



Quick Look at the Atmospheric River Impacting California and the Intermountain West This Week

Updated: 25 November 2024

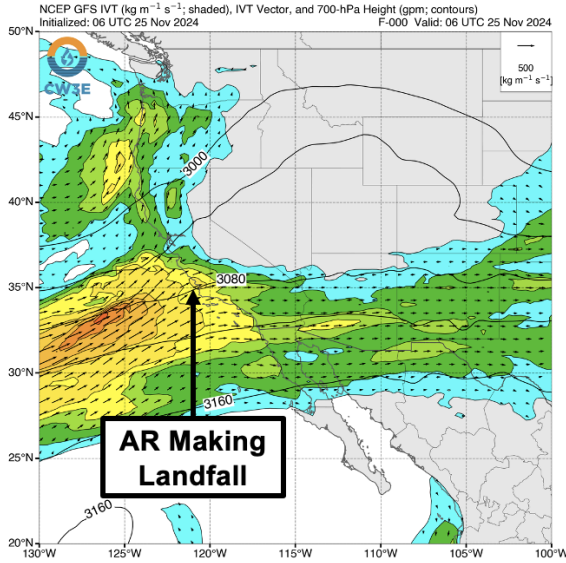
An atmospheric river (AR) will bring heavy rain and mountain snow to Central California and the Upper Colorado River Basin today through Wed 27 Nov.

Forecast Highlights:

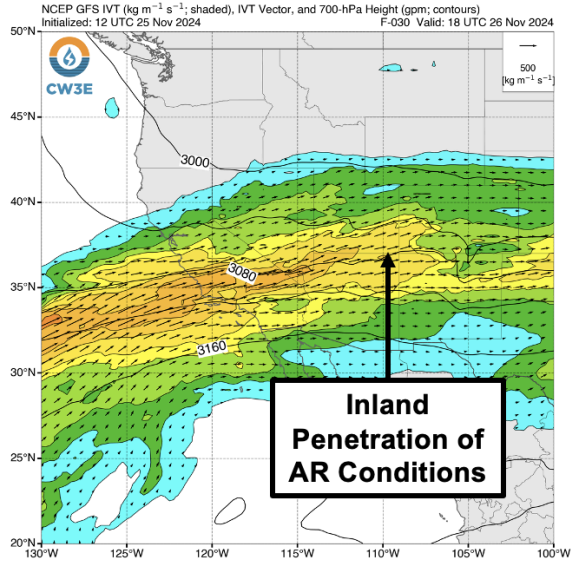
- The AR that made landfall late last night over Central California is forecast to penetrate into the interior western US over the next 24 hours, bringing AR conditions ($\geq 250 \text{ kg m}^{-1} \text{ s}^{-1}$) to portions of the Upper Colorado River Basin.
- CW3E's AR Landfall Tool based on GEFS is showing near 100% probability of IVT $\geq 150 \text{ kg m}^{-1} \text{ s}^{-1}$ (a useful indicator of AR-related moisture transport over the Intermountain West) for a period > 24 hours over southwestern Colorado.
- The GEFS control run is forecasting an AR 2 at 37.5°N , 108°W (southwestern Colorado) based on a version of the Ralph et al. (2019) AR Scale that has been adapted to the interior western US. About 80% of ensemble members are predicting an AR 2 at this location.
- The National Weather Service (NWS) Weather Prediction Center (WPC) is forecasting at least 3–7 inches of precipitation over the Southern Sierra Nevada and 1–3 inches of precipitation over the higher terrain in central Utah and western Colorado through early Thu 28 Nov. The highest amounts (> 7 inches) are expected in Fresno and Tulare Counties.
- The NWS WPC has issued a slight risk ($\geq 15\%$; level 2 of 4) of rainfall exceeding flash flood guidance over the Southern Sierra Foothills for Mon 25 Nov into early Tue 26 Nov.
- At least 1–5 feet of snow are forecast above 7,000 feet in the Central and Southern Sierra Nevada, with higher amounts likely near the Sierra Crest south of Mammoth Lakes. Inland penetration of the AR is also forecast to produce at least 1–3 feet of snow over the higher terrain in central Utah and western Colorado.
- Extreme winter storm impacts are expected in the Southern Sierra Nevada, and major winter storm impacts are expected over the higher terrain in western Colorado. Winter Storm Warnings have been issued for these areas.
- Despite the potential for winter weather hazards, this storm will bring beneficial snowfall to the Sierra Nevada and Upper Colorado River Basin. Current snowpack in the White-Yampa Basin in northwestern Colorado is 80% of the NRCS 1991–2020 median.

