



Quick Look at the Strong AR Forecast Over Southern Alaska and British Columbia *Updated: 11 October 2024*

A strong atmospheric river is forecast to make landfall over Southern Alaska and British Columbia and bring heavy rainfall and potential for flooding to the region.

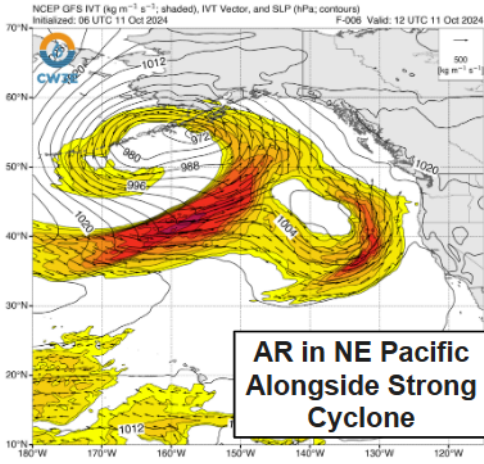
Forecast Highlights:

- CW3E's atmospheric river (AR) landfall tool is showing a very high likelihood (near 100% probability) of landfalling AR activity over Southeast AK and British Columbia beginning Sat 12 Oct and progressing down the coast through Tue 15 Oct.
- This AR is forecast to develop in the Northeast Pacific alongside a strong surface cyclone and progress toward Southeast AK and British Columbia today alongside high levels of integrated water vapor (40+ mm).
- Both the NCEP Global Ensemble Forecast System (GEFS) and ECMWF Ensemble Prediction System (EPS) are forecasting a high likelihood of AR3-4 conditions from the southeast Alaska islands down through northern Vancouver Island.
- The Alaska-Pacific River Forecast Center (APRFC) is forecasting at least 3 inches of precipitation over the Alaskan coast associated with the atmospheric river and surface cyclone for the 72-hour period ending 4 AM AKDT Mon 14 Oct.
- The APRFC is currently forecasting two locations along Montana Creek near Aute Bay and Jordan Creek near Juneau to exceed action stage on Sat 12 Oct as a result of the precipitation.
- The NWS in Juneau, AK, has issued High Wind Warnings, Gale Warnings, and a Special Weather Statement highlighting the potential for heavy rain and strong winds over Southeast Alaska.
- The British Columbia River Forecast Centre (BCRFC) CLEVER model shows five streamflow stations exceeding a 2-5 year return interval, including a station along the San Josef River which is forecast to exceed the 100-year return threshold (1 in 100 year event).
- A second AR is forecast to develop over the Northeast Pacific and move onshore over the PNW on Tue 15 Oct, with a higher likelihood of a stronger landfalling AR in the EPS than in the GEFS.
- Model-to-model differences are tied to each model's handling of a mid-level trough forecast to transit the Northeast Pacific, with the ECMWF placing a deeper trough further south, which supports the development of a stronger low-pressure system and stronger poleward moisture transport.

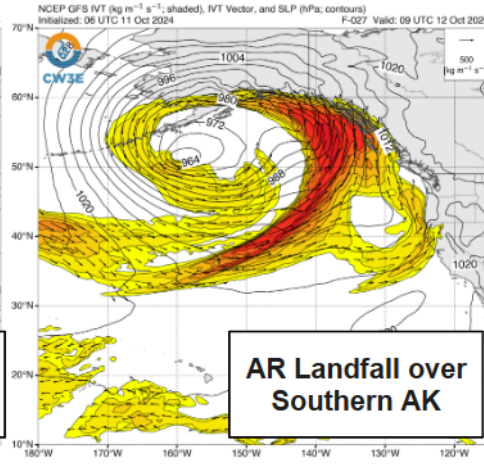
Stay alert to official NWS forecasts, watches, and warnings at [weather.gov](https://www.weather.gov) and follow guidance from local emergency management officials

