

Quick Look at the Storms Forecast to Impact the Pacific Northwest This Week

Updated: 24 November 2025

Multiple weak atmospheric rivers (ARs) and a low-pressure system are forecast to bring precipitation to the Pacific Northwest this week.

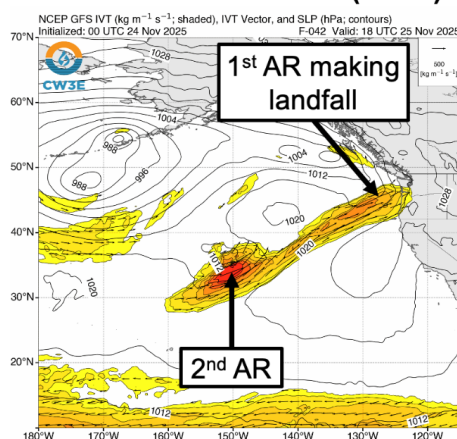
Forecast Highlights:

- A weak AR is forecast to make landfall over southern Washington and Oregon tomorrow and begin to dissipate early Wed 26 Nov.
- Meanwhile, a low-pressure system and a second AR are forecast to develop near the tail of the moisture plume associated with the initial AR and track northeastward, approaching the Pacific Northwest coast late Wed 26 Nov.
- There are still some model-to-model differences in the forecast evolution of both ARs. Compared to the deterministic GFS, the deterministic ECMWF is forecasting the core of the first AR to remain stronger and farther north after making landfall. The deterministic ECMWF is also forecasting higher IVT in the core of the second AR as it makes landfall.
- The GEFS control member is forecasting an AR 1 (based on the Ralph et al. 2019 AR Scale) over central coastal Oregon in association with the first AR and an AR 1 over southern coastal Washington and northern coastal Oregon in association with the second AR.
- The ECMWF ensemble (ENS) control member is forecasting an AR 2 over northern coastal Oregon, where continuous AR conditions ($\text{IVT} \geq 250 \text{ kg m}^{-1} \text{ s}^{-1}$) are forecast to last >48 hours with no break in AR conditions between the first and second ARs.
- The NWS Weather Prediction Center (WPC) is forecasting 2–4 inches of total precipitation over coastal Washington, northern coastal Oregon, and the Washington Cascades during the 72-hour period ending 4 AM PT Fri 28 Nov, with higher amounts possible in the Olympic Mountains and near Mount Rainier..
- A **marginal risk** (level 1 of 4; $\geq 5\%$ probability) excessive rainfall outlook (ERO) has been issued for portions of western Washington and northwestern Oregon for the 24-hour period ending 4 AM PT Thu 27 Nov.
- Compared to the deterministic GFS, the deterministic ECMWF is forecasting higher precipitation amounts from these storms in western Washington. In the Duwamish watershed, the deterministic ECMWF is forecasting ~3.4 inches of mean areal precipitation by 4 AM PT Fri 28 Nov, whereas the deterministic GFS is only forecasting ~1.4 inches.
- Freezing levels in the Olympic Mountains and Washington Cascades are forecast to rise from ~3,000 feet to above 6,000 feet by midday Wed 26 Nov after the first AR moves onshore. Much of the precipitation from these storms is forecast to fall as rain, and snowfall amounts below 5,000 feet will likely be limited.

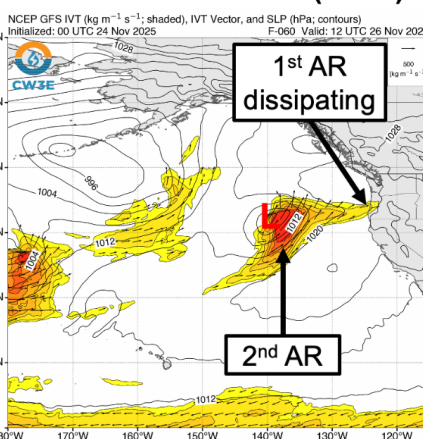
Stay alert to official NWS forecasts, watches, and warnings at [weather.gov](https://www.weather.gov) and follow guidance from local emergency management officials

