

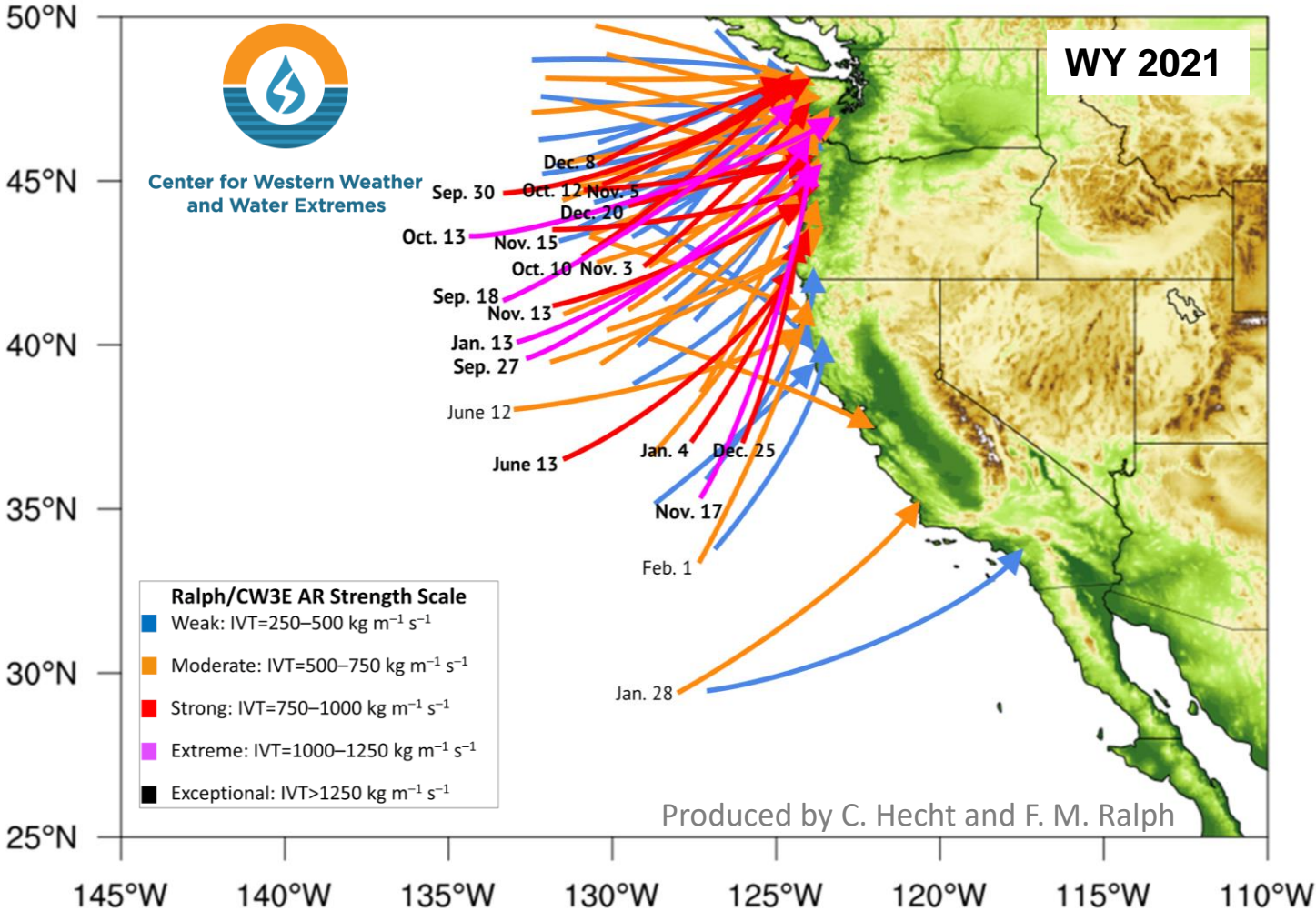
# Water Year 2021 Landfalling Atmospheric Rivers

