

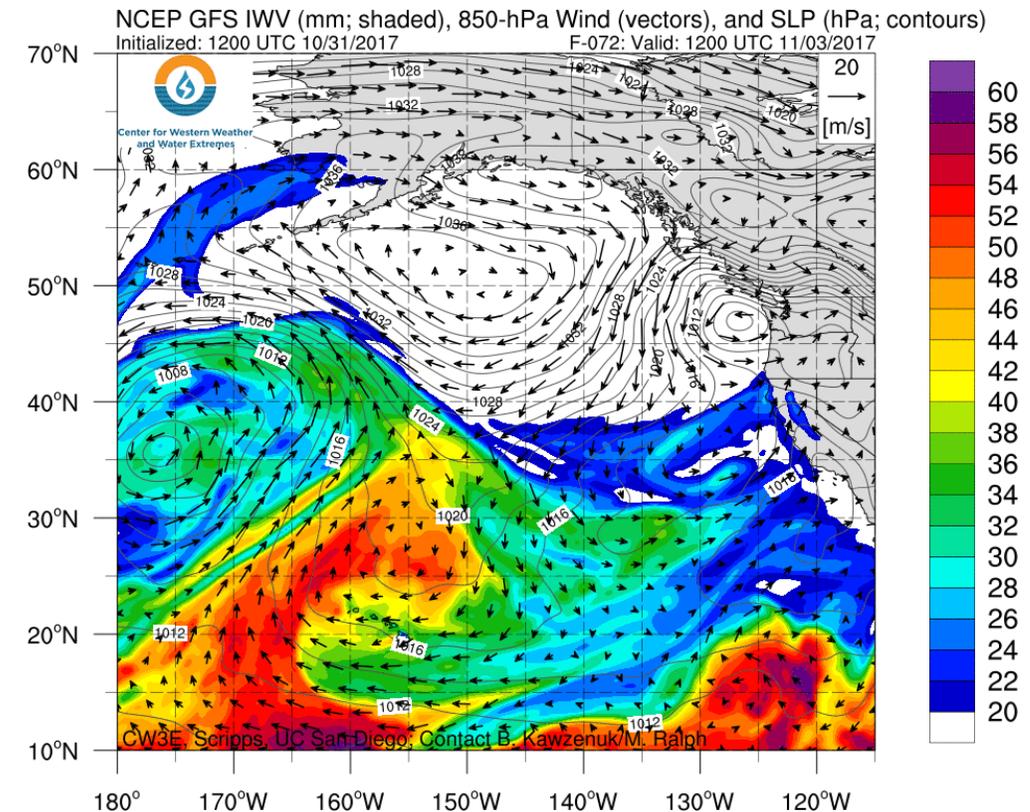
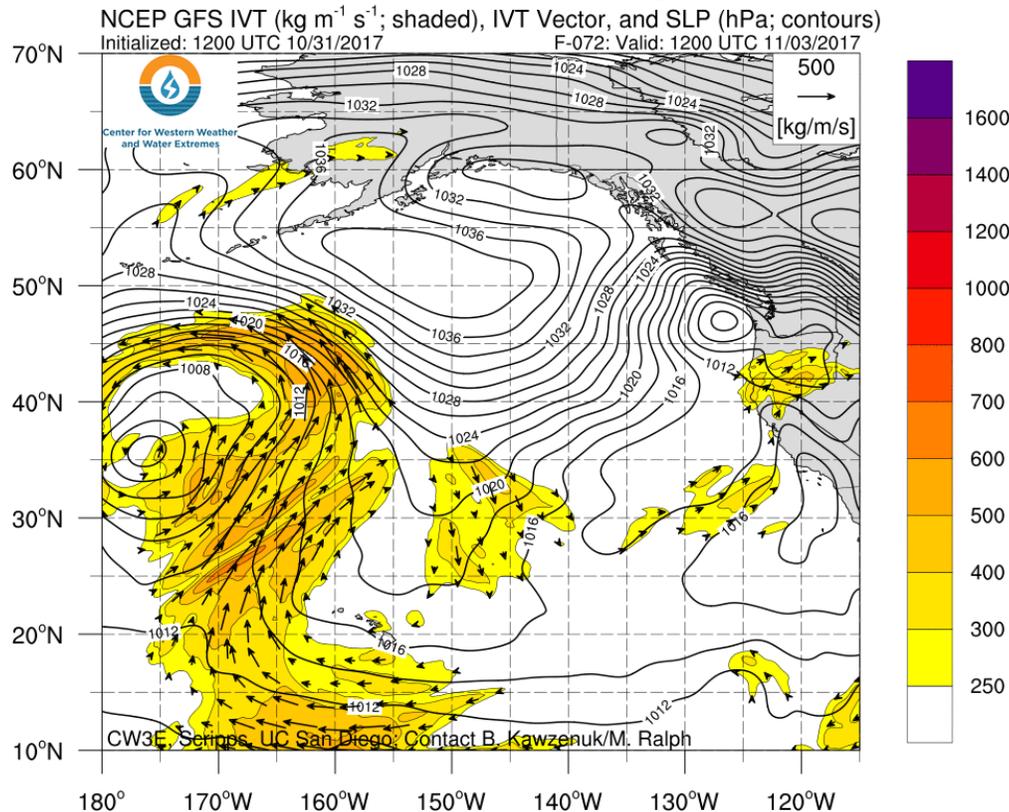
CW3E Atmospheric River Update – Outlook



