



Latest update on multiple atmospheric rivers to make landfall in the Pacific Northwest

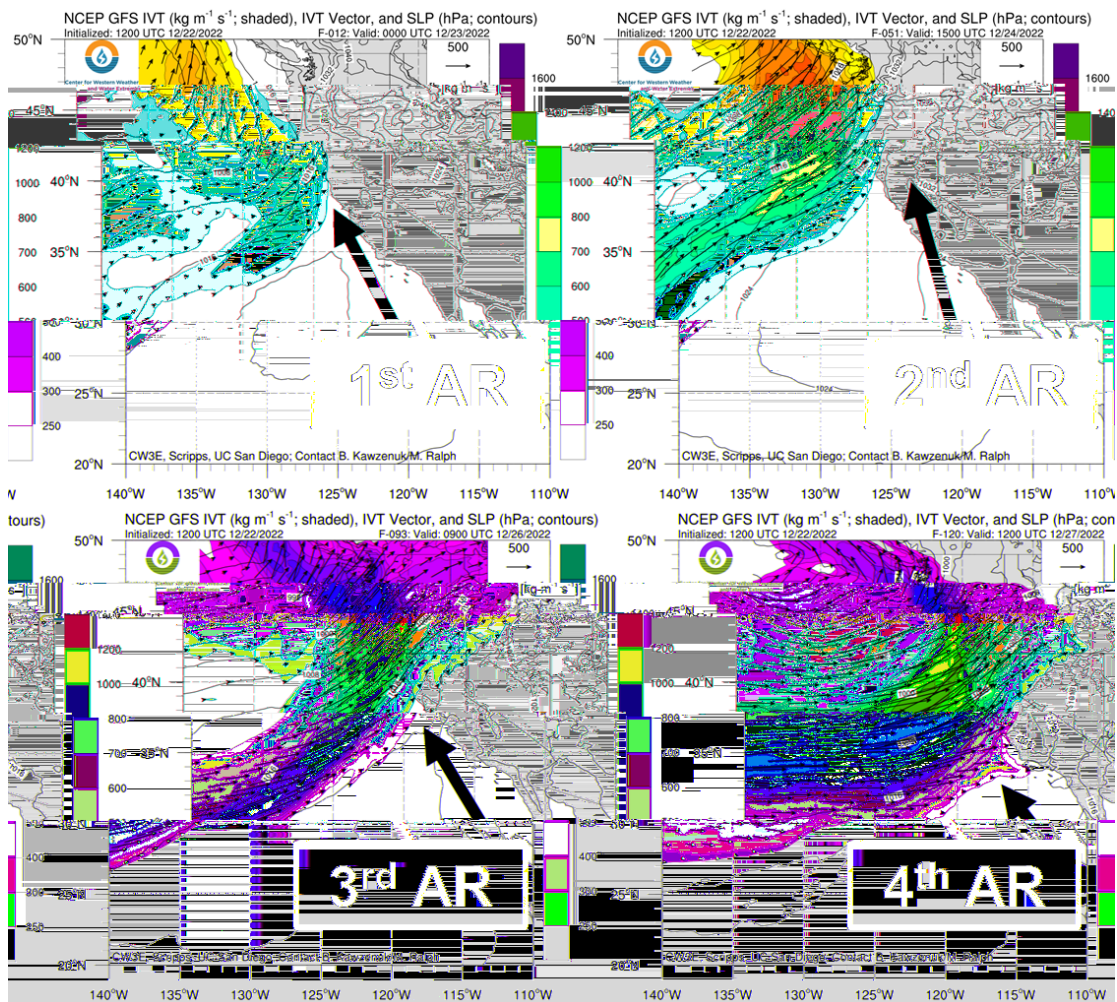
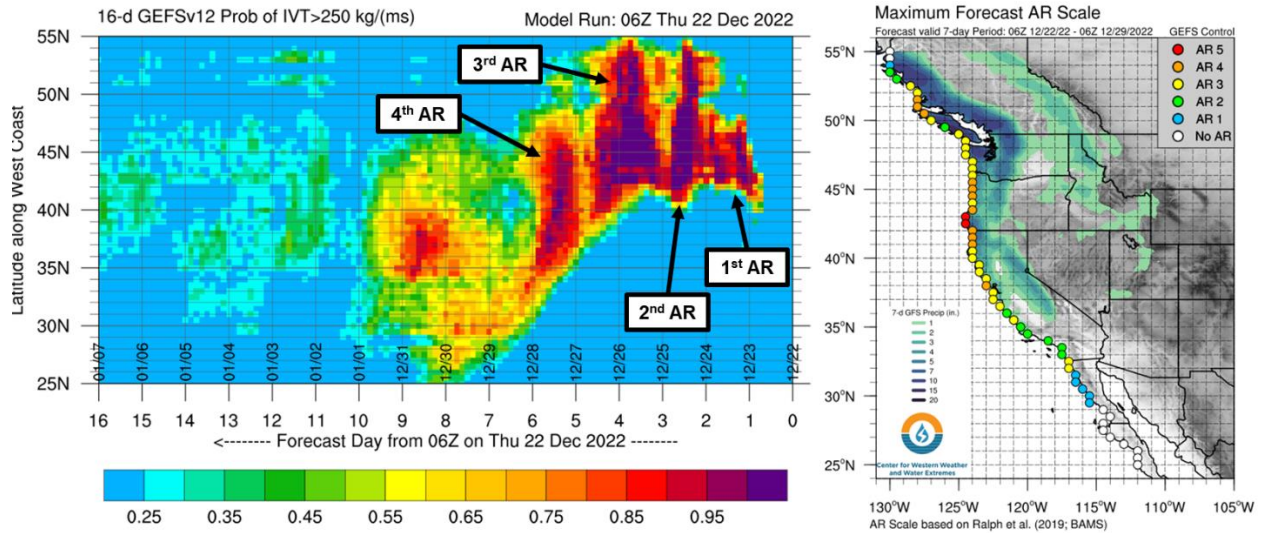
Updated: 22 December 2022