AR Strength	AR Count
Weak	25
Moderate	26
Strong	13
Extreme	5
Exceptional	0

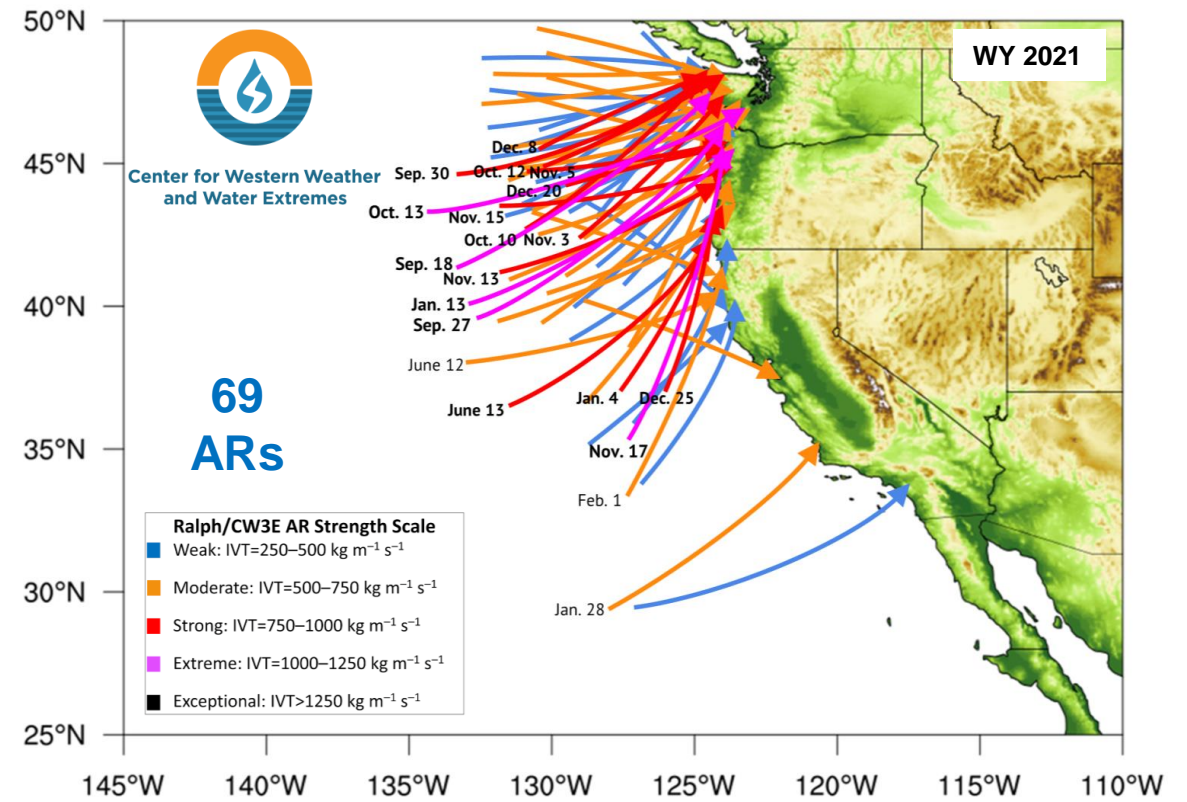
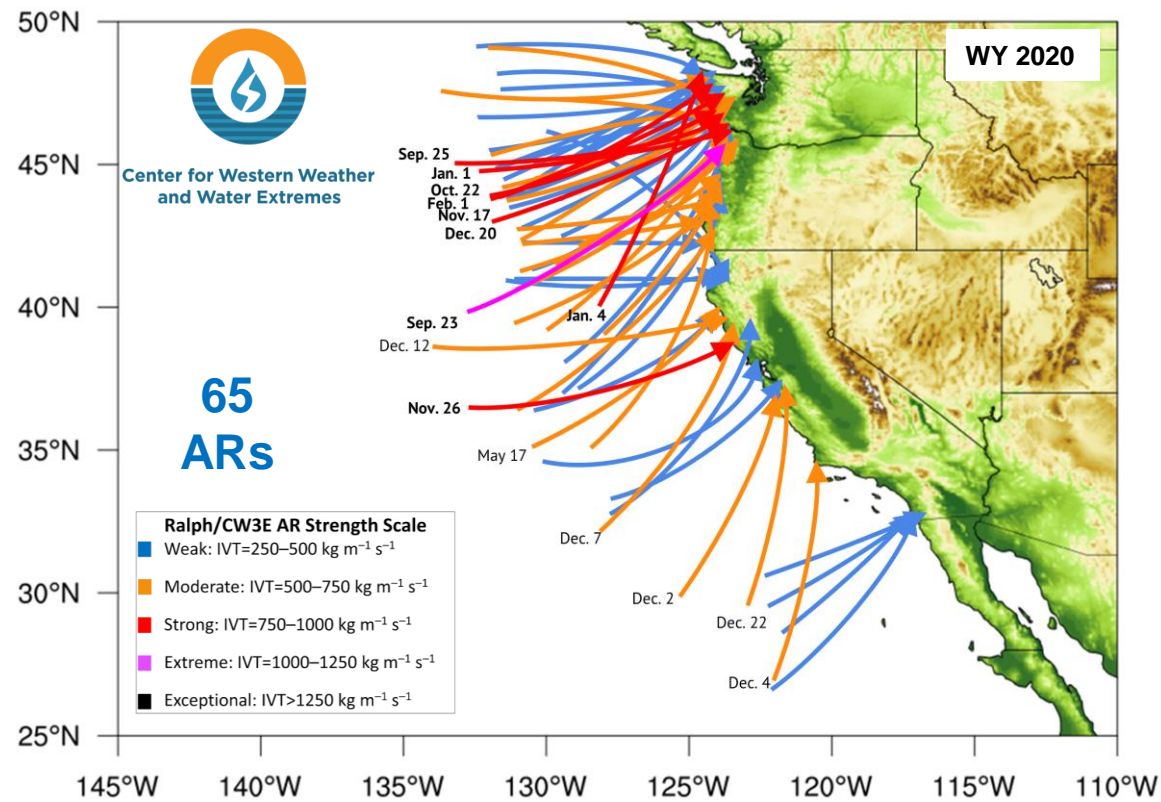
Regions Impacted by Each AR*	
State/Region	AR Conditions
Washington	64
Oregon	64
Northern CA	35
Central CA	16
Southern CA	7

