

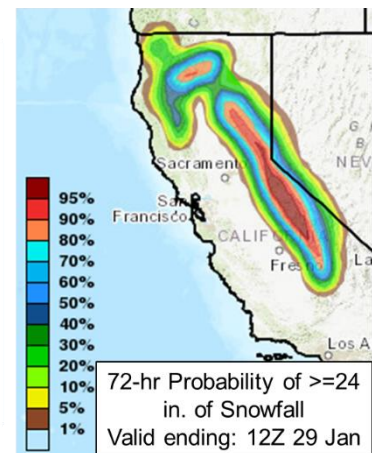
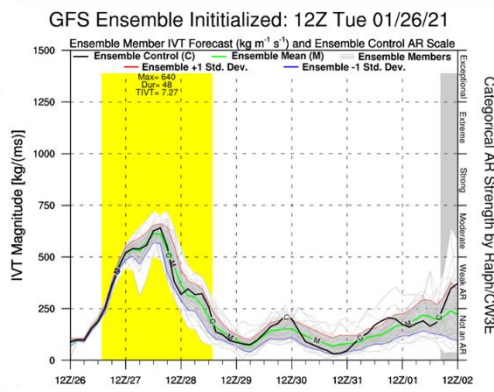
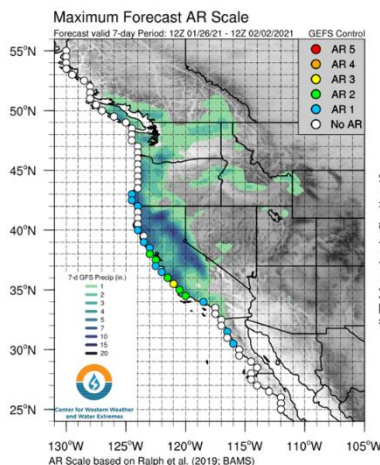
Latest update on Atmospheric River Forecast to Bring AR Conditions to California

Updated: 26 Jan. 2021

A moderate strength Atmospheric River is forecast to make landfall over Northern CA and OR around 1 PM PST today 26, January 2021. The AR is forecast to propagate down the CA coast and stall over central and southern CA

Forecast Highlights:

- The AR is forecast to bring IVT magnitudes $>600 \text{ kg m}^{-1} \text{ s}^{-1}$ to the central CA coast shortly after making initial landfall
- An upper-level shortwave trough is then forecast to interact with the AR off the central CA coast causing the main corridor of moisture to rotate counterclockwise resulting in extended AR conditions near San Luis Obispo
- This interaction between the trough and AR will likely result in a slight northward shift of the AR core before continuing to propagate southward along the CA coast
- A majority of GEFS ensemble members are suggesting AR 2 conditions along the CA coast between $\sim 36\text{-}34.5^\circ\text{N}$, however there are several members, including the control, that extend AR conditions long enough to reach AR 3.
- The CNRFC is forecasting as much as 10 inches of precipitation over the Sierra Nevada and Coastal Mountains of CA over the next 3 days.
- Freezing levels are forecast to be low during the heaviest precipitation resulting in heavy snowfall over Central and Northern CA.

