

US Model

European Model



AR Situational Awareness

Two ARs forecast to hit CA next week.
 1st one on Mon—Wed
 2nd on Thur-Sun

First AR:

>90% odds of AR 3 or AR4 in the Bay Area
 US and Euro models are very similar now

AR1: 0%, AR2: 2%
 AR3: 55%, AR4: 42%
 AR5: 1%

Combined >90% odds of AR3 or AR4 in Bay Area late Mon-Tue

Second AR:

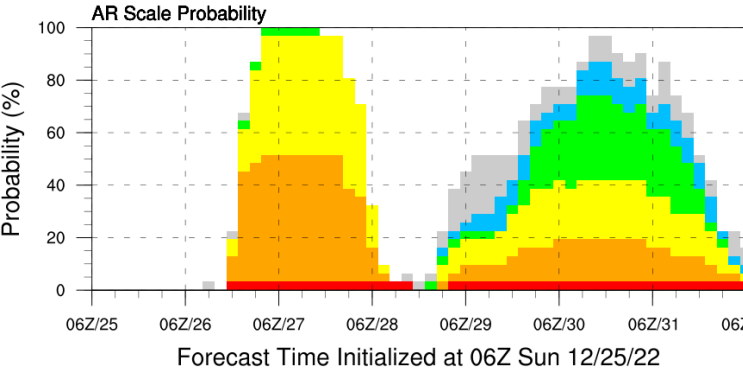
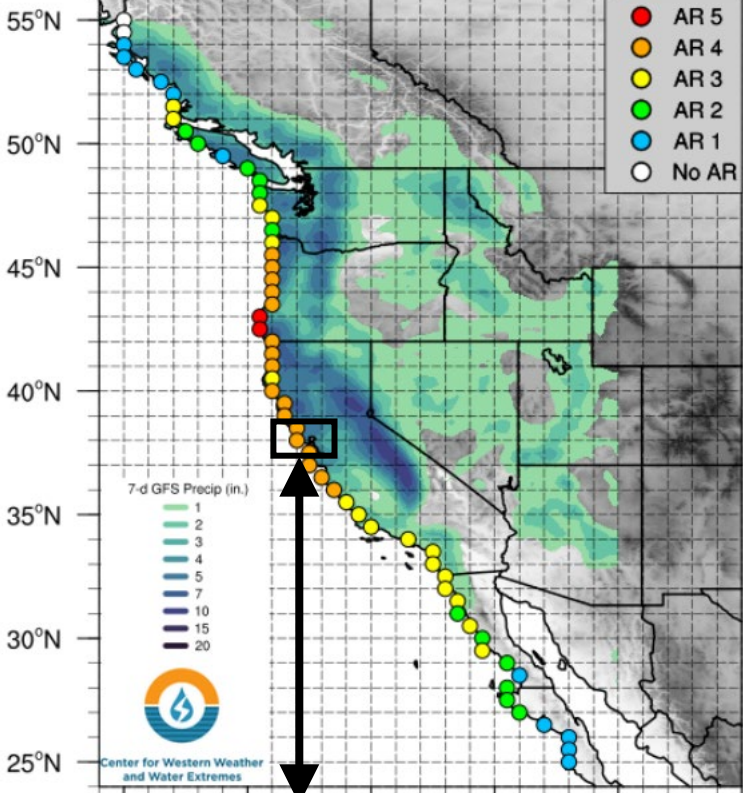
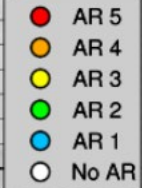
~70% chance of AR2 or AR3 in the Bay Area

However, the orientation of the IVT in the 2nd AR is mostly parallel to the mountains and thus would be more of a glancing blow. US and Euro models differ in this.

