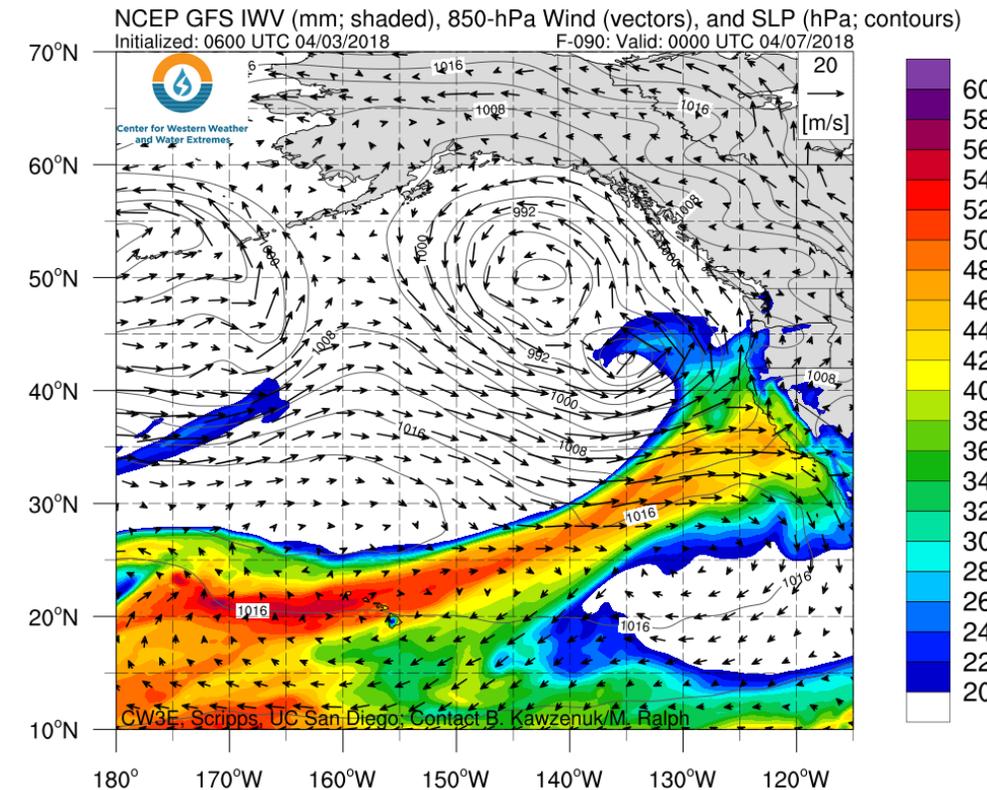
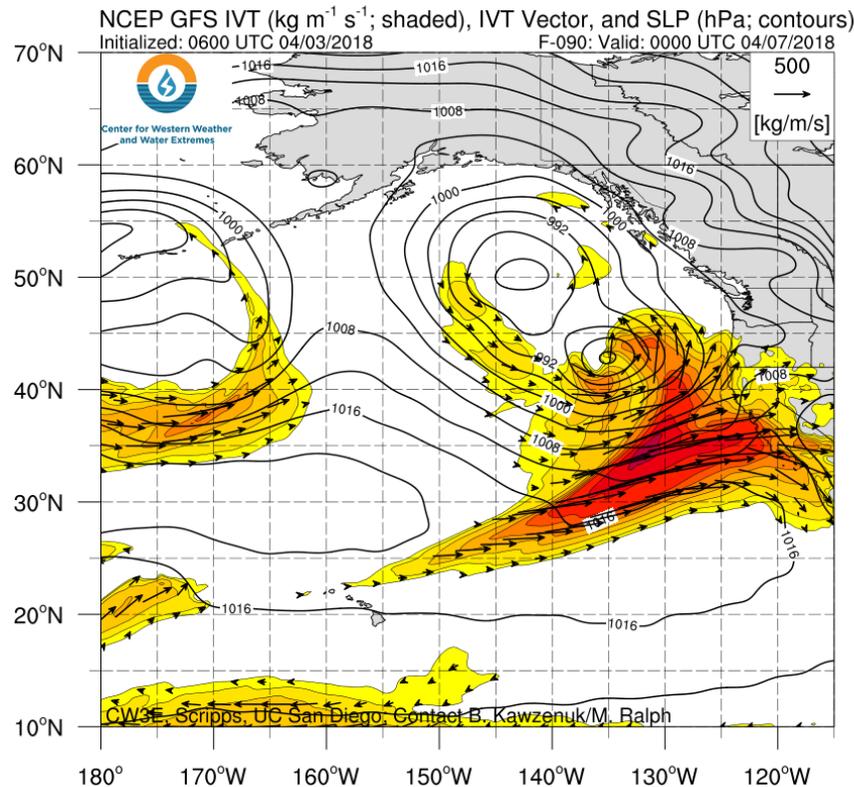


