

# CW3E Atmospheric River Outlook

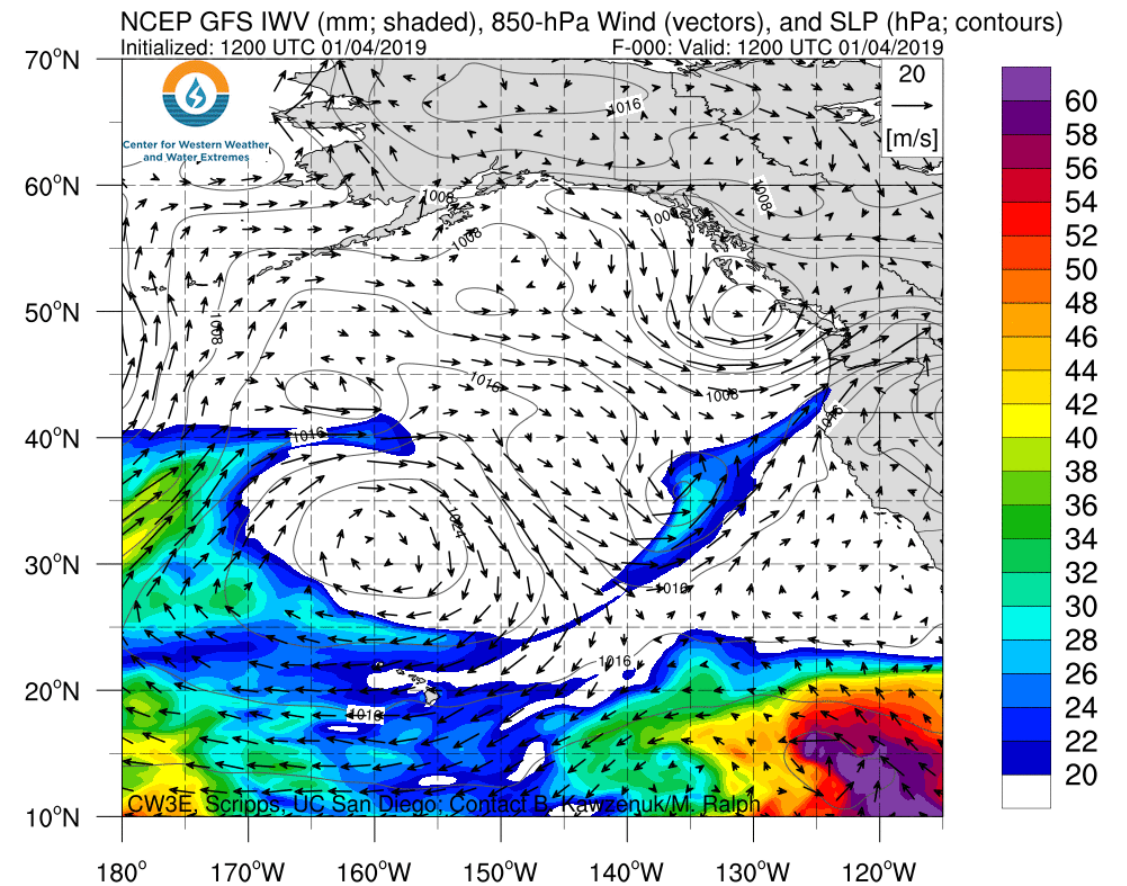
