

CW3E Atmospheric River Outlook

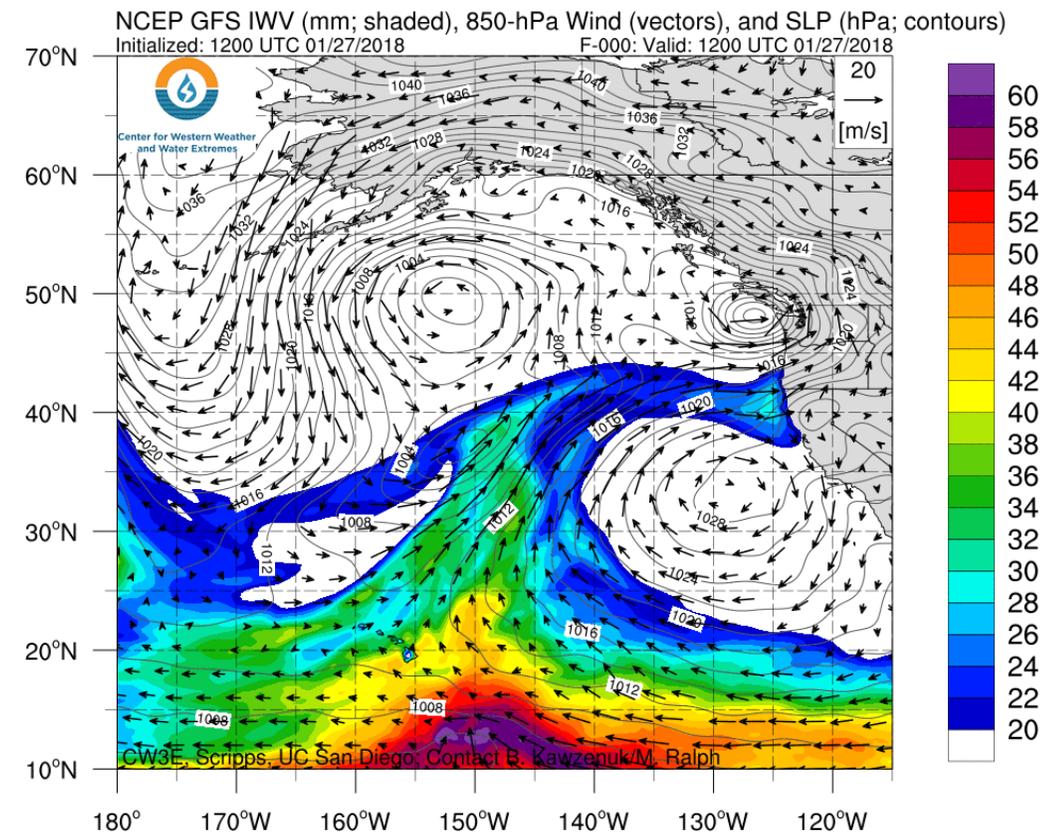
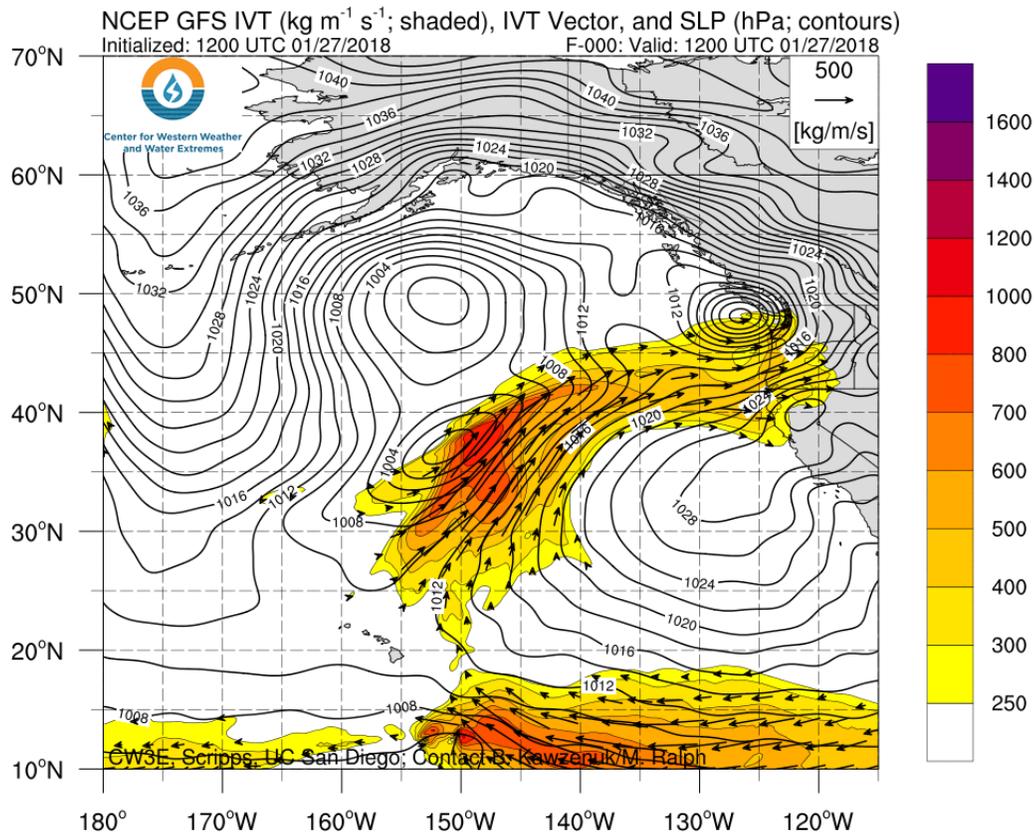


