

CW3E Atmospheric River Outlook

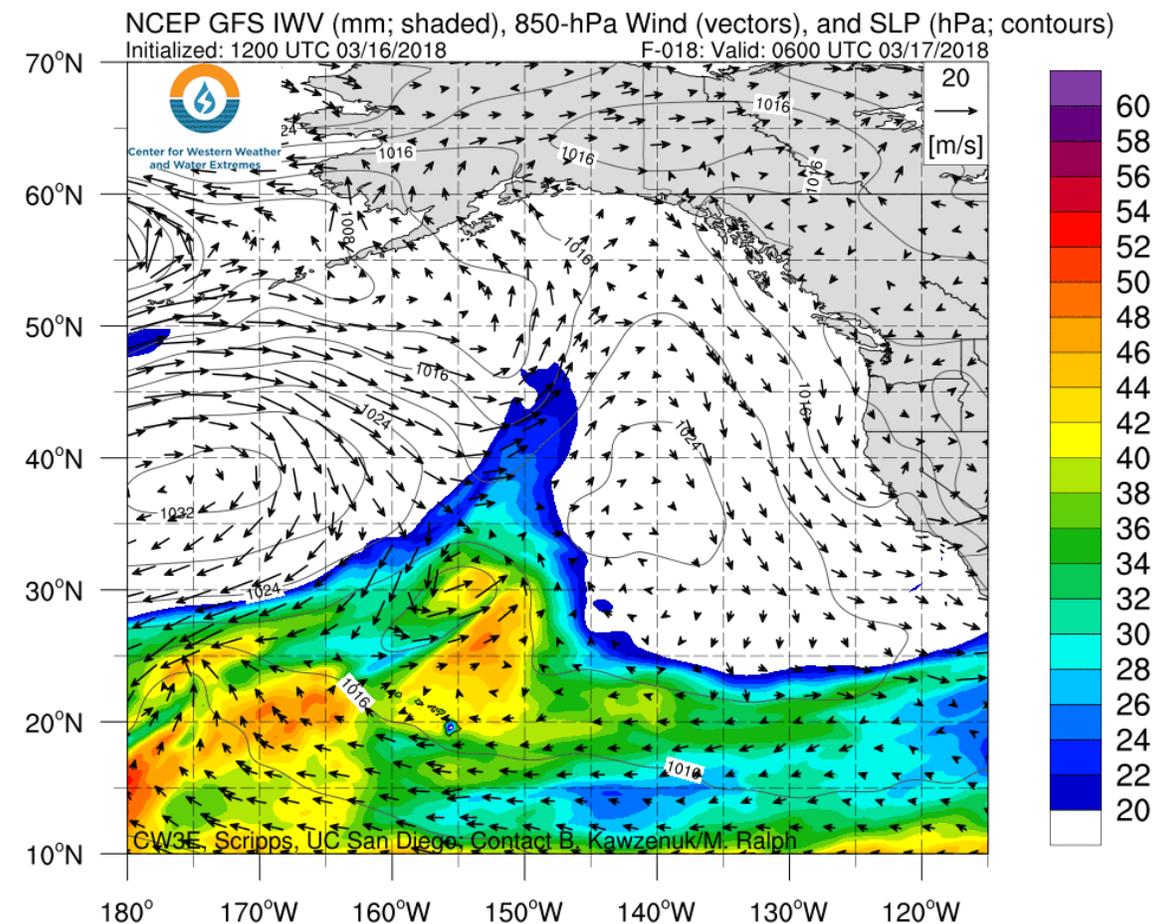
