Water Year 2020
WA & OR Climate
Events Recap

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October 28, 2020
Water Year Summary

- **Above normal temperatures for both states**
  - WA: +0.7°F anomaly
  - OR: +1.0°F anomaly (compared to 1981-2010)

- **Below normal precipitation for both states, but more pronounced in OR**
  - WA: -2.39” anomaly
  - OR: -7.07” anomaly (15th driest)
2020 Water Year

October 2019-September 2020

Pacific Northwest - Mean Temperature
October-September 2020 Departure from 1981-2010 Normal

Pacific Northwest - Precipitation
October-September 2020 Percent of 1981-2010 Normal
October cold

- Unseasonable, anomalous northerly flow brought cold and snow (lowland and mountain in WA)
  - WA: 2nd coldest; OR: 4th coldest on record (since 1895)
- October was dry in OR but WA precipitation was variable
Heavy Western WA Rain: Dec 19-21

- AR event on the 20th with a SSW orientation
- SeaTac AP had 5th wettest day (3.25”) on record (records began 1945)
- Both urban and moderate river flooding

Snohomish County (KIRO)
Precipitation in Nov/Dec vs. Jan
SWE Change over January

<table>
<thead>
<tr>
<th>Snow Water Equivalent Delta</th>
<th>Value</th>
<th>January 31, 2020 - January 1, 2020, end of day</th>
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<td>≥ 20 in.</td>
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<td>≤ -20 in.</td>
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Observation missing

NRCS Natural Resources Conservation Service

Created 10-23-2020, 12:10 PM PDT
Persistent, zonal flow shown in the jet stream that was directed more towards the PNW than usual
Early February Flooding

CW3E Event Summary: 4–8 Feb 2020

- Unusual AR event from the WNW amplified precipitation over the Blue Mountains

- Total estimated precipitation over the 7-day period ending 1200 UTC (4 AM PST) 10 Feb exceeded 5 inches over portions of western WA and northwestern OR, with the highest amounts (> 10 inches) over the WA Cascades

- Inland penetration of AR conditions also supported heavy snowfall (1–3 feet) across the higher terrain in the interior Pacific Northwest and Rocky Mountains

Source: NOAA/NWS Advanced Hydrologic Prediction Service, [https://water.weather.gov/ahps/](https://water.weather.gov/ahps/)

Source: NOAA/NWS NOHRSC, [https://www.nohrsc.noaa.gov/](https://www.nohrsc.noaa.gov/)
Early February Flooding

- Record high flows on Mill Creek in Walla Walla and Umatilla River near Gibbon
- Widespread damage to roads in NE OR and SE WA
- Emergency proclamations in both states
Colder than normal temperatures helped to preserve the snowpack in the mountains.

Lowland snow event in mid-March due to unusual northerly flow.

Spokane recorded a max temp of 23°F on 3/14, record cold high temperature for the date and the coldest high temp recorded that late in the season on record (since 1881).
September Easterly Winds

- Western WA, Northwestern OR, southern BC: easterly component of the winds at 850 hPa (~5000’) on the 8th were the strongest on record during the summer season.
Summary

- In general, the water year had above normal temperatures and below normal precipitation for both states
  - Western WA and NE OR were the exceptions, with near-normal to above normal precipitation

- No drought declarations for WA thanks to subtle differences in how the weather played out, especially Jan & Feb above normal precip

- Two significant flood events in Dec and Feb

- Colder than usual temperatures bookended the winter (Oct and Mar) but overall winter was mild with little lowland snow

- Unusually strong easterly winds drastically changed the fire season