Stay tuned to the CW3E webpage for a full AR Update

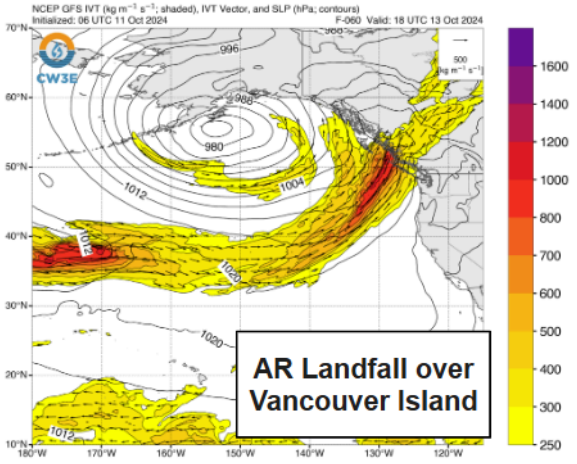
Valid: 5 AM PT Fri 11 Oct



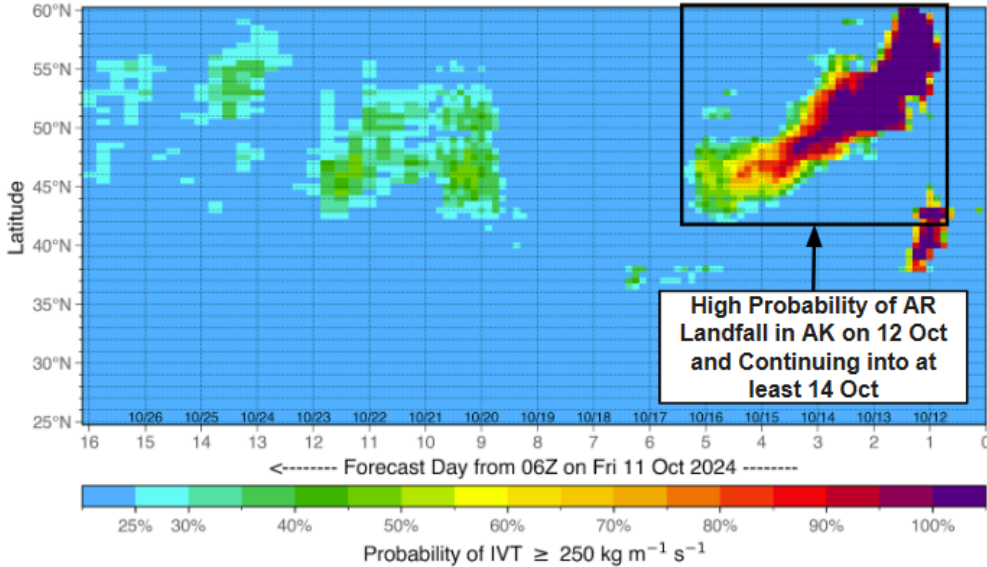
Valid: 2 AM PT Sat 12 Oct



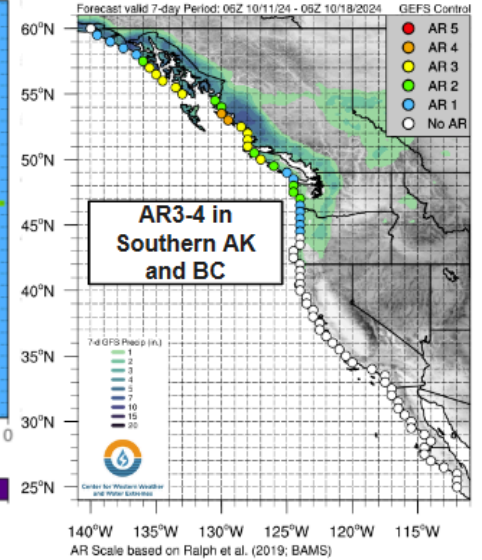
Valid: 11 AM PT Sun 13 Oct



CW3E AR Landfall Tool | GEFS



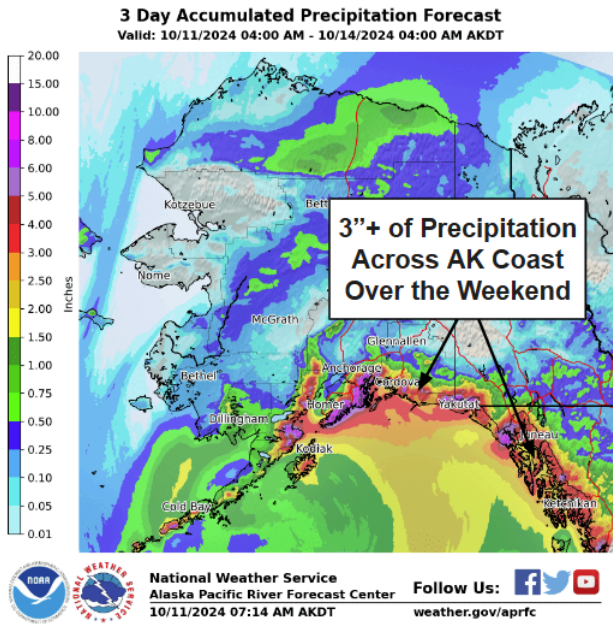
Maximum Forecast AR Scale



