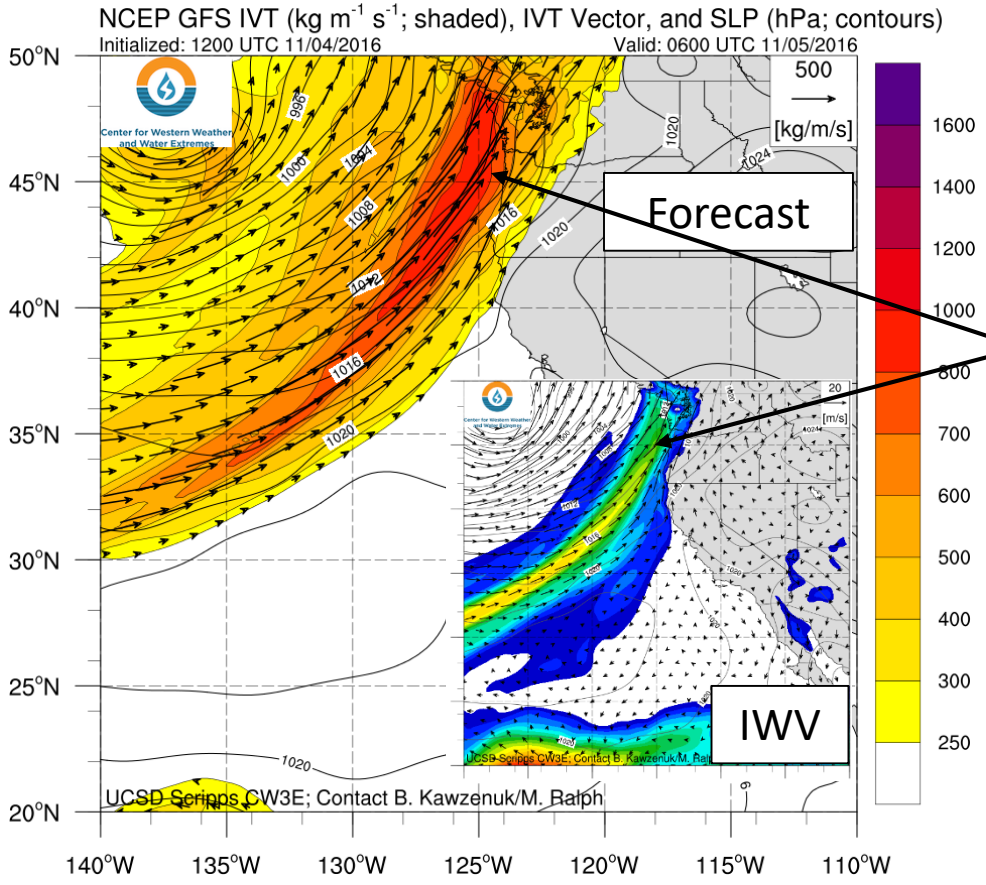
CW3E AR Update: 5–9 Nov 2016 Post-Event Summary

