

## **Quick Look at the Continuation of the Atmospheric River Activity Over US West Coast** *Updated: 26 December 2024*

A pair of atmospheric rivers forecast to make landfall along the US West Coast through this weekend cap off a period of AR activity.

### Forecast Highlights:

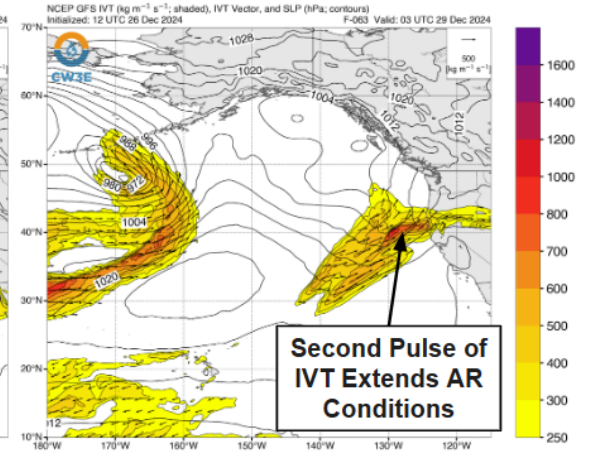
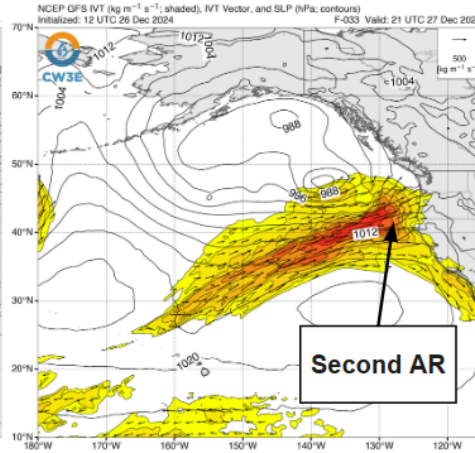
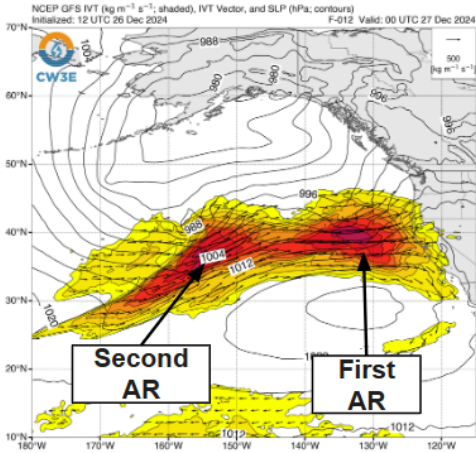
- Two atmospheric rivers are forecast to impact the US West Coast late this week through the weekend. Each AR is highlighted by multiple pulses of IVT.
- CW3E's AR Landfall tool derived from the GEFS model contains very high confidence (>90%) in two periods of AR conditions ( $\geq 250 \text{ kg m}^{-1} \text{ s}^{-1}$ ) over coastal Oregon and California from today, Thu 26 Dec, through Sun 29 Dec.
- The first AR, which made landfall early today, will continue to impact the US West Coast through late tomorrow, Fri 27 Dec.
- The second AR is forecast to make landfall on Sat 28 Dec over Southern Oregon, with the second pulse of IVT propagating down the California coast.
- There is uncertainty amongst ensemble members in the GEFS regarding the duration and intensity of both ARs. Many members are uncertain of whether or not AR conditions will break between the first and second ARs over Southern Oregon and Northern California.
- The GEFS model is forecasting AR2-3 conditions over Southern Oregon and Northern California, with a singular location near Sonoma County, CA receiving AR4 conditions due to AR conditions continuing between the two systems.
- The NWS Weather Prediction Center (WPC) is forecasting 5-10 inches of precipitation over the Oregon and Northern California Coasts, Cascades, Olympic Peninsula and Northern Sierra Nevada with totals potentially exceeding 10 inches over the Oregon and California Coast Ranges.
- Freezing levels are forecast to remain high enough during this event that much of the precipitation is currently forecast to fall as rain.
- Stream levels are forecast to rise across Washington, Oregon and California with numerous gages expected to crest above bankfull stages in the next five days. The greatest risk of flooding is currently in Southern Oregon, where the Northwest River Forecast Center has two gauges exceeding minor flood stage and one gauge exceeding moderate flood stage.
- The Weather Prediction Center has issued a slight risk ERO (level 2 of 4, >15% chance) over the California/Oregon border for Sat 28 Dec into Sun 29 Dec and marginal risk EROs (level 1 of 4, >5% chance) for coastal Washington, Oregon, and Northern California for Thu 26 Dec into early Mon 30 Dec.