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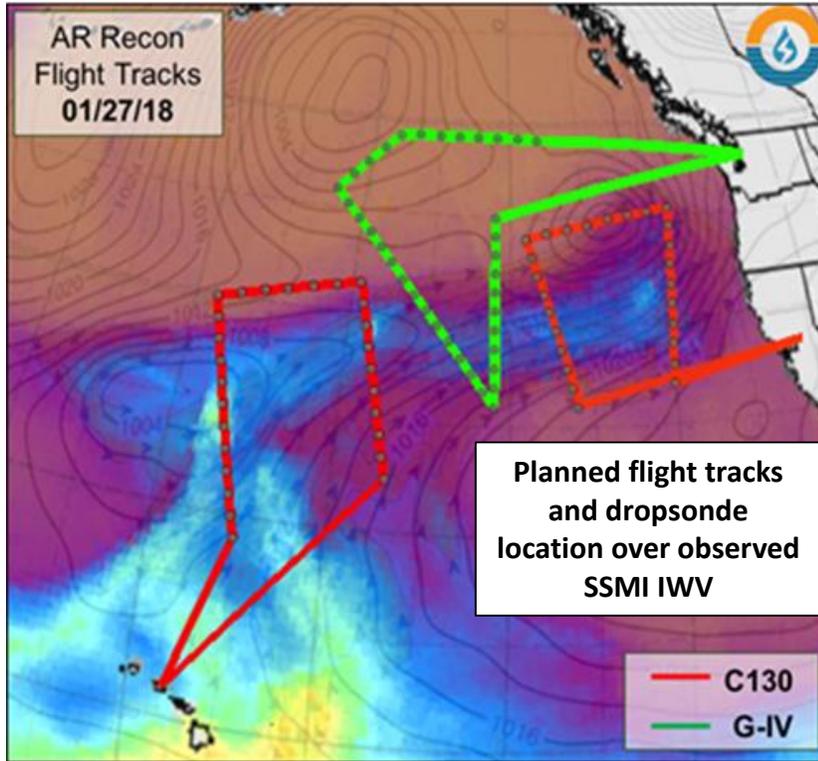
Multiple ARs Currently and Forecast to Impact the West Coast this Weekend

- An AR is currently impacting the West Coast (Referred to as AR 1)
- Two Air Force C-130s and a NOAA G-IV collected observations within this AR on 26 January
- A second (Referred to as AR 2) AR developed from a mesoscale frontal wave within the first AR and is forecast to make landfall at ~6 UTC on the 28th (10 PM PST on the 27th)
- Over 10 inches of precipitation may fall over the Higher elevations of the Olympic mountains and Vancouver Island due to the two ARs