Center for Western Weather
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AT UC SAN DIEGO

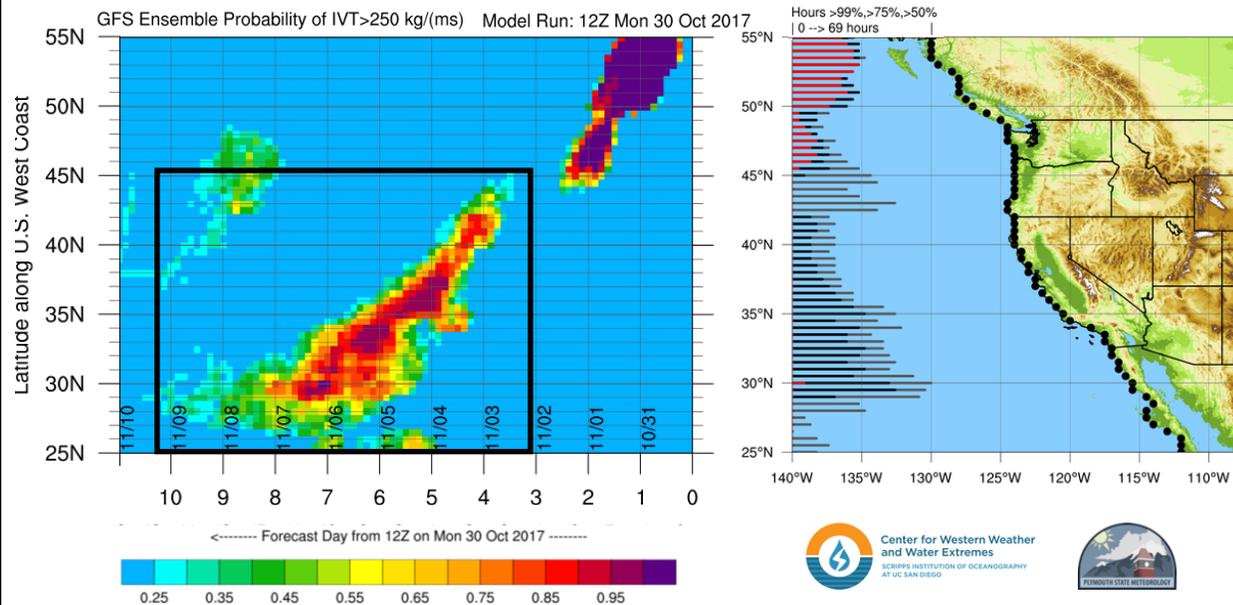
Atmospheric River to potentially make landfall over California