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

For California's DWR's AR Program

Two Consecutive ARs Made Landfall in the Pacific Northwest

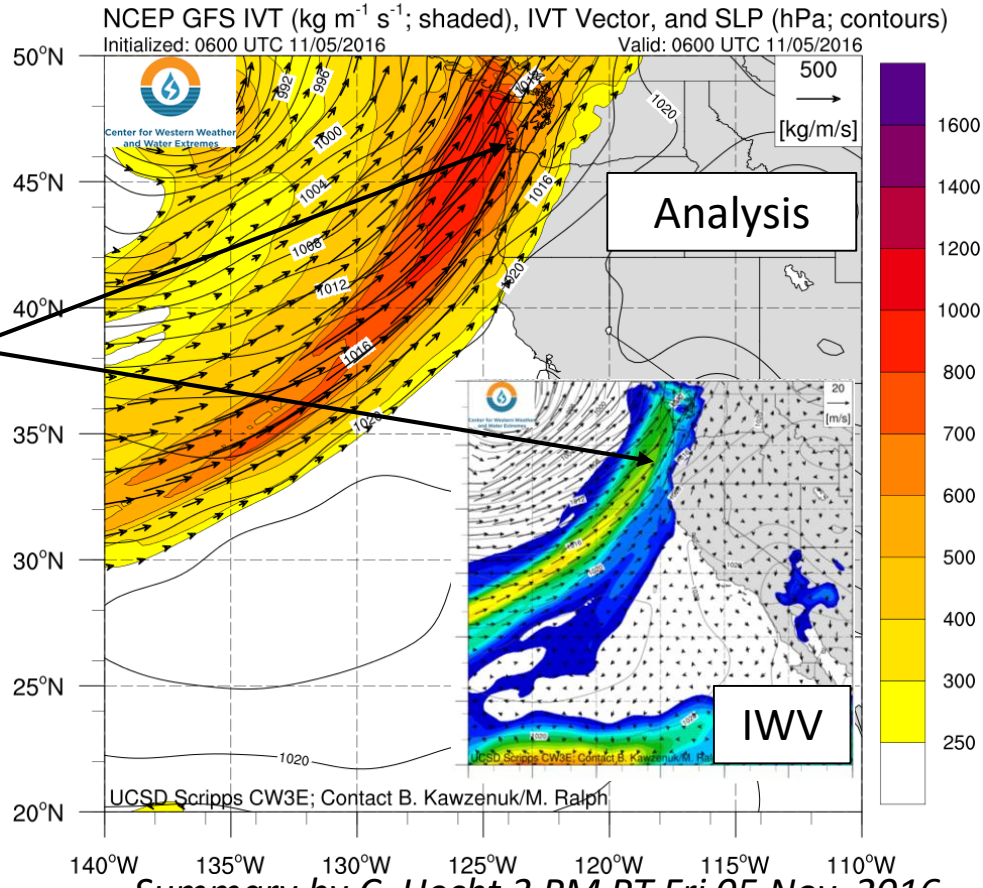
- Two ARs made landfall over the extreme U.S. Pacific Northwest over 5 days
- Forecast confidence was high for the first AR and less certain for the second AR
- While IVT magnitudes were forecasted to be moderate, precipitation forecasts were low due to unfavorable AR orientation
- This summary will focus on the performance of the forecasts that were presented in the Nov. 4th Update