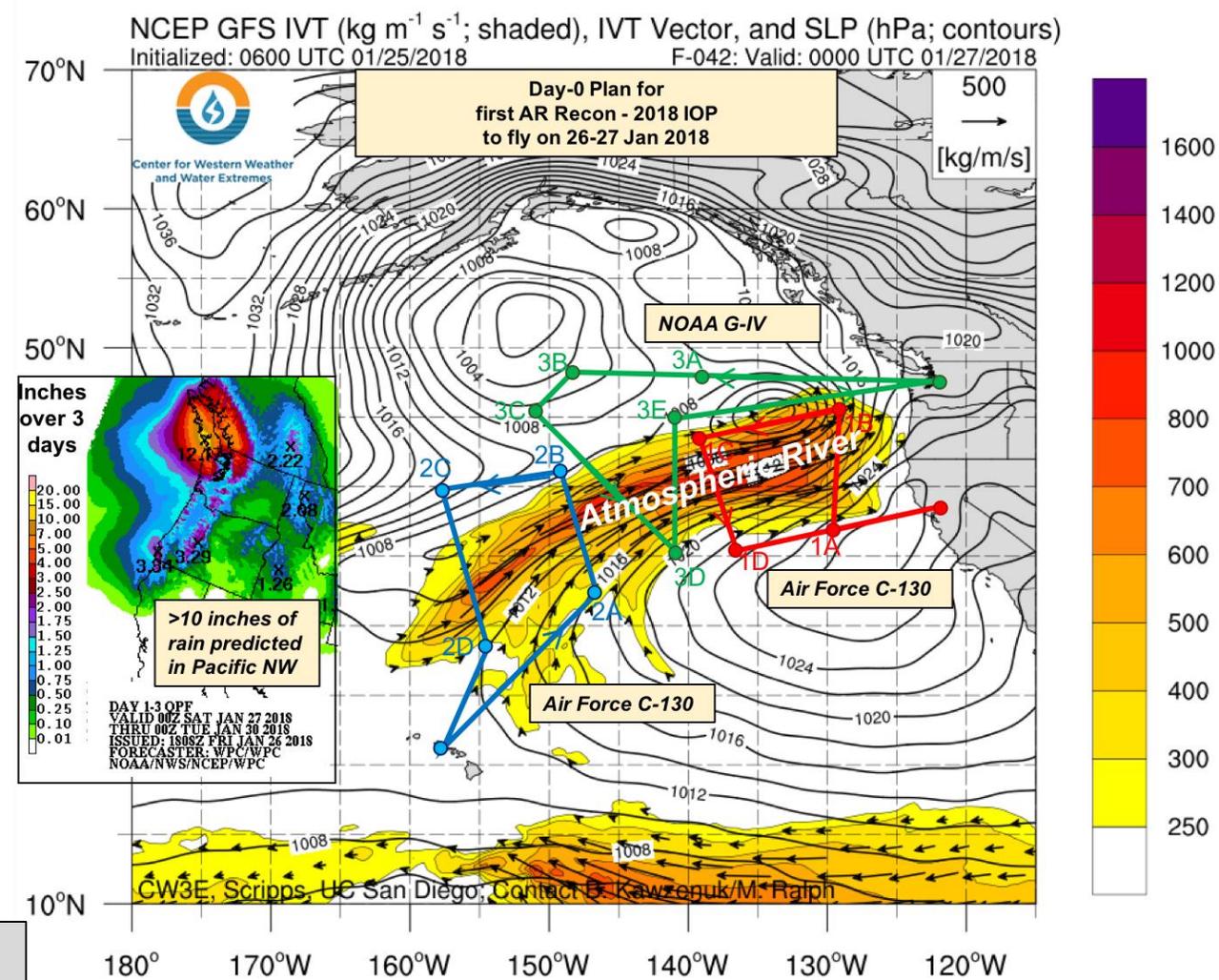


2018 AR-Recon: IOP #1 Recap

Courtesy of F. M. Ralph, AR-Recon P.I., and the AR-Recon Team



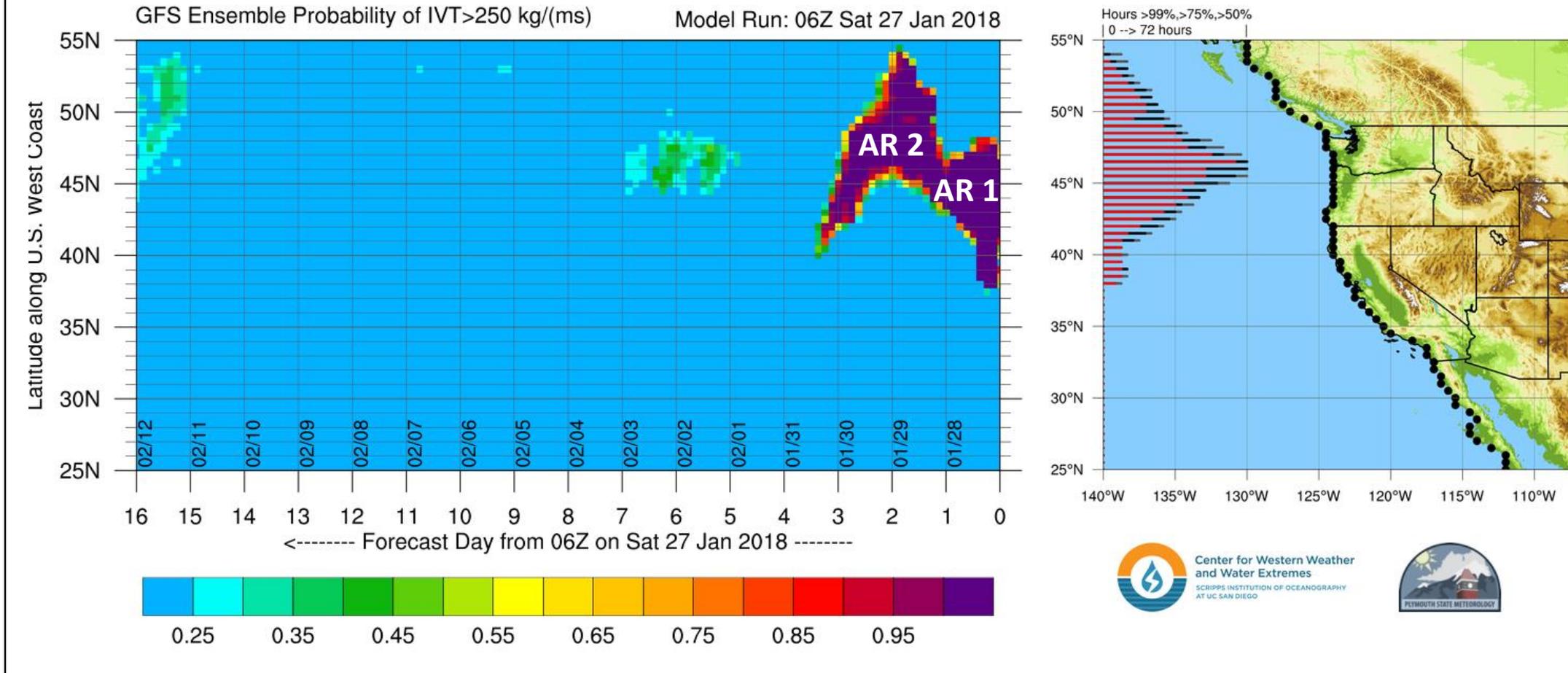
- The 2018 AR-Recon commenced by sampling the AR 1 on 26 January 2018 (Centered on 00 UTC 27 January 2018)
- Two Air Force C-130 aircraft sampled the core of the AR over the Pacific (Red Tracks above, Red and blue track to the right)
- A NOAA G-IV sampled the synoptic scale features associated with the formation and evolution of the AR (Green tracks)
- The objective of this reconnaissance is to collect data that will help improve model forecasting of ARs



