

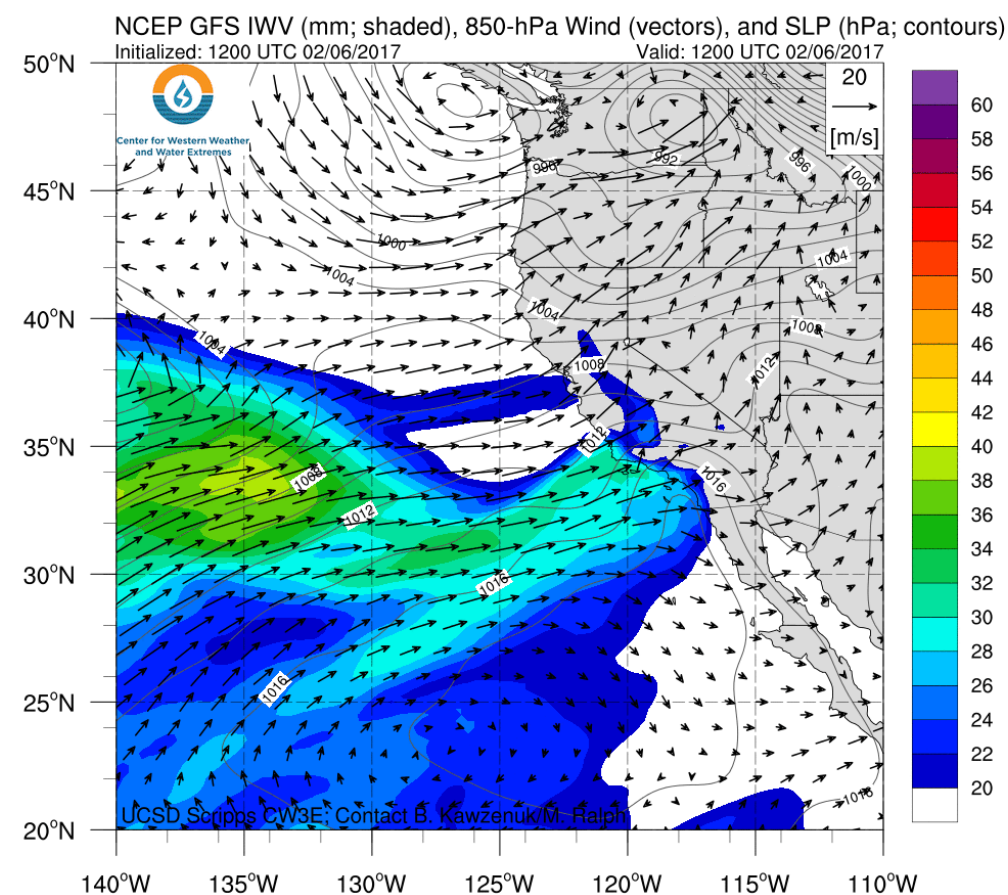
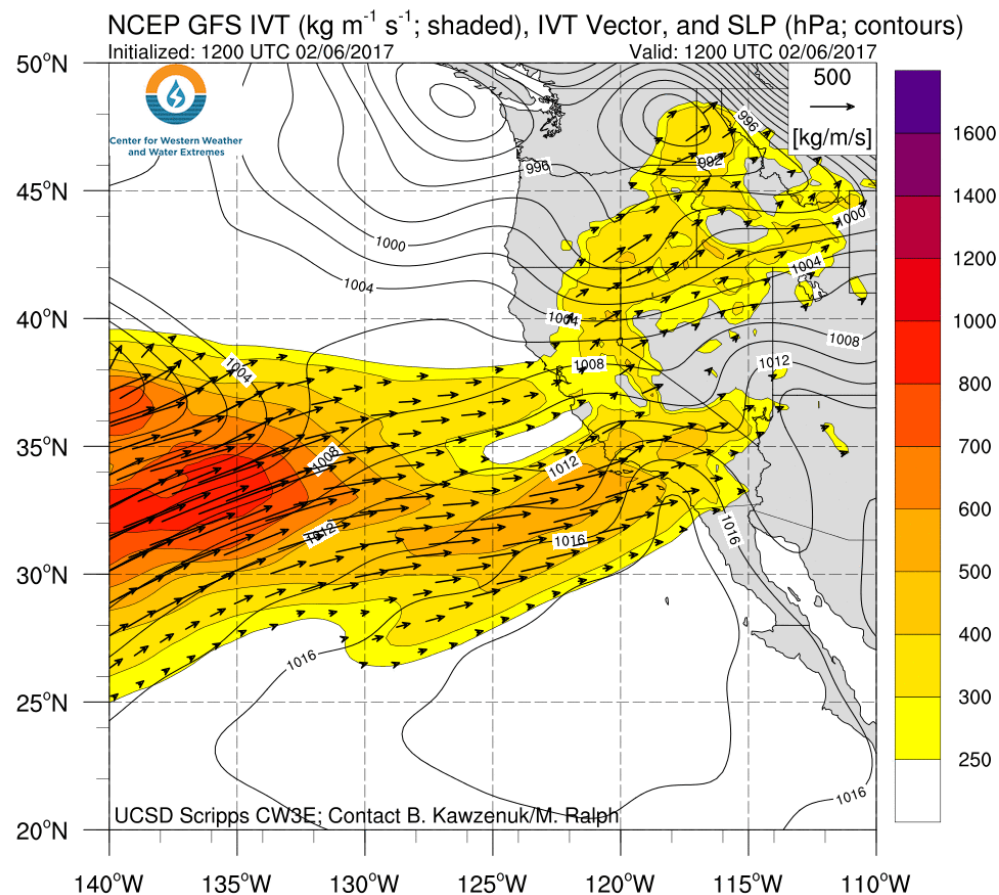
CW3E Atmospheric River Update