Event 1:
4–6 Nov 2016

IVT ~1000 kg m^{-1} s^{-1}, IWV ~36 mm along coast

IVT and IWV were both forecasted very well for event 1



Summary by C. Hecht 3 PM PT Fri 05 Nov. 2016

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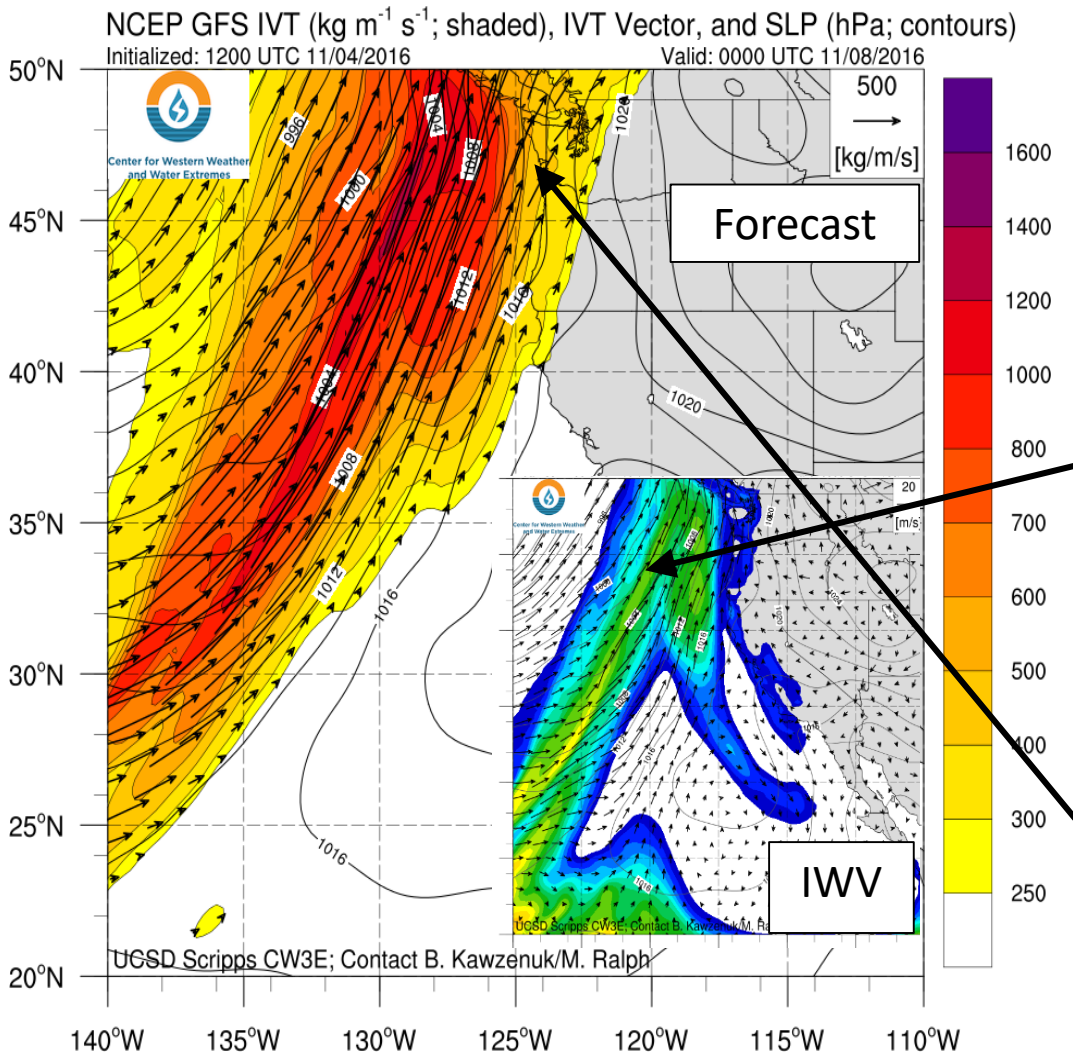
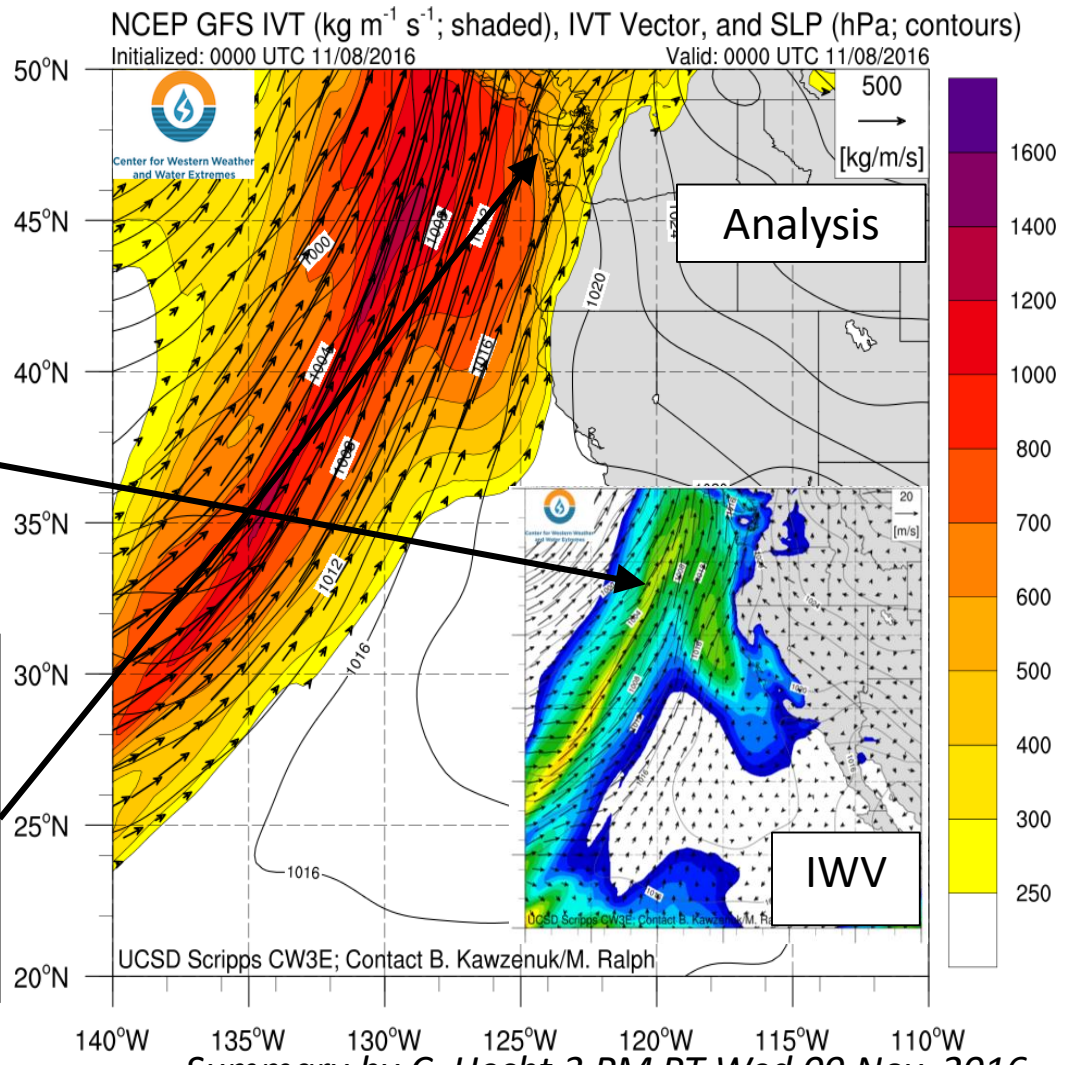
Event 2: 7–9 Nov 2016