A quick look at the sequence of atmospheric rivers (ARs) that will bring heavy precipitation to portions of the western US

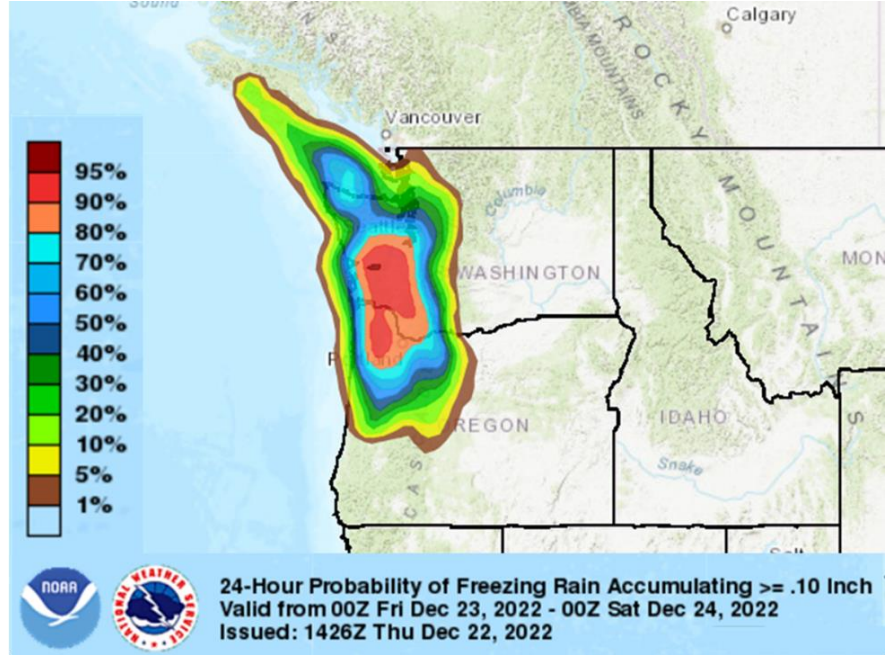
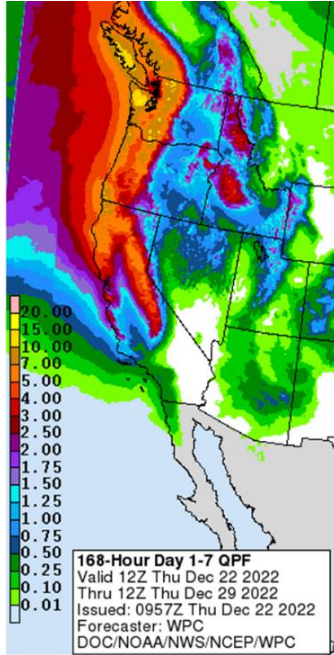
Forecast Highlights:

