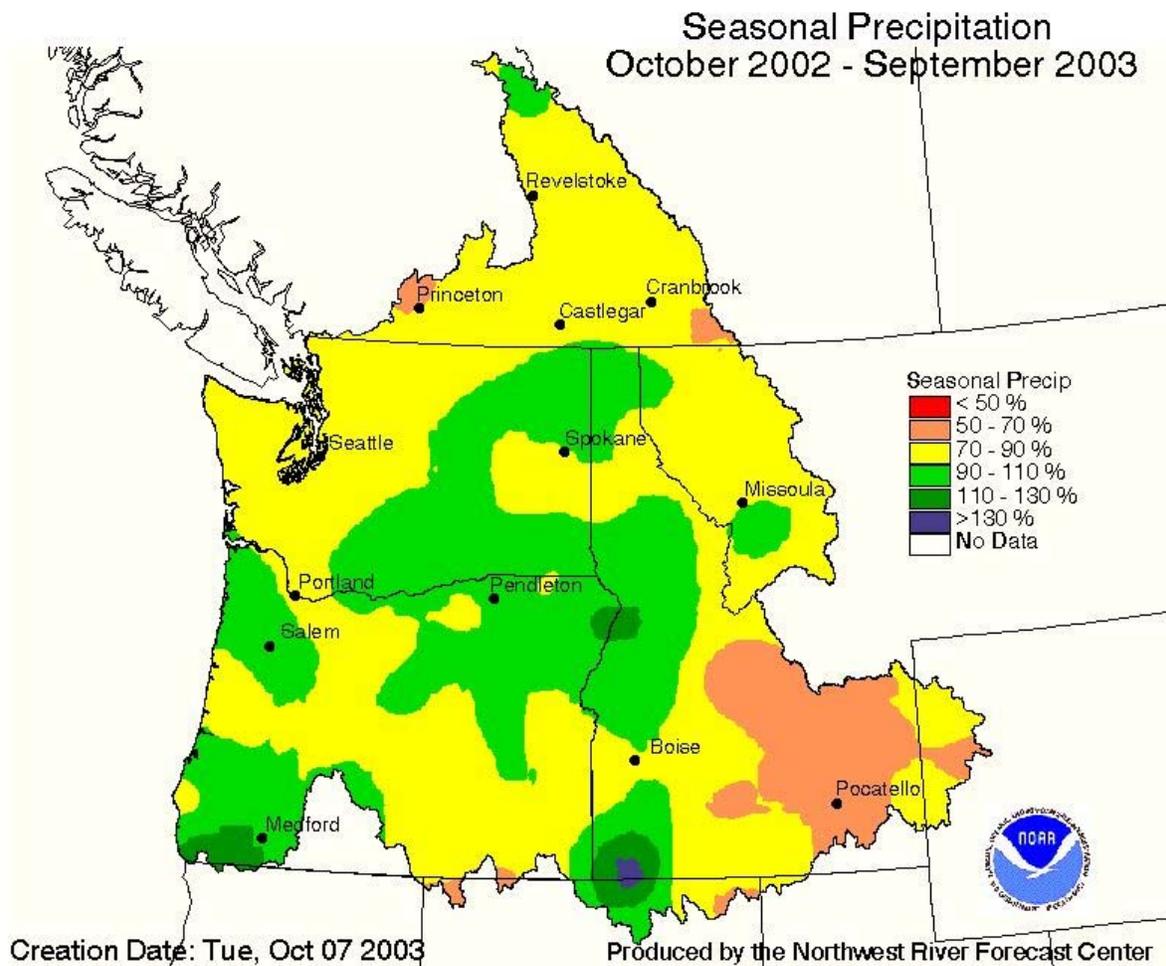


Figure 2. Water Year 2003 Columbia Basin Cumulative Seasonal Precipitation.

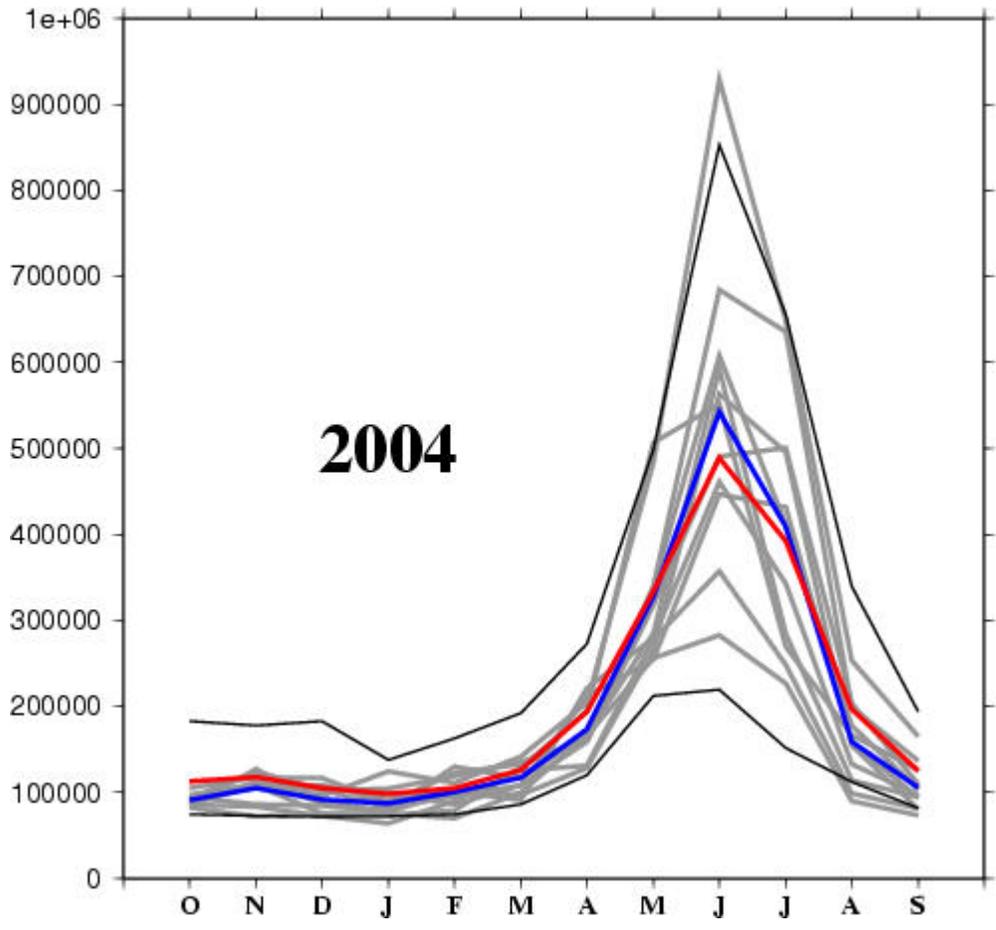


Figure 3. UW Climate Impacts Group 2004 Forecast for the Columbia River at The Dalles (unregulated or natural flow). The long-term simulated mean for all years from 1948-2000 is shown in red and the ensemble mean is shown in blue.