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

Two ARs to Impact the West Coast

- Two moderate to strong ARs are forecasted to make landfall in Northern CA and the Pacific Northwest
- Due to the timing of both ARs, AR conditions could last over 90 hours in some locations
- Weather Prediction Center forecast shows 1-5 Day precipitation amounts up to 17.5 inches over higher elevations in Sierras
- Lower elevations could see as much as 6 inches of rain over the next 5 days
- 15 river gauges are currently forecast to rise above flood stage by the California Nevada River Forecast Center

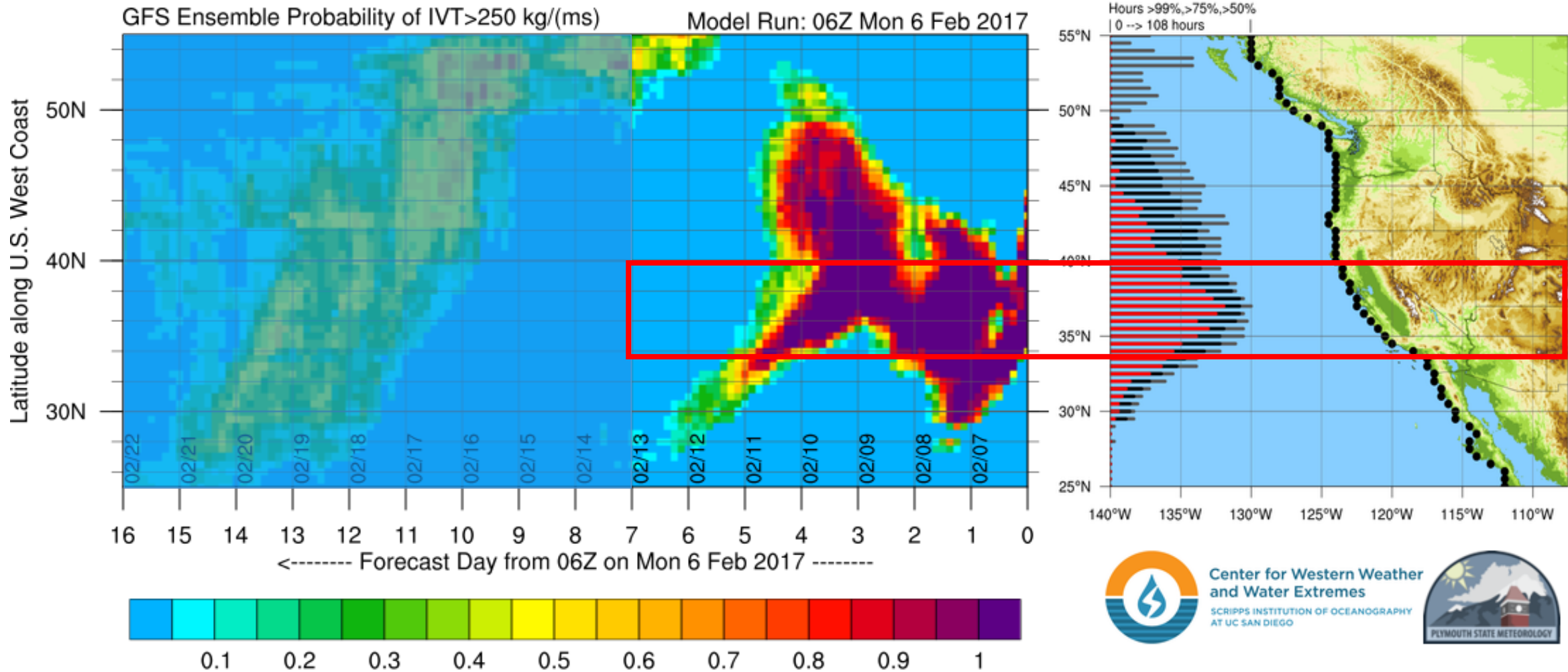


AR Update: 6 February 2017

