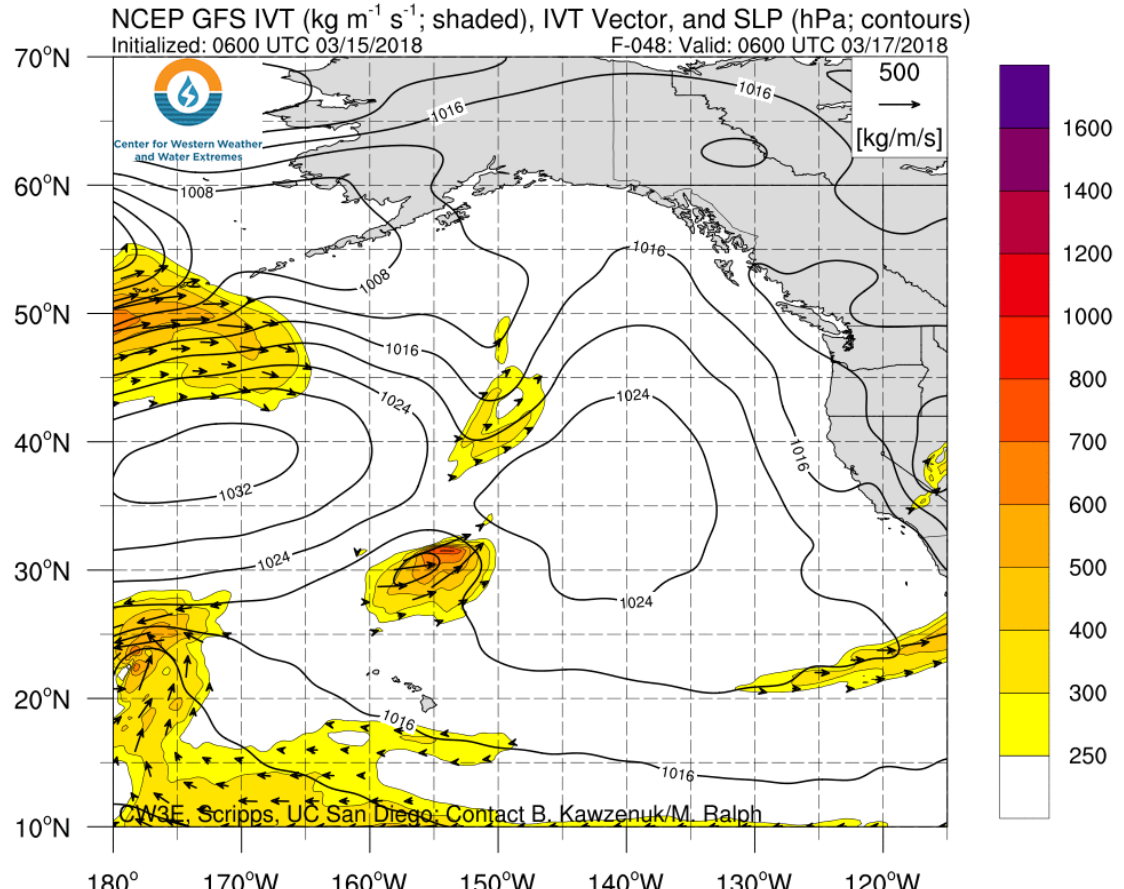
