Active weather pattern brings heavy rainfall and flooding to the Pacific Northwest

- A series of landfalling ARs resulted in heavy precipitation and river flooding between the last week of January and beginning of February
- The last landfalling AR produced AR3 conditions along the coast of Washington and Oregon
- Total estimated 7-day precipitation between 26 Jan and 2 Feb exceeded 5 inches over portions of western WA and northwestern OR, with more than 10 inches over the Olympic Mountains and North Cascades
A series of storms over the Northeast Pacific Ocean brought several episodes of AR conditions to coastal WA and OR

- Some locations along the WA and OR coast experienced AR3 conditions in association with the last landfalling AR
- An AR4 nearly verified at 47°N, 124°W (Grays Harbor), but the AR duration was 3 hours less than the criterion for AR4 conditions (≥ 48 hours)
Before 31 Jan, a series of cyclogenesis events over the Northeast Pacific Ocean brought several short-lived periods of AR conditions to the Pacific Northwest (Figures A and B).

The main AR made landfall in coastal WA and OR just before 0000 UTC 31 Jan (Figure C).

This AR featured two distinct pulses in IVT associated with: 1) a decaying cyclone over northern British Columbia, and 2) a second cyclone that formed north of HI and rapidly moved northeastward toward British Columbia.
• Total estimated precipitation over the 7-day period ending 1200 UTC (4 AM PST) 2 Feb exceeded 5 inches over portions of western WA and northwestern OR, with the highest amounts (> 10 inches) over the Olympic Mountains and North Cascades
• Lighter amounts (1–3 inches) were also observed across the elevated terrain in northeastern OR, western ID, and northwestern MT
• Quillayute State Airport (KUIL) set a new record for total monthly precipitation (30.78 inches in January) and has reported measurable precipitation on 47 consecutive days

Source: NOAA/NWS WRH, https://www.wrh.noaa.gov/
The combination of heavy rainfall, saturated soils, and melting snowpack resulted in widespread and prolonged flooding at lower elevations downstream of the North Cascades.

The Snoqualmie (near Carnation, WA) and Snohomish (at Snohomish, WA) Rivers reached major flood stage during the evening of 1 Feb.
The border crossing in Sumas, WA, was closed for more than 24 hours due to flooding along Johnson Creek.

A landslide south of Bellingham, WA, resulted in the closure of the northbound lanes on Interstate 5.
After an unusually dry start to the water year, much of the Pacific Northwest experienced wetter-than-normal conditions in January.

- As of 1 Feb, total year-to-date precipitation was >150% of normal across much of western WA, eastern WA, northern ID, western OR, and northeastern OR.
- January 2020 precipitation exceeded the 90th percentile of climatology (1979–2015) in these areas.

Source: NW Climate Toolbox, https://climatetoolbox.org