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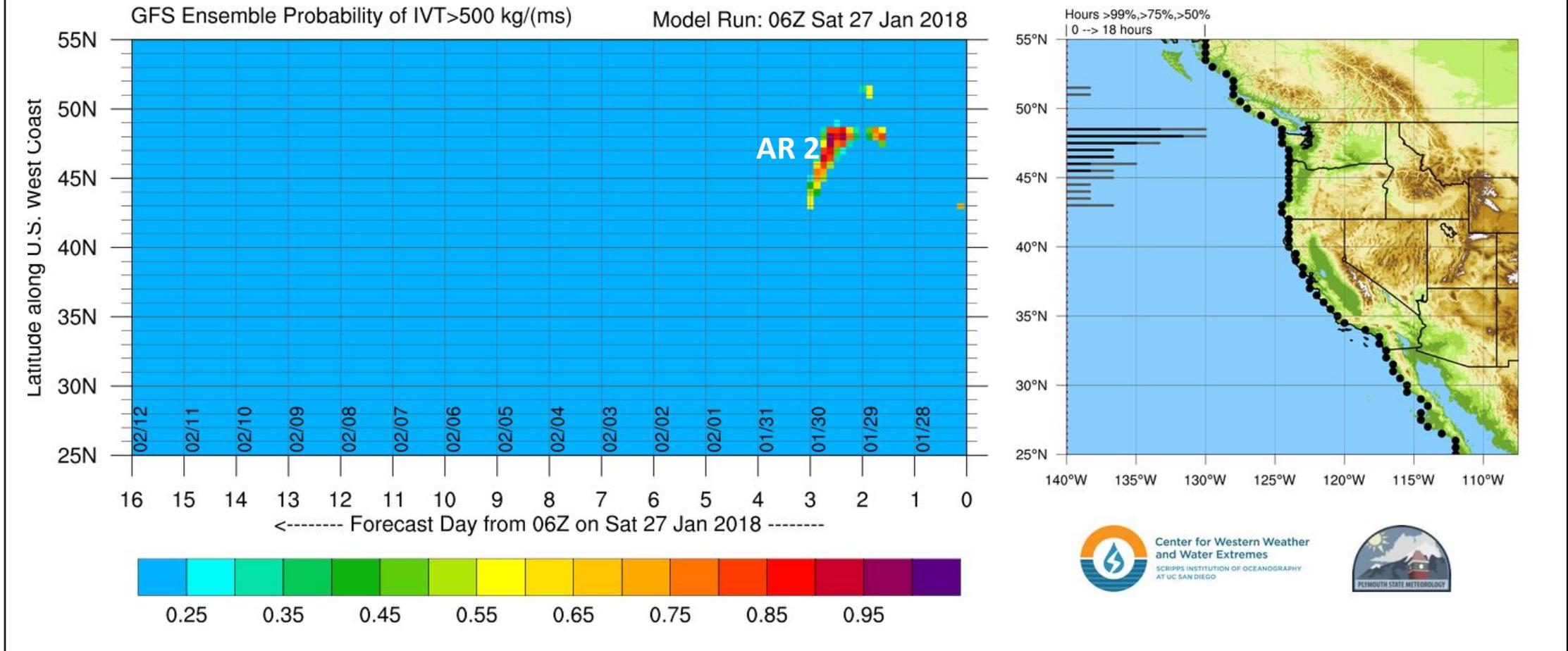
Odds of at least a **WEAK** AR making landfall



- The CW3E AR Landfall Tool currently projects a high probability of IVT magnitudes $>250 \text{ kg m}^{-1} \text{ s}^{-1}$ on 01/27 \rightarrow 01/30
- Long durations (~ 72 -hrs) of IVT are forecast at ~ 46 degrees north due to the second AR making landfall before the first AR ends



Odds of Moderate AR making landfall



- There is a high (90-95%) probability of moderate (500 kg/m/s) AR conditions associated with AR #2 for 6-12 HRS on 29 Jan.

