A landfalling AR will bring heavy rainfall and the potential for flooding to the Pacific Northwest

- A landfalling AR is forecast to impact British Columbia, Washington, and Oregon this week
- Some areas along the coast may experience AR3/AR4 conditions, but there is significant uncertainty in forecast AR Scale
- At least 3–7 inches of rainfall are expected over portions of western WA and OR during the next 5 days, with more than 7 inches possible over the Olympic Peninsula and North Cascades
- Surface high pressure will build over the Northeast Pacific Ocean during 1–3 Feb
- Additional landfalling AR activity is currently forecast on the poleward side of the surface high between 4 Feb and 7 Feb
AR Outlook: 29 Jan 2020

For California DWR’s AR Program

Flooding Possible

Friday January 31 – Sunday February 2, 2020

Location:
- Rivers, streams, and urban areas in Western Washington

Details:
- Heavy rain Friday and Saturday may produce flooding on rivers, streams, and in urban areas through the weekend.
- At this time, some rivers may reach flood stage by Friday afternoon.

Prepare:
- If you live near area rivers and waterways, keep an eye on water levels and forecasts

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AR landfall tool shows high confidence (> 80%) in AR conditions over coastal OR and WA between 0000 UTC 31 Jan and 1200 UTC 1 Feb

There is still some uncertainty in the location of AR conditions between 0000 UTC 1 Feb and 0000 UTC 2 Feb

Note: The region of elevated IVT values along the CA coast is associated with northerly/northwesterly flow on the east side of surface high pressure and thus will not produce any significant precipitation

GEFS long-range forecasts suggest the potential for additional landfalling AR activity between 4 Feb and 7 Feb
There is a large difference between the GEFS control (898 kg m$^{-1}$ s$^{-1}$) and ensemble mean (582 kg m$^{-1}$ s$^{-1}$) maximum IVT forecast over northwestern OR, with the GEFS control predicting AR4 conditions and the ensemble mean suggesting AR3 conditions.

While 11/21 GEFS members are predicting AR4 conditions, 8/21 members are only predicting AR2 conditions.

There is significant uncertainty regarding the magnitude of IVT between 0000 UTC 1 Feb and 0000 UTC 2 Feb.

Several GEFS members even suggest that IVT will drop below 250 kg m$^{-1}$ s$^{-1}$ for several hours before the second pulse of IVT on 1 Feb.
The first pulse of IVT associated with a decaying frontal boundary is forecast to make landfall along the WA and OR coast shortly before 0000 UTC 31 Jan.

A stronger pulse of IVT associated with a deepening surface cyclone is forecast to make landfall over Vancouver Island shortly before 0000 UTC 1 Feb, but there is some uncertainty in the position and orientation of the main IVT corridor.

By 0000 UTC 2 Feb, strong surface high pressure builds over Northeast Pacific Ocean.
At least 3–7 inches of precipitation are forecast over portions of western OR and WA, as well as southwestern BC, during the next 5 days. The highest amounts (> 7 inches) are expected over the Olympic Mountains, the North Cascades, and Vancouver Island. Given the saturated soil conditions and rapid increase in mountain snowpack over the past 4 weeks, there is potential for river flooding at lower elevations west of the North Cascades. Lighter precipitation (1–3 inches) is expected over the Rocky Mountains in association with the inland penetration of high IVT values.