- A weak to moderate AR is predicted to make landfall over California during 3–8 November 2017
- Current forecasts indicate the geometry of the AR conditions may not meet standard criteria to be considered an AR but AR conditions ($IVT > 250 \text{ kg m}^{-1} \text{ s}^{-1}$ and $IWV > 20 \text{ mm}$) are expected to impact the majority of CA
- Precipitation amounts up to 5 inches are expected over the Sierra Nevada with the majority of CA receiving at least 0.25 in. of precipitation
- Forecast certainty is currently low on timing and strength of AR conditions but confidence of at least weak AR conditions over central and southern CA is high

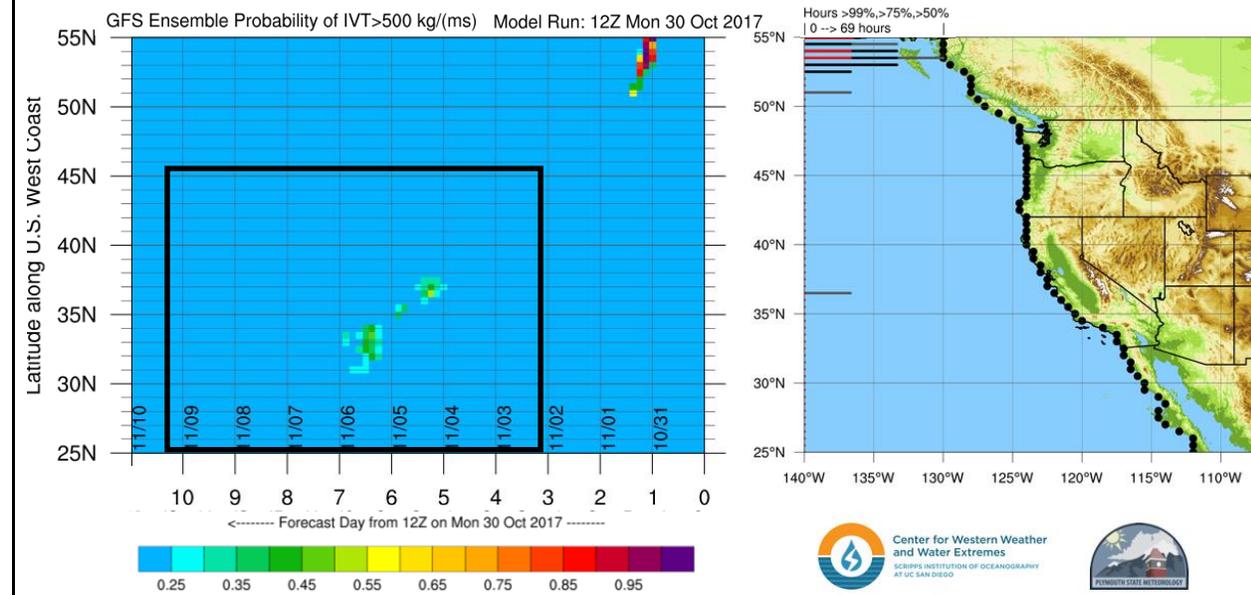




Odds of at least a **WEAK** AR making landfall



Odds of a **MODERATE-STRENGTH** AR making landfall



There is relatively high certainty (>90%) of weak AR conditions (IVT > 250 kg m⁻¹ s⁻¹) over most of the California coast between 3 – 8 November

Less than 25% of the GEFS ensemble members are predicting moderate strength AR conditions (IVT > 500 kg m⁻¹ s⁻¹) at a given time over the U.S. West Coast

AR Outlook: 31 October 2017

For California DWR's AR Program



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There is uncertainty in the GEFS of the onset, magnitude, and end time of the AR conditions over central California