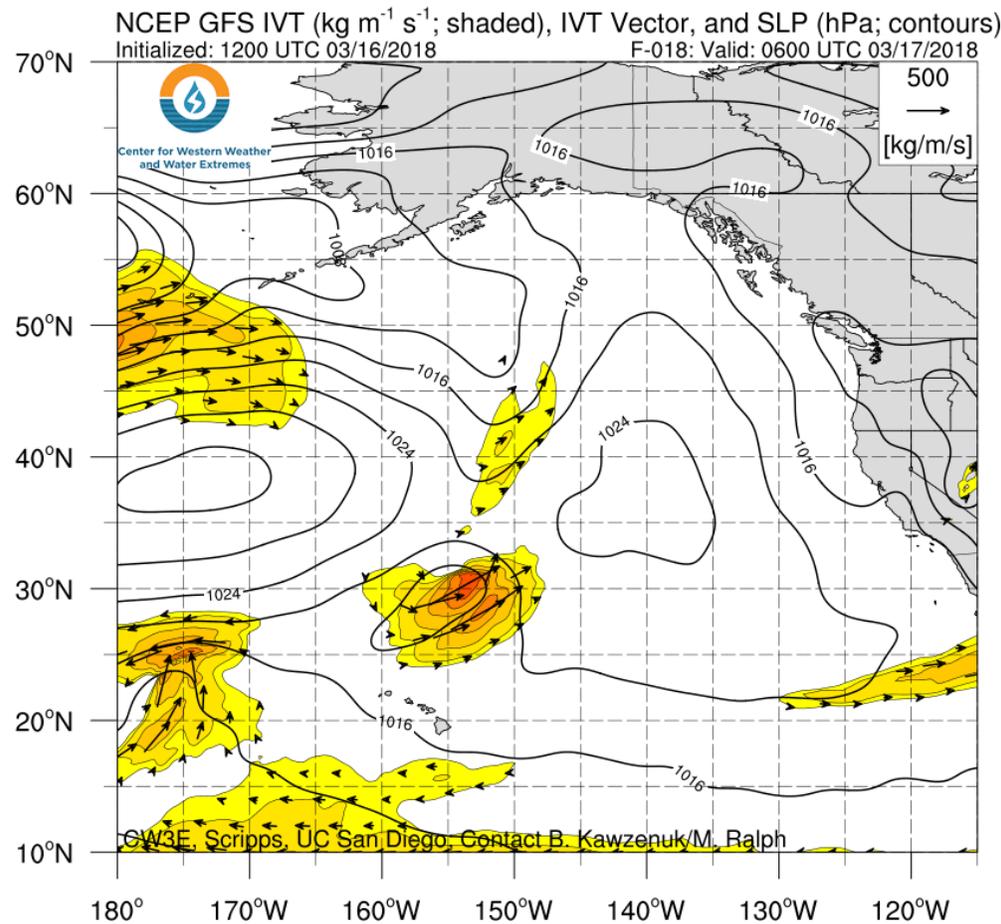