GFS IVT & SLP Analyses

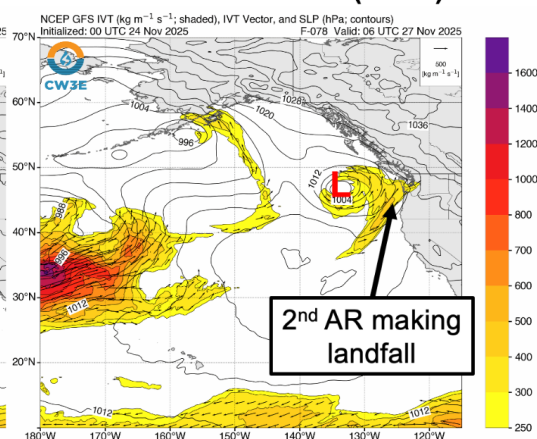
Valid 10 AM PT 25 Nov (F-042)



Valid 4 AM PT 26 Nov (F-060)

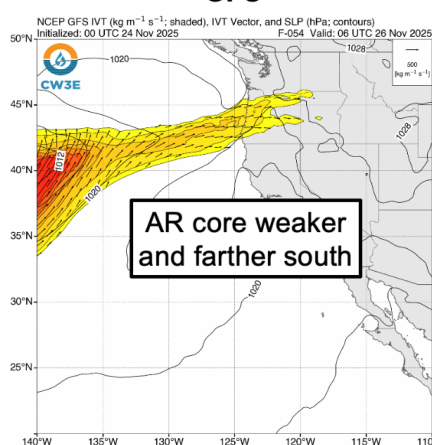


Valid 10 PM PT 26 Nov (F-078)

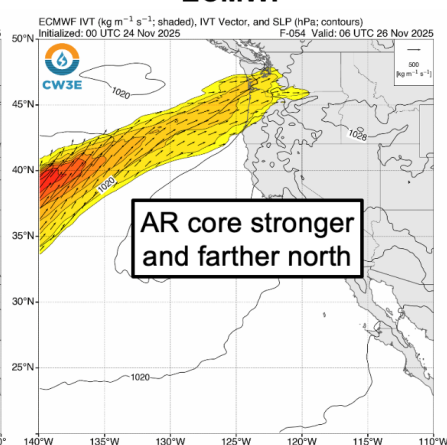


GFS vs. ECMWF IVT Forecasts of First AR: Valid 10 PM PT 25 Nov (F-054)

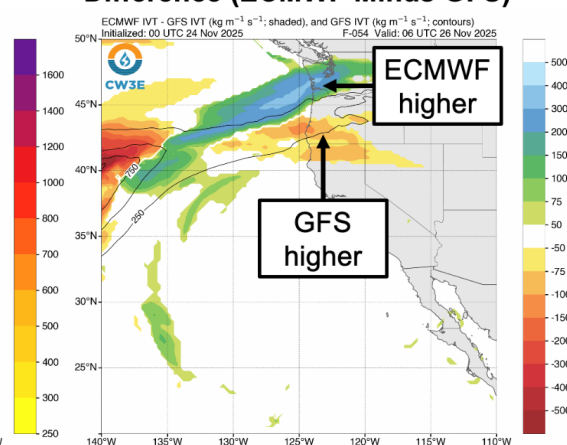
GFS



ECMWF

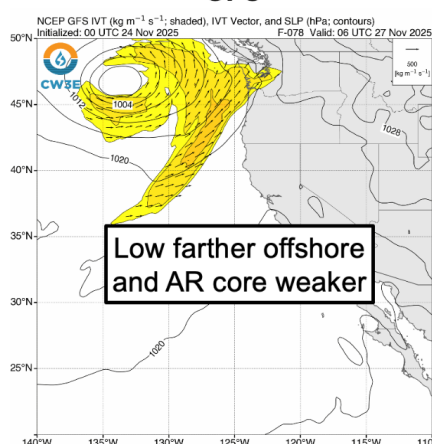


Difference (ECMWF Minus GFS)