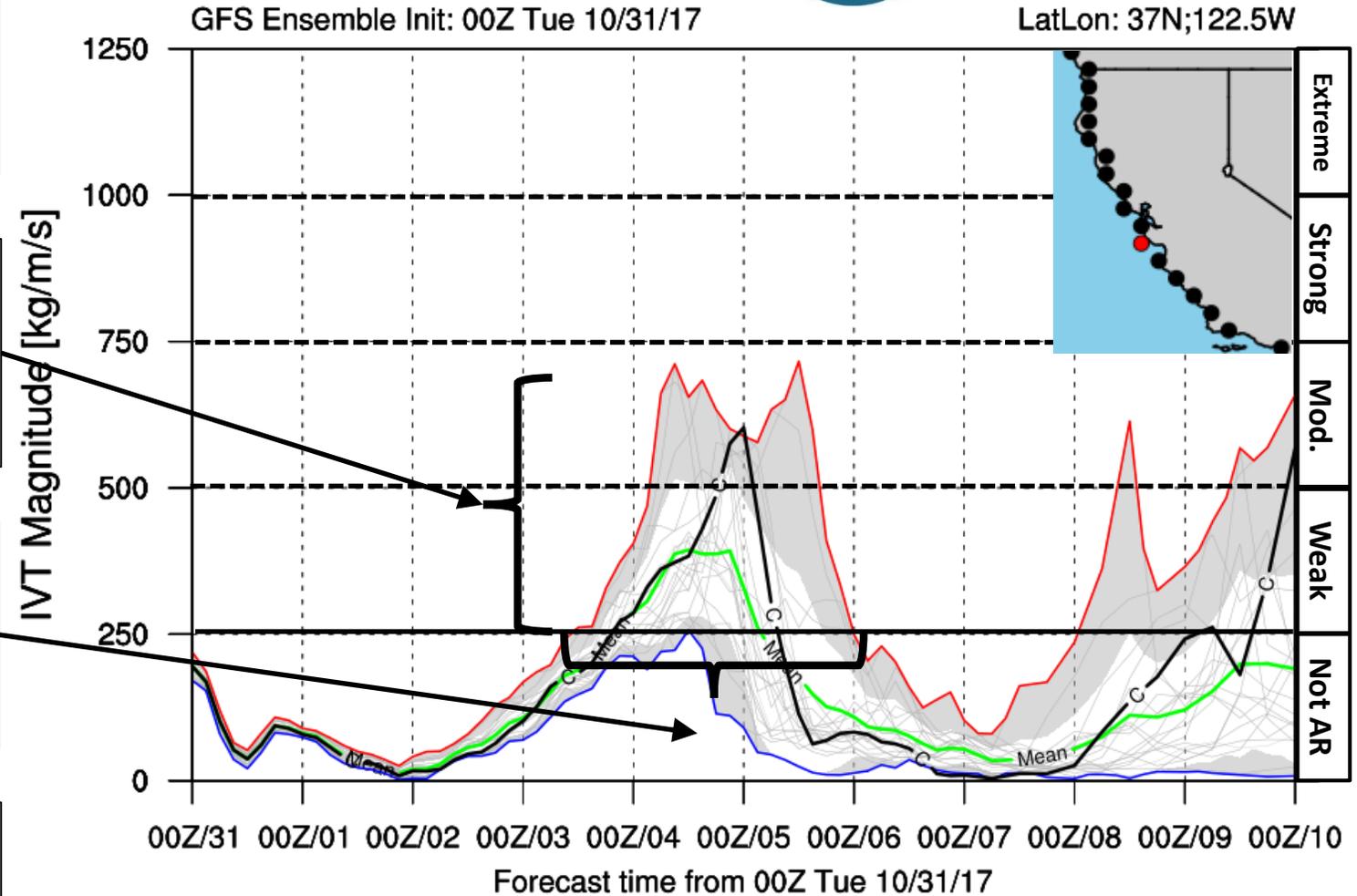
Magnitude of Potential AR

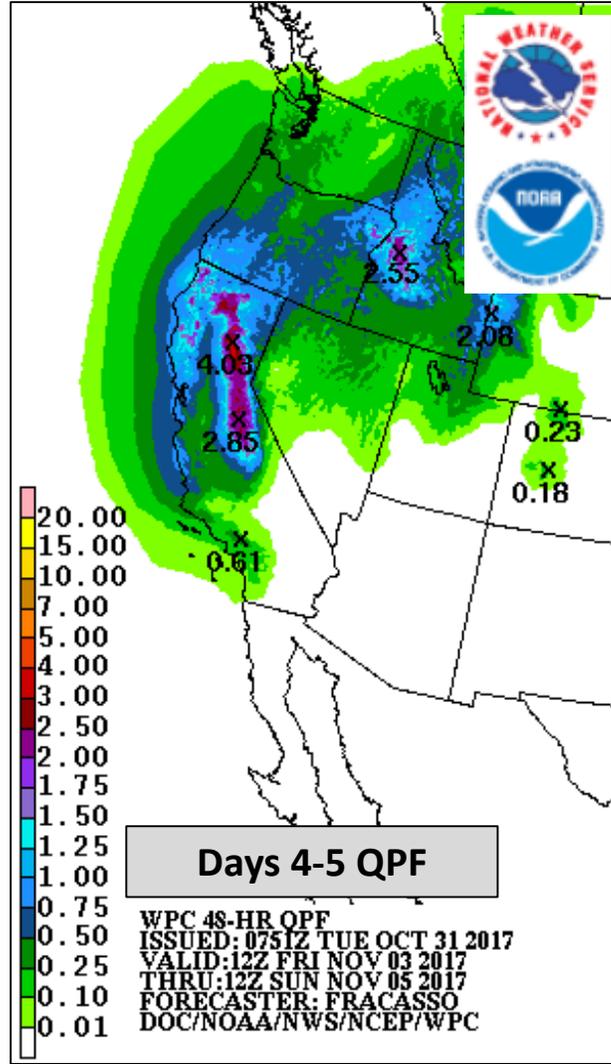
- Maximum possible IVT $\sim 700 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 600 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum possible IVT $\sim 250 \text{ kg m}^{-1} \text{ s}^{-1}$