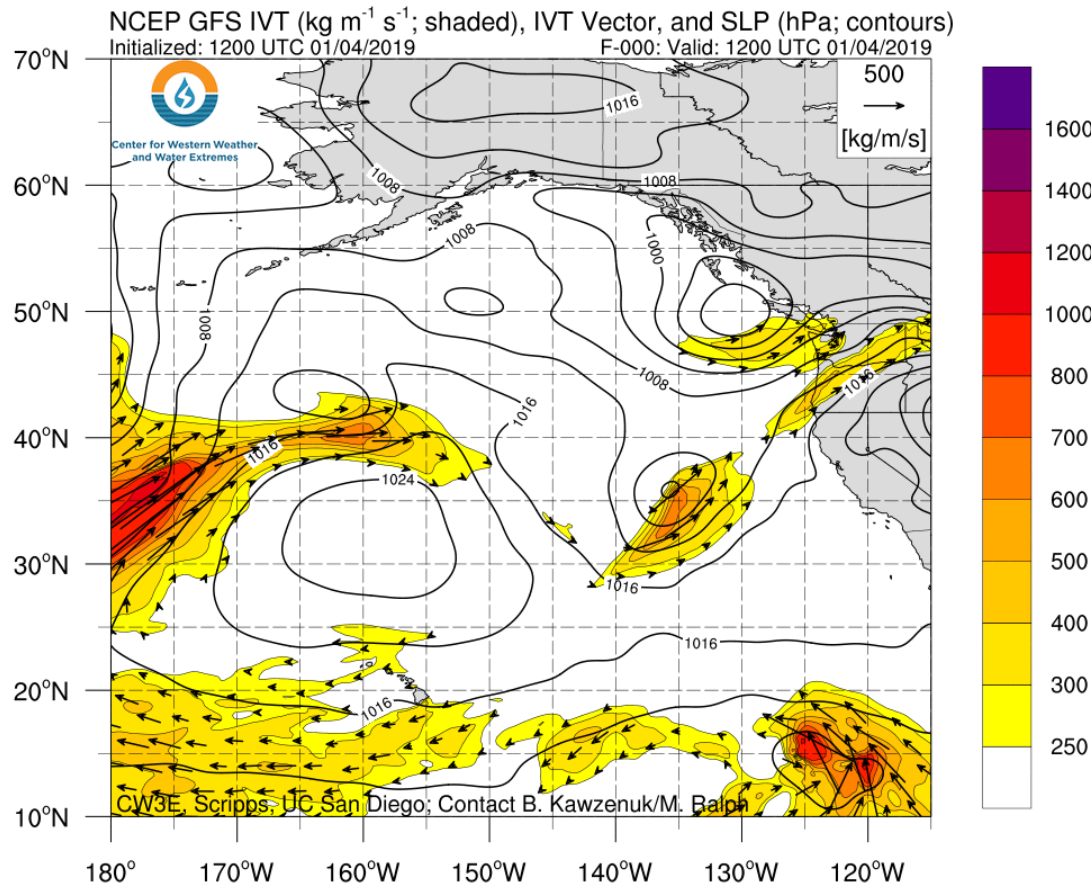
For California DWR's AR Program