CW3E Atmospheric River Outlook



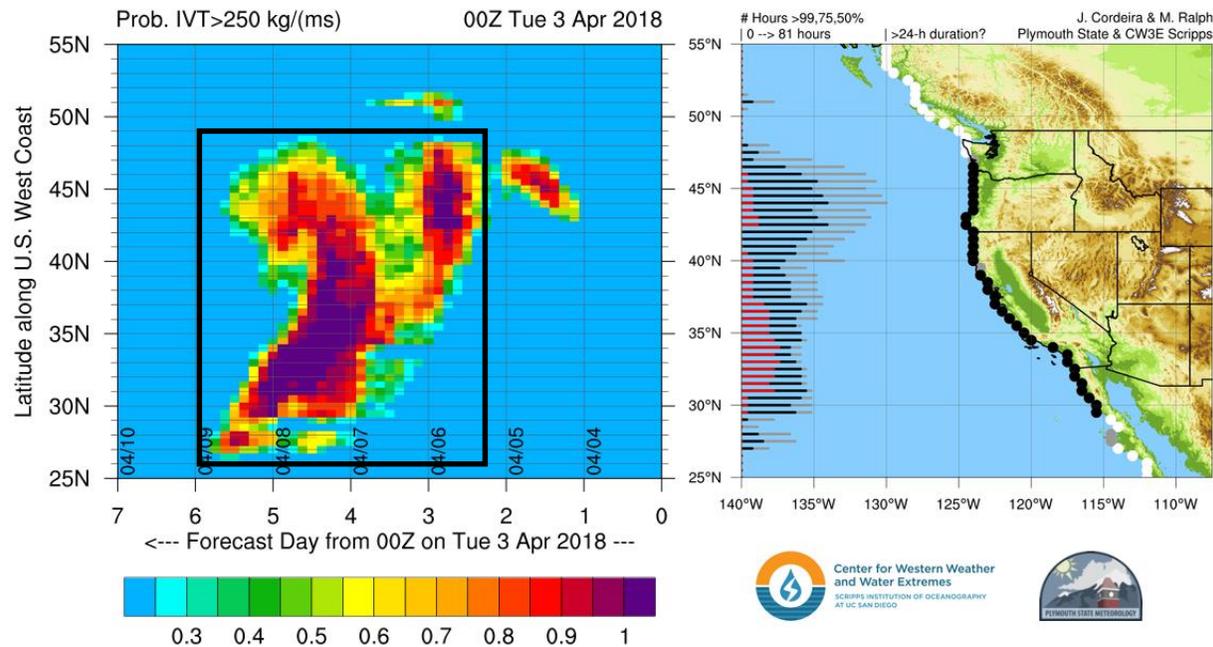
Atmospheric river forecast to impact Northern California later this week

- GFS Ensemble members are currently forecasting a potentially strong to extreme AR over northern and central California later this week
- Forecast certainty has increased since yesterday but there is still some uncertainty in the onset, duration, and strength of the AR
- Up to 7 inches of precipitation is forecasted to fall over the Coastal and Sierra Nevada Mtns in CA, OR, and WA
- The GEFS is currently suggesting high freezing levels for most of this event, which may lead to most of the precipitation falling as rain

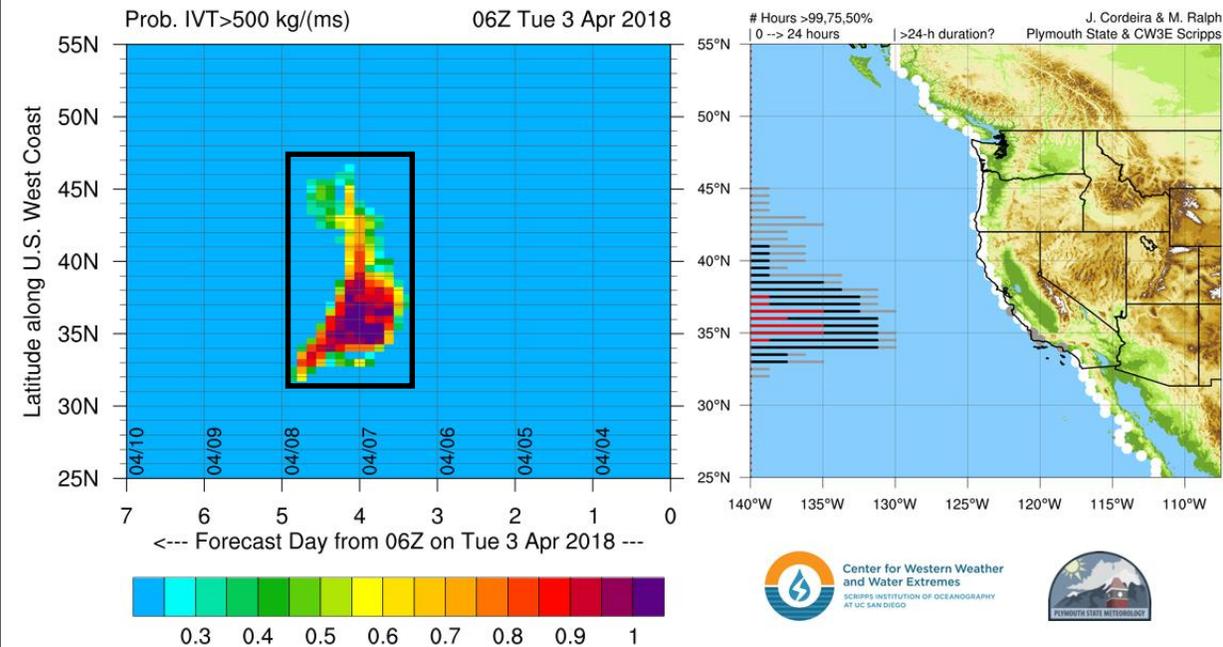




Odds of at least a **WEAK** AR making landfall



Odds of **Moderate** AR making landfall



There is a high probability (95–100%) of at least minimal AR conditions ($IVT > 250 \text{ kg m}^{-1} \text{ s}^{-1}$) lasting between 24 and 36 over a majority of the U.S. West Coast during 6–8 April