AR Outlook: 27 January 2017

For California DWR's AR Program



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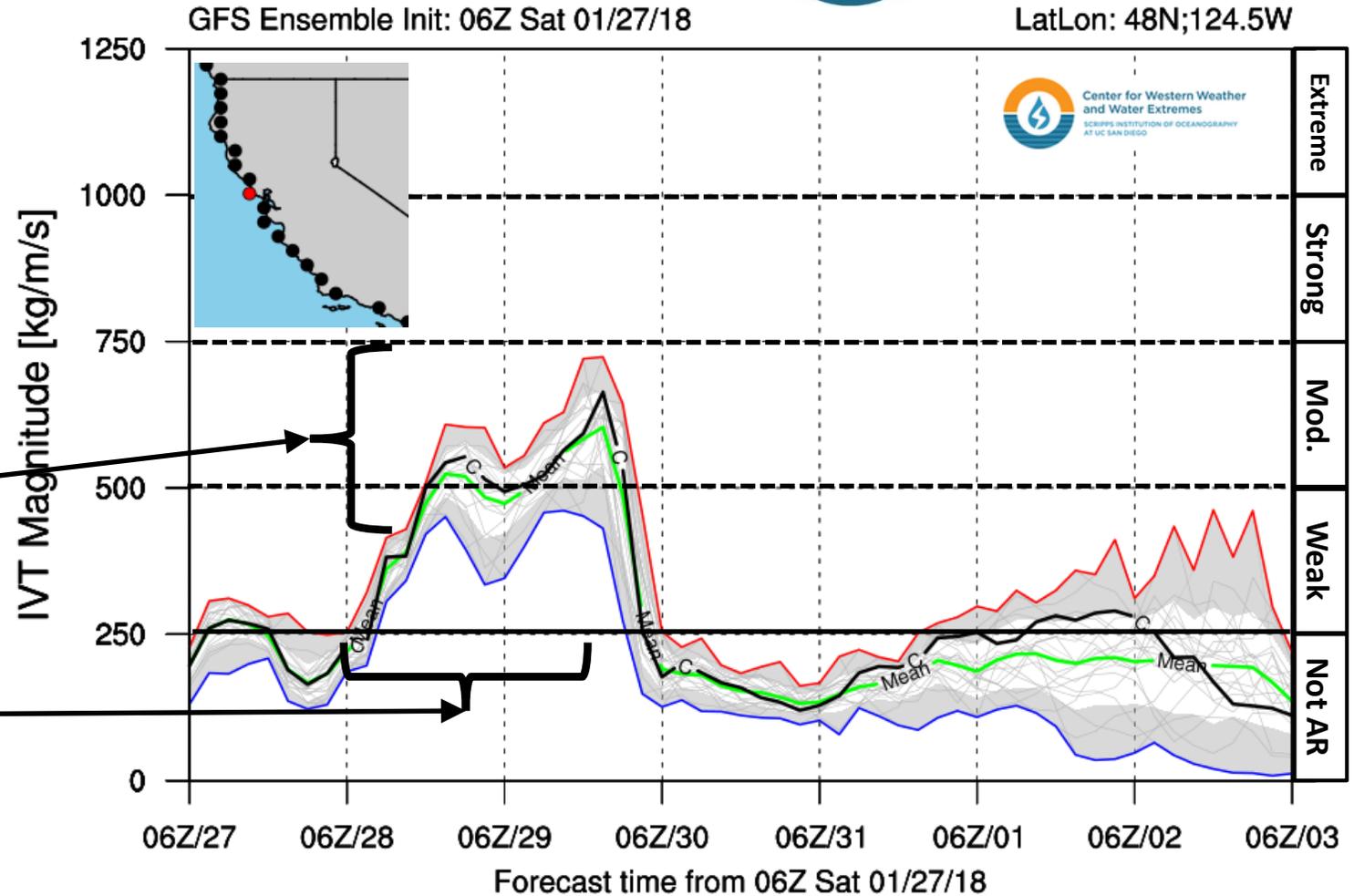
GEFS Ensemble members are in relatively high agreement of the onset, magnitude, and duration of the AR 2 Over the Olympic Mountains in Washington

Magnitude of Potential AR

- Maximum possible IVT $\sim 745 \text{ kg m}^{-1} \text{ s}^{-1}$
- Mean IVT $\sim 650 \text{ kg m}^{-1} \text{ s}^{-1}$
- Minimum IVT $\sim 450 \text{ kg m}^{-1} \text{ s}^{-1}$

Duration of AR conditions

- Weak: $\sim 48 \text{ hours} \pm 6 \text{ h}$
- Moderate: $\sim 36 \text{ hours} \pm 18 \text{ h}$