Duration of AR conditions

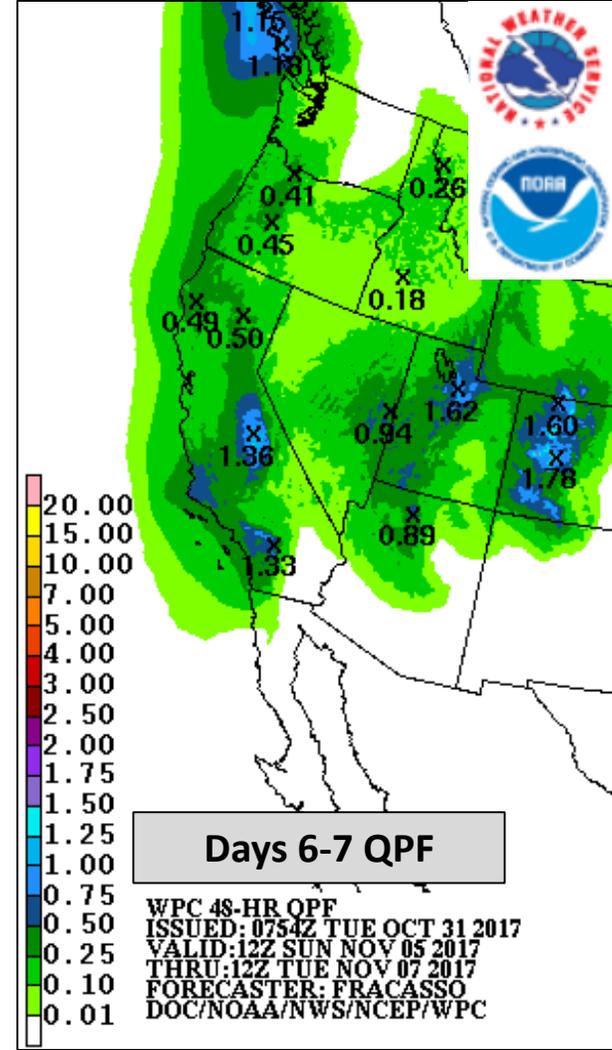
- Weak: $\sim 36 \text{ hours} \pm 12 \text{ h}$
- Moderate: $\sim 6 \text{ hours} \pm 6 \text{ h}$
- Strong: Unlikely

Less than half of the ensemble members are suggesting this could be a moderate AR but all members do that at least weak AR conditions will be met.