There is also a high probability (>90%) of moderate strength AR conditions ($IVT > 500 \text{ kg m}^{-1} \text{ s}^{-1}$) for coastal locations extending from 34 to 38°N lasting 3 to 12 hours

AR Outlook: 03 April 2018

For California DWR's AR Program



Center for Western Weather
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There is high confidence that at least weak AR conditions will occur over the San Francisco Bay area for over 24 hours. Most ensemble members are suggesting this could be a strong AR with several forecasting for extreme conditions

While the ensemble members have converged over the past 24 hours the latest model run still shows uncertainty in the onset, duration, and magnitude of this AR

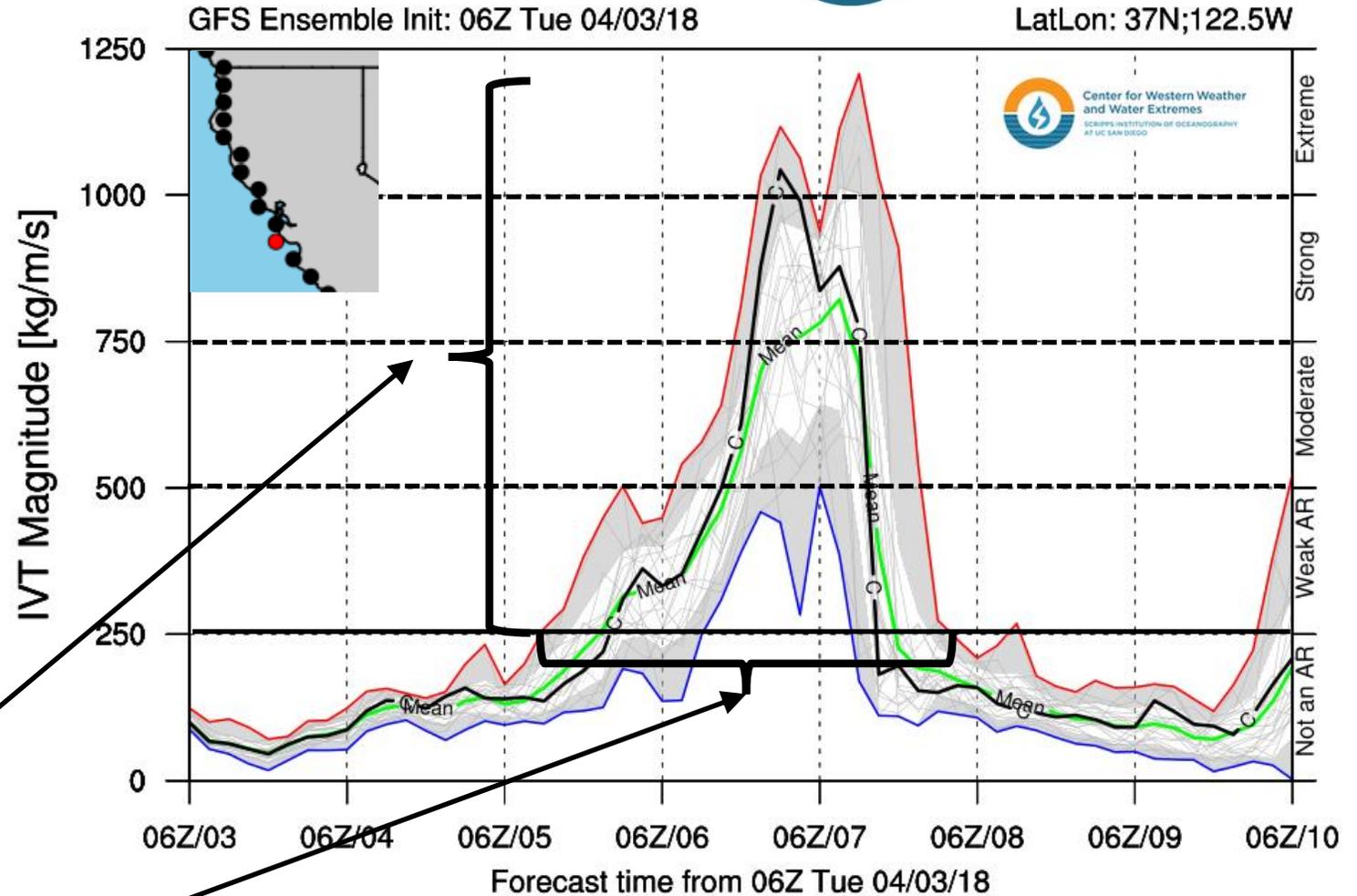
The control member has increased by $\sim 100 \text{ kg m}^{-1} \text{ s}^{-1}$ at this location since yesterday's update

