

## Quick Look at Atmospheric River Forecast to Make Landfall over Pacific Northwest

*Updated: 24 October 2024*

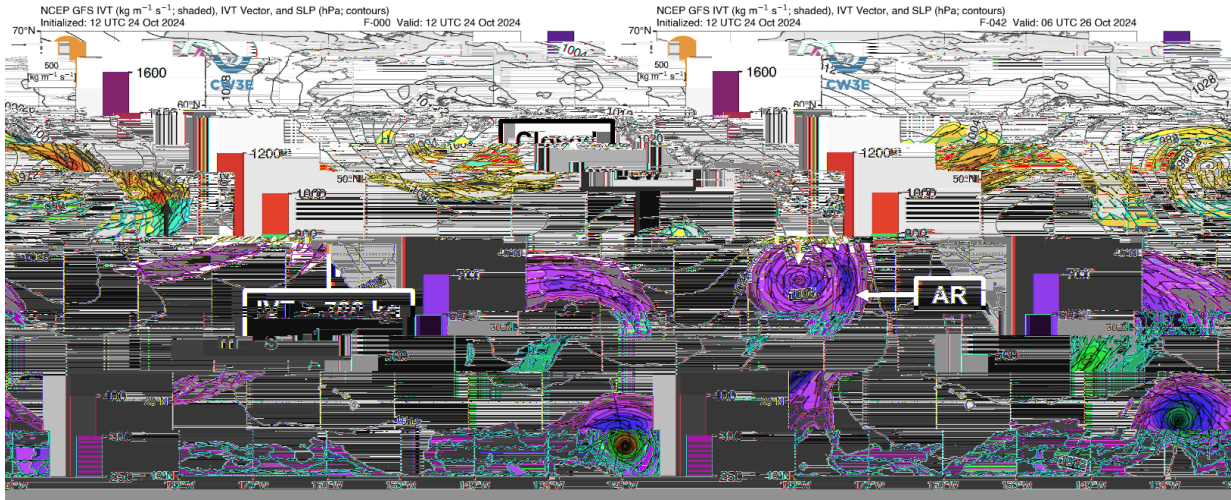
An atmospheric river (AR) is forecast to bring precipitation to the Pacific Northwest and Northern CA this weekend. A second AR landfall is possible early next week near the California–Mexico border, potentially bringing precipitation to the interior western US.

### Forecast Highlights:

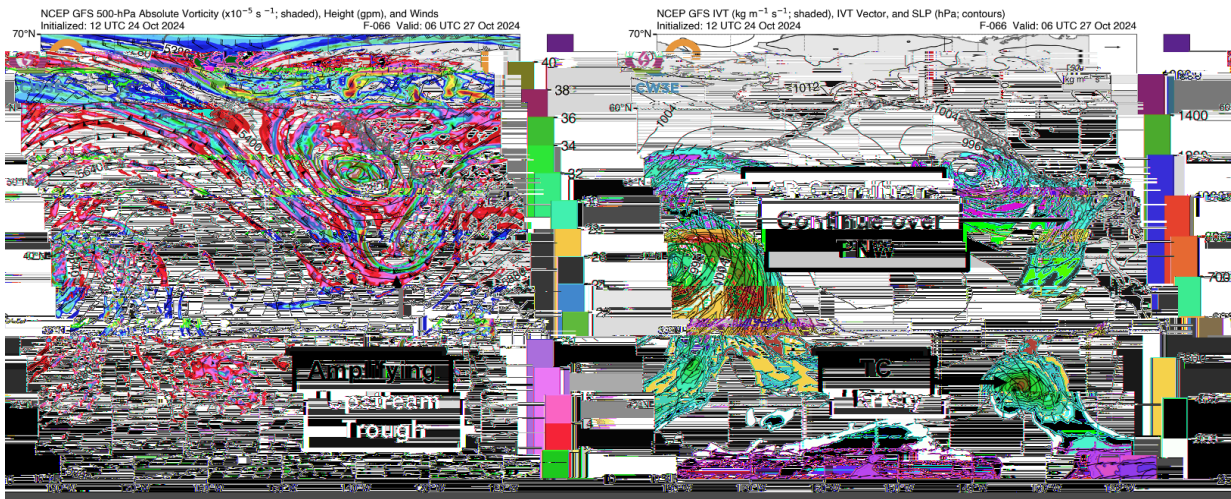
- An AR in the warm sector of a closed low over the Northeast Pacific Ocean is forecast to make landfall over the Pacific Northwest tomorrow, Fri 25 Oct, bringing moderate AR conditions ( $IVT \geq 500 \text{ kg m}^{-1} \text{ s}^{-1}$ ) to coastal WA and OR.
- After the initial AR landfall, strong southwesterly flow east of an amplifying upstream trough will help prolong AR conditions into early Sun 27 Oct.
- As the trough moves onshore, it is forecast to interact with remnant moisture from Tropical Cyclone (TC) Kristy, potentially leading to a second AR landfall near the California–Mexico border and the inland penetration of AR conditions ( $IVT \geq 250 \text{ kg m}^{-1} \text{ s}^{-1}$ ) into the southwestern US on Mon 28 Oct and Tue 29 Oct.
- The CW3E AR landfall tool based on the Global Ensemble Forecast System (GEFS) is showing a very high likelihood (> 90% probability) of AR conditions over coastal WA and OR during the first AR on 25–27 Oct.
- The CW3E AR landfall tool is also indicating a high likelihood (> 80% probability) of AR conditions over northern Baja California and San Diego County on 27–28 Oct, and a moderate likelihood (50–80% probability) of AR conditions over southwestern CO and northwestern NM on 28–29 Oct.
- The GEFS control run is forecasting AR 2 conditions (based on the Ralph et al. 2019 AR Scale) over coastal WA and OR.
- AR 1–2 conditions are also forecast over northern Baja California, extending far inland into western NM and southwestern CO in association with the second AR landfall.
- The first AR and upstream trough are forecast to bring 2–5 inches of precipitation to the Olympic Peninsula, OR Coast Ranges, and WA/OR Cascades, with lighter amounts (0.5–1.5 inches) in the Northern CA Coast Ranges and Northern Sierra Nevada.
- The second AR is forecast to produce 0.5–1.5 inches of precipitation over portions of the Upper Colorado River Basin, particularly western CO.
- Significant hydrologic impacts are not expected at this time, but there is potential for winter storm impacts in western CO next week. Stay tuned for updates.