For California DWR's AR Program



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



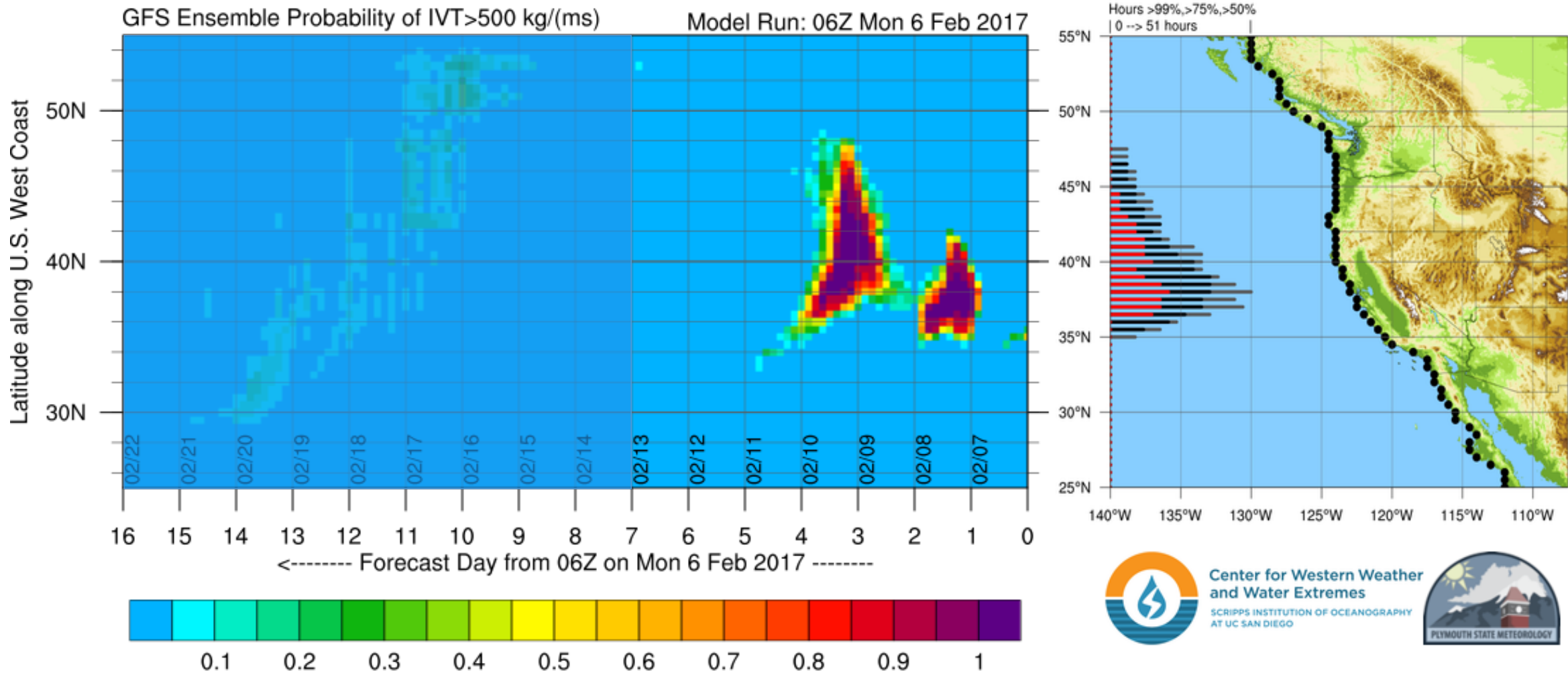
Due to the landfall of both ARs, AR conditions ($IVT > 250 \text{ kg m}^{-1} \text{ s}^{-1}$) could potentially last up to 96 hours between 6 and 10 Feb. over Central CA

AR Update: 6 February 2017

For California DWR's AR Program



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



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



Both ARs could potentially produce moderate AR conditions ($IVT > 500 \text{ m}^{-1} \text{ s}^{-1}$) that last ~24-hrs over some locations in Central and Northern CA, OR, and WA