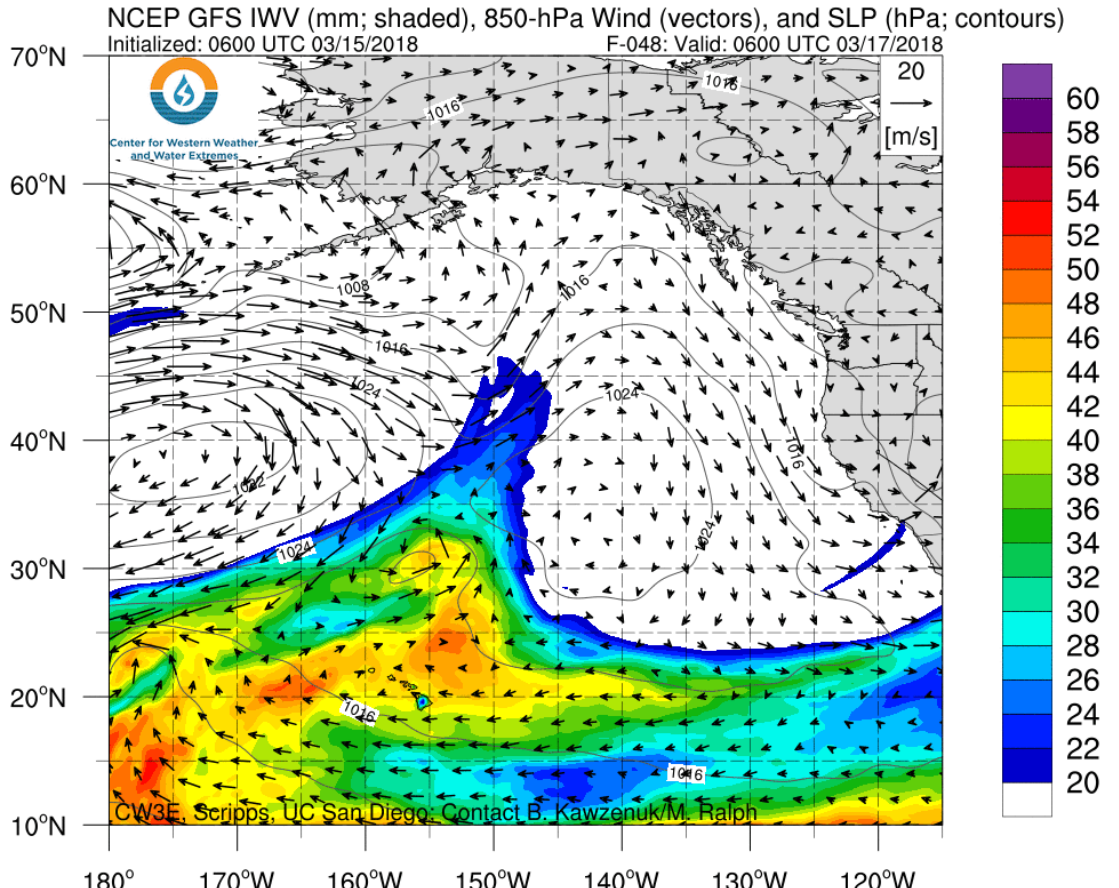
# CW3E Atmospheric River Outlook

