



## COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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TO: Technical Management Team (TMT)  
FROM: Kyle Martin, *Senior Hydrologist*, CRITFC Hydro Program  
DATE: November 10<sup>th</sup>, 2004  
  
SUBJECT: **Summary of Water Year 2004 Weather**

At the request of the TMT, this memo summarizes monthly weather events that impacted basin flows and fish migrations during Water Year 2004 (October 2003 - September 2004). WY 2004 was noted for extreme variability in precipitation and temperature patterns (Figures 1 and 2).

Autumn saw above normal temperatures and above normal precipitation patterns. The Snake basin stayed dry until December. October set many new high records in the 72 to 88 °F range. November and December set a few new daily high and low temperature records.

Winter started out with a bang on January 5<sup>th</sup> – 7<sup>th</sup> with a major storm that brought up to nine inches of snow to western Washington and Oregon with freezing rain in the mix. Daily temperature departures plunged to -13 to -18 °F (west side) to -14 to -36 °F (east side). A few stations set new daily precipitation records during winter. An extended dry spell started in February and impacted snowpacks through April. March set many new daily high temperature records in the 70 to 80 °F range across the region.

Spring was extreme. A warm, dry April quickly transitioned into a warm, wet May, then back to a warm, dry June. April set many new high records in the 77 to 86 °F range across the basin. A few stations set new daily precipitation records in May and June.

Summer was also extreme. A dry hot summer was in store for migrating salmon. Many record-breaking daily high temperatures were set in July in the 95 to 103 °F range in western Oregon. Strong storms broke the hot dry-spell by late August and mid-September and set many new daily precipitation records. August was warm and wet. September was cool and wet.

Cumulative precipitation totals for Water Year 2004 for Columbia at The Dalles ended at 104%. The driest basins (Figure 3) were the Snake River Plain (87%), Southeast Washington (93%), and Central Washington/east slopes of the Washington Cascades (96%). The wettest basins were the Okanogan (115%), John Day/Umatilla (112%), and Clearwater (111%).