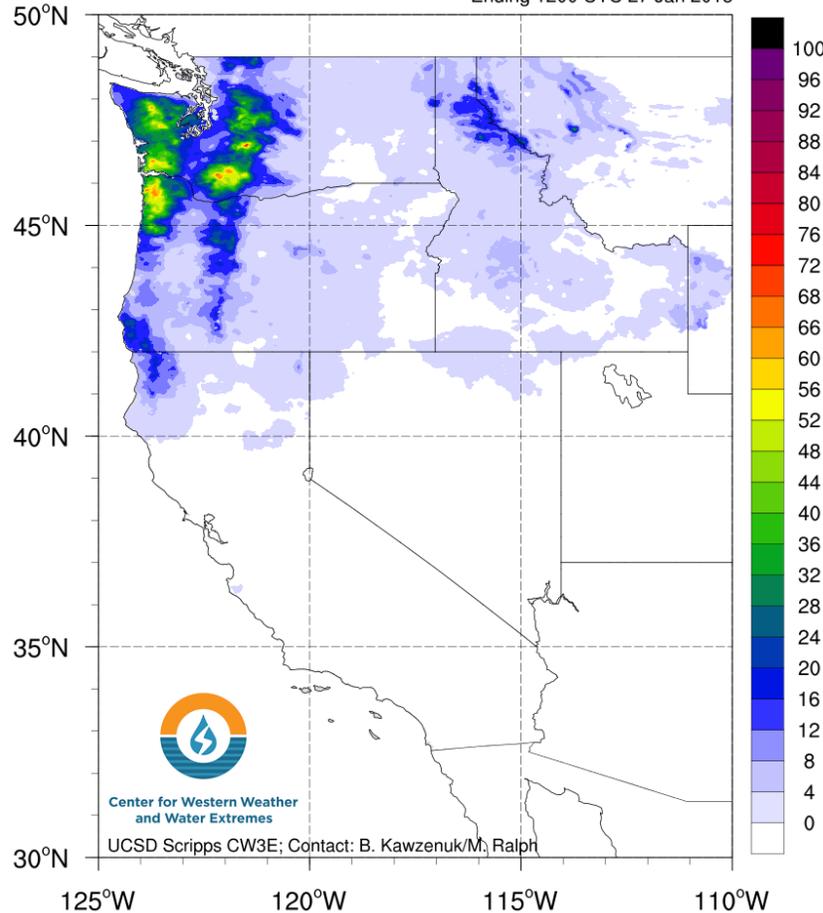
AR Outlook: 27 January 2017



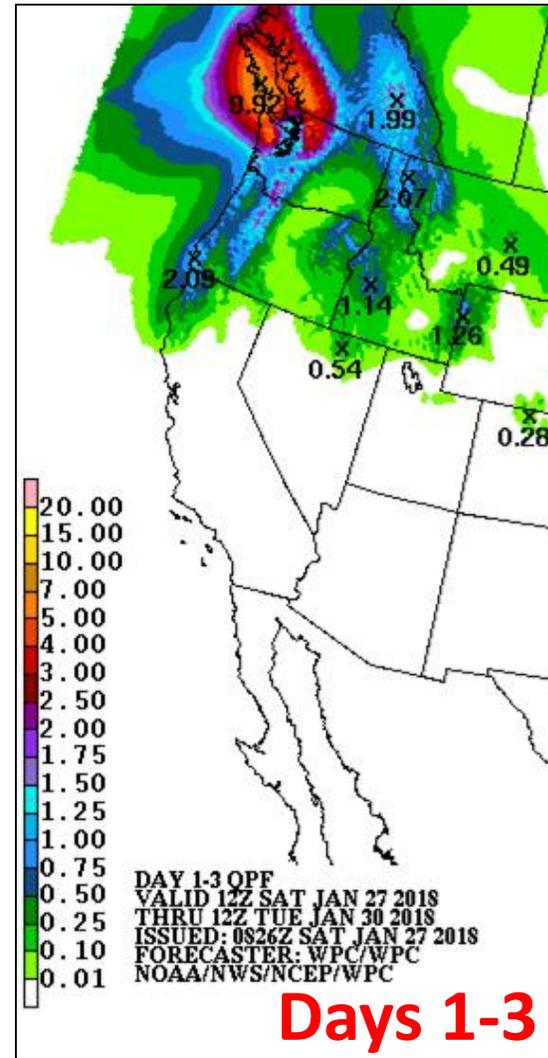
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24-h Accumulated Precipitation (mm)