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

**A potentially moderate strength atmospheric river is forecast to impact Southern California**

- An AR is currently forecast to impact Southern California on 21 and 22 March 2018
- Some GFS ensemble members are indicating that this AR could be moderate strength (IVT >500 $m^{-1}$ $s^{-1}$)
- There is currently large uncertainty pertaining to the magnitude and duration of this event
- CW3E's high resolution West-WRF model suggests this event is capable of producing 2-4 in. of precip. over portions of Southern California



# AR Outlook: 15 March 2018

For California DWR's AR Program

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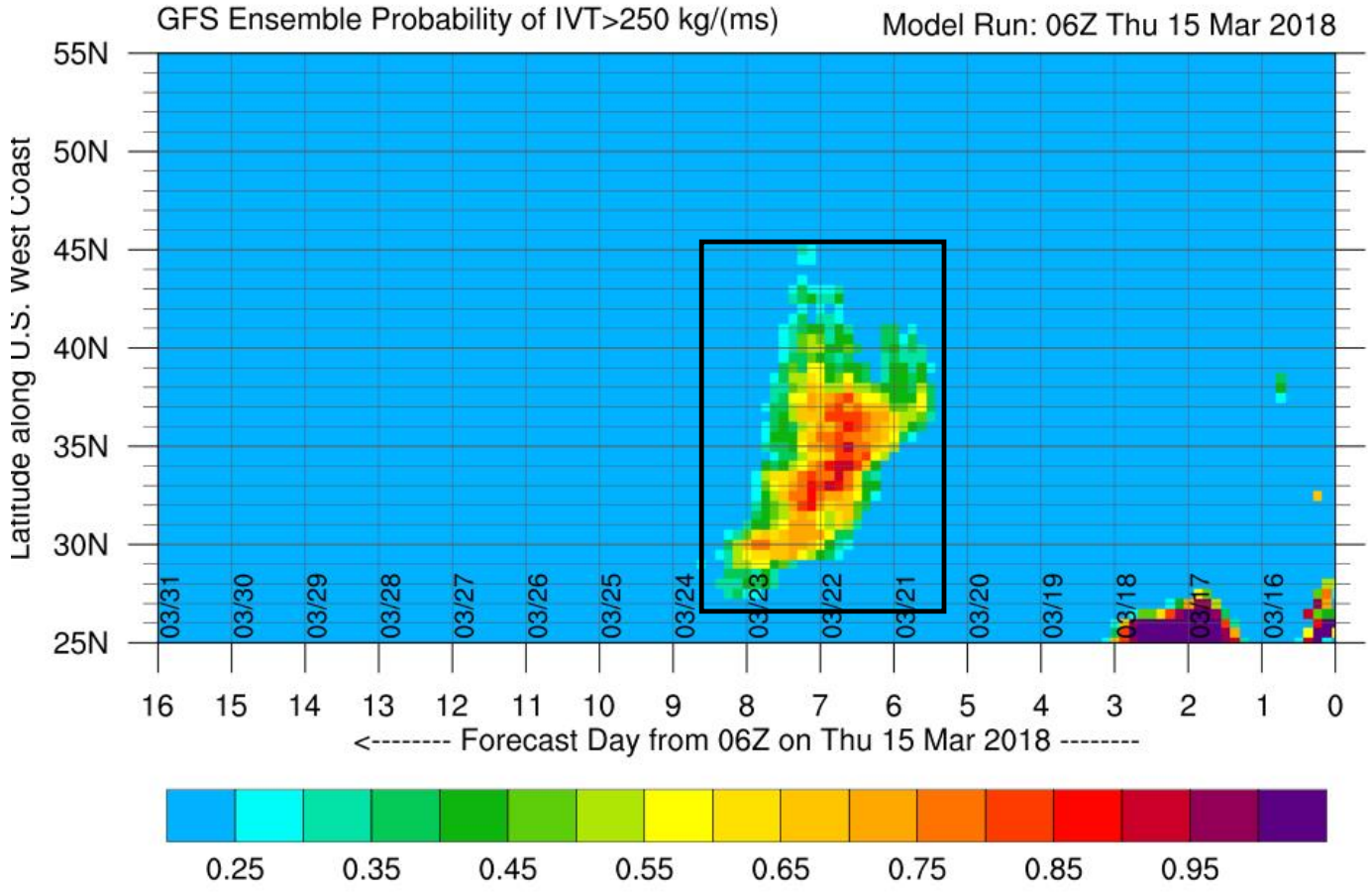
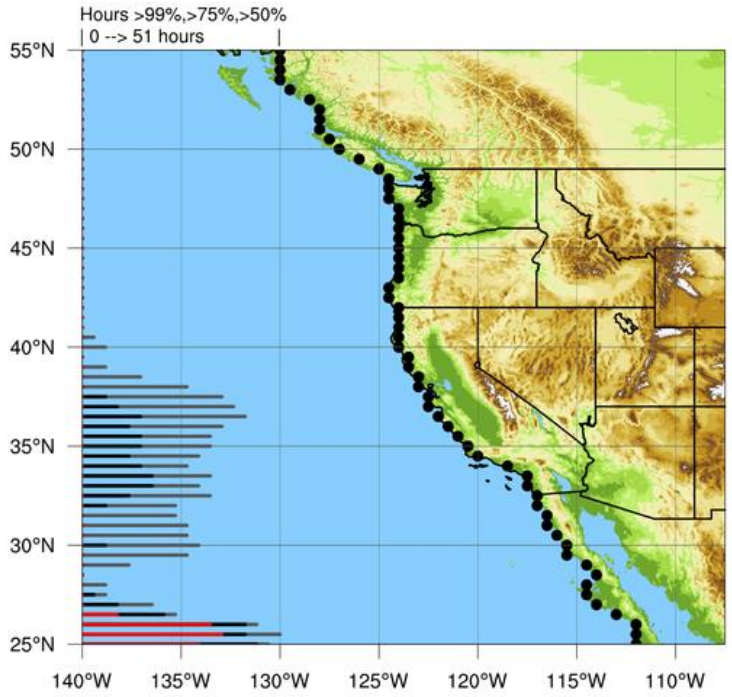
Odds of at least a **WEAK** AR making landfall