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

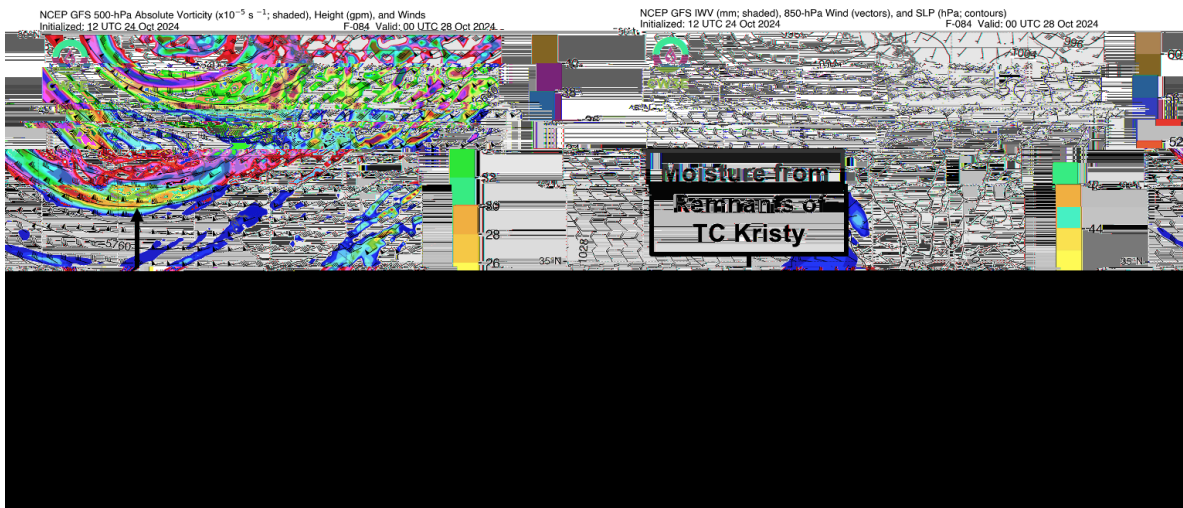
### GFS IVT & SLP: Valid 4 AM PST 24 Oct and 10 PM PST 25 Oct