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Update on Atmospheric River Forecast to Impact California Next Week

- Several changes have occurred in the forecast for the AR that may impact CA later next Week
- GFS Ensemble members have started to converge on coastal AR conditions
- While there is more agreement between ensemble members, there is still large uncertainty in onset, duration, and magnitude of AR conditions



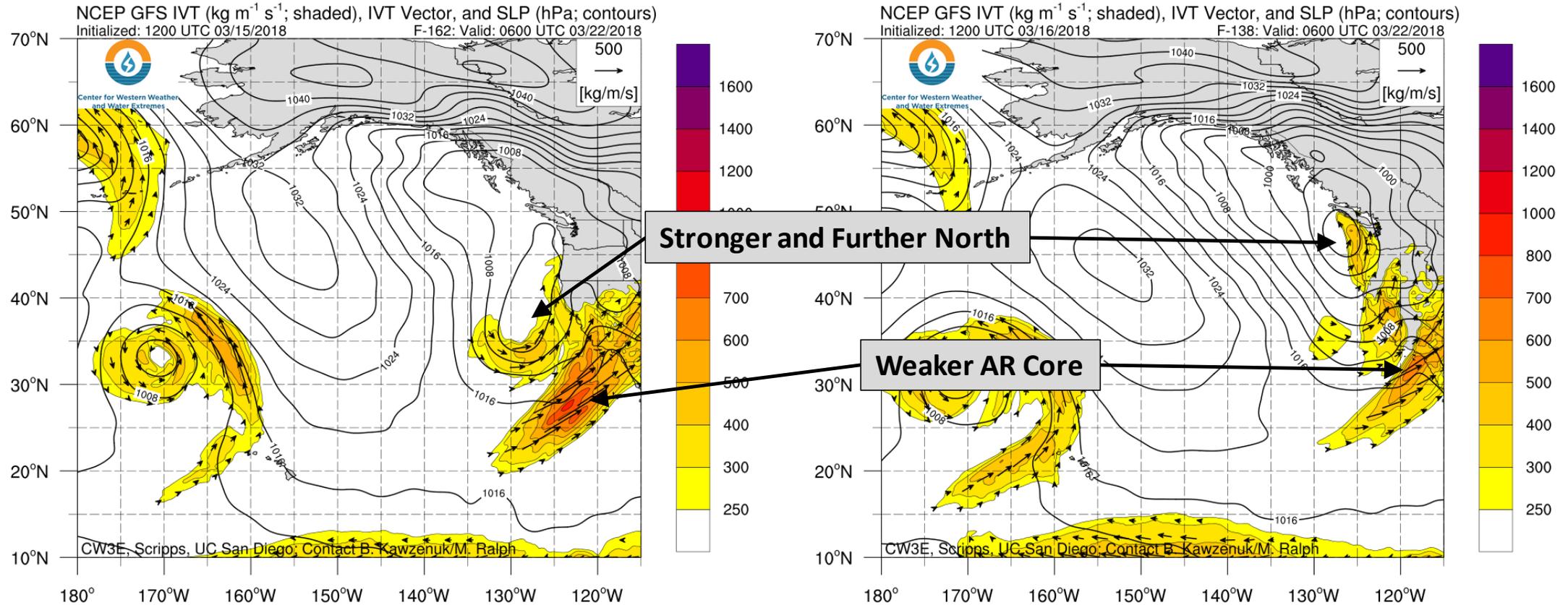
AR Outlook: 16 March 2018

For California DWR's AR Program



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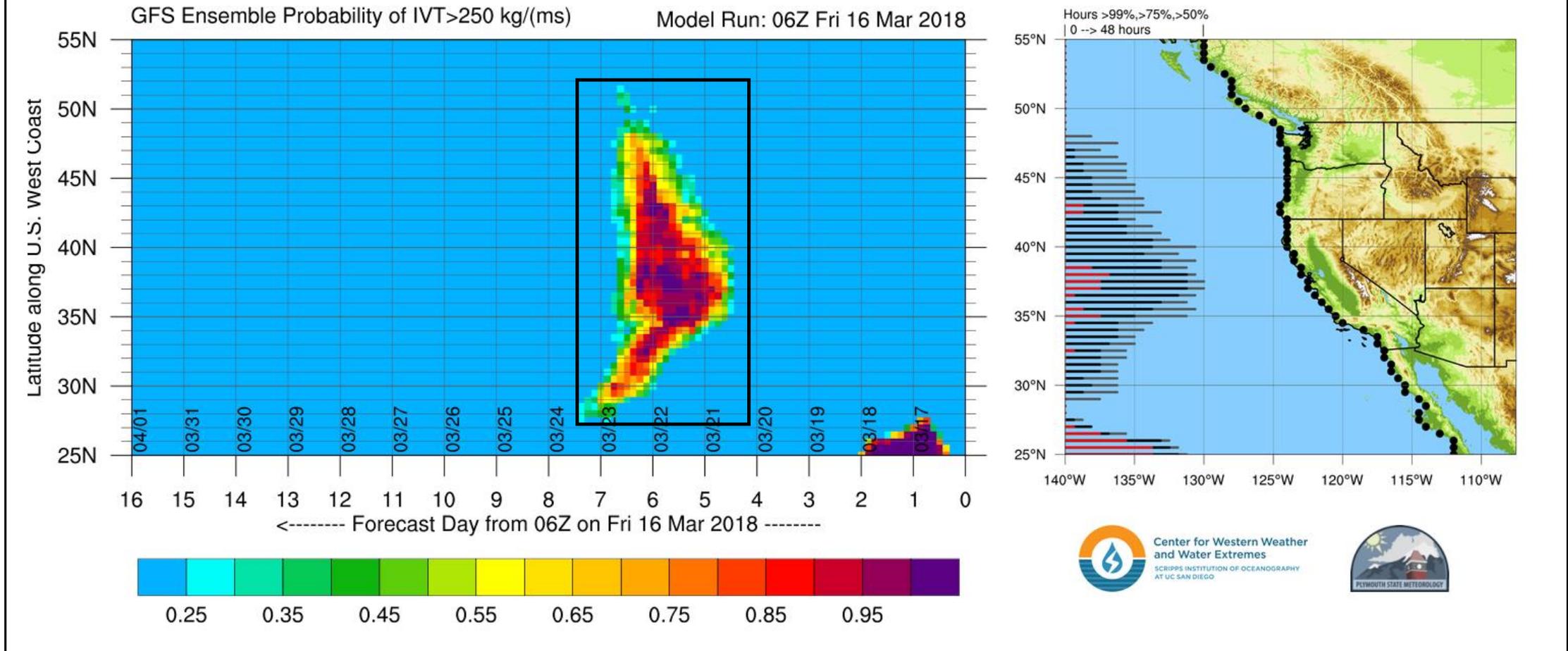
What has changed: 12Z 15 March Forecast Compared to 12Z 16 March Forecast