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PLYMOUTH STATE METEOROLOGY

- **The CW3E AR Landfall Tool currently projects relatively high probability (>80%) of IVT magnitudes >250 kg $m^{-1}$ $s^{-1}$ on 02/21 → 02/23**
- **AR conditions could potentially last ~48-hours over portions of Southern California**

# AR Outlook: 15 March 2018

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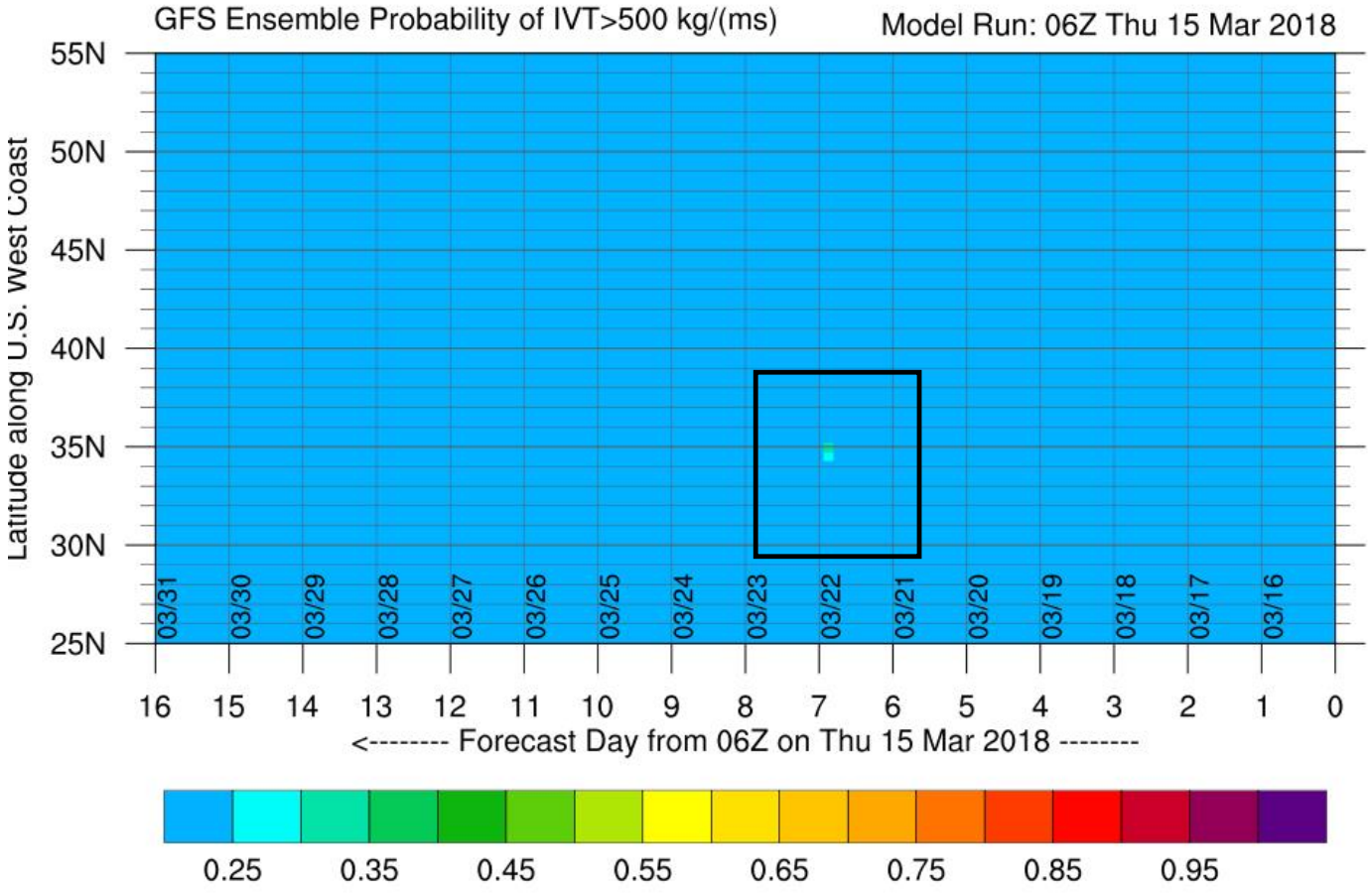
## Odds of **Moderate** AR making landfall