**Stay alert to official NWS forecasts, watches, and warnings at [weather.gov](https://www.weather.gov) and follow guidance from local emergency management officials**  
**Stay tuned to the CW3E webpage for a full AR Update**

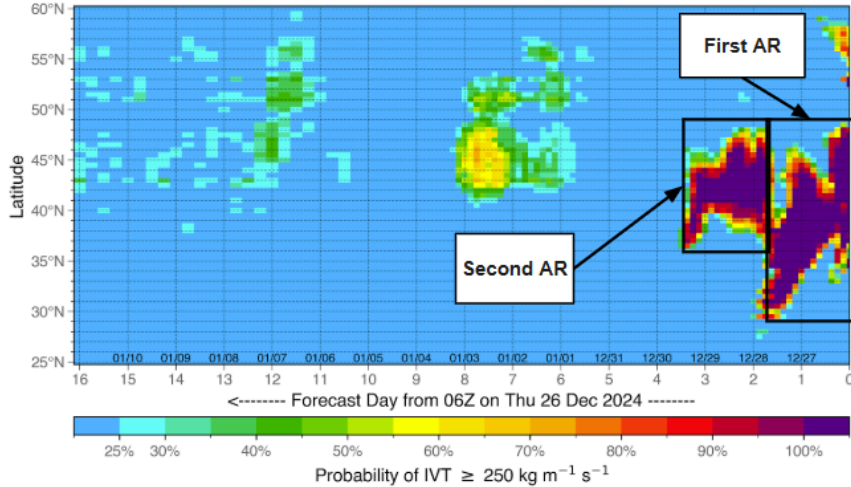
Valid: 4 PM PT Thu 26 Dec

Valid: 1 PM PT Fri 27 Dec

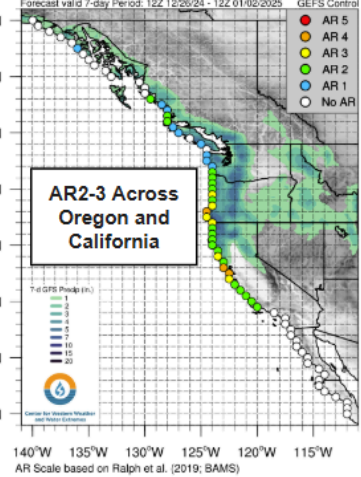
Valid: 7 PM PT Sat 28 Dec



CW3E AR Landfall Tool | GEFS

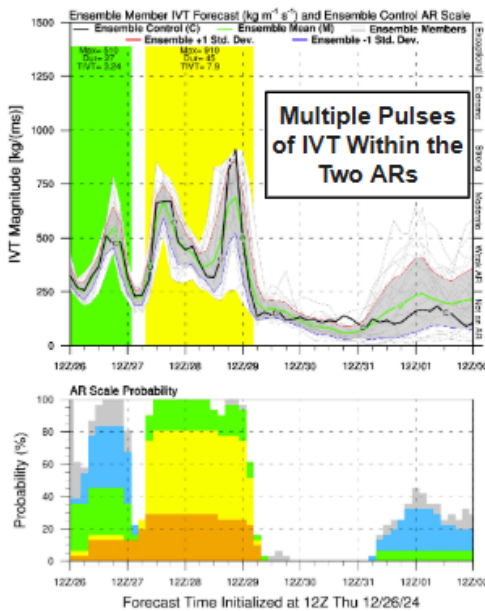


Maximum Forecast AR Scale

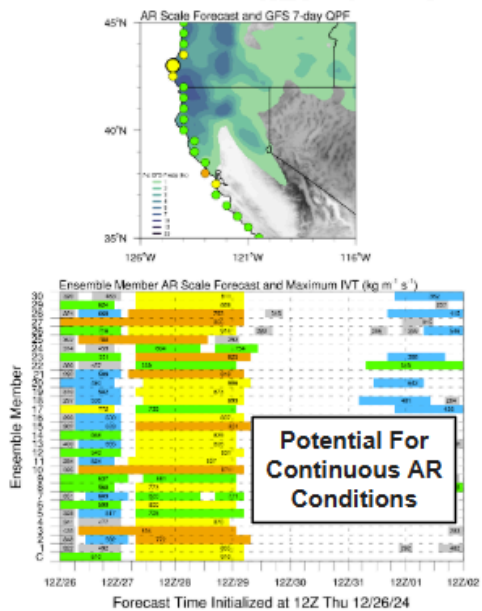


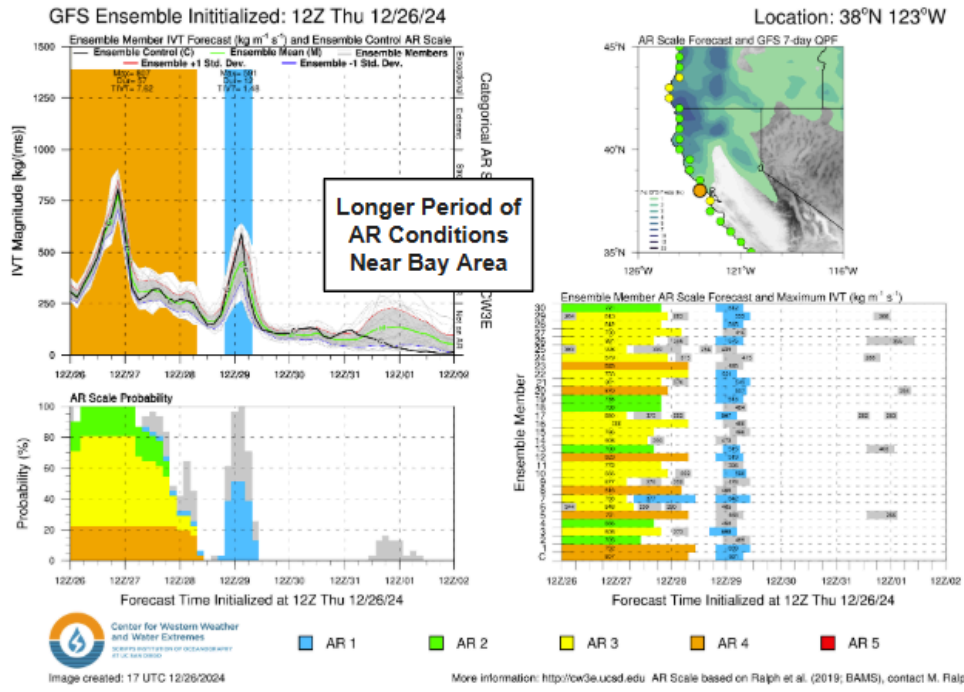
Forecasts support FIRO/CA-AR Program and NSF #2052972 | Intended for research purposes only