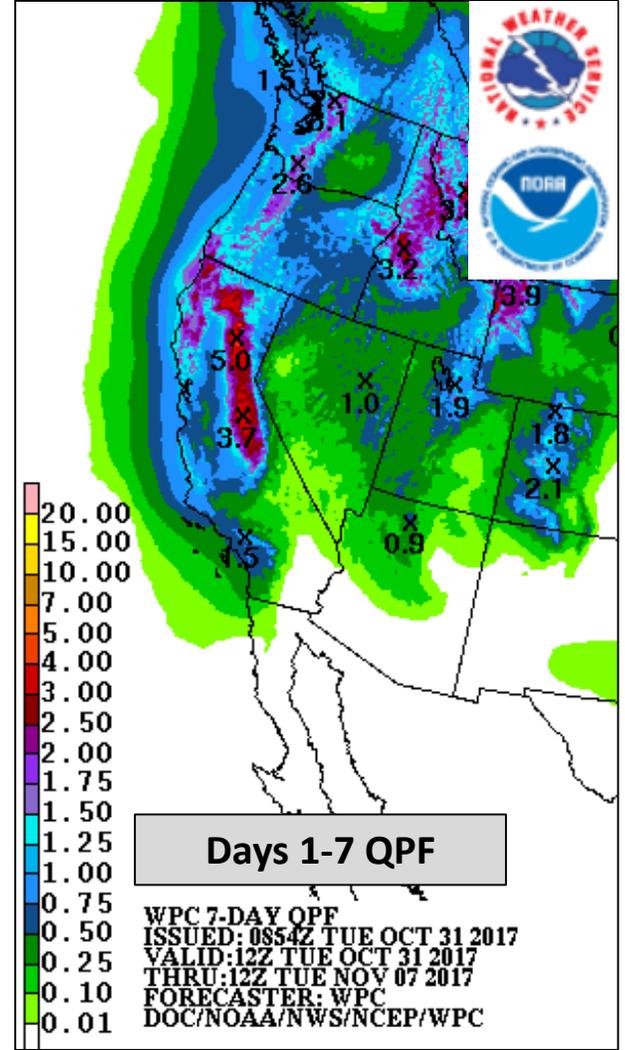




Day 4-5 WPC QPF predicts precipitation over the majority of CA with maximum amounts up to ~4.0 in. over the Northern Sierra Nevada



Day 6-7 WPC QPF predicts precipitation over the majority of CA with the highest amounts over the Southern Sierra Nevada and Southern Coastal Mnts



Total 7 day QPF predicts up to 5.0 in. over the Sierra Nevada and > 1 in. over most of the CA Coastal Mountains