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO

## Multiple ARs forecast impact the US West Coast over the next several days

- An AR is currently impacting the Pacific Northwest, bringing heavy rain and strong winds
- As much as 5 inches of precipitation has fallen over portions of the Pacific Northwest over the past 24 hours
- Another system is forecast to develop along the cold front of the current AR, which will make landfall over Northern CA
- As much as 9 inches of precipitation is forecast to fall over the higher elevations of Northern CA over the next 6 days
- Forecast confidence in onset, duration, and magnitude of additional ARs (days 3+) is currently low

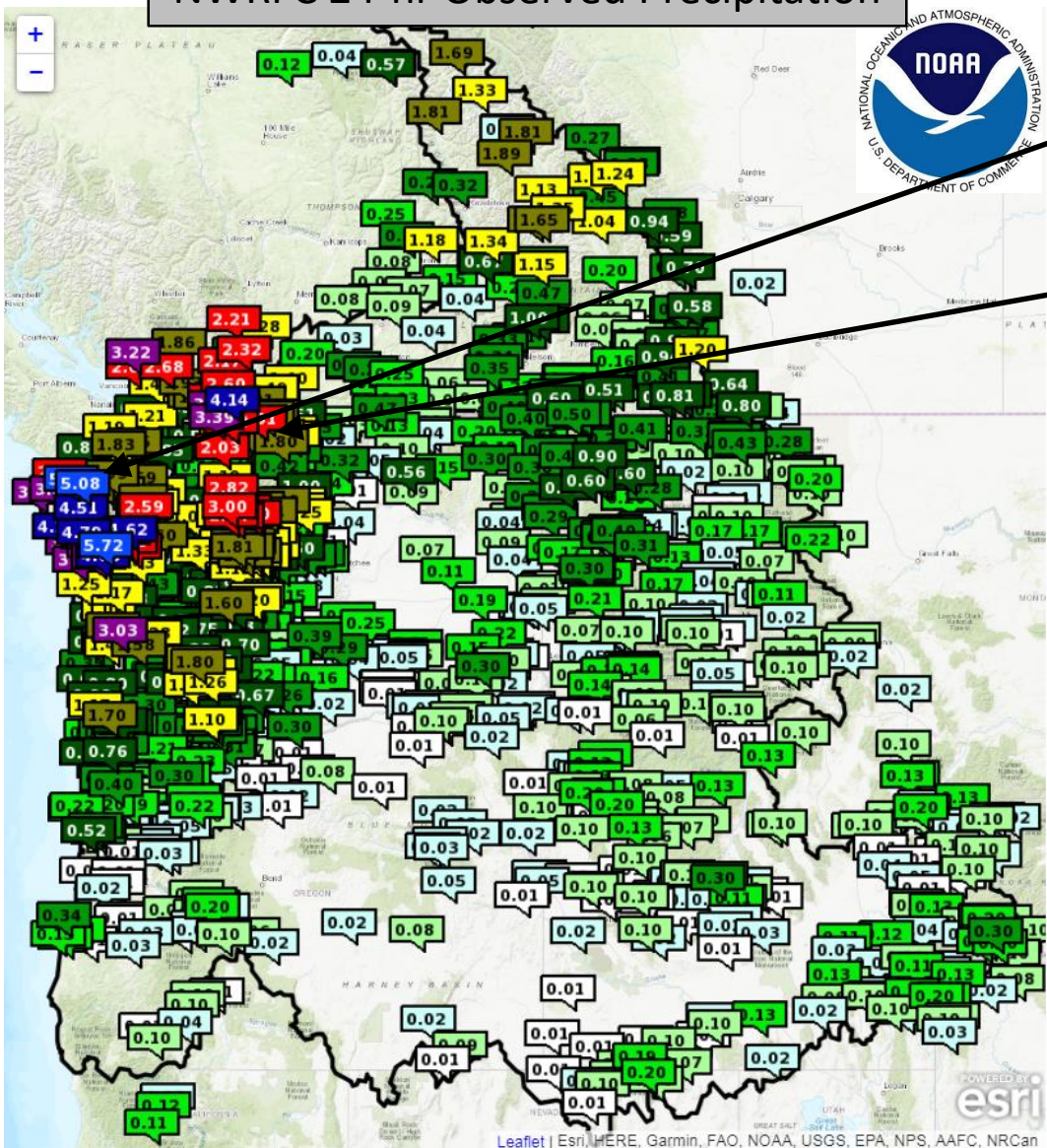


# AR Outlook: 04 January 2019



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO

## NWRFC 24-hr Observed Precipitation



As much as 5 inches of precipitation has fallen over the Olympic Mountains in Washington over the last 24 hours

The Northern Cascades have received 2–4 inches over the last 24 hours

The lower elevations of the Pacific Northwest have received .5 to 1.5 inches over the last 24 hours

NWS Northwest River Forecast Center forecast products are located at [nwrfc.noaa.gov](http://nwrfc.noaa.gov)