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PLYMOUTH STATE METEOROLOGY

- **There is currently one location over Coastal CA where >25% of ensemble members are predicting moderate strength AR conditions (IVT >500 kg $m^{-1}$ $s^{-1}$)**

# AR Outlook: 15 March 2018

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**GFS Ensemble members are predicting a potentially moderate AR over Southern California, with a couple members reaching strong conditions**

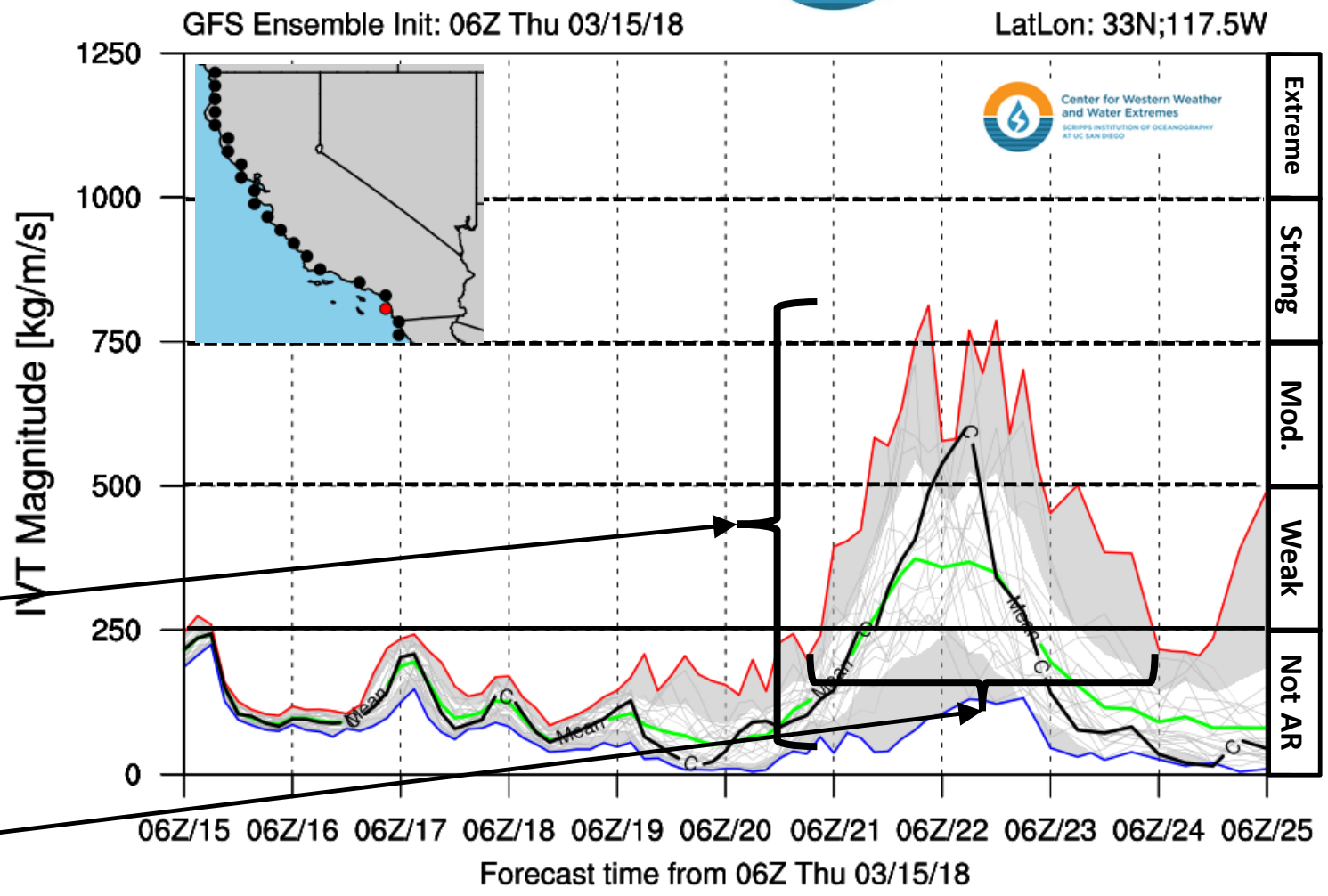
**Due the event being ~7 days out in the forecast, there is currently large uncertainty in the onset, magnitude and duration of AR conditions associated with this event**