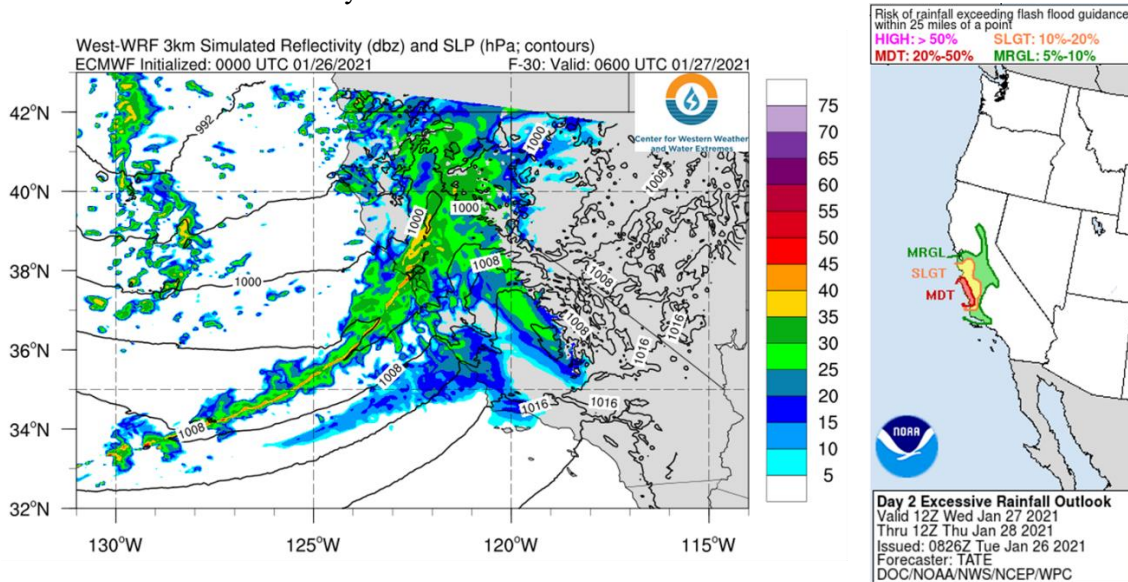


A long duration AR along with the development of a NCFR is forecast increase the potential for flash flooding and/or debris flows in recently burned areas.

- Mesoscale models are still in agreement on the development of a narrow band of high intensity rainfall along the storm's cold front (a narrow cold frontal rainband, or "NCFR"), though the timing, orientation, and intensity of the feature varies across models.

Stay tuned to the CW3E webpage for a full AR Update

- Models generally agree on hourly rain rates >0.5 in/h with local maxima >0.75 in/h associated with the passage of the NCFR in central CA. These rainfall rates have the potential to cause flash flooding and/or debris flows in recently burned areas.



Multiple high-resolution models continue to suggest the development of a NCFR and the WPC suggests moderate chances of excessive rainfall amounts.

- Current forecasts suggest the NCFR will move into the North Bay early Tuesday evening and continue SE into Santa Cruz and Monterey counties by early Wednesday. It will then continue into San Luis Obispo county Wednesday morning and potentially impact the Southern CA Bight Thursday and Friday, though there is still much uncertainty on the NCFR's characteristics and impacts.
- WPC suggests moderate chances of exceeding flash flood guidance (FFG) on Weds/Weds night in Monterey and San Luis Obispo counties and slight change extending north into Santa Cruz county and slightly inland (right image above). Slight risks are also forecast across portions of CA Tues, Thurs, and Fri. Visit [the WPC](#) for WPC Excessive Rainfall Outlooks.
- [AR Recon](#) flights have been collecting observations to improve initial conditions for forecasts of this storm every day since Jan 22nd. Flights are ongoing today (26 Jan) and tomorrow (27 Jan). CW3E is also releasing radiosondes from two locations in northern California every three hours throughout AR conditions beginning 1 pm 26 Jan. All of these observations are sent to the Global Telecommunications System and available for ingest into global numerical weather prediction models, as well as shared with NWS Weather Forecast Offices.

Additional Considerations:

- Details on NCFR development, timing, and location are likely to evolve as the event nears, stay tuned to local NWS office and emergency officials for future updates, watches, and warnings.
- Visit cnrhc.noaa.gov/ for additional precipitation and freezing level forecasts and weather.gov for point specific watches and warnings

In-depth AR forecasts products can be found here:
<http://cw3e.ucsd.edu/iwv-and-ivt-forecasts/>

Update provided by B.Kawzenuk
bkawzenuk@ucsd.edu

Stay tuned to the CW3E webpage for a full AR Update