- The parent low-pressure system is deeper and further north in today's forecast compared to yesterday's
- The IVT in the core of the AR has weakened from $\sim 800 \text{ kg m}^{-1} \text{ s}^{-1}$ to $\sim 600 \text{ kg m}^{-1} \text{ s}^{-1}$
- Given the large differences between yesterday and today's 12Z forecasts, expect more changes to occur in the forecast over the next several days



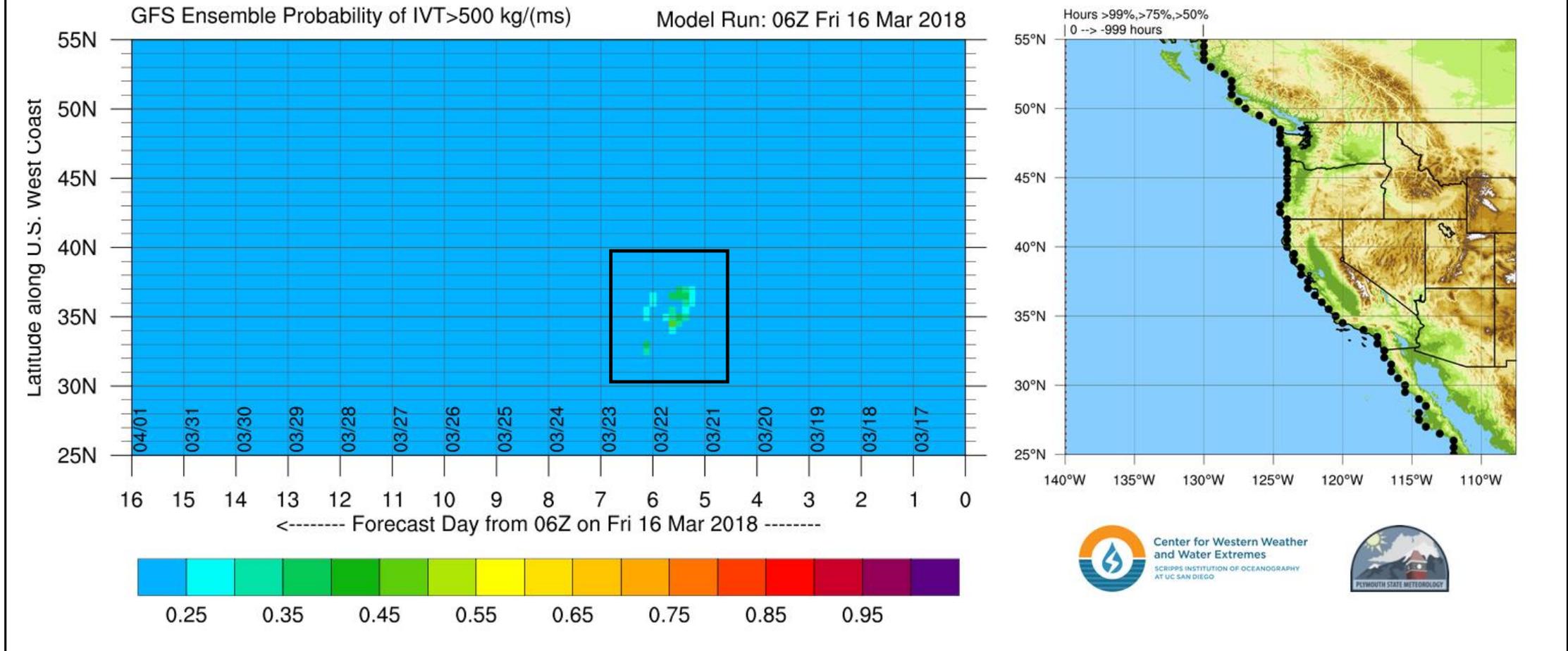
Odds of at least a **WEAK** AR making landfall