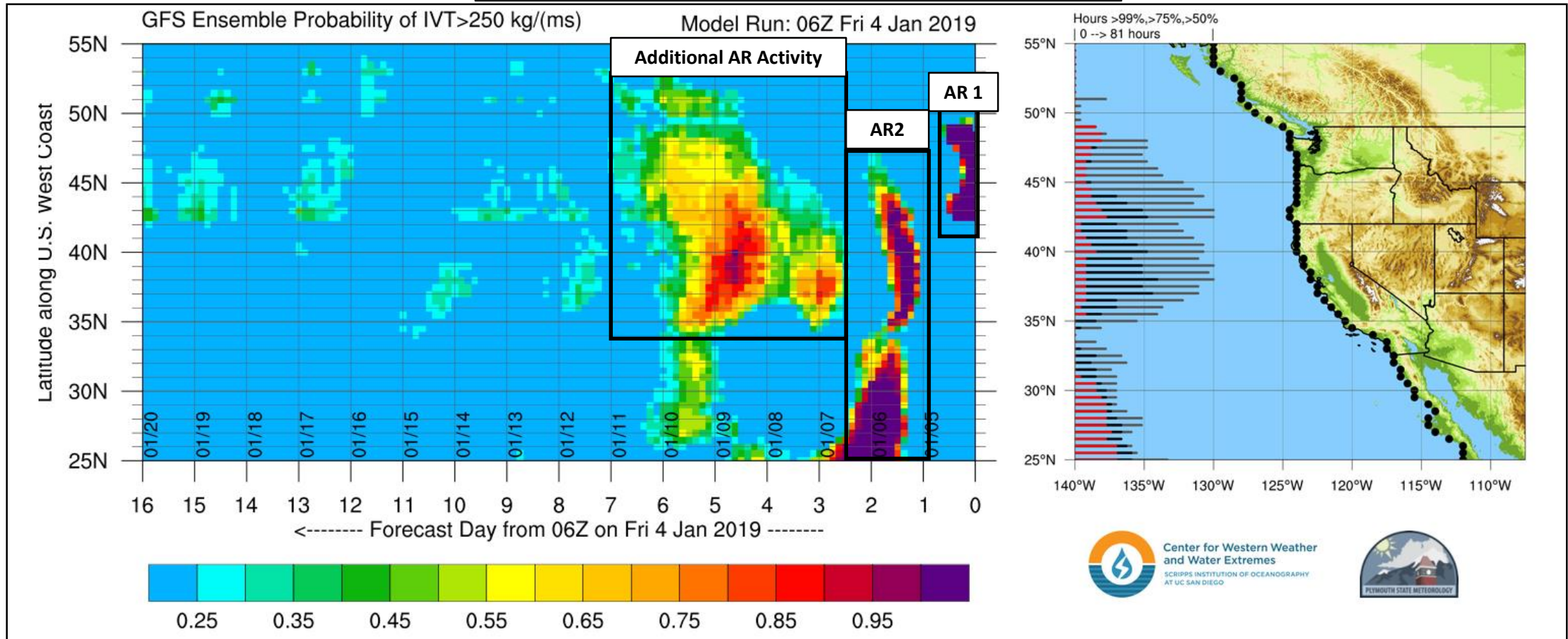
# AR Outlook: 04 January 2019

For California DWR's AR Program



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO

## Odds of AR Conditions Along U.S. West Coast



The AR that is currently impacting the Pacific Northwest is forecast to end this afternoon over Southern OR and Northern CA

AR 2 is currently forecast to make landfall over Northern CA around midnight tonight and last through tomorrow afternoon

There is high probability (60–95%) of additional AR activity between days 2.5 and 6 over a large portion of the U.S. West Coast