GFS Ensemble Initialized: 12Z Thu 12/26/24



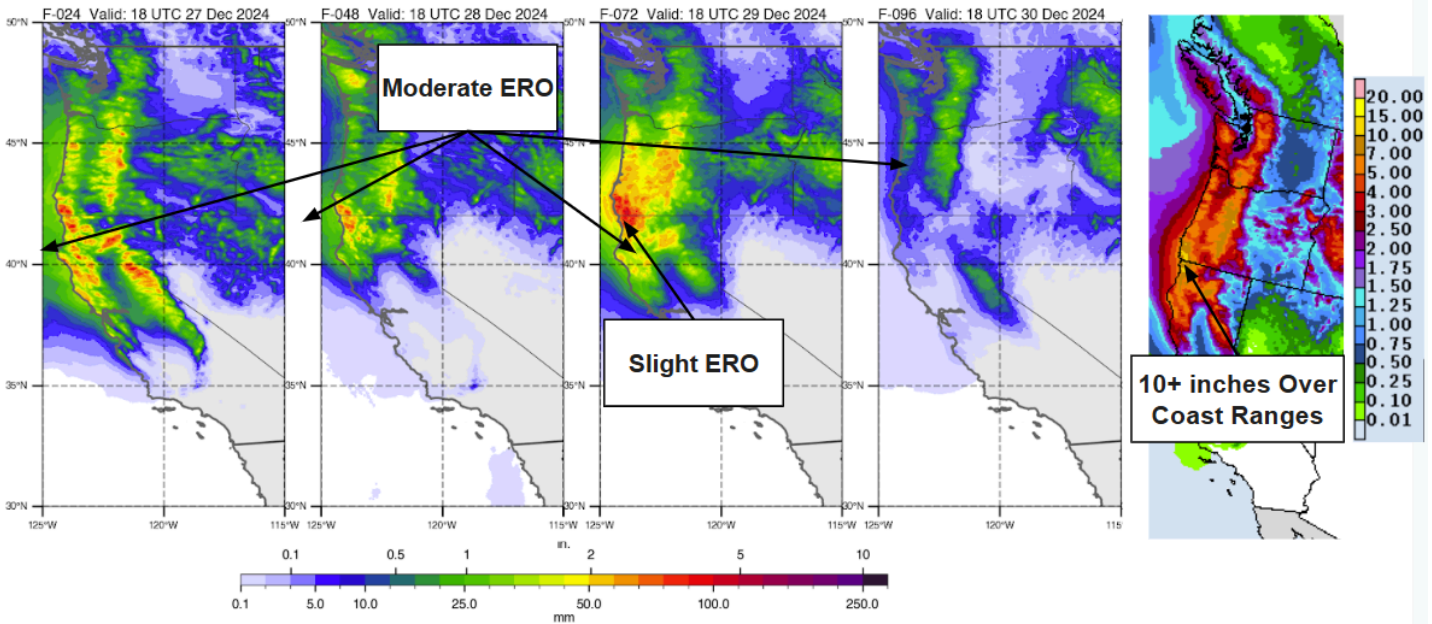
Location: 43°N 124.5°W





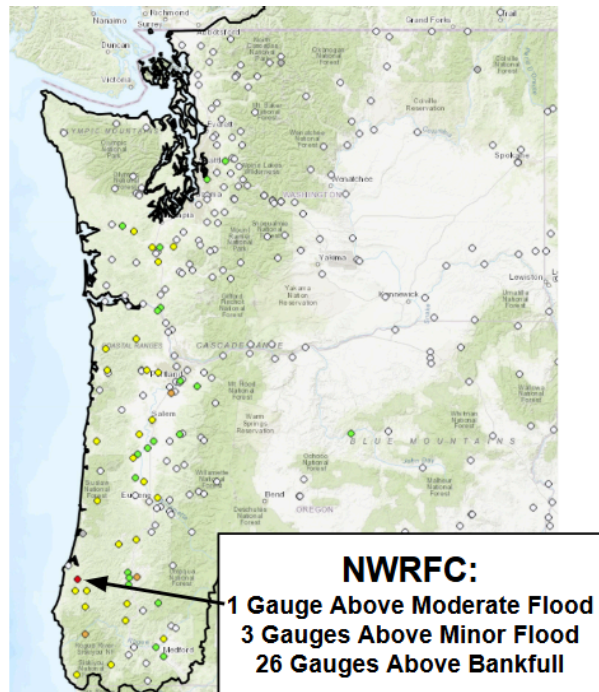
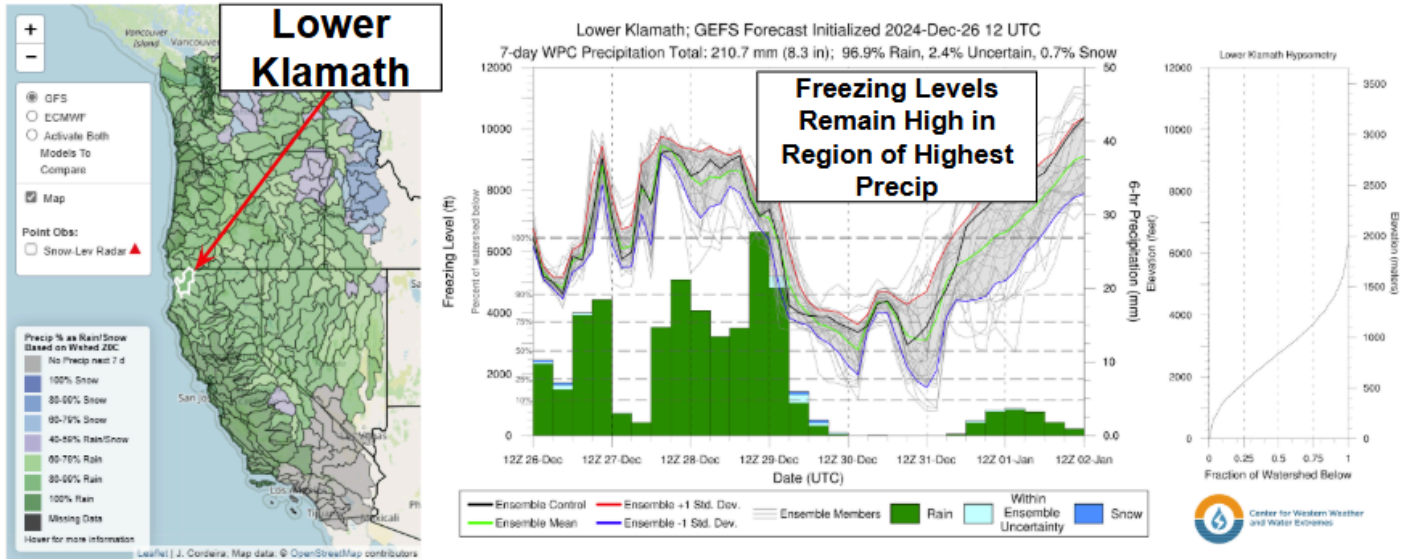
**WPC Days 1-4 QPF: Periods Ending 10 AM PT 27-30 Dec**

**WPC 5-Day QPF: Period Ending 4 AM PT Tue 31 Dec**



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Additional Considerations:

- Visit <https://www.weather.gov/nwrfc/> and <https://www.weather.gov/cnrfc/> for specific river and stream forecasts and <https://www.weather.gov/> for point specific watches, warnings, and forecasts.

In-depth AR forecasts products can be found here:

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

Update by M. Steen

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