Overall structure and orientation of second AR was very well forecasted

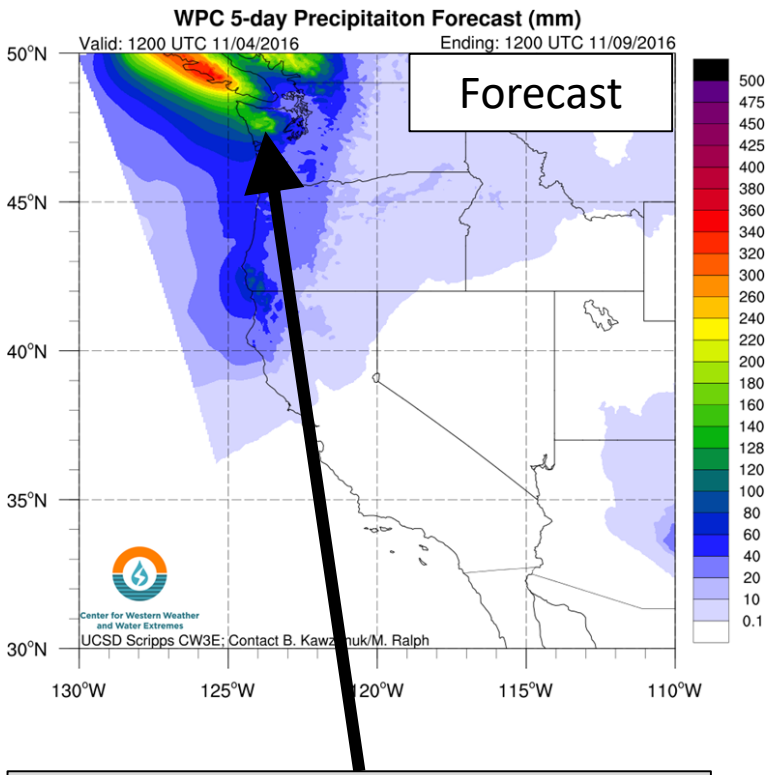
IWV content slightly under forecasted

Analyzed IVT Magnitudes were larger (~100–200 kg m^{-1} s^{-1}) than forecasted over Olympic Mts.