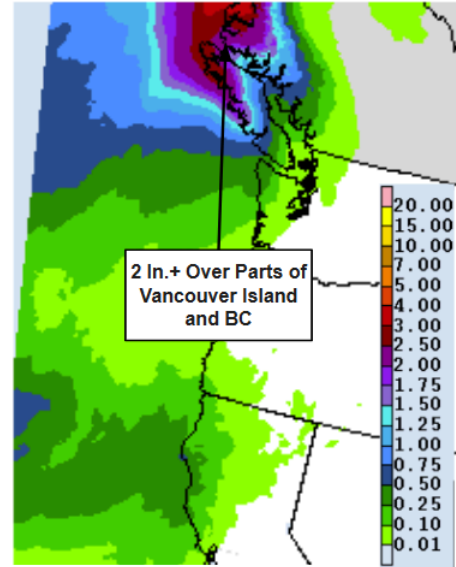
Forecasts support FIRO/CA-AR Program and NSF #2052972 | Intended for research purposes only

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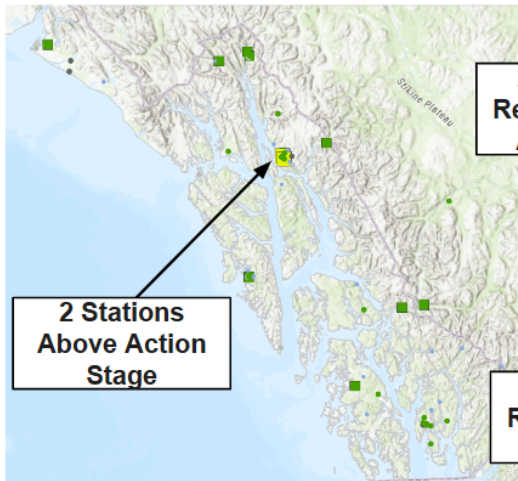
APRFC 3-Day QPF: Period Ending 4 AM AKDT 14 Oct



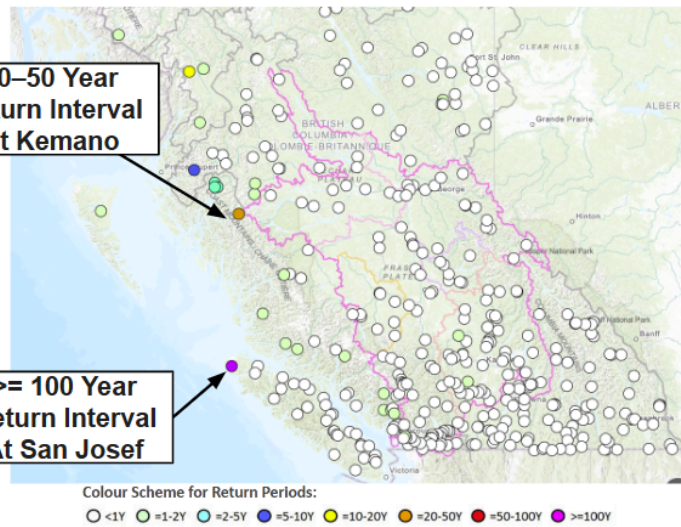
WPC Days 1-3 QPF: Periods Ending 5 AM PDT 14 Oct