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

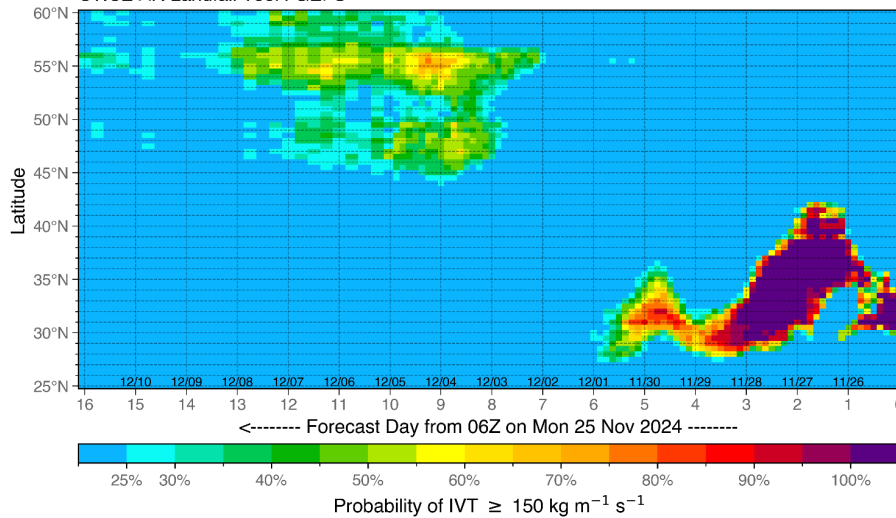
GFS 700-hPa Geopotential Height & IVT Valid 10 PM PST 24 Nov



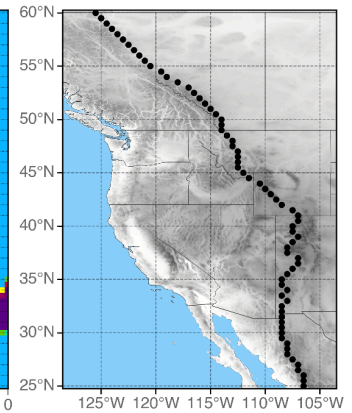
GFS 700-hPa Geopotential Height & IVT Valid 10 AM PST 26 Nov



CW3E AR Landfall Tool | GEFS

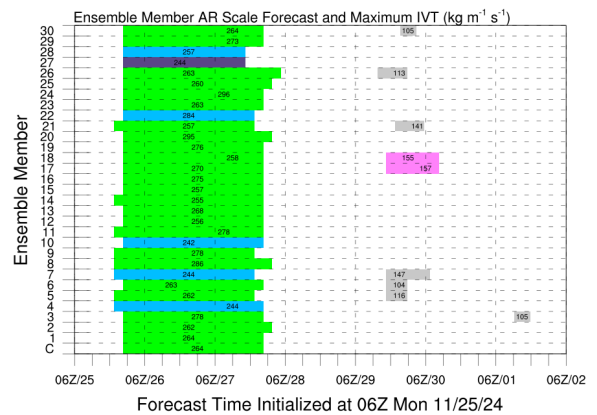
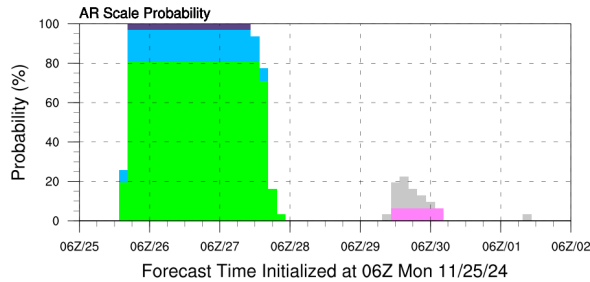
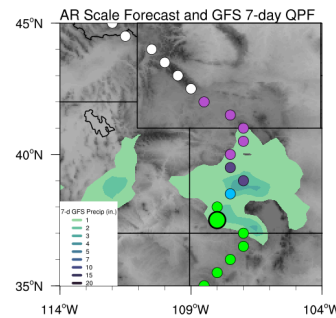
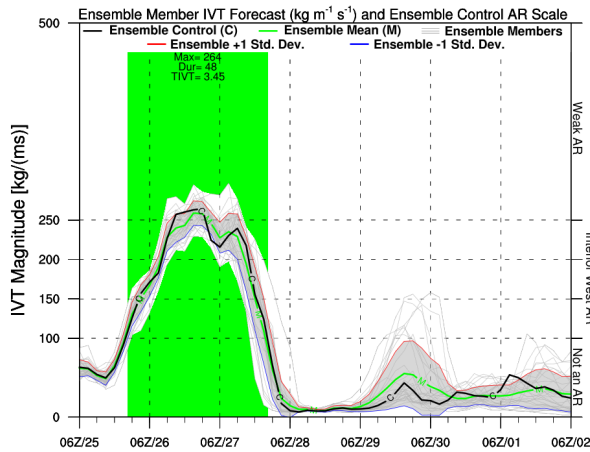