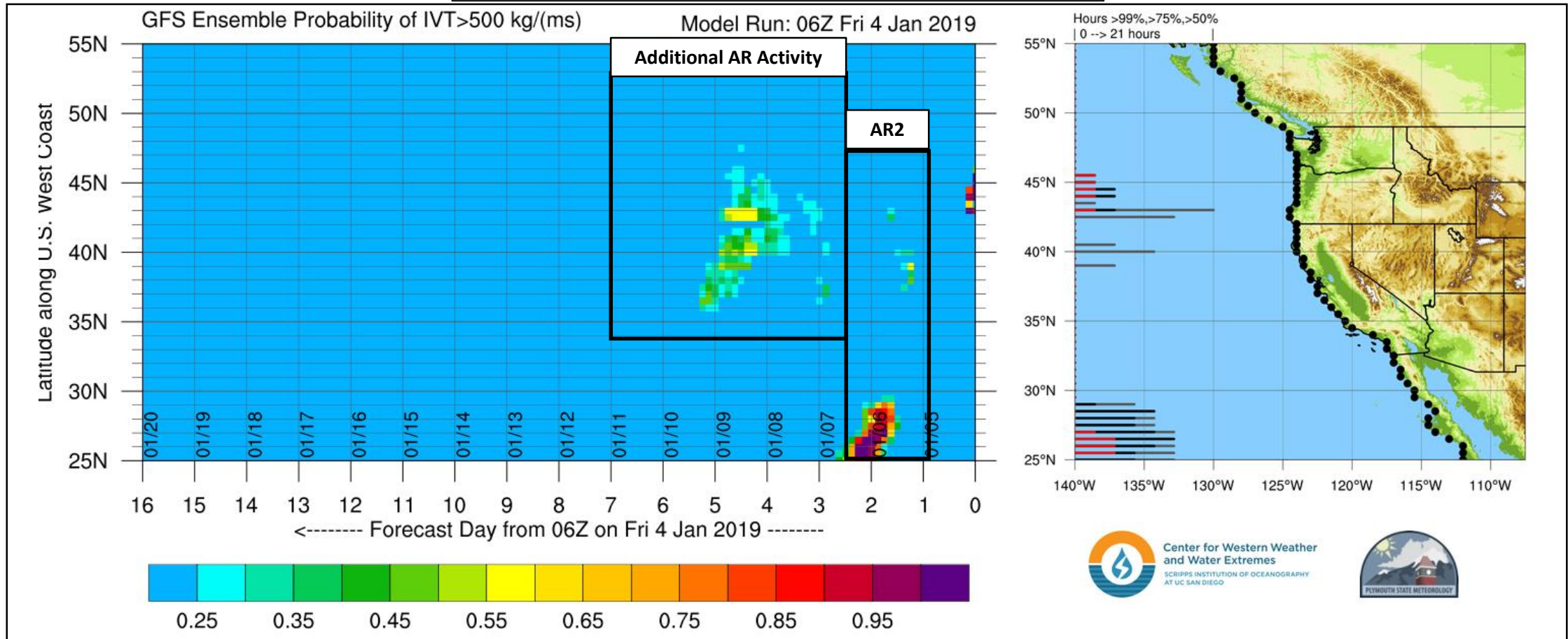
# AR Outlook: 04 January 2019

For California DWR's AR Program



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO

## Odds of Moderate AR Conditions Along Coast



The GEFS is currently forecasting the potential (20–60% of members) for moderate AR conditions (IVT > 500 kg m s) within AR 2 and the ARs in the extended forecast



# AR Outlook: 04 January 2019

For California DWR's AR Program



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO

The GEFS is currently forecasting potentially moderate AR conditions over the North Bay region of CA during AR 1 and potentially strong AR conditions in the extended forecast