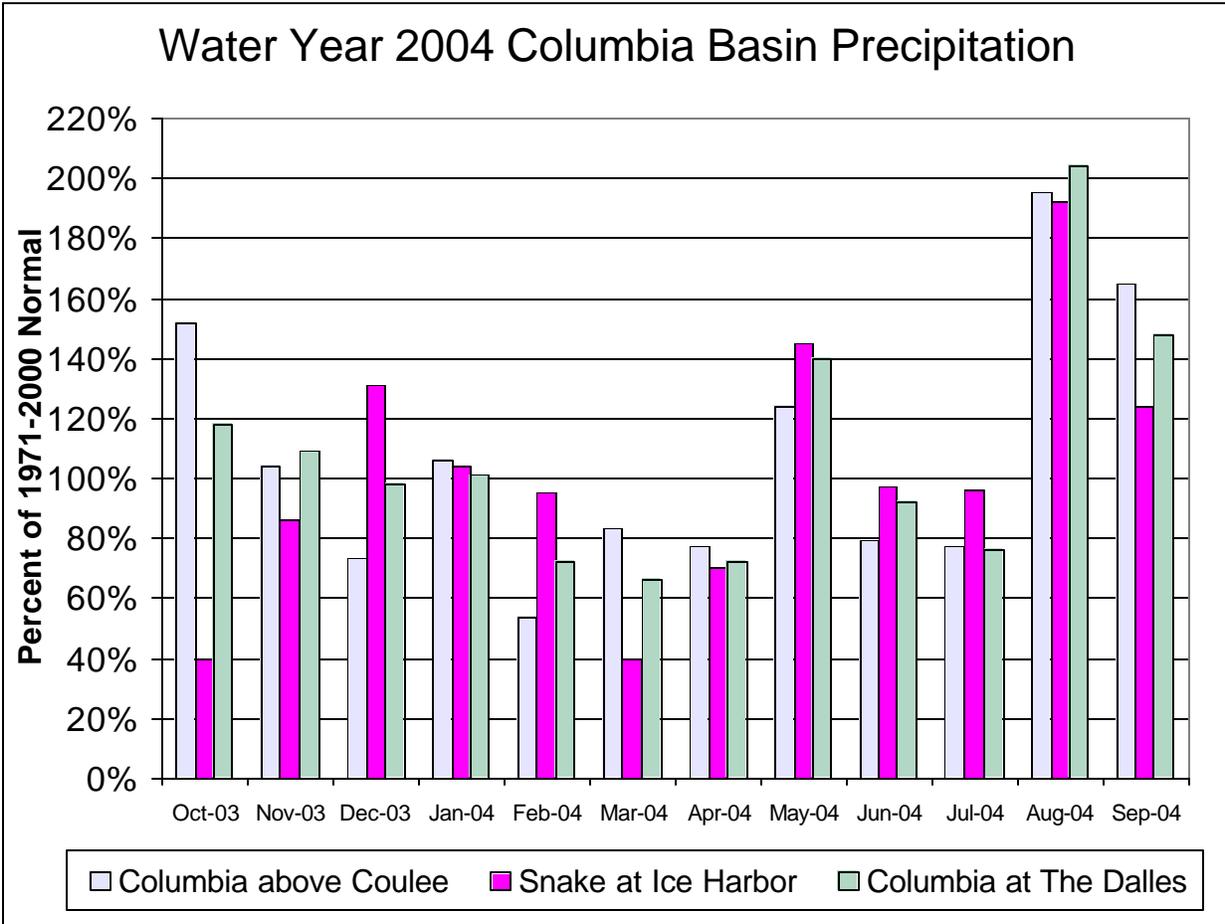


Figure 1. Water Year 2004 Division Precipitation Summary (NOAA-NWS-Portland data).

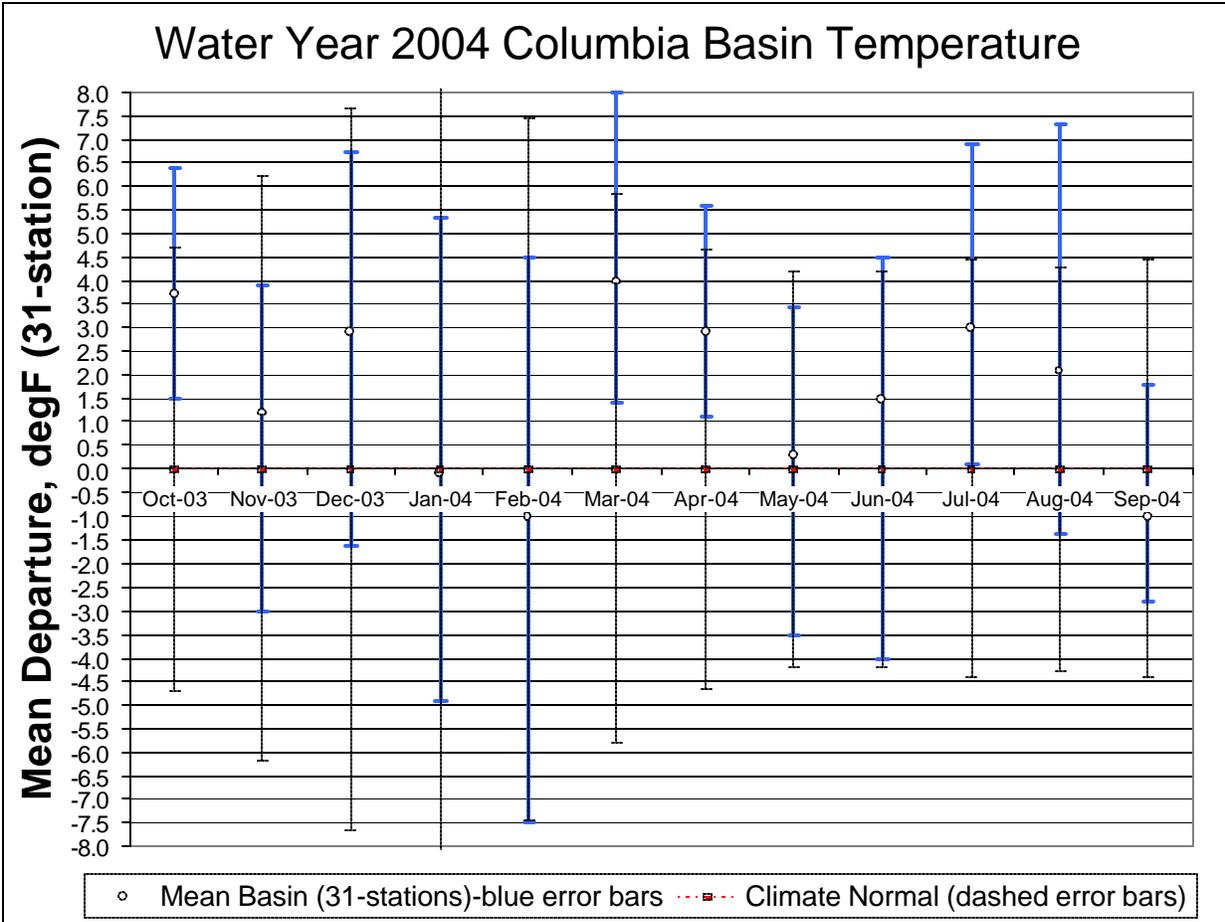


Figure 2. Water Year 2004 Temperature Departure Summary (NOAA-NWS-Portland data).