- The probability of at least weak strength AR conditions ($IVT > 250 \text{ kg m}^{-1} \text{ s}^{-1}$) have increased to >95% since yesterday's forecast
- The northern extent of AR conditions has also extending into coastal Washington, from ~44N



Odds of **Moderate** AR making landfall



- The probability and spatial extent along the coast of moderate AR conditions ($IVT > 500 \text{ kg m}^{-1} \text{ s}^{-1}$) has also increased since yesterday

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The GFS Ensemble IVT forecast for 33N 117.5W
have begun to converge

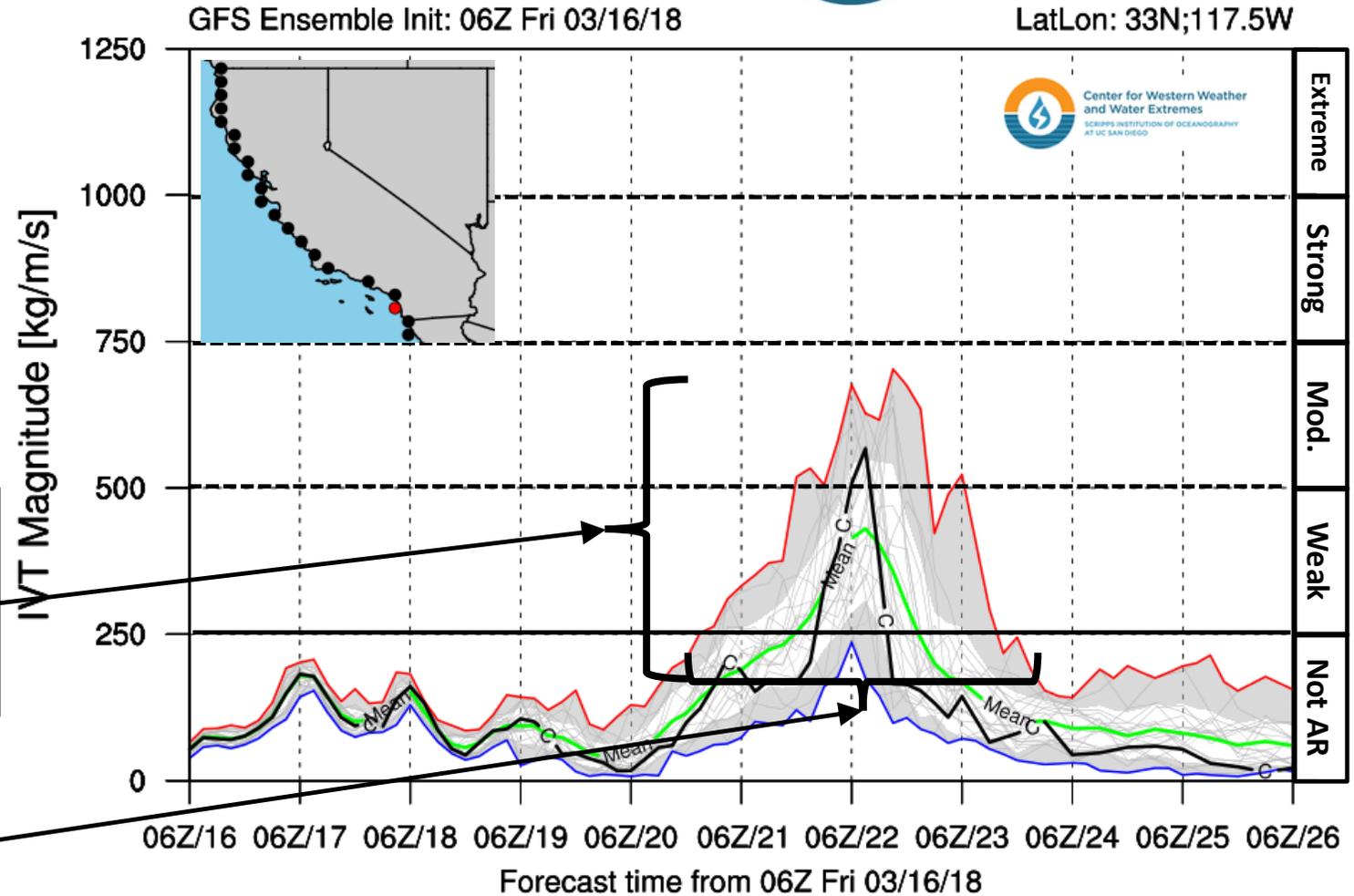
While there is more agreement in the forecast
today there is still considerable uncertainty in
the onset, duration, and magnitude of AR
conditions

Magnitude of Potential AR

- Maximum predicted IVT $\sim 700 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 450 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum IVT $\sim 250 \text{ kg m}^{-1} \text{ s}^{-1}$