## Magnitude of Potential AR 1 (5 January)

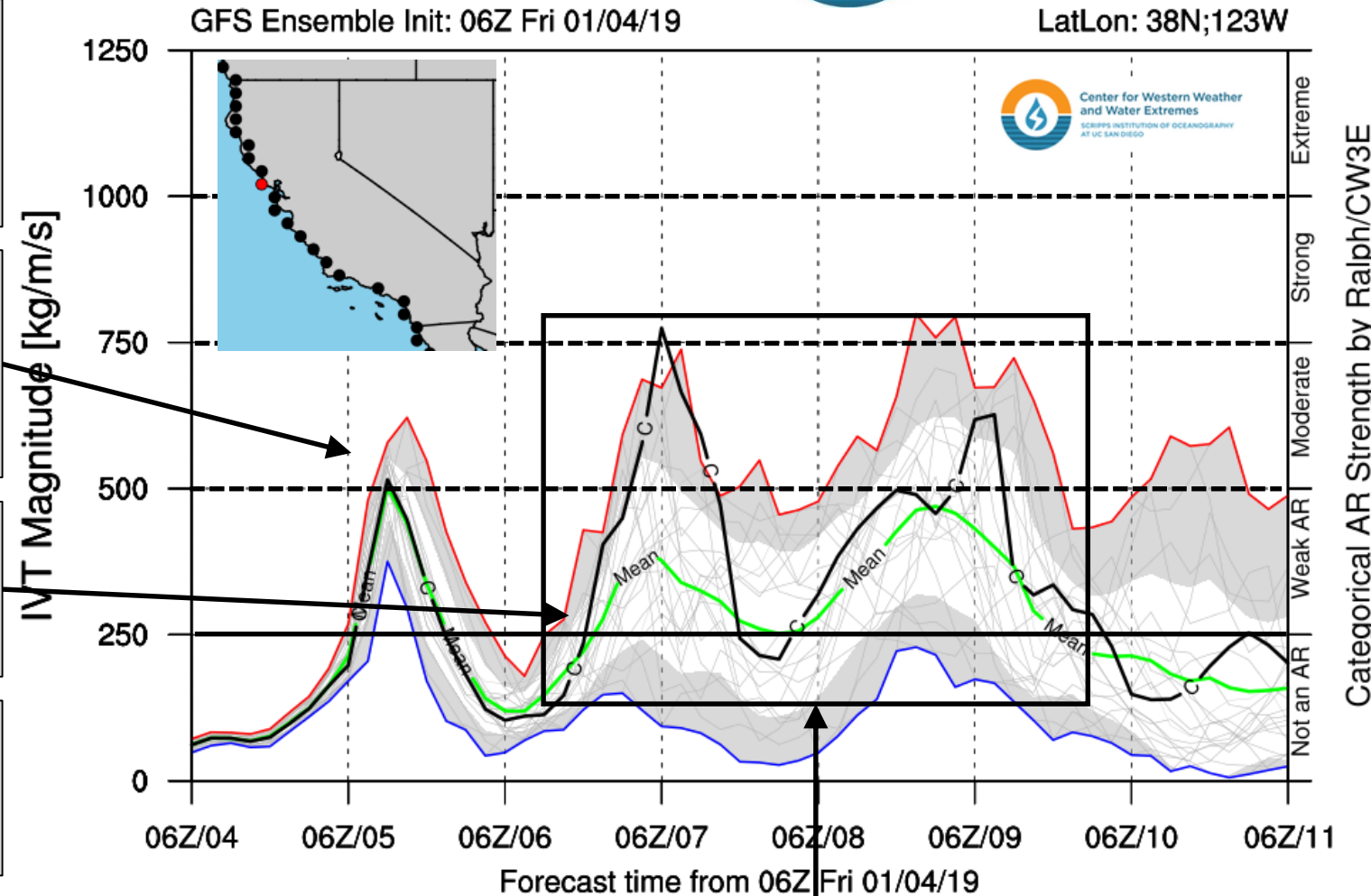
- Maximum predicted IVT  $\sim 650 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT  $\sim 510 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum IVT  $\sim 400 \text{ kg m}^{-1} \text{ s}^{-1}$

## Magnitude of Additional ARs (6/7 January)

- Maximum predicted IVT  $\sim 760 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT  $\sim 400 \text{ kg m}^{-1} \text{ s}^{-1}$