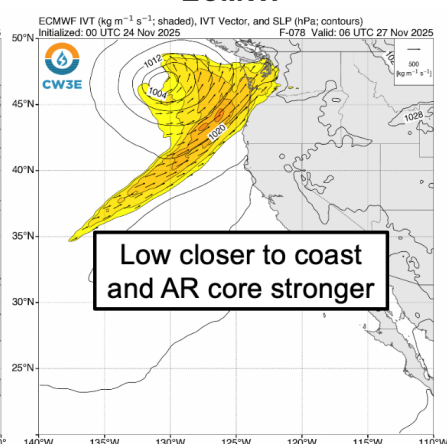


GFS vs. ECMWF IVT Forecasts of Second AR: Valid 10 PM PT 26 Nov (F-078)

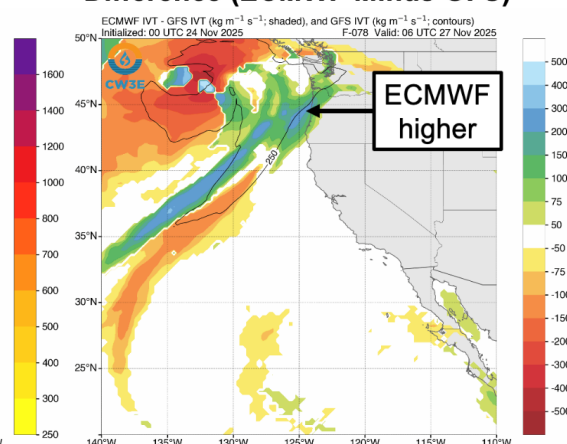
GFS



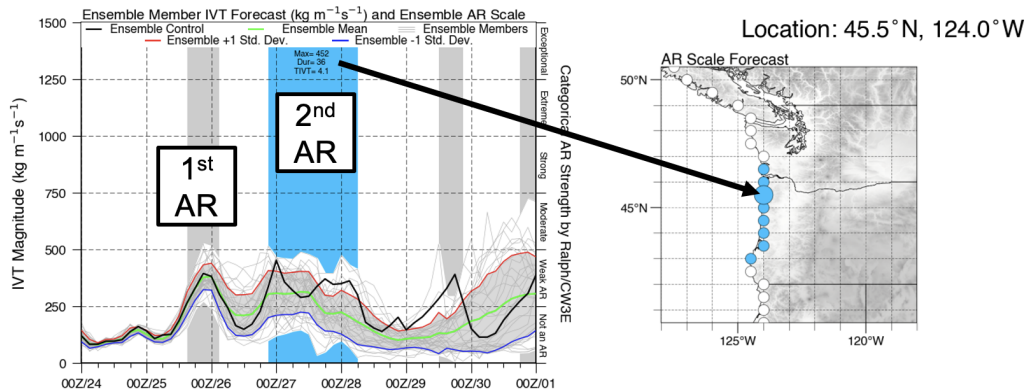
ECMWF



Difference (ECMWF Minus GFS)