- At least four ARs are expected to make landfall over the US West Coast and British Columbia in rapid succession over the next 5 days
- The **first** AR is forecast to bring a period of weak AR conditions (i.e., IVT 250–500 kg m⁻¹ s⁻¹) to coastal Washington and Oregon tonight and tomorrow morning
- The **second** AR is forecast to bring a stronger pulse of moisture transport to the Pacific Northwest on 24 Dec, with IVT magnitudes approaching 750 kg m⁻¹ s⁻¹ along the Oregon coast
- The **third** AR is forecast to bring a longer period of strong AR conditions (IVT > 750 kg m⁻¹ s⁻¹) to coastal British Columbia, Washington, and northern Oregon on 25–26 Dec, with weak-to-moderate AR conditions extending southward into northern California
- The **fourth** and potentially strongest AR is forecast to take a more southerly track and impact much of the western US on 27–28 Dec. IVT magnitudes in excess of 1000 kg m⁻¹ s⁻¹ are possible near the Oregon/California border and the San Francisco Bay Area
- The 12Z GEFS control is currently forecasting an AR 4 over portions of Central and Northern California in association with this fourth AR
- This series of ARs is forecast to produce more than 7 inches of precipitation over the Pacific Coast Ranges, Cascades, and Northern Sierra during the next 7 days, with more than 10 inches forecast in the Olympic Mountains and the Coast Ranges of Southern Oregon and Northern California
- The NWS Weather Prediction Center has forecast > 70% probability of exceeding 0.10 inch of ice accumulation for coastal southern Washington and northern Oregon during the 1st AR due to favorable conditions for freezing rain
- Rivers in Oregon and Washington are expected to rise during this period of active weather, with the NWS Northwest River Forecast Center forecasting multiple locations to exceed action/bankfull levels, approaching minor flood stage over the next 7 days
- The potential for rain-on-snow associated with the second AR will exacerbate flooding risk over western Washington and northwestern Oregon, as the snowpack is running well-above normal between 2,000 ft and 5,000 ft elevation on the western side of the Cascades where freezing levels in the storm are expected to rise above 6,000 ft
- NWS offices in the Pacific Northwest have begun issuing watches and warnings for winter weather related hazards across much of the region in association with the initial AR

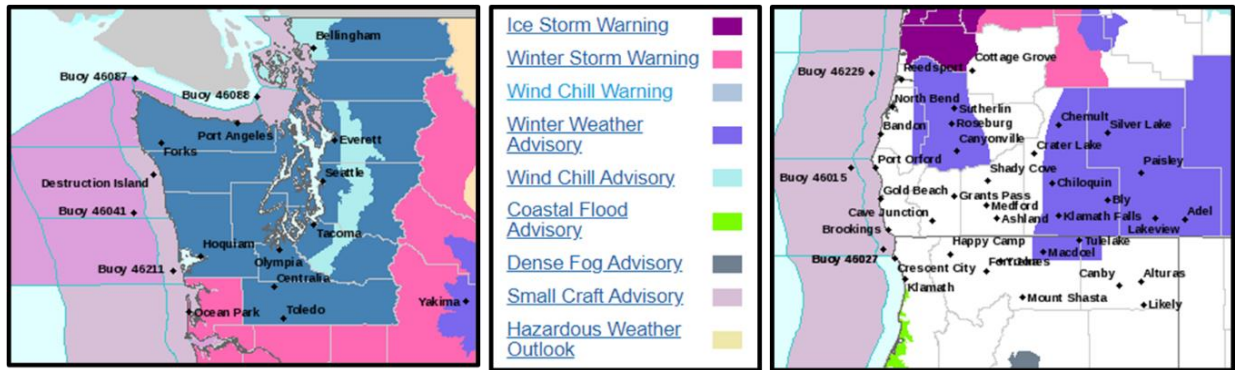
Stay tuned to the CW3E webpage for a full AR Update