**Magnitude of Potential AR**

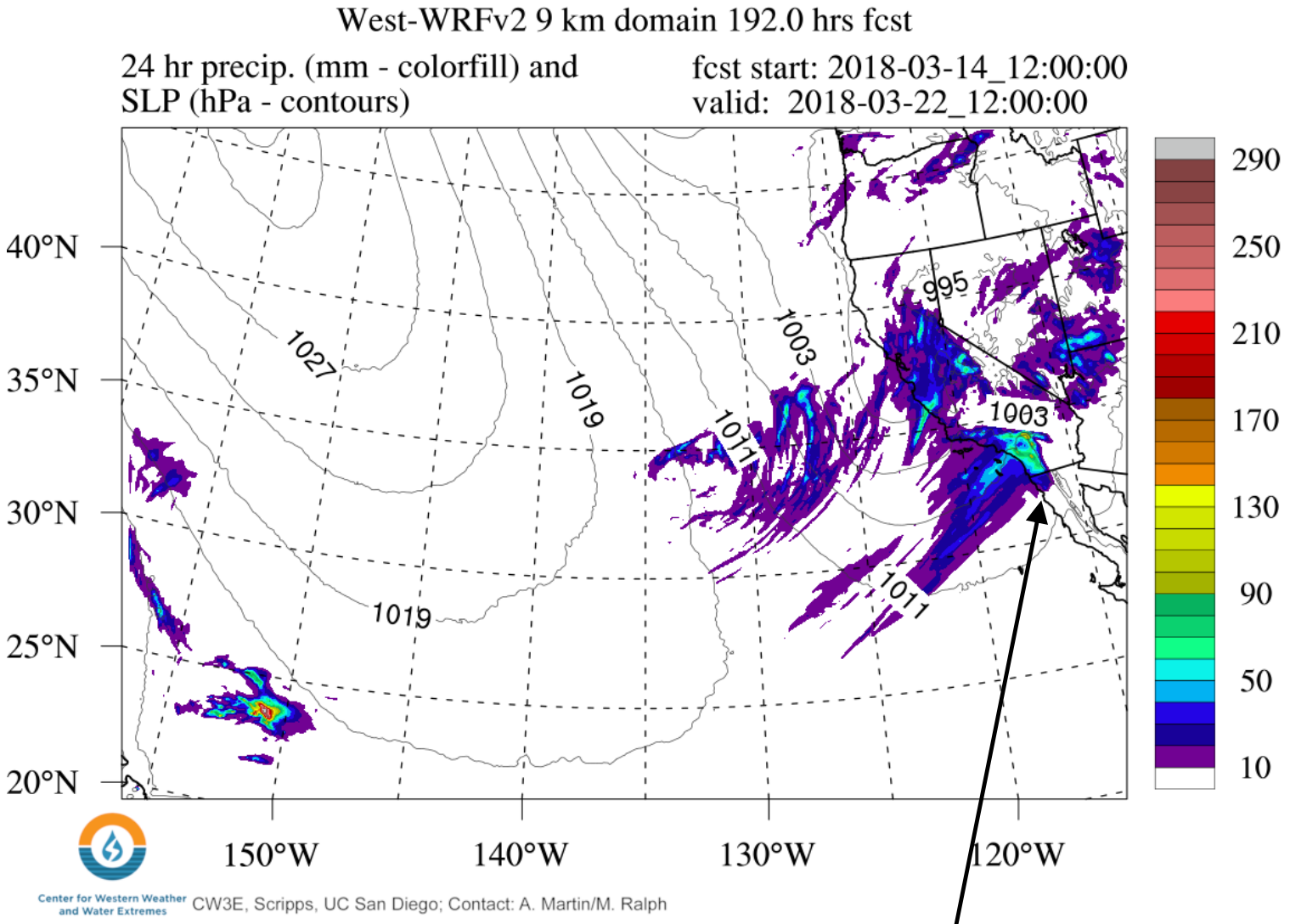
- Maximum predicted IVT ~760 kg $m^{-1}$ $s^{-1}$
- Mean IVT ~400 kg $m^{-1}$ $s^{-1}$
- Minimum IVT <250 kg $m^{-1}$ $s^{-1}$