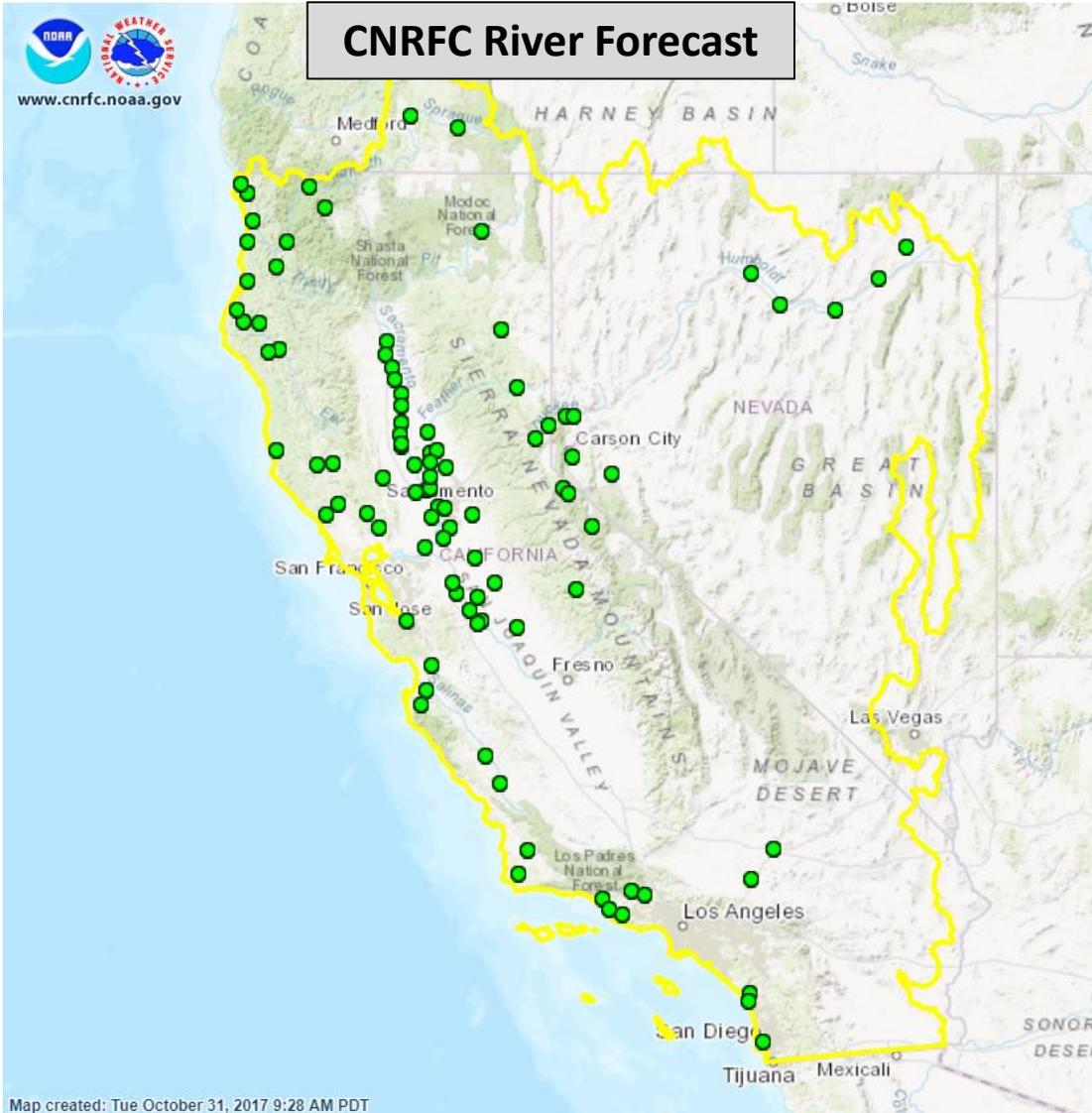
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CNRFC River Forecast



Map created: Tue October 31, 2017 9:28 AM PDT



The number inside each circle above represents the number of gages with forecast conditions inside that category.

Most current river stages are relatively low and precipitation from this event is not expected to be extremely high.

It is early in the water year with low amounts of water year to date precipitation, as a result soil moisture is still low across California, which will lead to less runoff.

As result of relatively low precipitation amounts and low runoff, no CNRFC river forecast points are expected to reach monitor state as a result of the precipitation from this event.

AR Outlook: 31 October 2017



There are currently 5 active wildfires in CA and October was extremely active. During the peak there were 21 major wildfires that burned over 245,000 acres.

6-day QPF from the CNRFC suggests that the Northern Sierra Nevada could receive up to 5 in. of precipitation and coastal locations up to 2 in.

This precipitation could provide some relief to active fires and dry/dangerous conditions, but if high rain rates occur, could potentially lead to debris flows over recently burned areas.

Active Contained or Extinguished

CNRFC 6-Day QPF