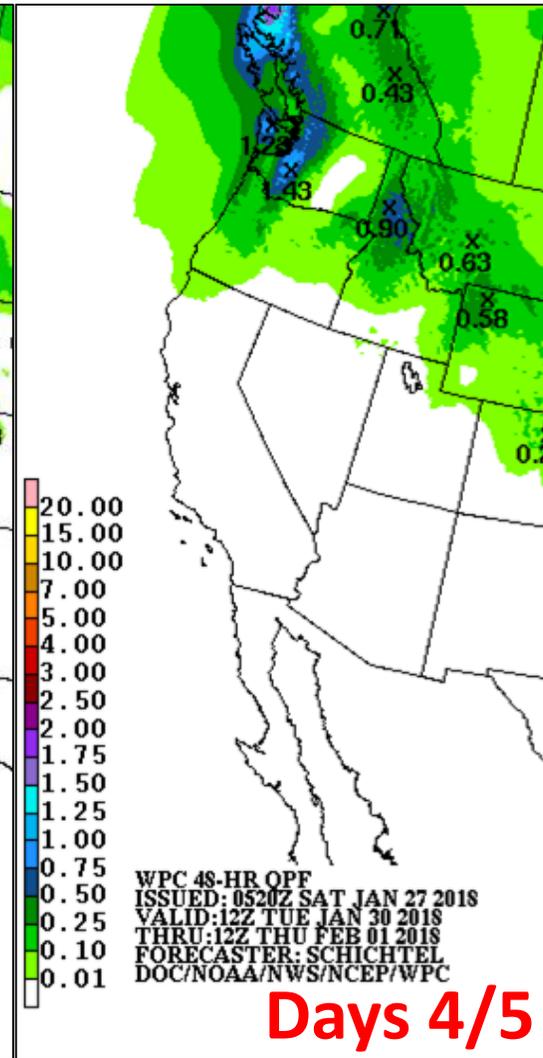
Ending 1200 UTC 27 Jan 2018



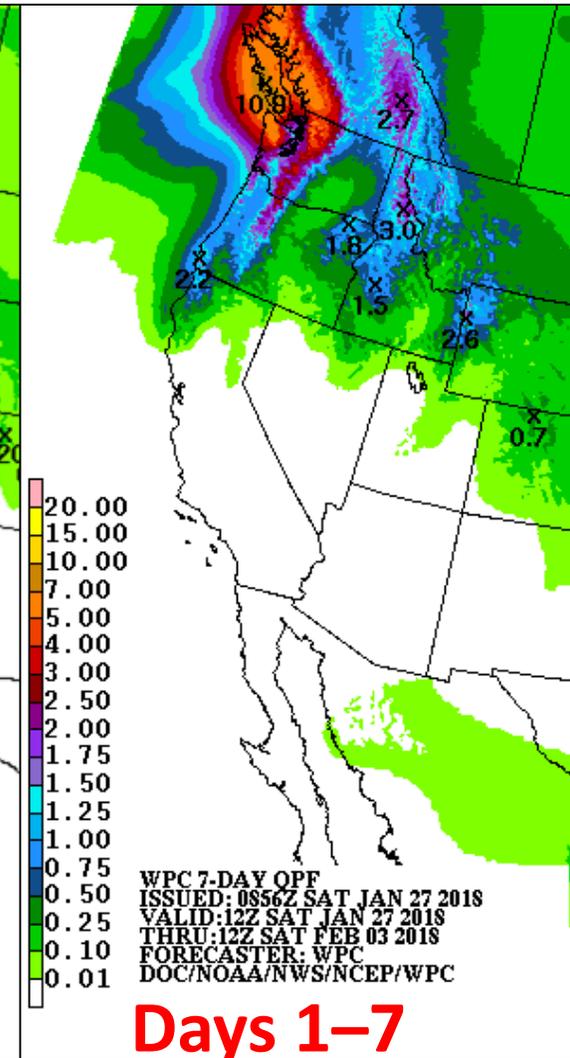
- ~3 inches of precipitation has fallen over the higher elevations of the Pacific Northwest since 12 UTC on 26 January



- As much as 9.92 in. of precip. associated with the end of first AR and the start of AR 2



- An additional 1–1.5 in of precip. could fall during the later stages of the second AR



- 10.9 inches of precipitation could fall over the next 7 days over the PNW bring the total to ~13 in. since the 26th