Magnitude of Potential AR

- Maximum predicted IVT $\sim 1200 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 800 \text{ kg m}^{-1} \text{ s}^{-1}$
- Control IVT $\sim 1050 \text{ kg m}^{-1} \text{ s}^{-1}$

Duration of AR conditions by strength

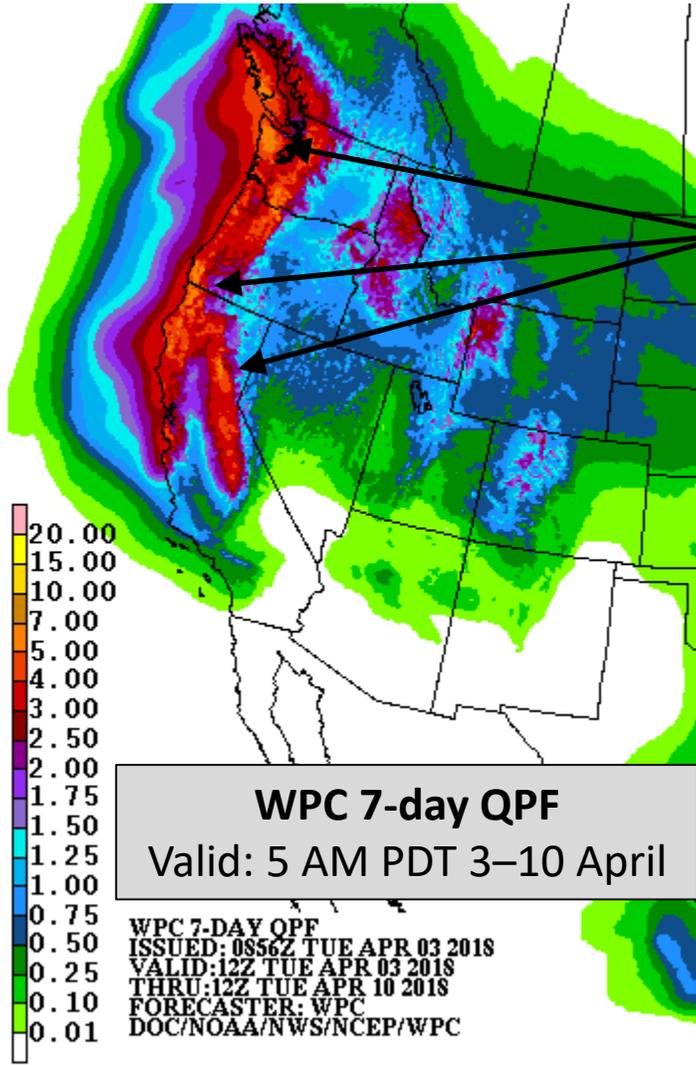
- Weak: $\sim 36 \text{ hours} \pm 18 \text{ h}$
- Moderate: $\sim 24 \text{ hours} \pm 12 \text{ h}$
- Strong: $\sim 18 \text{ hours} \pm 12 \text{ h}$
- Extreme: $\sim 6 \text{ hours} \pm 6 \text{ h}$



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Consistent with yesterday's forecast, the NOAA WPC 7-day QPF is currently predicting ~5+ inches of precipitation over the Coastal and Sierra Nevada Mountains

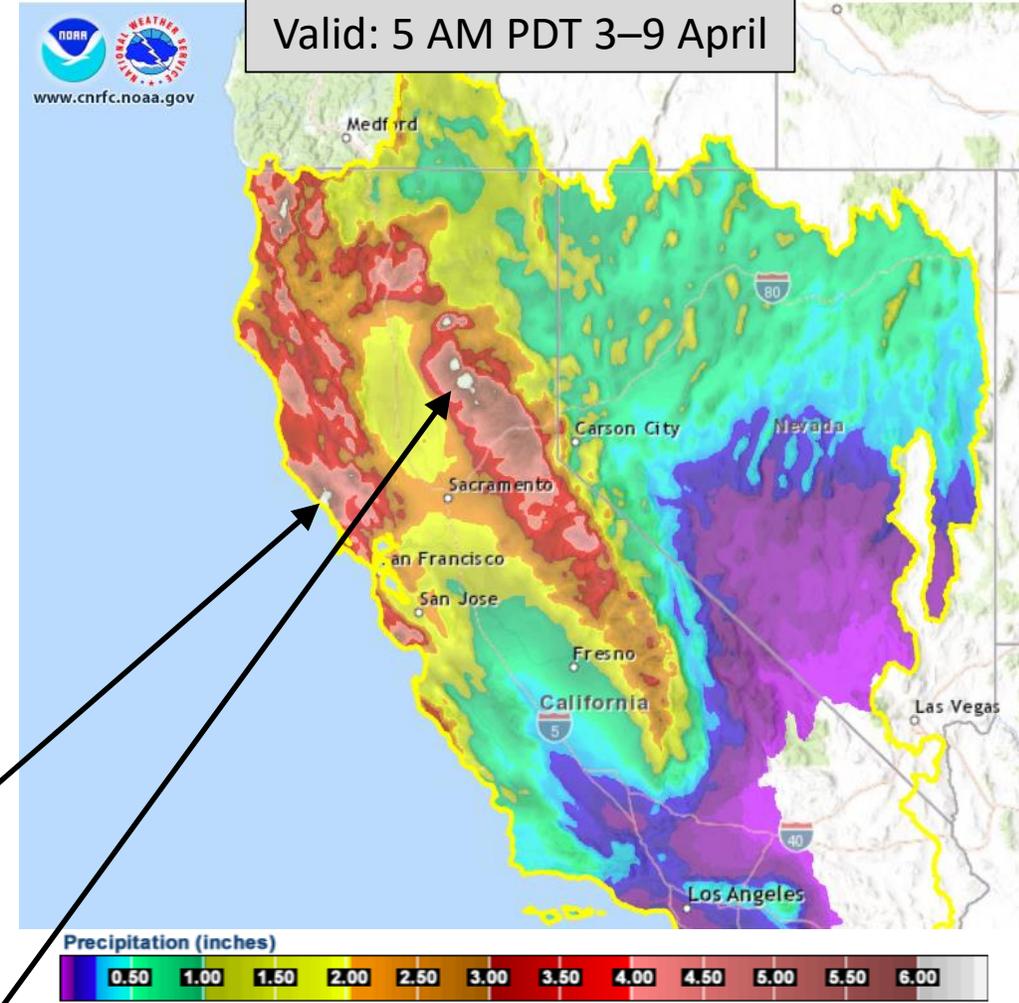
The higher elevations in Oregon and Washington are also currently forecast to receive 4–7 inches over the next week