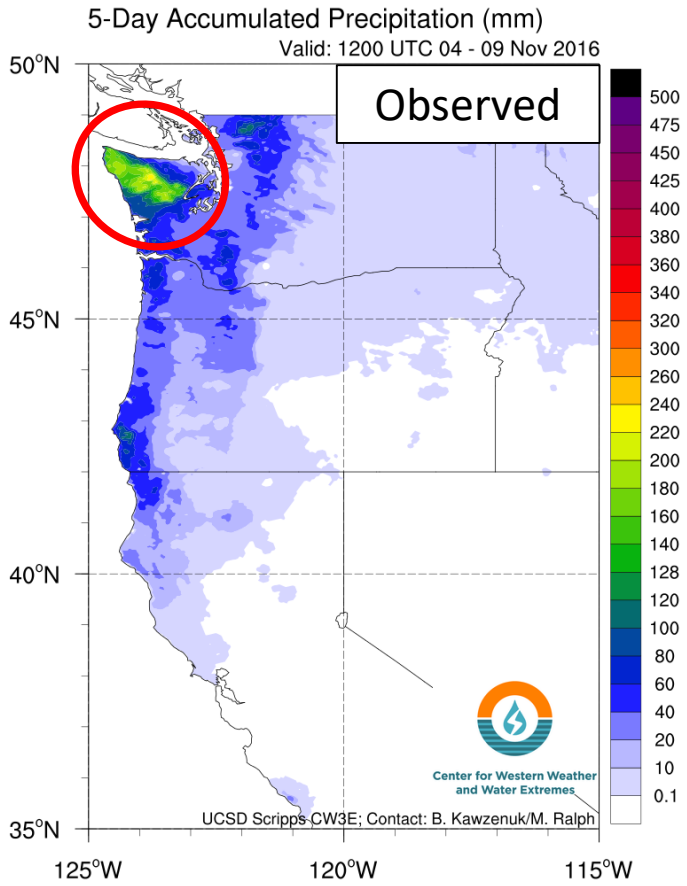


Summary by C. Hecht 3 PM PT Wed 09 Nov. 2016

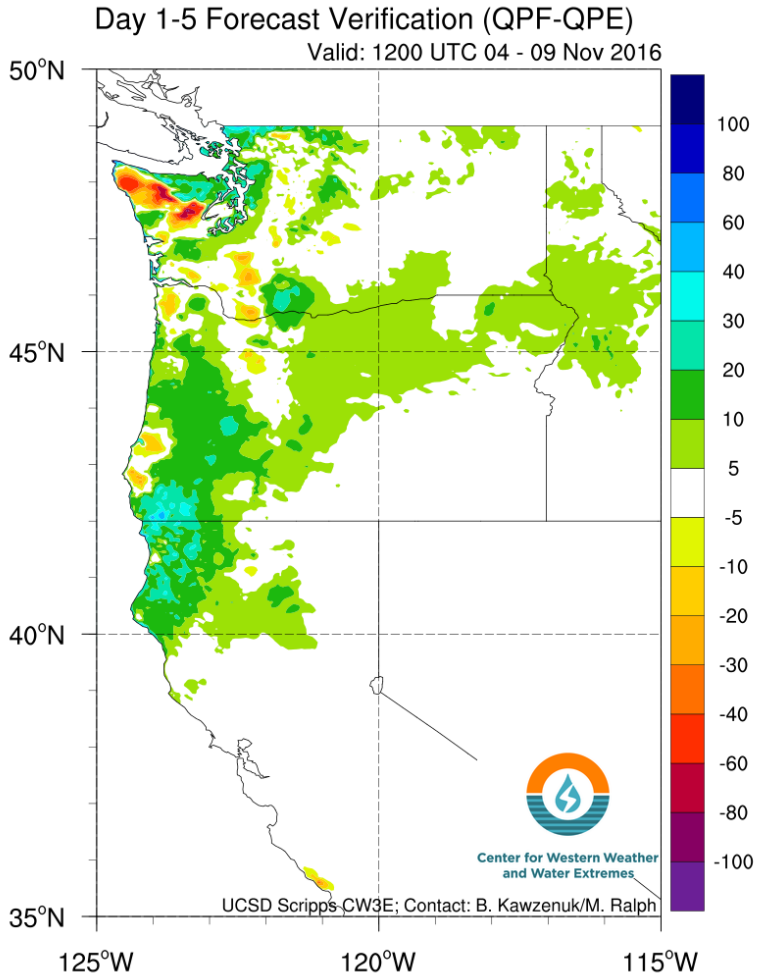
CW3E AR Update



WPC 5-Day forecast indicated that the largest 5-day accumulated precipitation in the U.S. would be ~120 mm over the Olympic Mountains



QPE shows the high precipitation amounts were up to 240 mm over the Olympic Mountains



While the location of maximum precipitation was correctly forecast, precipitation accumulations were under forecast by up to 80 mm on the windward side and over forecast by ~25-50 mm on the leeward side of the Olympic mountains and in NW California/SW Oregon