\*These numbers represent the number of times an AR brought IVT >250 kg m<sup>-1</sup>s<sup>-1</sup> to the region

**69 atmospheric rivers** made landfall over the U.S. West Coast during Water Year 2020

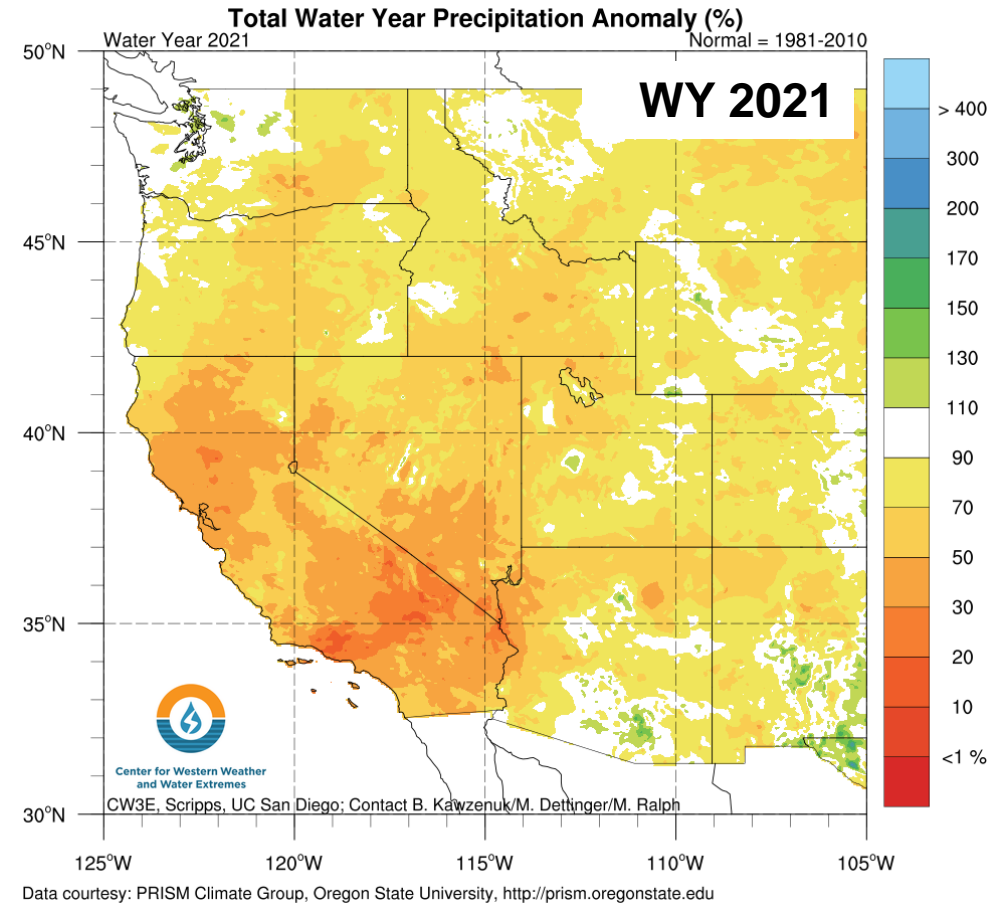
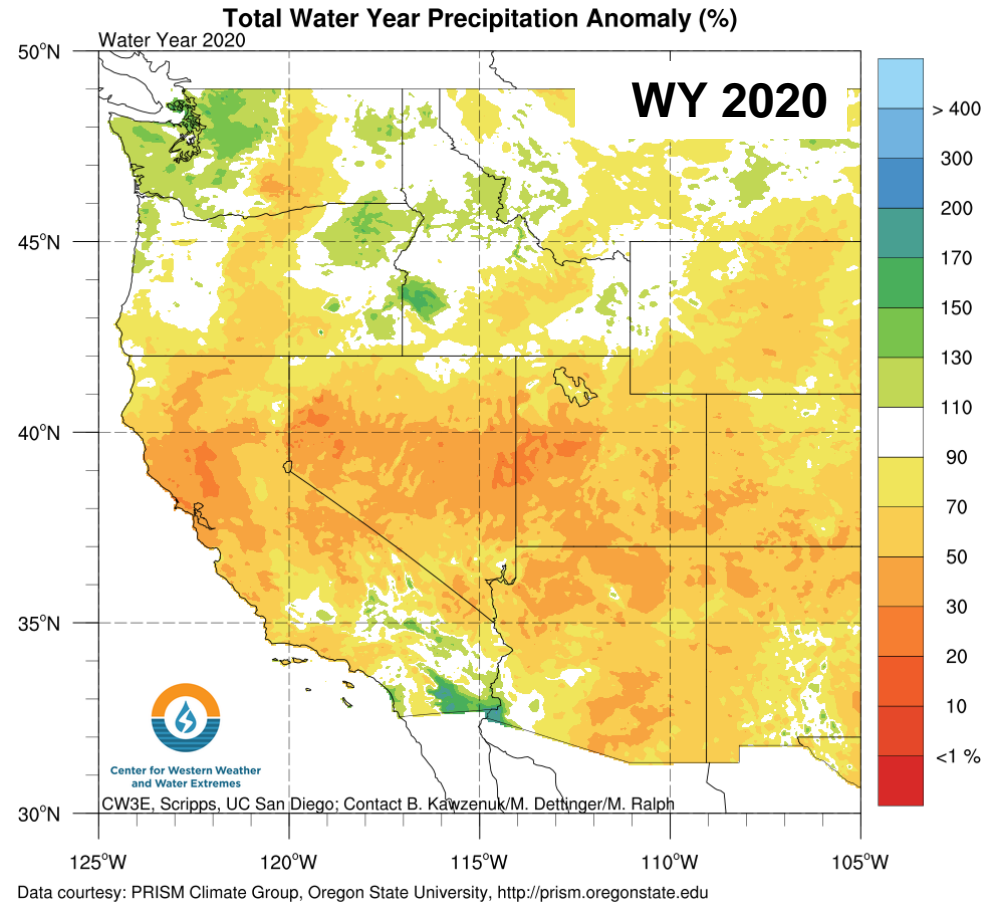