Model Run: 06Z Mon 25 Nov 2024



GFS Ensemble Initialized: 06Z Mon 11/25/24

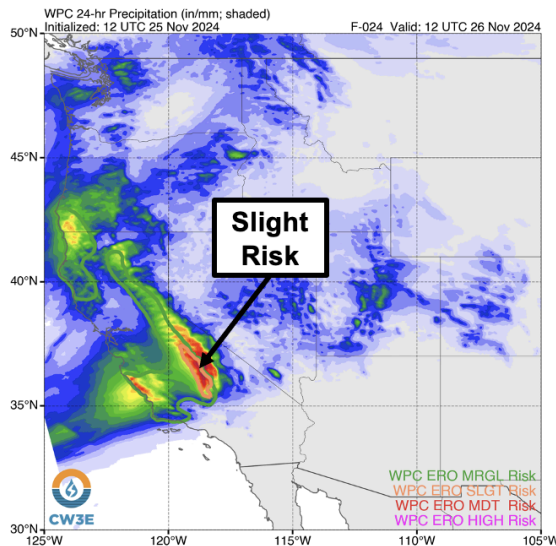
Location: 37.5°N 108°W



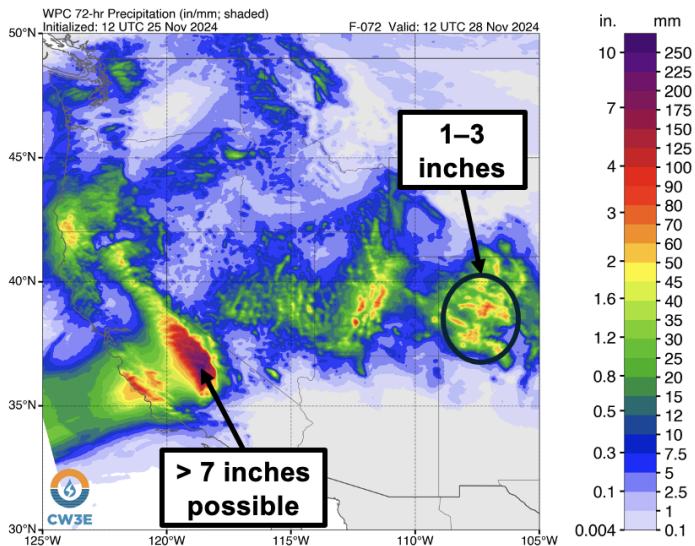
- AR IW1
- AR IW2
- AR IW3
- AR 1
- AR 2
- AR 3
- AR 4
- AR 5