## Forecast Duration of AR Conditions

- AR 1 18 hours  $\pm$  6
- AR 2 24 hours  $\pm$  18

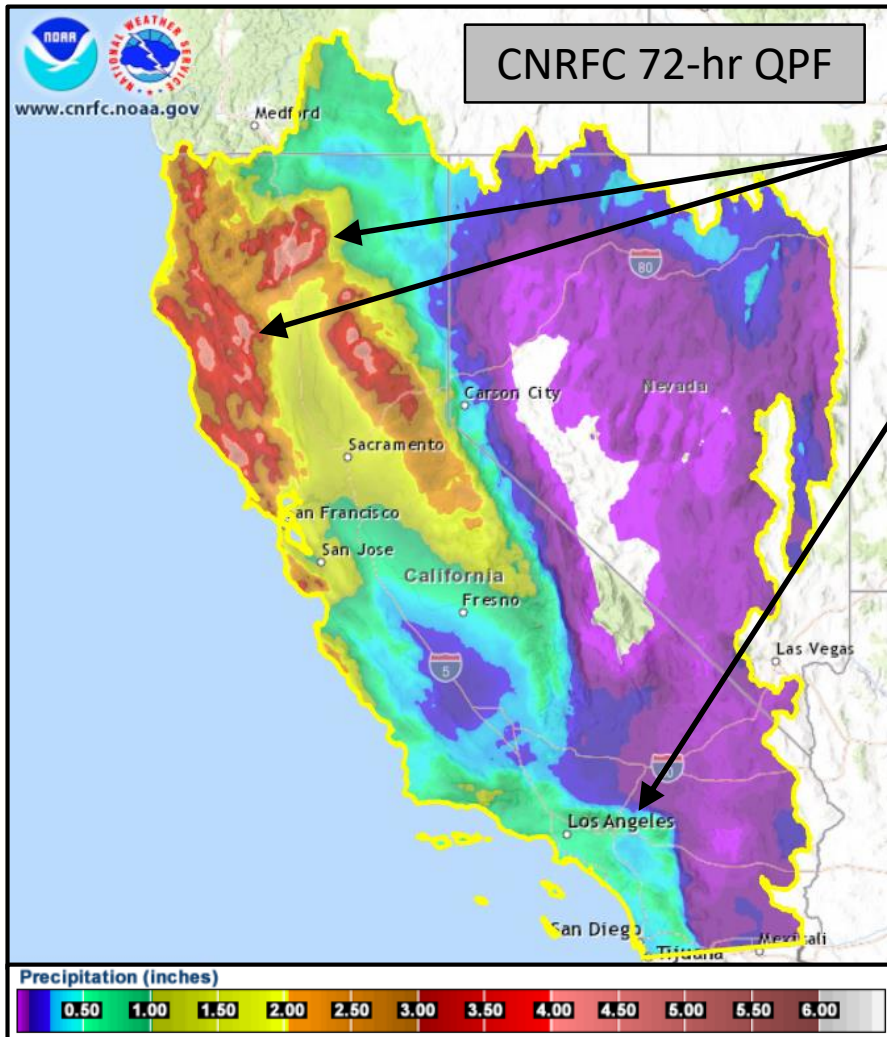


The forecast confidence IVT magnitude in days 3+ is currently much lower than the AR in day 2. Stay tuned as the forecast evolves

# AR Outlook: 04 January 2019



Center for Western Weather and Water Extremes  
SCRIPPS INSTITUTION OF OCEANOGRAPHY  
AT UC SAN DIEGO



The CNRFC is currently forecasting 2–5 inches of precipitation over Northern CA, with locally higher amounts over higher terrain for the next 72-hrs

Southern CA is could potentially receive .25 to .5 in. over the next 72-hours

Northern CA could receive a total of 5–9.5 in. over the next 6 days from the successive landfalling ARs

99 of the 100 river forecast stages from the CNRFC are currently forecast to remain below flood stage. The Sacramento River at Tisdale Weir is the only river point forecast to rise above monitor stage

NWS California Nevada River Forecast Center forecast products are located at [cnrfc.noaa.gov](http://cnrfc.noaa.gov)