GEFS Ensemble Initialized 00 UTC 24 Nov 2025



ECMWF Ensemble Initialized 00 UTC 24 Nov 2025

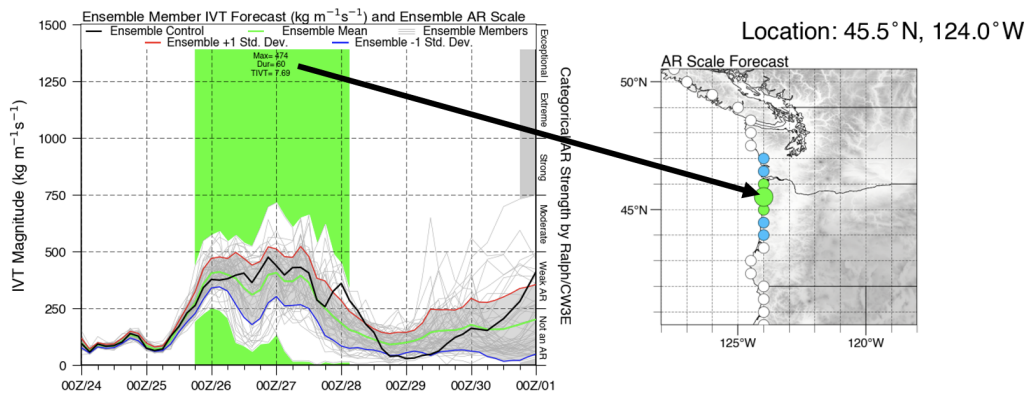
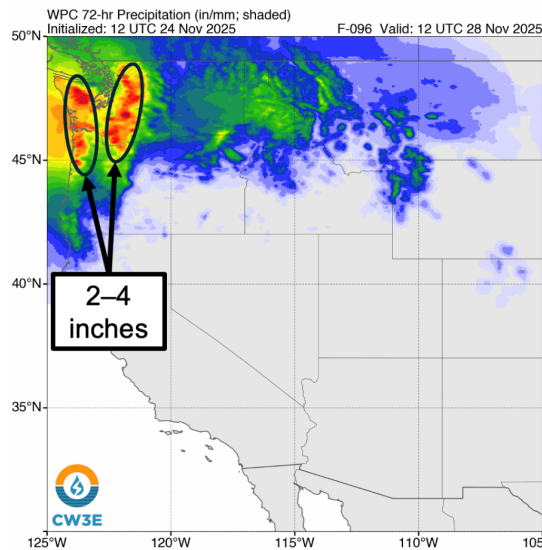


Image created 08 UTC 24 Nov 2025

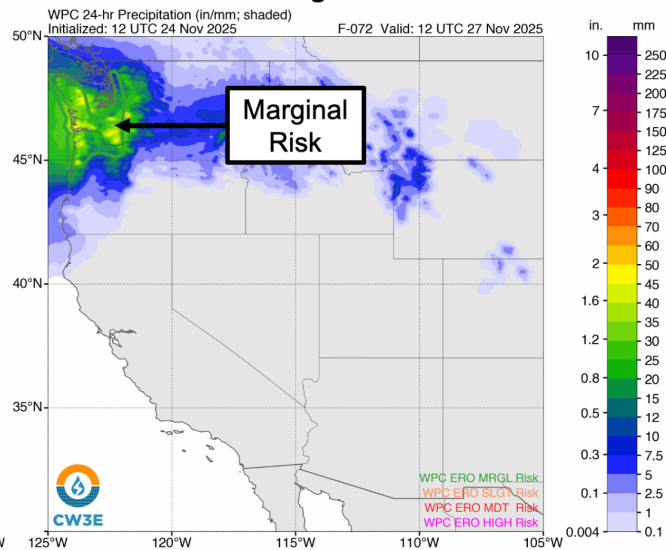
AR 1 AR 2 AR 3 AR 4 AR 5

More information: <https://cw3e.ucsd.edu> AR Scale based on Ralph et al. (2019; BAMS)