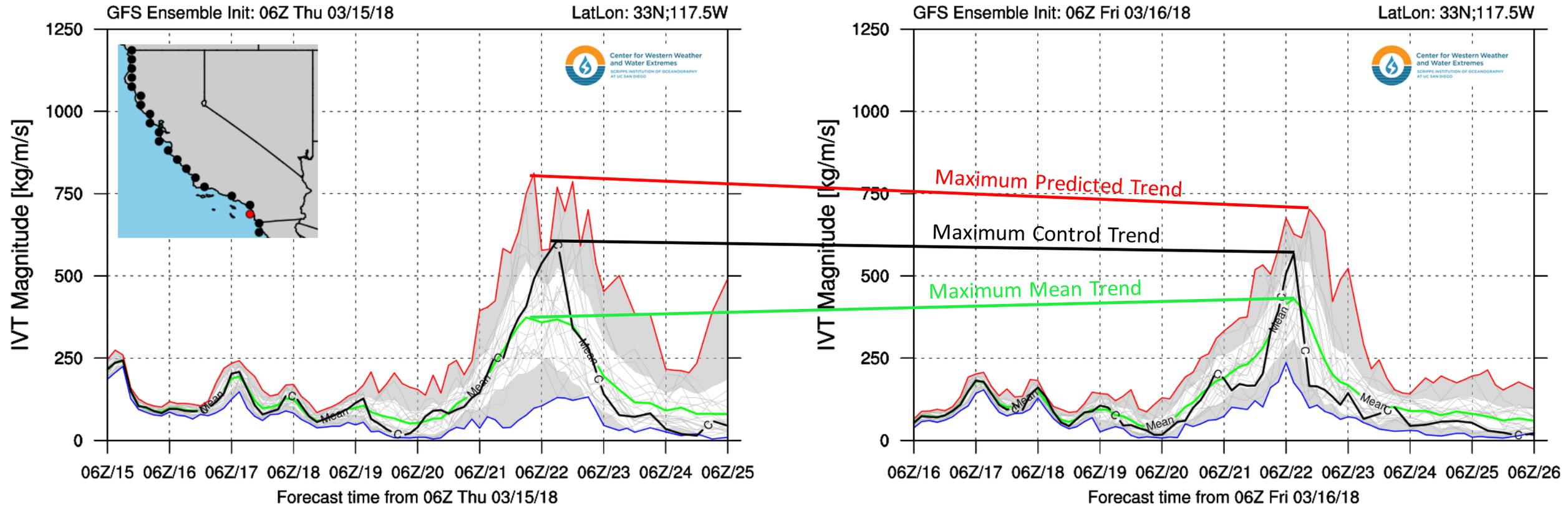
Duration of AR conditions by strength

- Weak: $\sim 24 \text{ hours} \pm 24 \text{ h}$
- Moderate: $\sim 6 \text{ hours} \pm 6 \text{ h}$