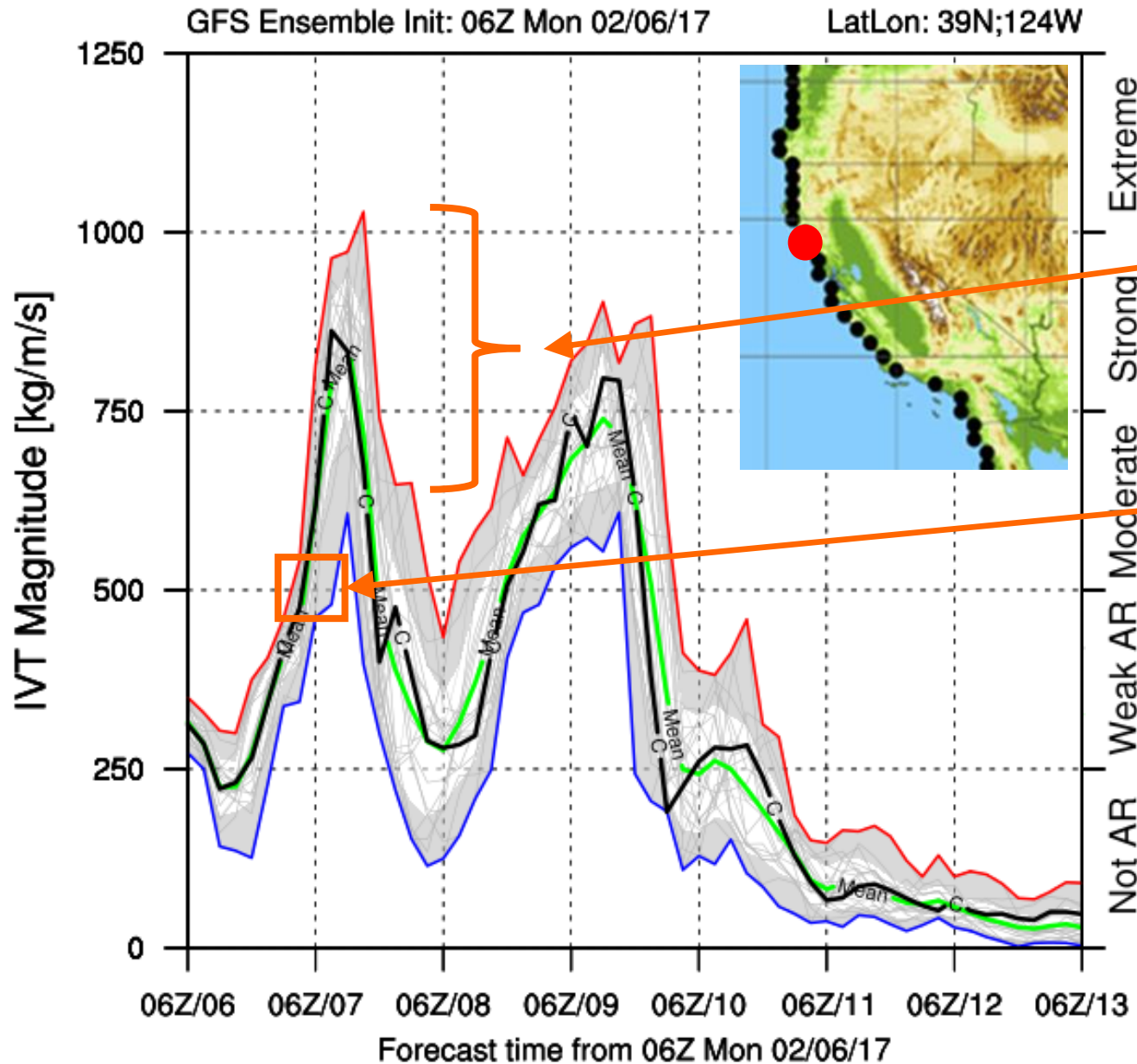
Summary by C. Hecht 1 PM PT Monday 6 Feb. 2017

AR Update: 6 February 2017

For California DWR's AR Program



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



Magnitude of AR 1

- Maximum possible IVT $\sim 1000 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 850 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum possible IVT $\sim 600 \text{ kg m}^{-1} \text{ s}^{-1}$
- Uncertainty $\sim \pm 20\%$