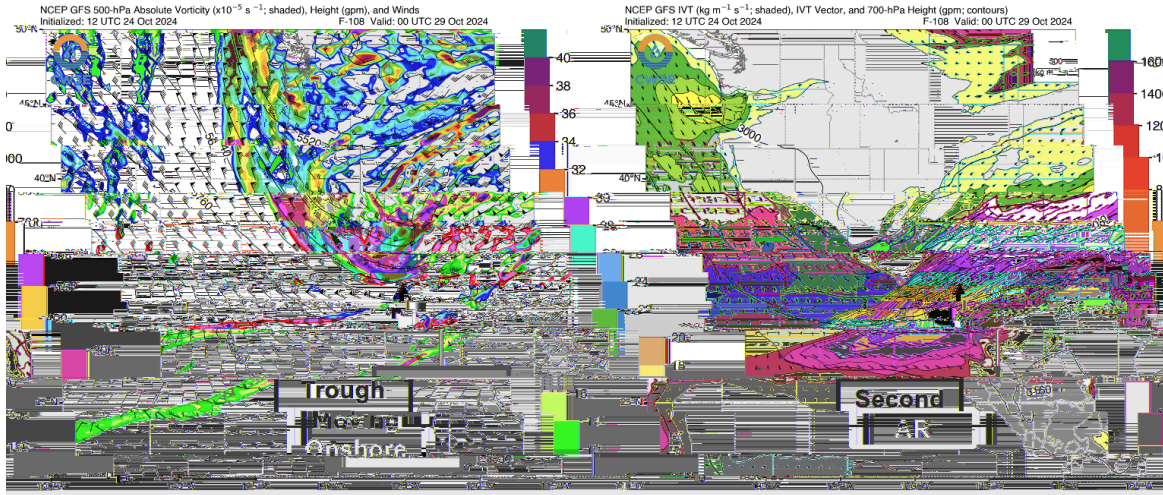
### GFS 500-hPa Vorticity/Geopotential Height and IVT/SLP: Valid 10 PM PST 26 Oct



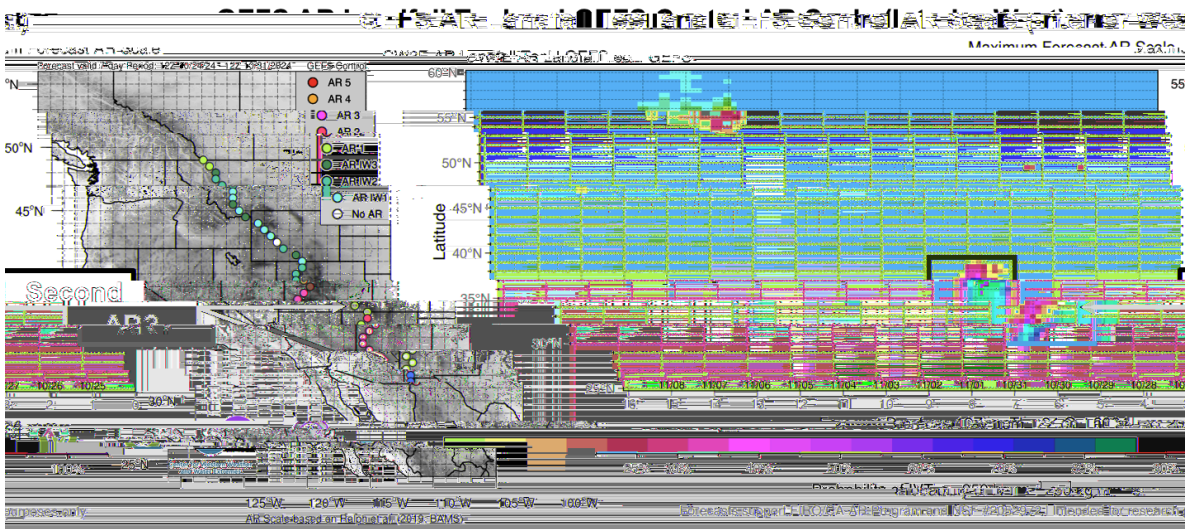
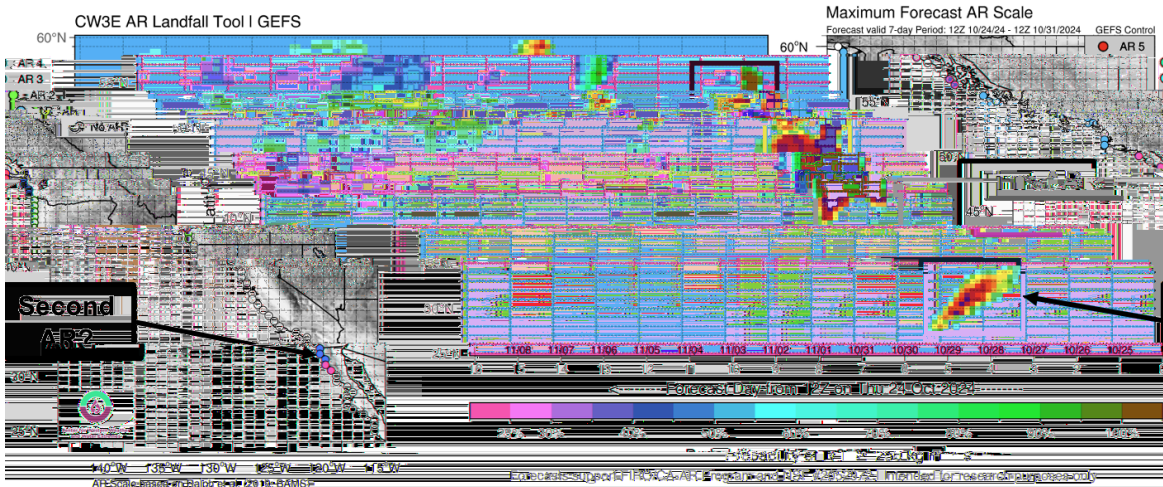
### GFS 500-hPa Vorticity/Geopotential Height and IWV: Valid 4 PM PST 27 Oct