The CNRFC 6-day QPF is currently forecasting 3–7 inches of precipitation in the North Bay and Russian River Watershed

The northern High Sierra, east of Chico, is currently forecast to receive up to 7.25 inches

For official NOAA WPC QPF:
www.wpc.ncep.noaa.gov/#page=qpf

CNRFC 6-day QPF
Valid: 5 AM PDT 3–9 April



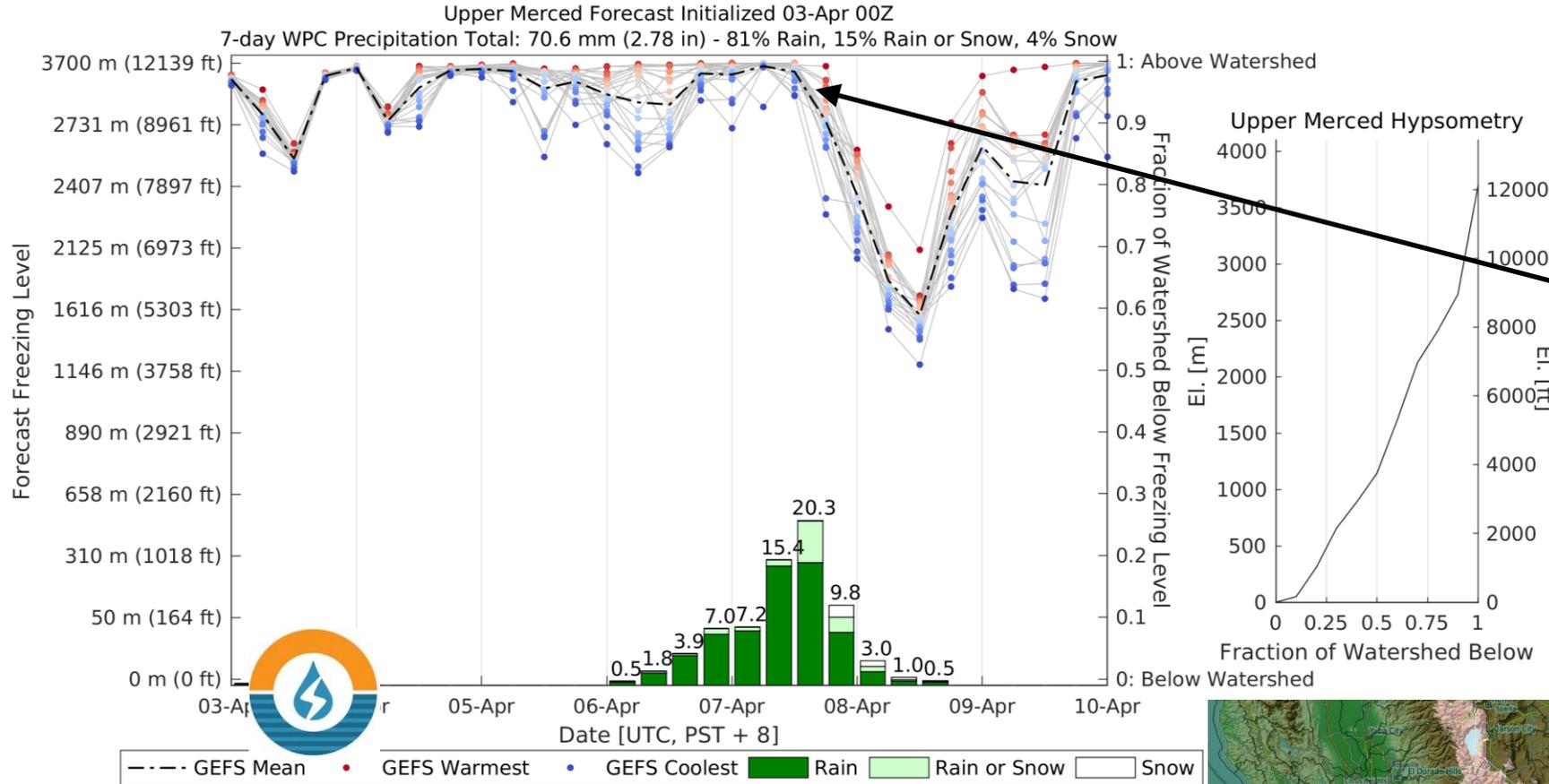
For Official NWS CNRFC Forecast Products:
cnrfc.noaa.gov