Start Time of first AR conditions

- 10 AM Monday 6 February
- High confidence $\pm 3 \text{ h}$

Duration of AR conditions

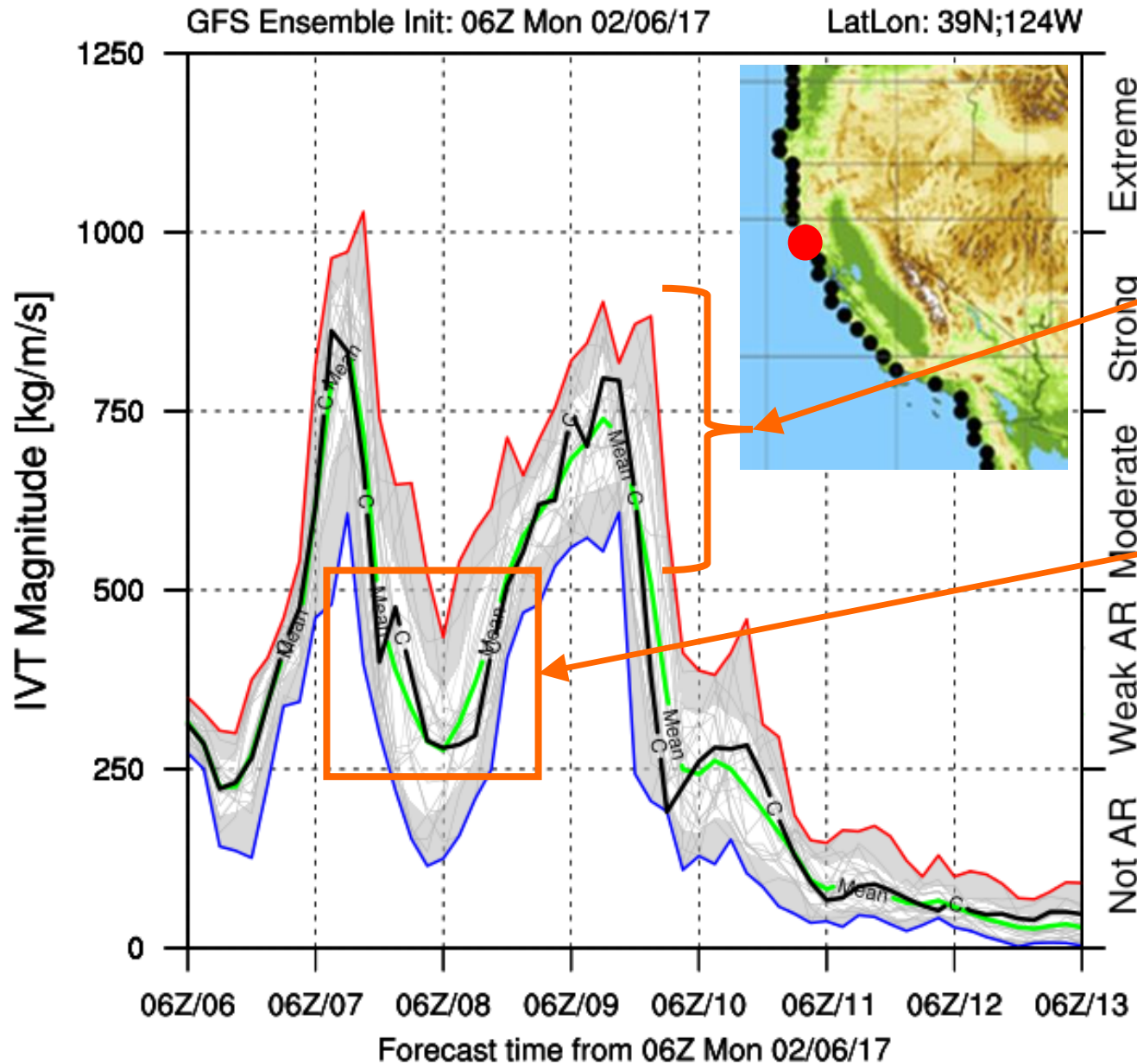
- Weak: $\sim 72 \text{ hours}$ (Both ARs)
- Moderate: $\sim 15 \text{ hours} \pm 12 \text{ h}$
- Strong: $\sim 12 \text{ hours} \pm 6 \text{ h}$

AR Update: 6 February 2017

For California DWR's AR Program



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



Magnitude of AR 2

- Maximum possible IVT $\sim 900 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 750 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum possible IVT $\sim 600 \text{ kg m}^{-1} \text{ s}^{-1}$
- Uncertainty $\sim \pm 20\%$

It is possible that IVT magnitude at this location does not decrease below $250 \text{ kg m}^{-1} \text{ s}^{-1}$ before the landfall of the second AR, resulting in long durations of AR conditions

Duration of AR conditions

- Weak: ~ 72 hours (From both ARs)
- Moderate: ~ 30 hours ± 12 h
- Strong: ~ 12 hours (large uncertainty)