# Water Year 2021 Compared to Water Year 2020



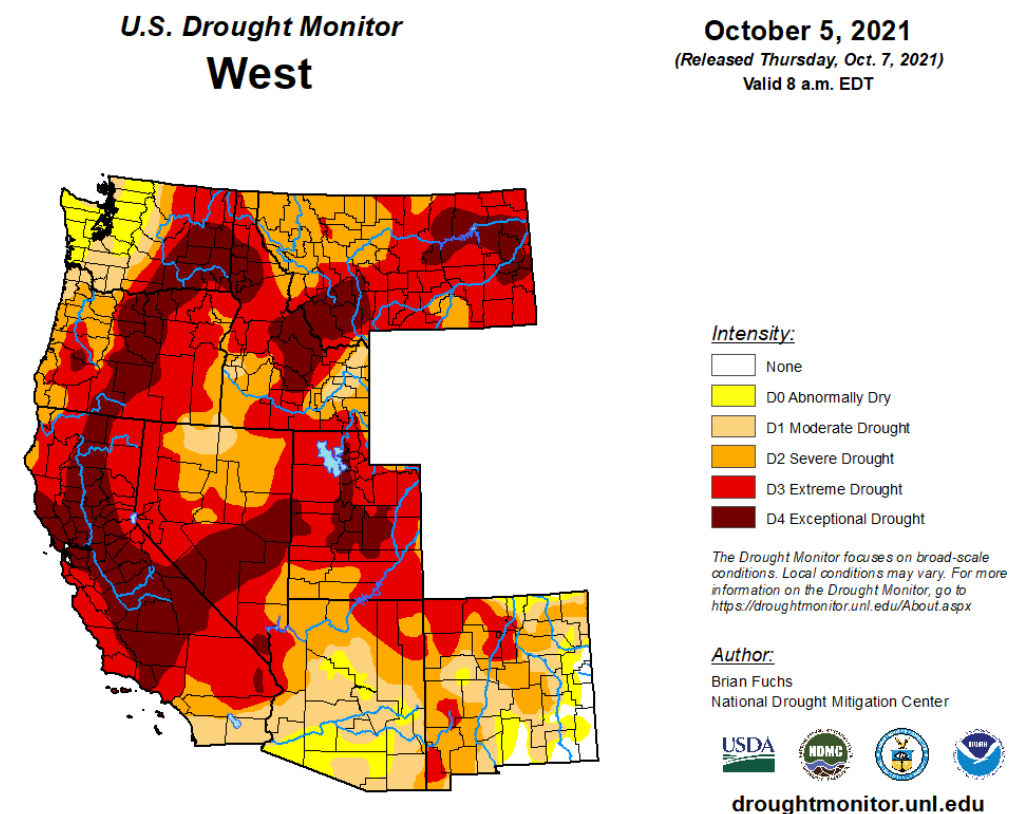
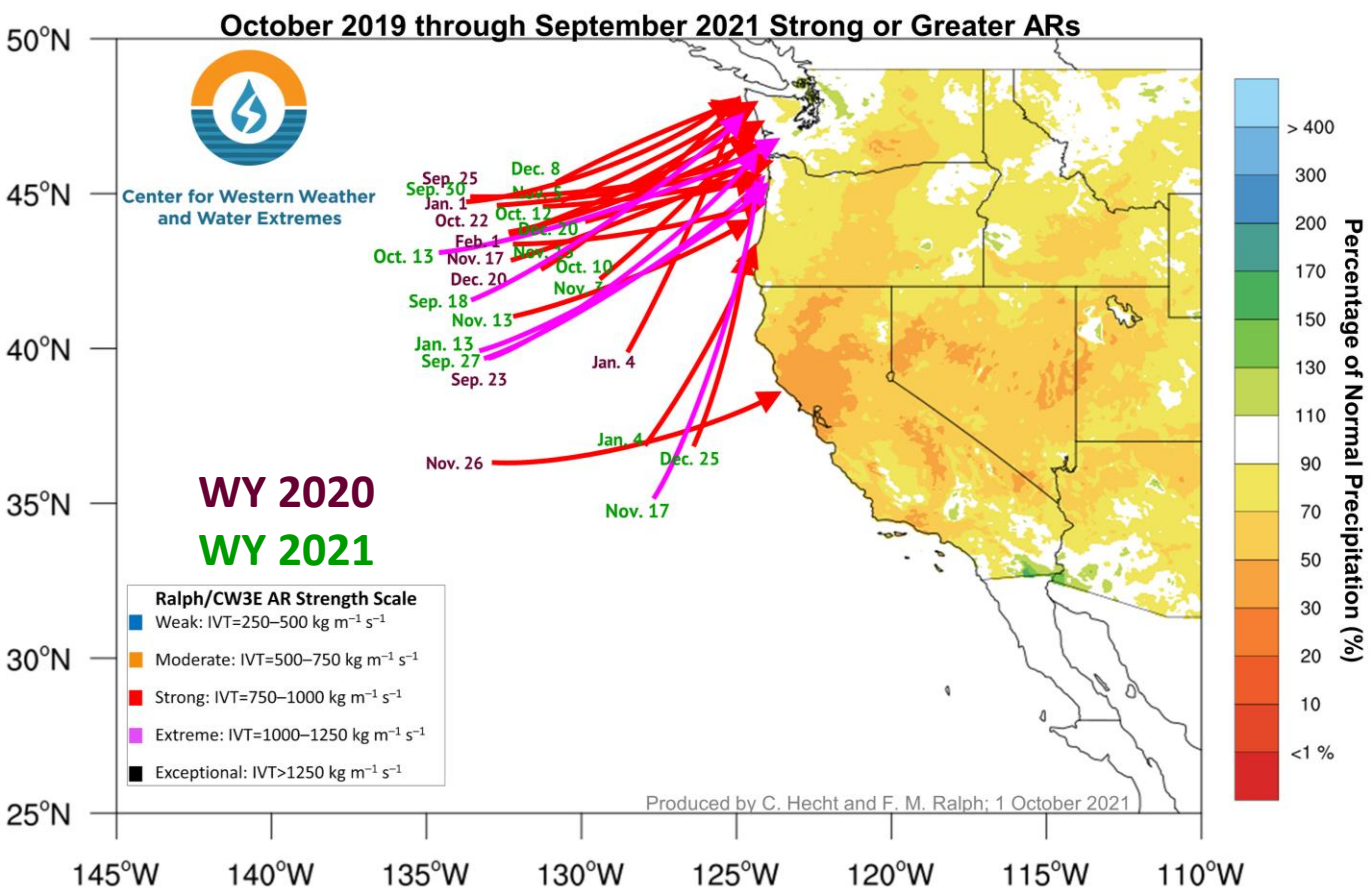
- Water Year 2021 experienced a total of **69 landfalling ARs** over the U.S. West Coast, 4 more than Water Year 2020.
- While WY 2021 experienced more ARs, a much larger majority of the ARs only impacted the Pacific Northwest.
- California only experienced AR conditions ( $IVT > 250 \text{ kg m}^{-1} \text{ s}^{-1}$ ) from 36 separate ARs during WY 2021, compared to 43 during WY 2020.

# Water Year 2021 Compared to Water Year 2020



- The lack of AR activity over California for two consecutive water years has resulted in a substantial lack of precipitation.
- A large portion of California received <30% of the normal precipitation for both Water Year 2020 and 2021.
- Coastal Washington and Oregon was the only location in the Western U.S. to receive near or above normal precipitation during both water years, which is also the region that received a majority of the AR activity.

# Lack of Strong or Greater Magnitude ARs



- California experienced strong or greater magnitude AR conditions only three times during WY 2020 and 2021 combined.
  - Note:** The arrows on the map represent where each AR was strongest. An AR can bring strong conditions to CA even though the arrow is over WA/OR.
- Since 2012, California has averaged ~7 strong or greater magnitude ARs per year, highlighting the anomalously low AR activity over California the past two water years.
- The lack of strong or greater magnitude ARs over California has resulted in significantly below normal precipitation, driving exceptional drought across much of the state.