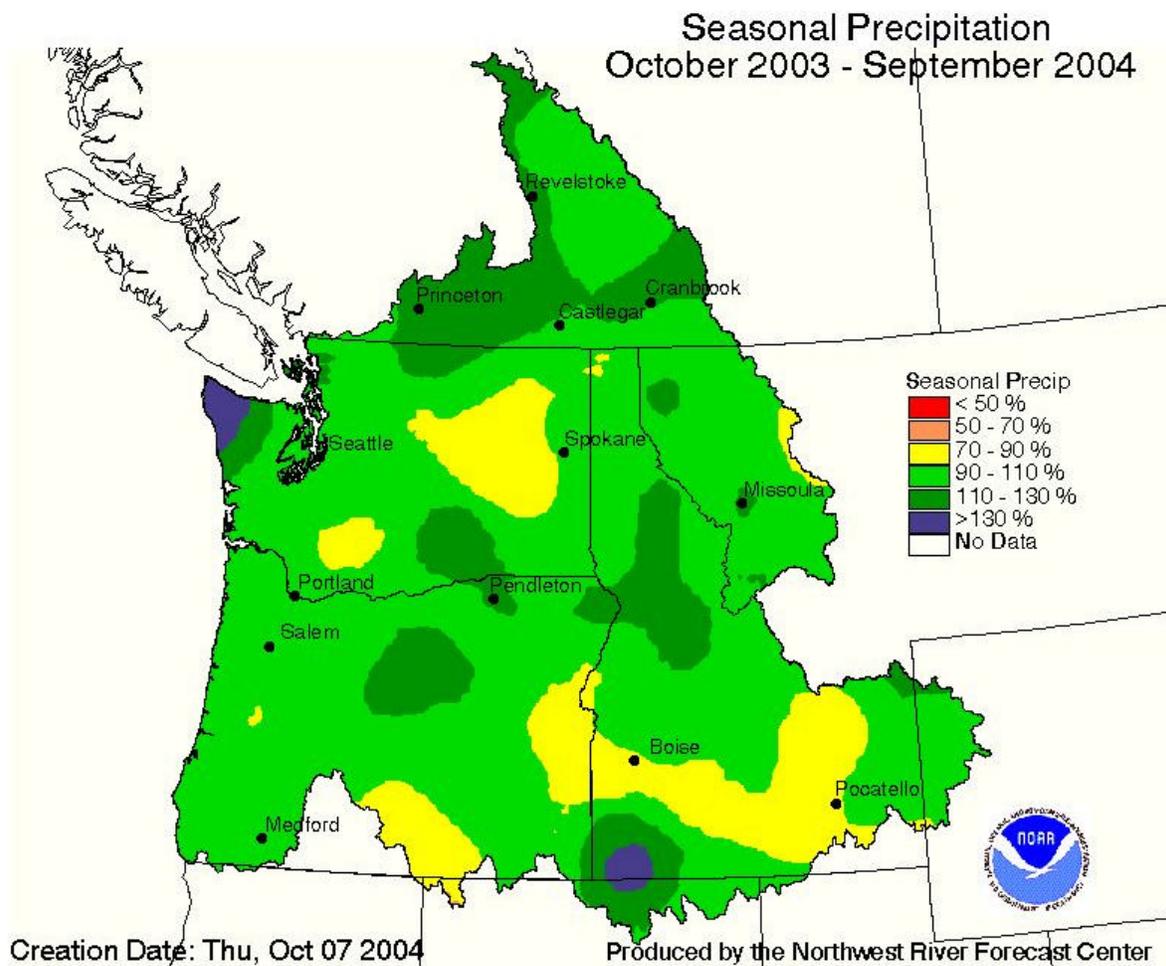


Figure 3. Water Year 2004 Columbia Basin Cumulative Seasonal Precipitation.