AR Outlook: 03 April 2018

For California DWR's AR Program



Center for Western Weather and Water Extremes
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The Upper Merced watershed is currently forecasted to receive ~70 mm (WPC) of precipitation during this event. Freezing levels are forecast to remain above ~8,000 feet during the heaviest precipitation before dropping to ~5000 feet after the cold front passes

The potentially high freezing levels associated with this AR may lead to a most of the precipitation in the high Sierras falling as rain, leading to increased runoff

The potential for rain on snow over the high Sierra may also contribute to increased runoff and higher river stage heights



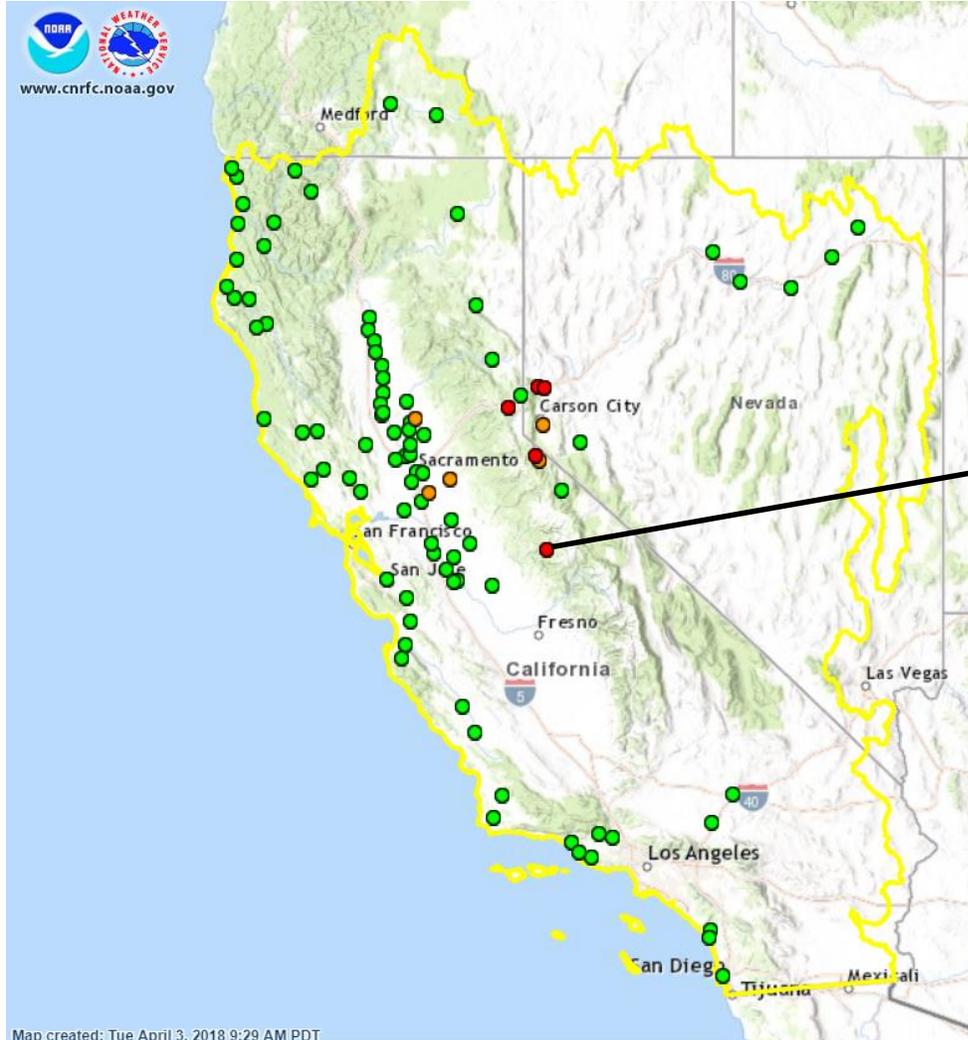
Freezing level forecast products at:
cw3e.ucsd.edu/DSMaps/DS_freezing.html