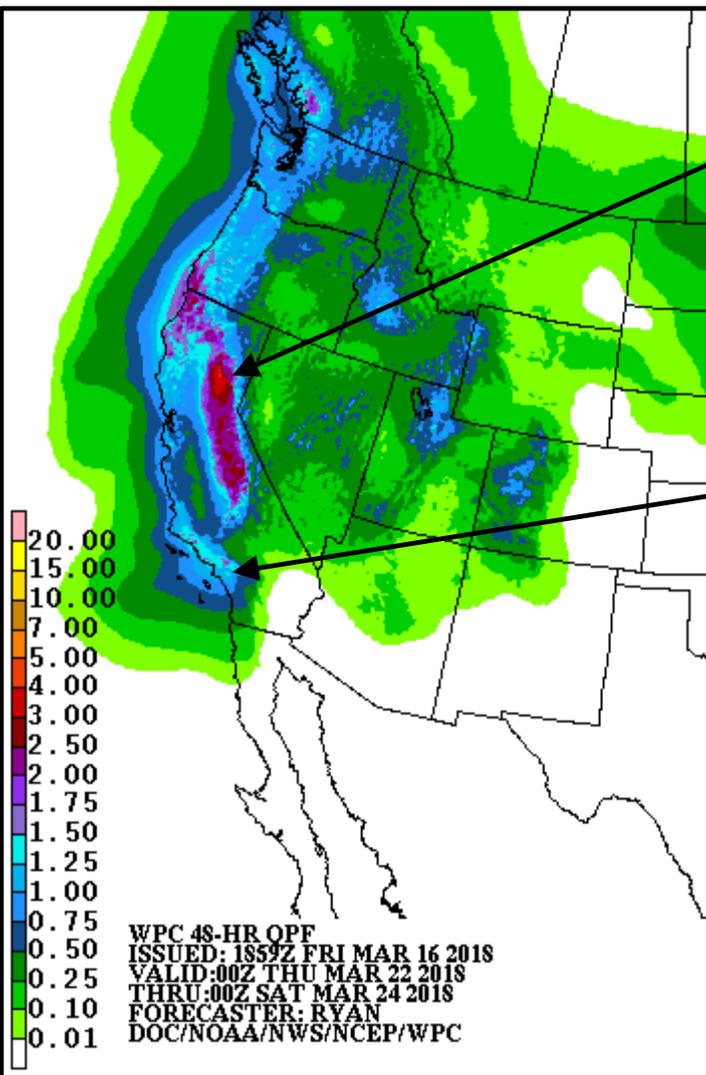


Ensemble IVT Plume Changes: 6Z 15 March Compared to 6Z 16 March Forecast



- Since yesterday's update, the maximum predicted IVT at 33N has decreased from $\sim 800 \text{ kg m}^{-1} \text{ s}^{-1}$ to $\sim 700 \text{ kg m}^{-1} \text{ s}^{-1}$ (Red)
- The maximum IVT in the control forecast has decreased slightly by $\sim 25 \text{ kg m}^{-1} \text{ s}^{-1}$ (Black)
- The maximum IVT in the ensemble mean forecast has increased by $\sim 50 \text{ kg m}^{-1} \text{ s}^{-1}$, which is likely due to more agreement in the timing of maximum IVT between ensemble members (Green line)

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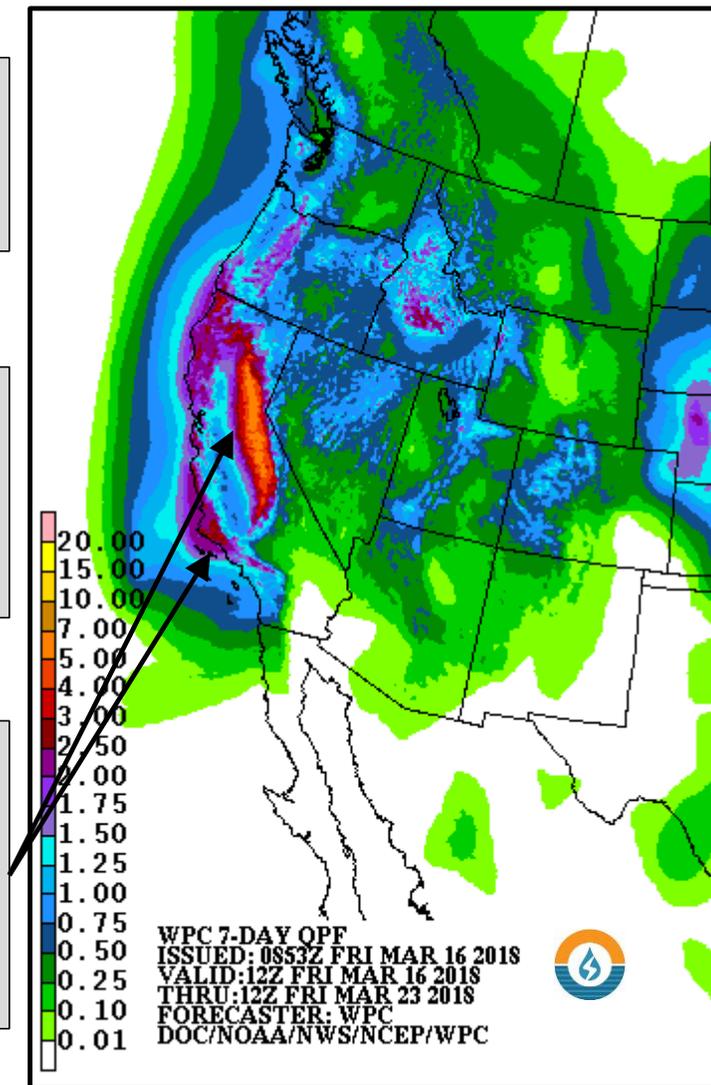


The Day 6/7 NOAA WPC forecast valid 00Z 22 to 00Z 23 March is currently predicting as much as 5 inches over the northern high Sierra

The high elevations of the Transverse Range is forecast to receive >1.5 inches of precipitation with other locations in Southern California forecast to receive .25 to 1 in.

With precipitation currently falling and forecast over the next couple days, 1 – 7 day total accumulations could reach >5 inches over the Sierra and >2.5 along coastal California north of Santa Barbara

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



For localized forecasts visit
www.weather.gov