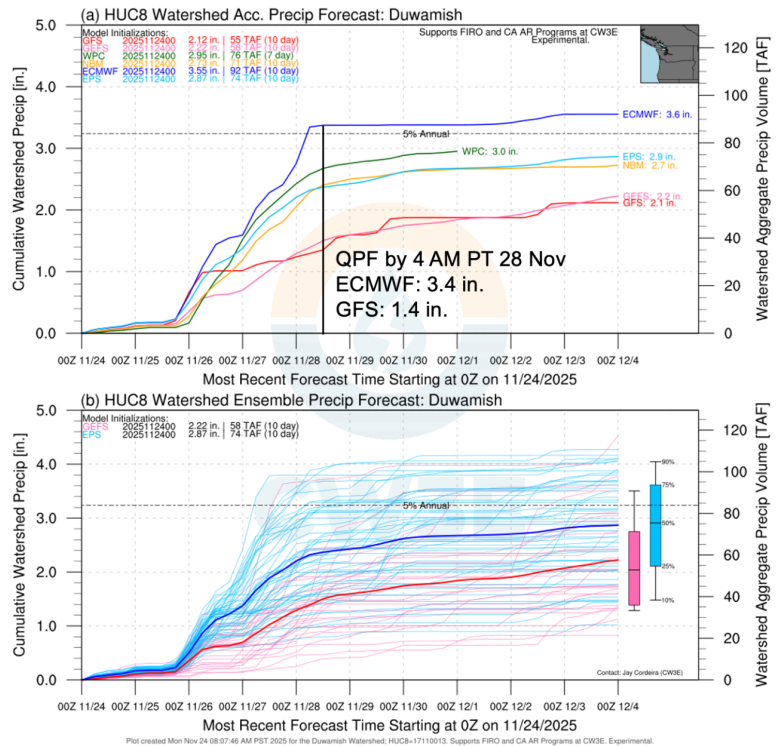
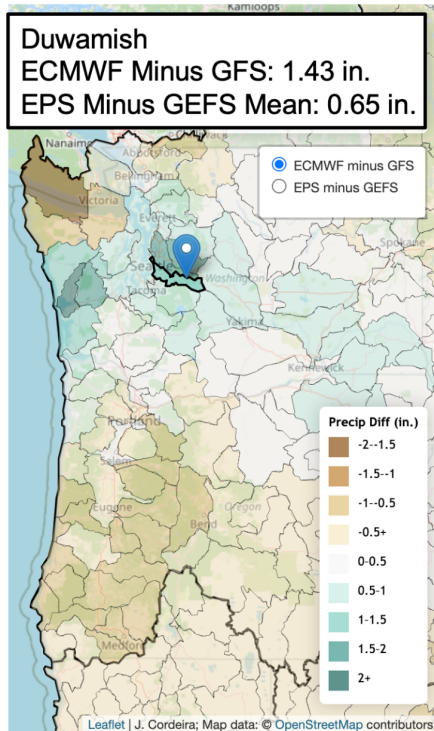
WPC 72-h Total QPF: Valid 4 AM PT 28 Nov



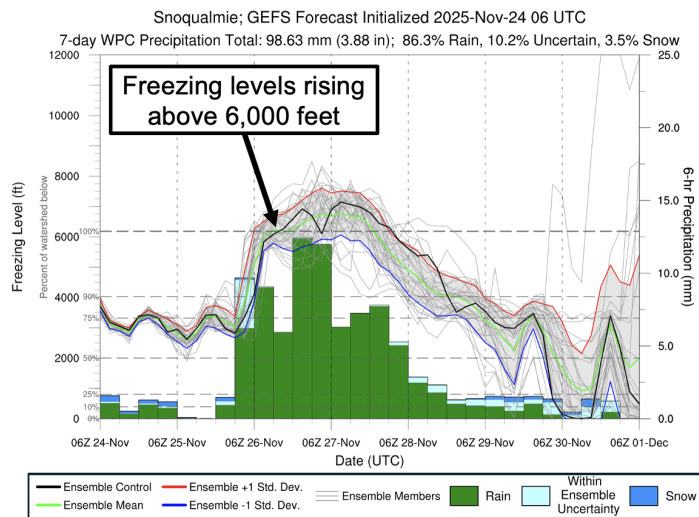
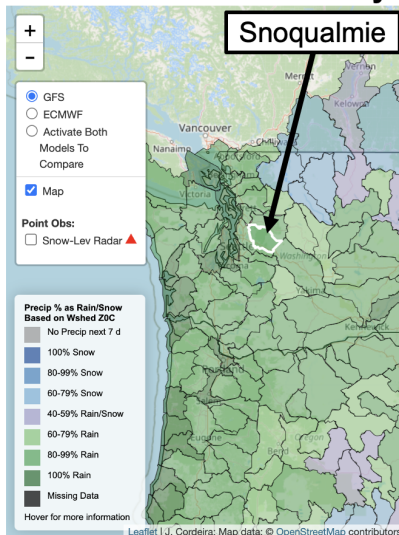
WPC Day 3 QPF and ERO: Valid 24-h Period Ending 4 AM PT 27 Nov



10-day Watershed QPF



GEFS 7-day Watershed Freezing Level Forecasts



Additional Considerations:

- Visit nwrfc.noaa.gov/ for specific river and stream forecasts and weather.gov/ for point specific watches, warnings, and forecasts.

In-depth AR forecasts products can be found here:

<https://cw3e.ucsd.edu/iwv-and-ivt-forecasts/>

Update by C. Castellano

c.castellano@ucsd.edu