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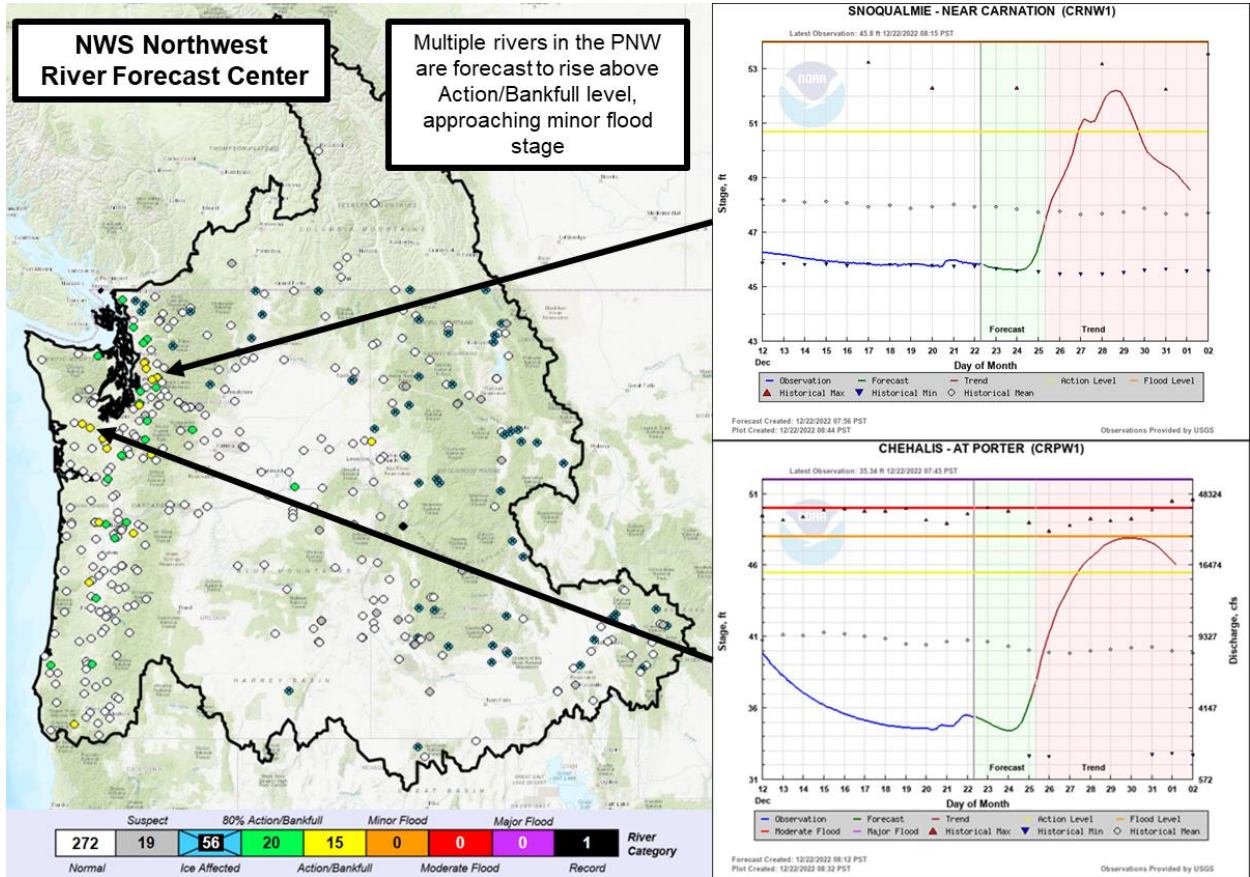


National Weather Service Watches, Warnings, and Advisories



Valid: 18 Z 22 Dec 2022

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Additional Considerations:

Visit <https://www.nwrfc.noaa.gov/rfc/> 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/>

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