AR Outlook: 03 April 2018



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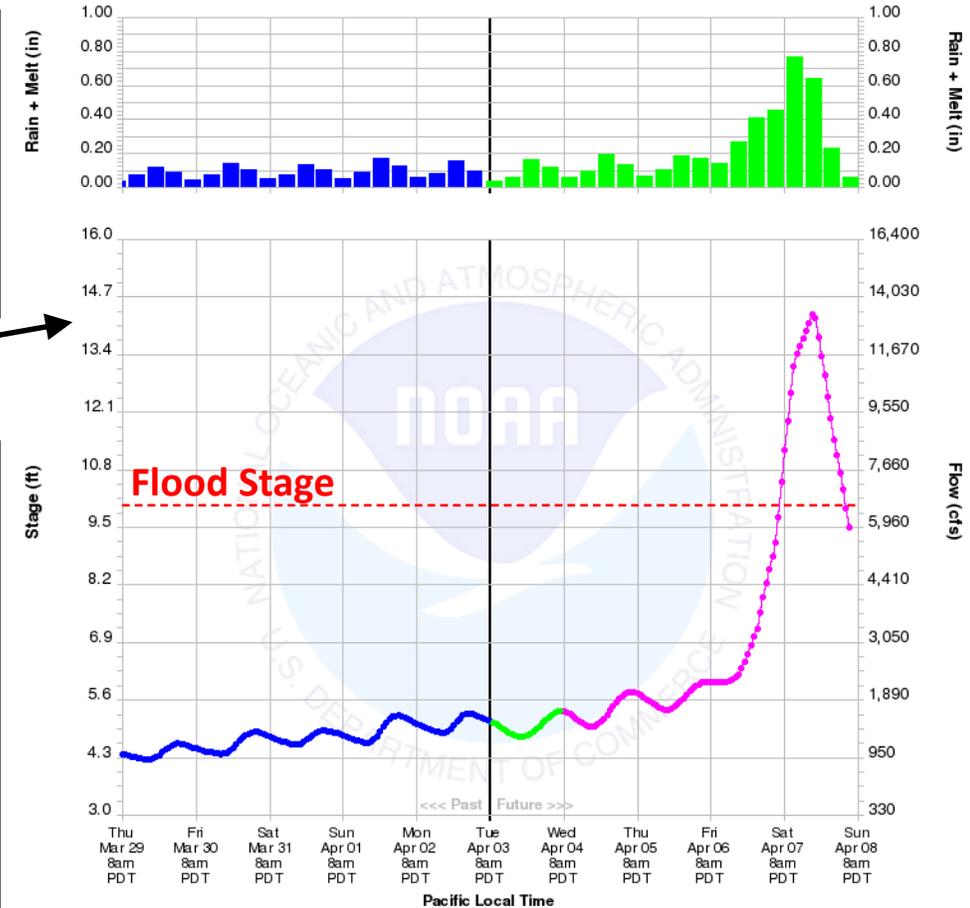
CNRFC 6-day River Forecasts



The CNRFC is currently forecasting 5 rivers to reach above flood stage and 5 above monitor stage

The Merced River is forecasted to rise to 14.3 feet, 4.3 feet above flood stage. Impacts of this stage would result in Northside and Southside Drive, the main roads in Yosemite Valley, to become flooded and closed (CNRFC)

Merced River at Pohono Bridge



Observed • Forecast • Guidance • Flood -
Created: 04/03/2018 at 8:42 AM PDT (POHC1 Forecast Run Time = 1534Z)
California Department of Water Resources
NOAA / NWS / California Nevada River Forecast Center