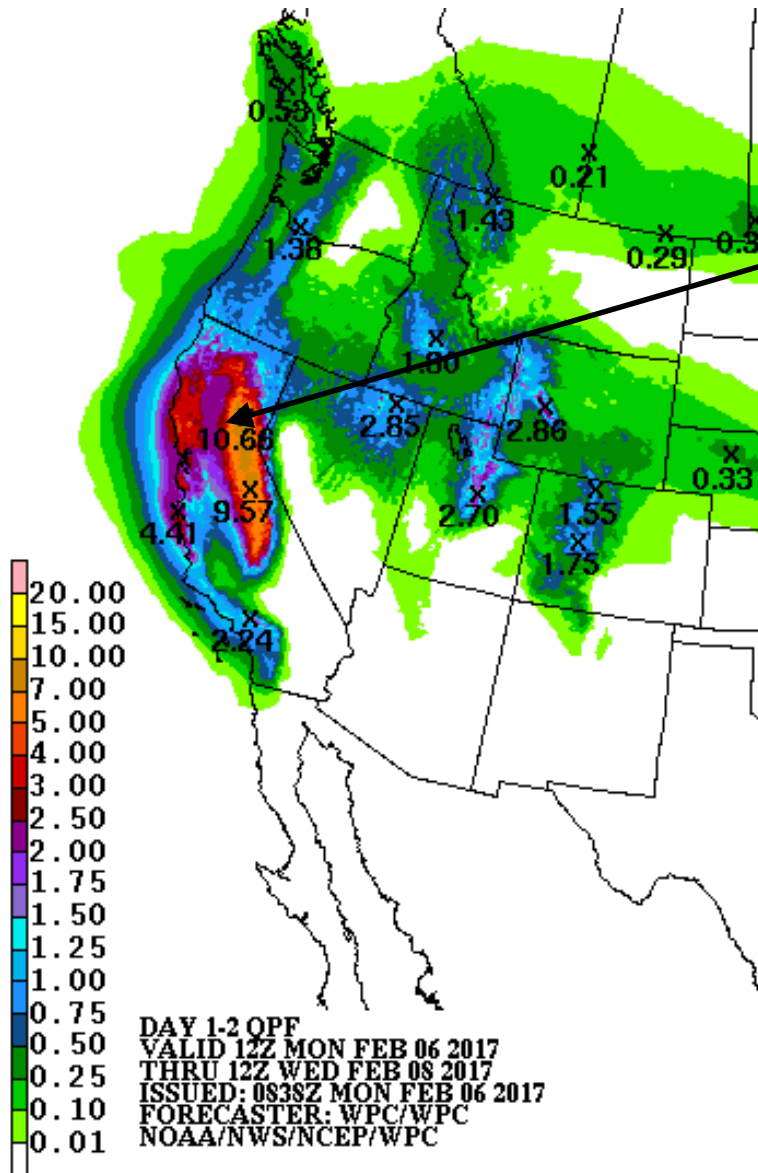
AR Update: 6 February 2017

For California DWR's AR Program



Center for Western Weather and Water Extremes

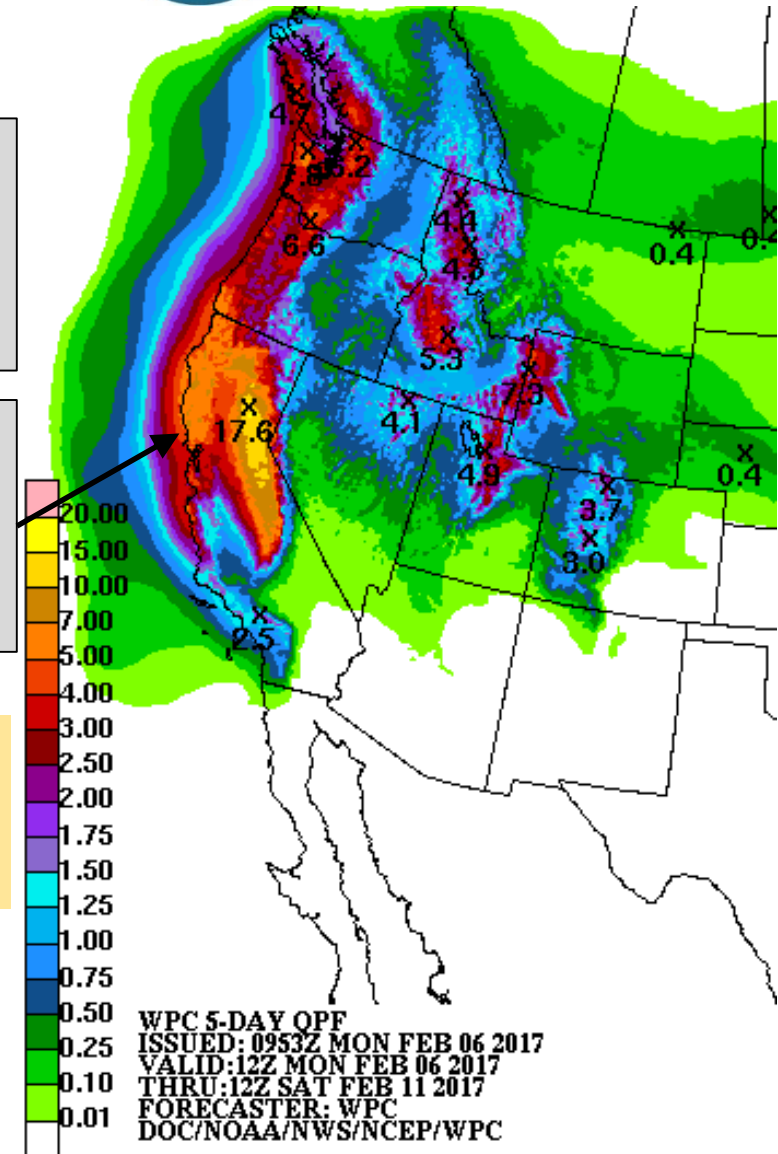
SCRIPPS INSTITUTION OF OCEANOGRAPHY
AT UC SAN DIEGO



Precipitation forecasts from NOAA-WPC are predicting 9–10 inches in the typically wetter high elevations of the Sierras and 1–2 inches at lower elevations over the next 48 hours

Both ARs could potentially produce as much as 17 inches of precipitation in Sierras and 6 inches in the Central Valley and Coastal Mountains

For Official NOAA-NWS Precipitation Forecasts see www.wpc.ncep.noaa.gov/qpf/qpf2.shtml