Summary by C. Hecht 3 PM PT Wed 09 Nov. 2016

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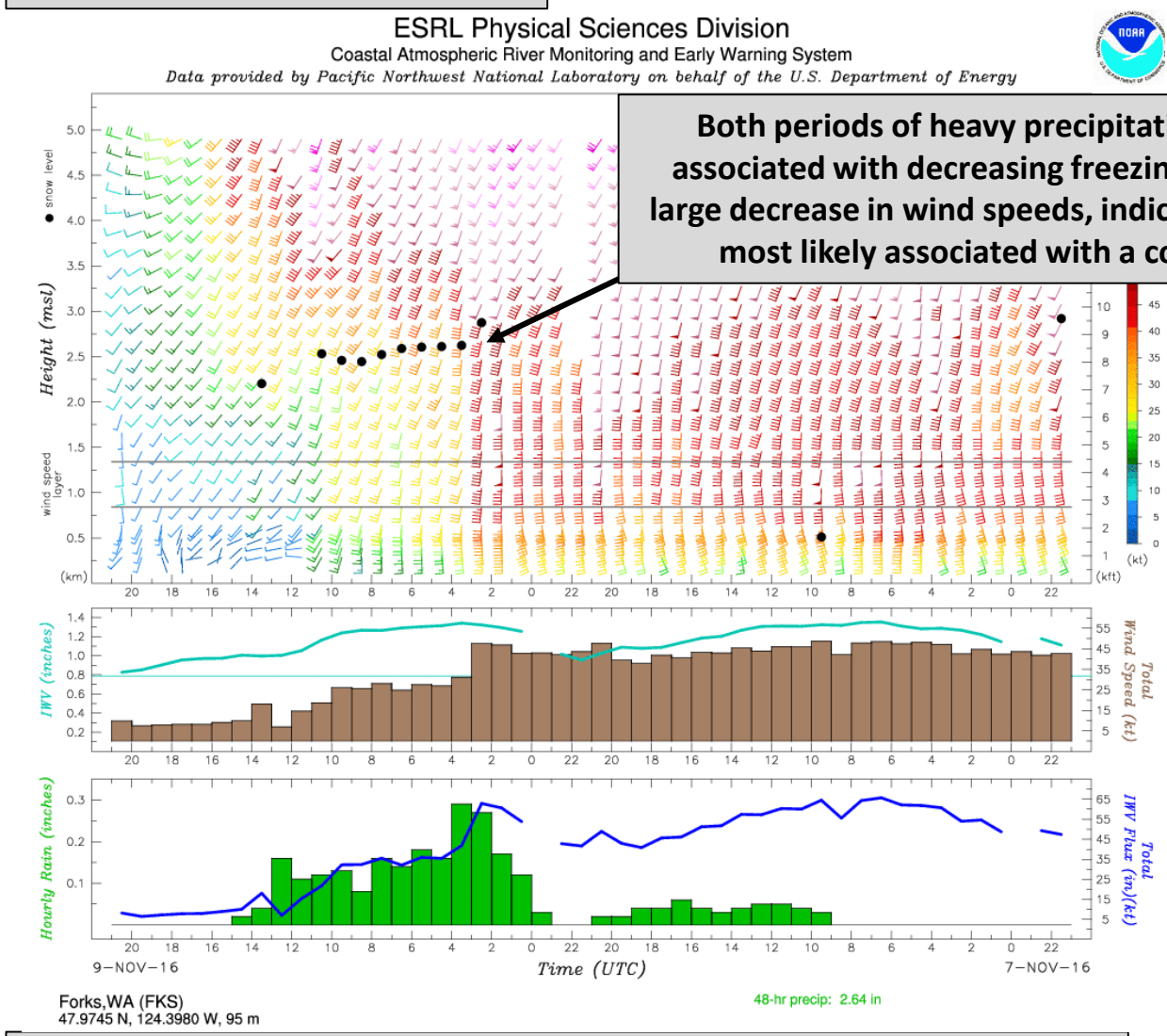