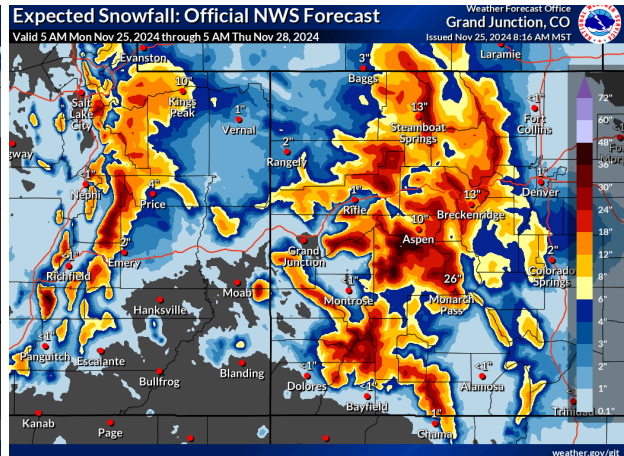
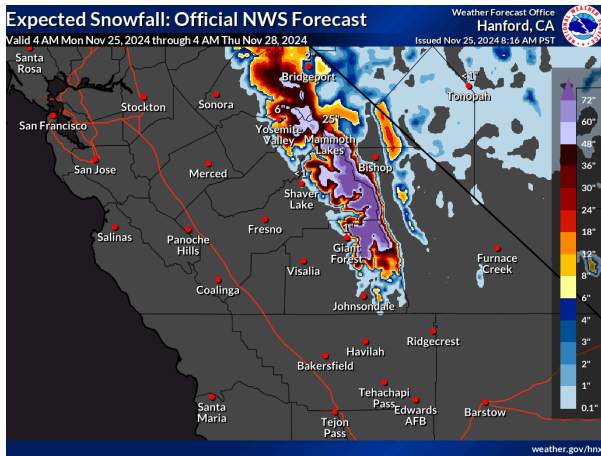
More information: <http://cw3e.ucsd.edu> AR Scale based on Ralph et al. (2019; BAMS), contact M. Ralph

WPC Day 1 QPF and ERO: Valid 24-h Period Ending 4 AM PST 26 Nov

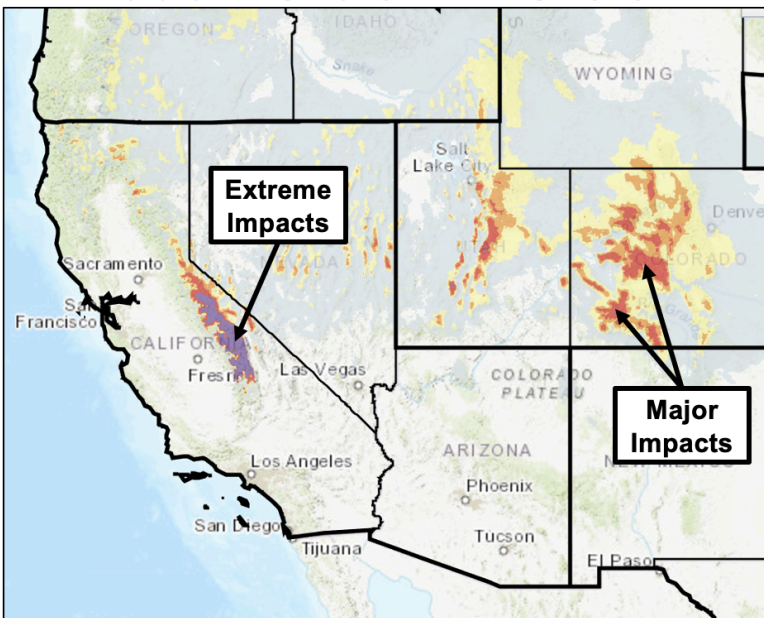


WPC 72-h QPF: Valid 4 AM PST 28 Nov





WPC Winter Storm Severity Index
Valid: 5 AM PST 25 Nov – 4 AM PST 28 Nov



Potential Winter Storm Impacts	
	<p>Winter Weather Area Expect Winter Weather.</p> <ul style="list-style-type: none"> Winter driving conditions. Drive carefully.
	<p>Minor Impacts Expect a few inconveniences to daily life.</p> <ul style="list-style-type: none"> Winter driving conditions. Use caution while driving.
	<p>Moderate Impacts Expect disruptions to daily life.</p> <ul style="list-style-type: none"> Hazardous driving conditions. Use extra caution while driving. Closures and disruptions to infrastructure may occur.
	<p>Major Impacts Expect considerable disruptions to daily life.</p> <ul style="list-style-type: none"> Dangerous or impossible driving conditions. Avoid travel if possible. Widespread closures and disruptions to infrastructure may occur.
	<p>Extreme Impacts Expect substantial disruptions to daily life.</p> <ul style="list-style-type: none"> Extremely dangerous or impossible driving conditions. Travel is not advised. Extensive and widespread closures and disruptions to infrastructure may occur. Life-saving actions may be needed.

Additional Considerations:

- Visit cnrfc.noaa.gov/ and cbrfc.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

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