APRFC Forecast River Stage

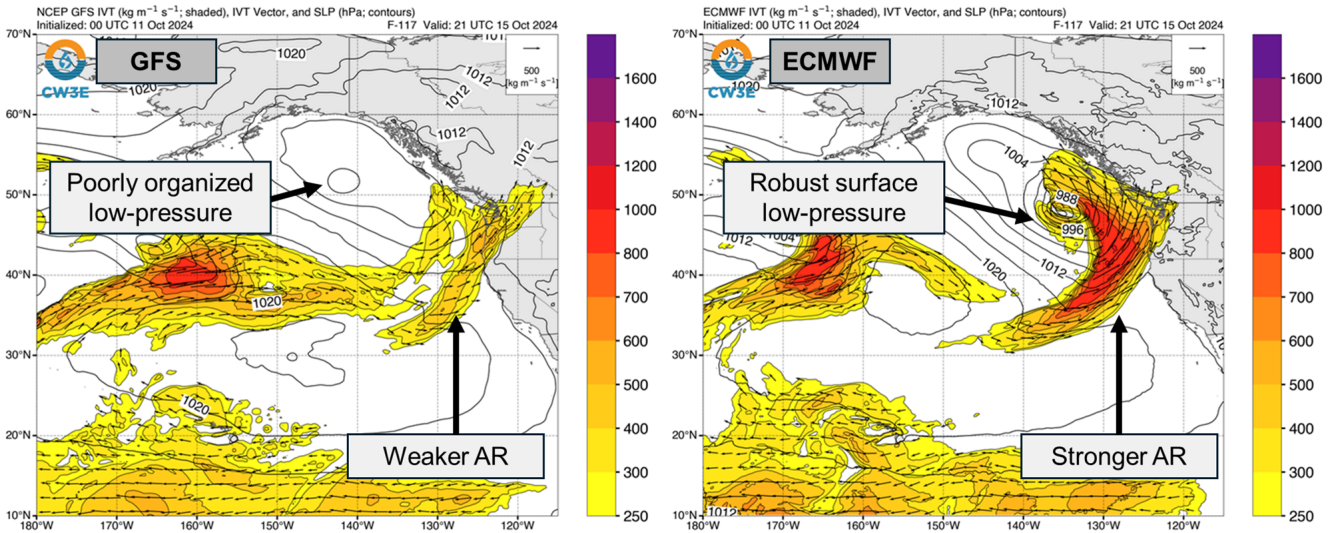


BCRFC 10-Day CLEVER Model Forecast Discharge and Return Period

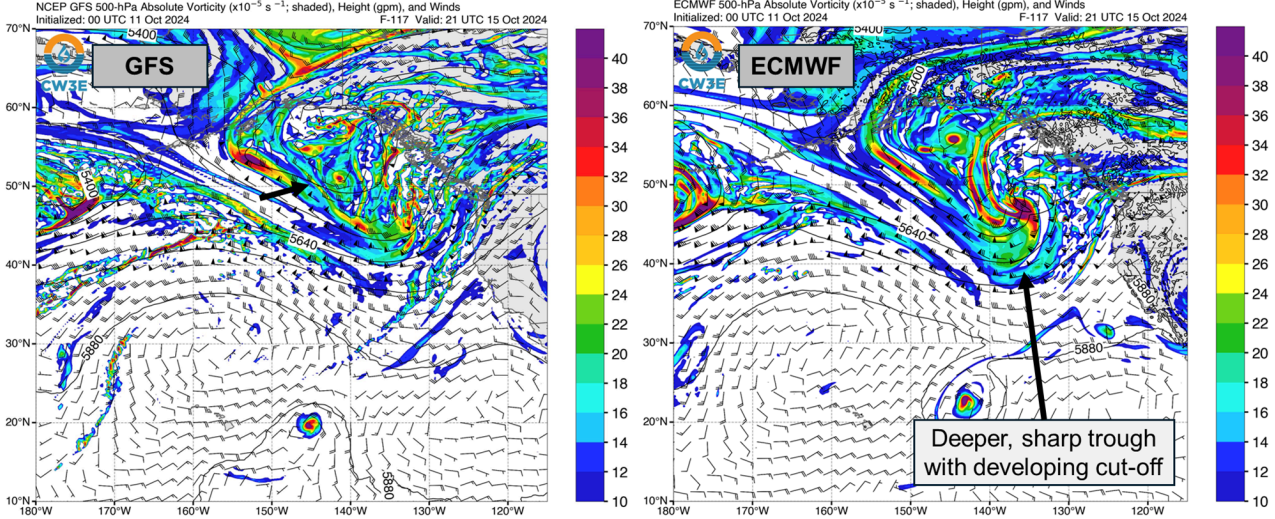


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Model Comparison: GFS vs ECMWF IVT Model Initialized: 00 UTC 11 Oct 2024 Valid: 21 UTC 15 Oct 2024



Model Comparison: GFS vs ECMWF 500 hPa Abs. Vort. Initialized: 00 UTC 11 Oct 2024 Valid: 21 UTC 15 Oct 2024



Additional Considerations:

- Visit <https://www.weather.gov/aprfc/> and <https://bcrfc.env.gov.bc.ca/> for specific river and stream forecasts and <https://www.weather.gov/> for point specific watches, warnings, and forecasts.

In-depth AR forecasts products can be found here:

<http://cw3e.ucsd.edu/iwv-and-ivt-forecasts/>

Update by M. Steen

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