**Duration of AR conditions by strength**

- Weak: ~36 hours +/– 24 h
- Moderate: ~6 hours +/– 6 h



# AR Outlook: 15 March 2018




**CW3E's high resolution West-WRF model suggests that this event is capable of producing 2-4 in. of precipitation across the Transverse Ranges and 1-2 in. of precipitation across inland regions of San Diego county**

AMBASSADOR™ WRN WEATHER-READY NATION

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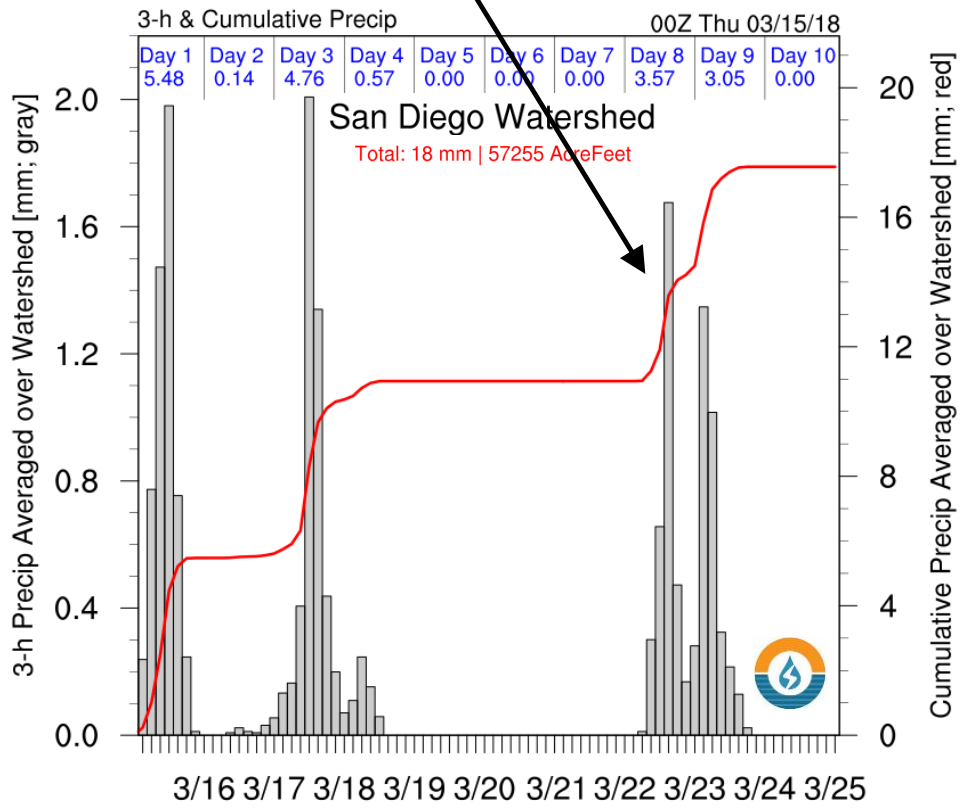
- **The GFS suggests that the San Diego River Watershed may received ~.25 in of precipitation during this event**
- **Given the long lead time, expect changes in the forecast over the next week as confidence increases**




**For localized forecast for the San Diego region: https://www.weather.gov/sgx/**