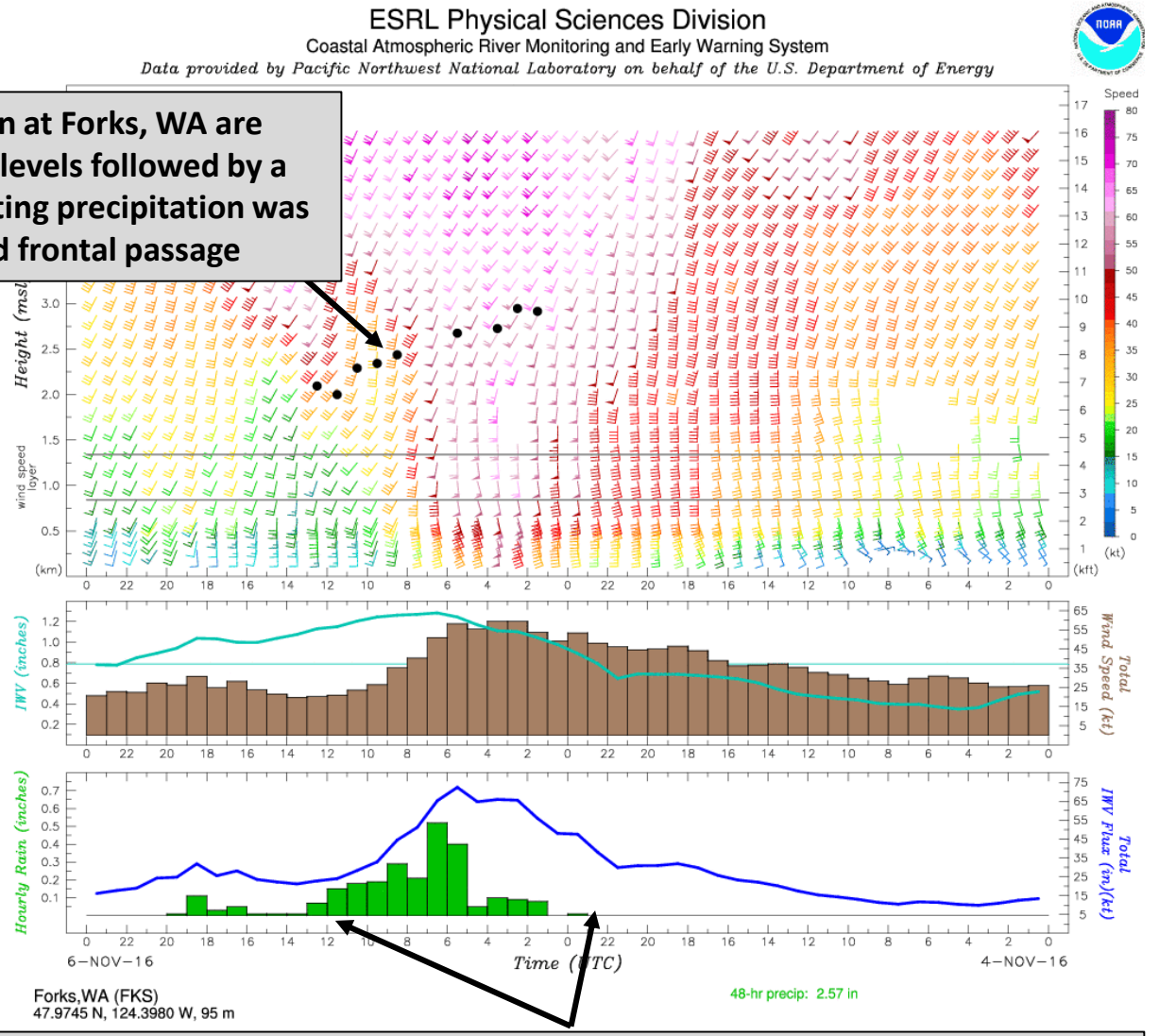

Both periods of heavy precipitation at Forks, WA are associated with decreasing freezing levels followed by a large decrease in wind speeds, indicating precipitation was most likely associated with a cold frontal passage

The Second AR was associated with lower IWV flux and produced 2.64 inches of rain in 48-hours totaling 5.21 inches over both events with the majority of precipitation occurring over two 12-hour periods

The first AR was had larger IVT at Forks, WA and dropped 2.57 inches of rain in 48-hours

Time

Summary by C. Hecht 3 PM PT Wed 09 Nov. 2016