For Official NWS CNRFC Forecast Products:
cnrfc.noaa.gov

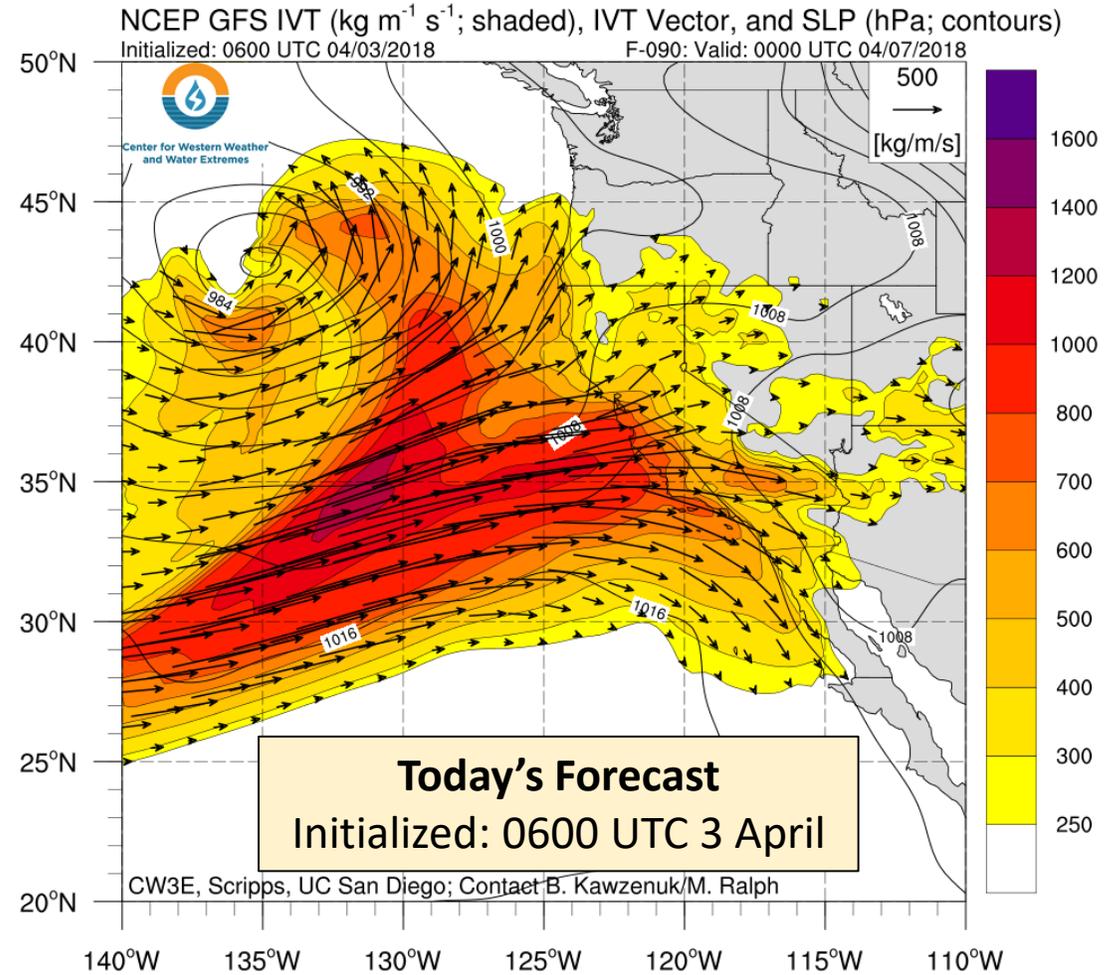
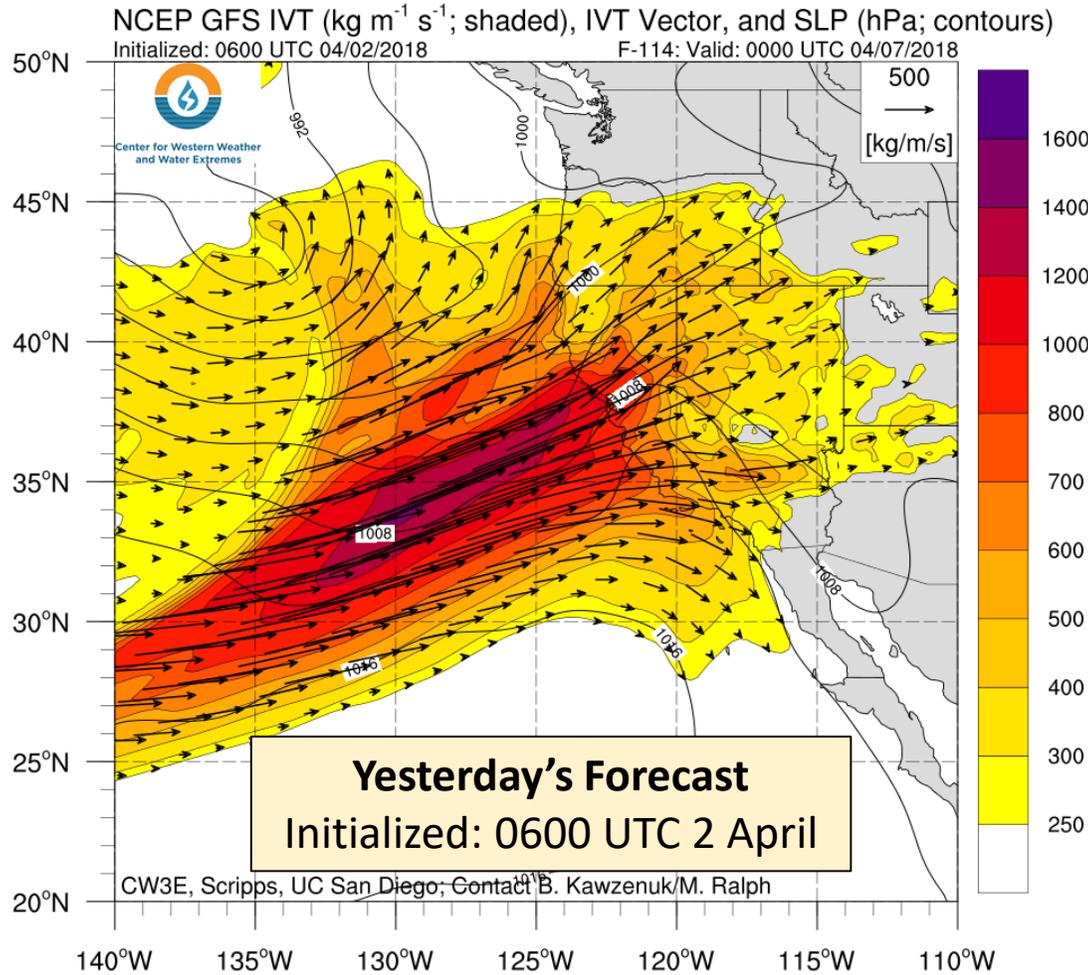
○ No Monitor or Flood Stage Available
● 87 Normal Conditions
● 5 Above Monitor Stage
● 5 Above Flood Stage
● 0 Above Danger Stage
The number inside each circle above represents the number of gages with forecast conditions inside that category.

AR Outlook: 03 April 2018

GFS dProg/dT: Valid 5 PM PDT 6 April 2018



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Today's model run predicts the low pressure system to be stronger and further southeast resulting in the highest IVT values in the warm sector and further offshore

The strongest IVT over land is now predicted to be near Monterey (~200 km south of yesterday's forecast) and slightly more westerly