AR Update: 6 February 2017

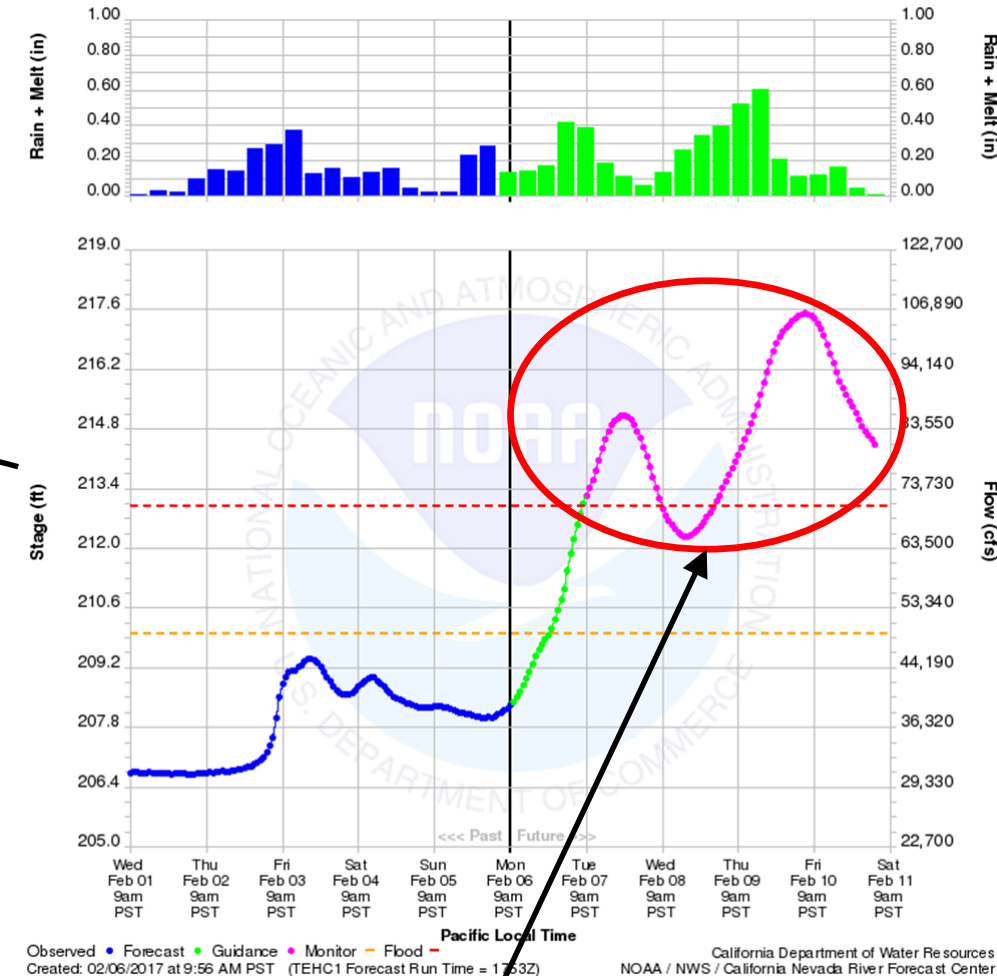
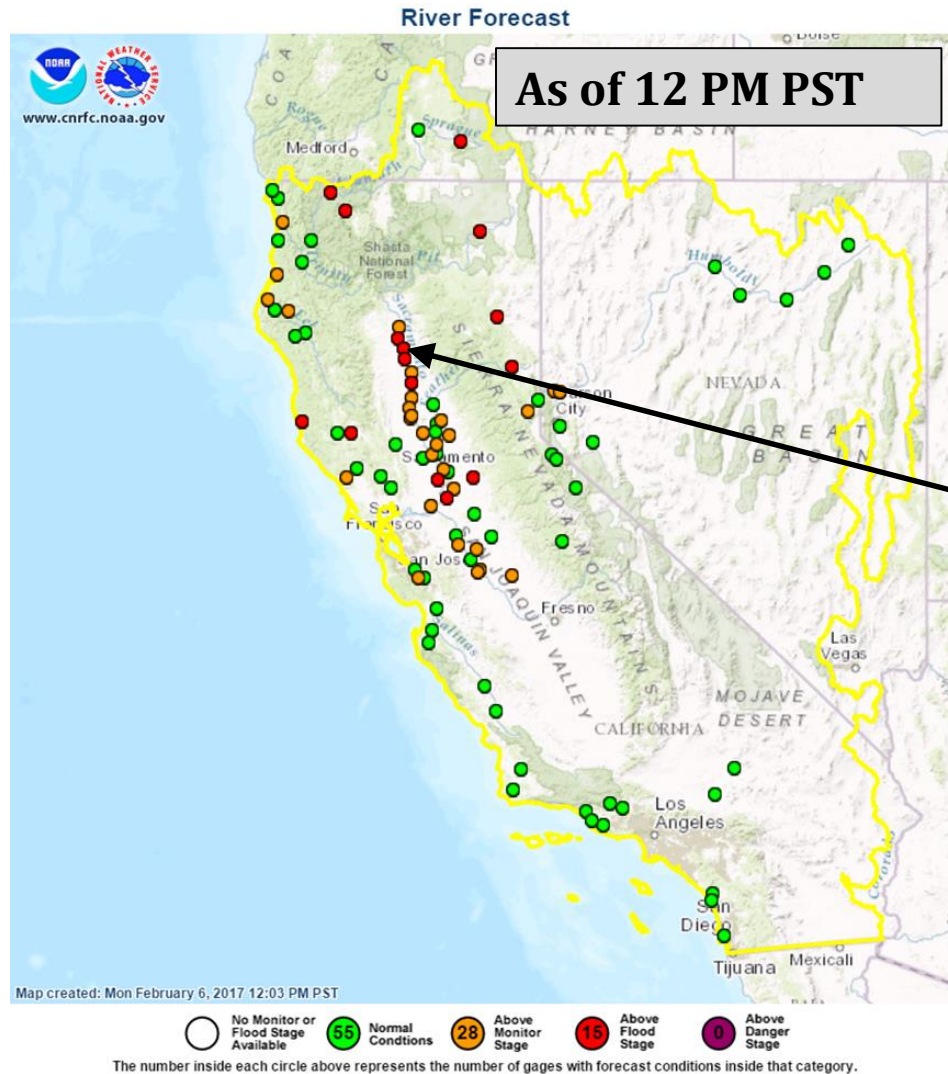
For California DWR's AR Program



There are currently 15 river gauges that are forecast to rise above flood stage in the Central Valley and Northern CA

There are an additional 28 gauges that are expected to rise above monitor stage

For official NOAA-NWS CNRFC Streamflow Forecasts see cnrfc.noaa.gov/rfc_guidance.php



The Sacramento River at Tehama Bridge is forecast to rise to 215 on Tuesday and 217.5 feet on Thursday, ~4.5 feet above flood stage,

Summary by C. Hecht 1 PM PT Monday 6 Feb. 2017

The National Weather Service has issued numerous Flood and Flash Flood Watches, Flood Advisories, and Flood Warnings across California. Visit weather.gov for more information and point specific forecasts, watches, advisories, and warnings