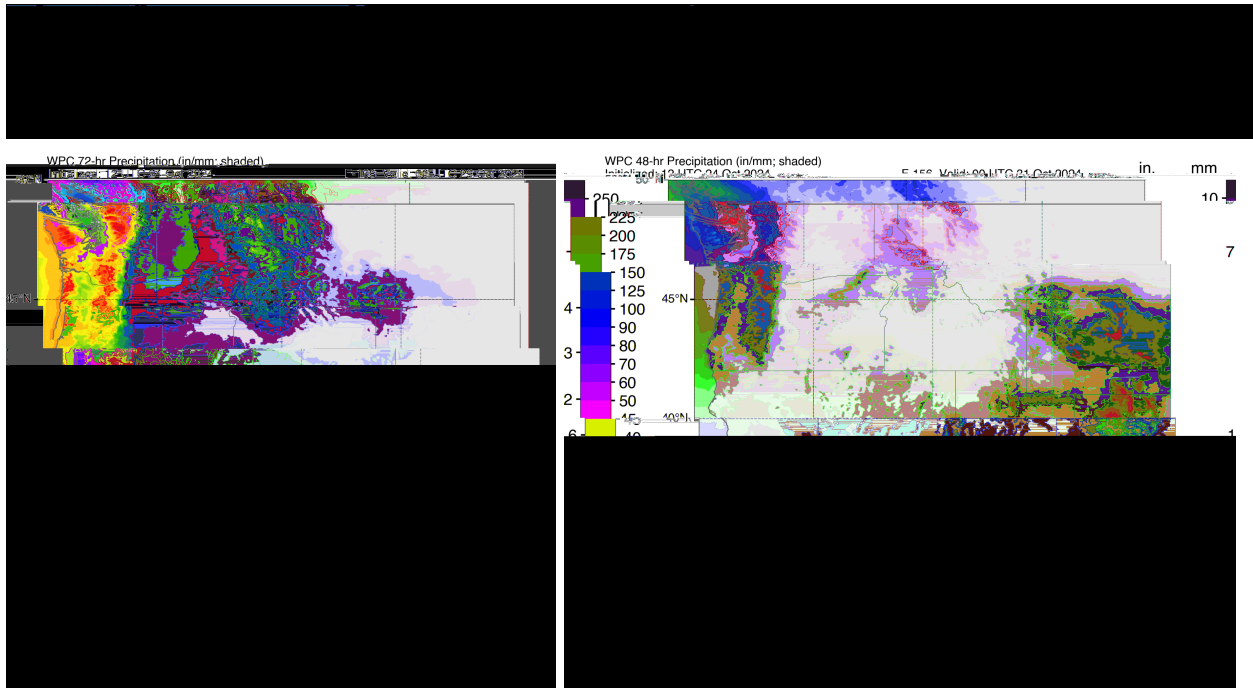


### GFS 500-hPa Vorticity/Geopotential Height and IVT: Valid 4 PM PST 28 Oct



### GEFS AR Landfall Tool and GEFS Control AR Scale (Coastal)





Additional Considerations:

- Visit [nwrfc.noaa.gov/](http://nwrfc.noaa.gov/) and [cbrfc.noaa.gov/](http://cbrfc.noaa.gov/) for specific river and stream forecasts and [weather.gov/](http://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/>

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