Maximum Forecast AR Scale

Forecast valid 7-day Period: 06Z 12/25/22 - 06Z 01/01/2023

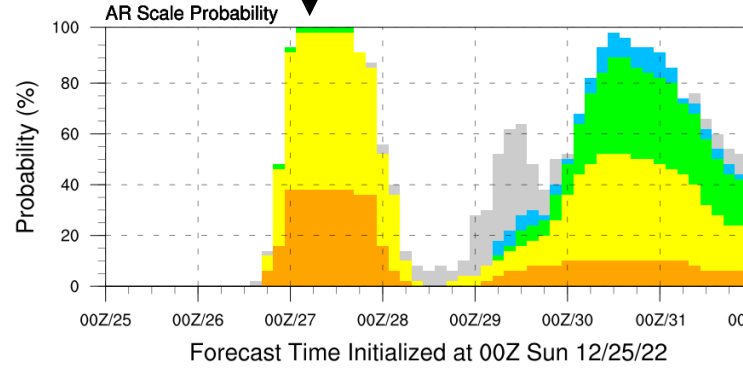
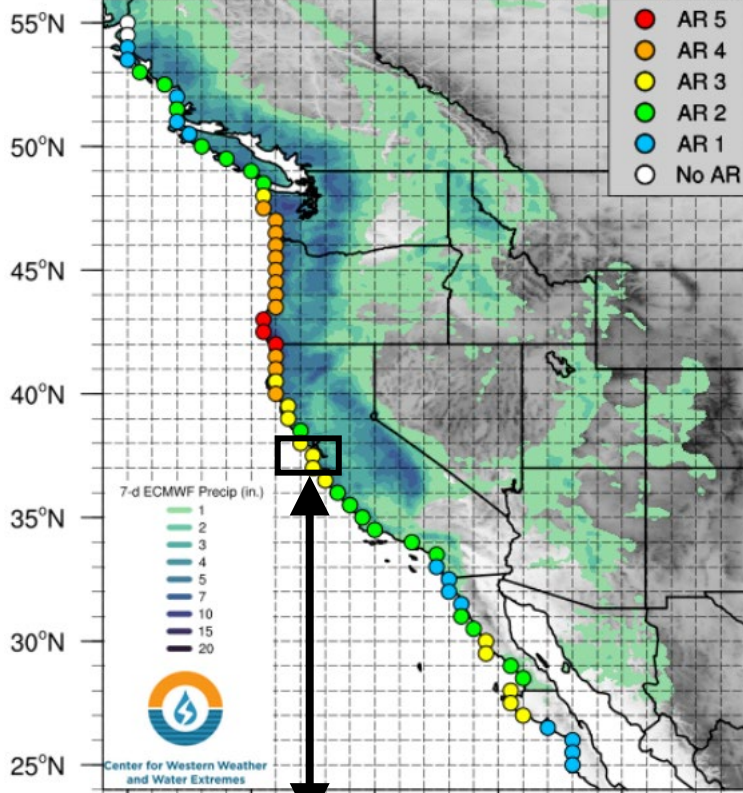
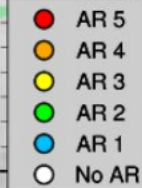
GEFS Control



Maximum Forecast AR Scale

Forecast valid 7-day Period: 00Z 12/25/22 - 00Z 01/01/2023

EPS Control



US Model

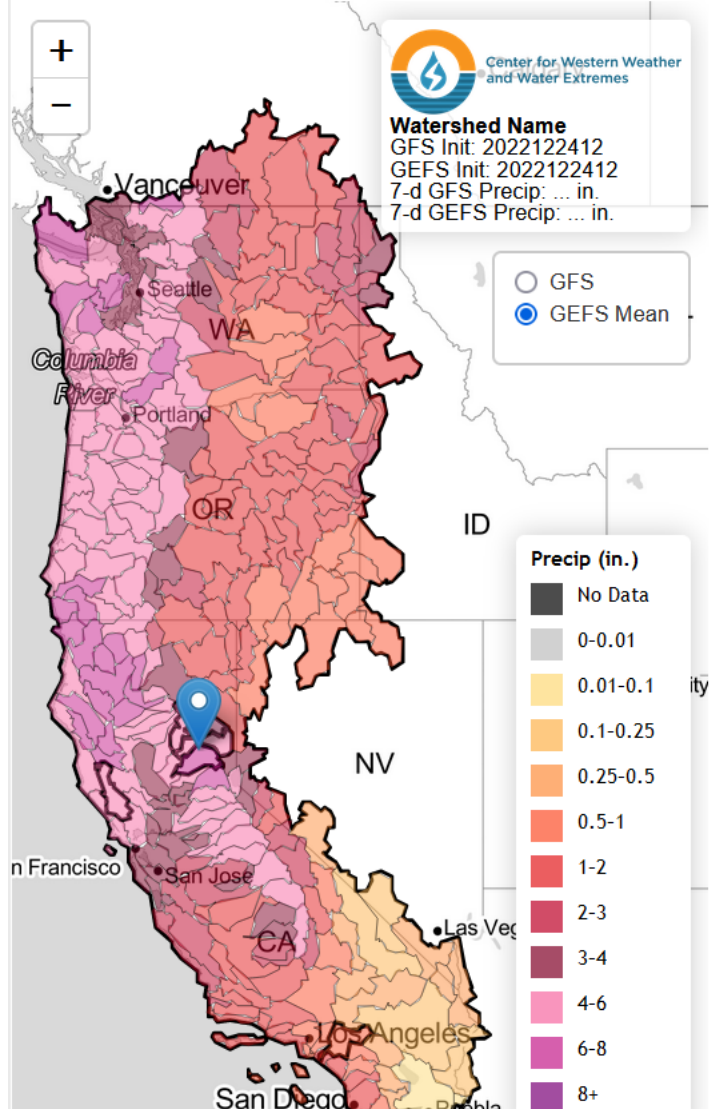
European Model



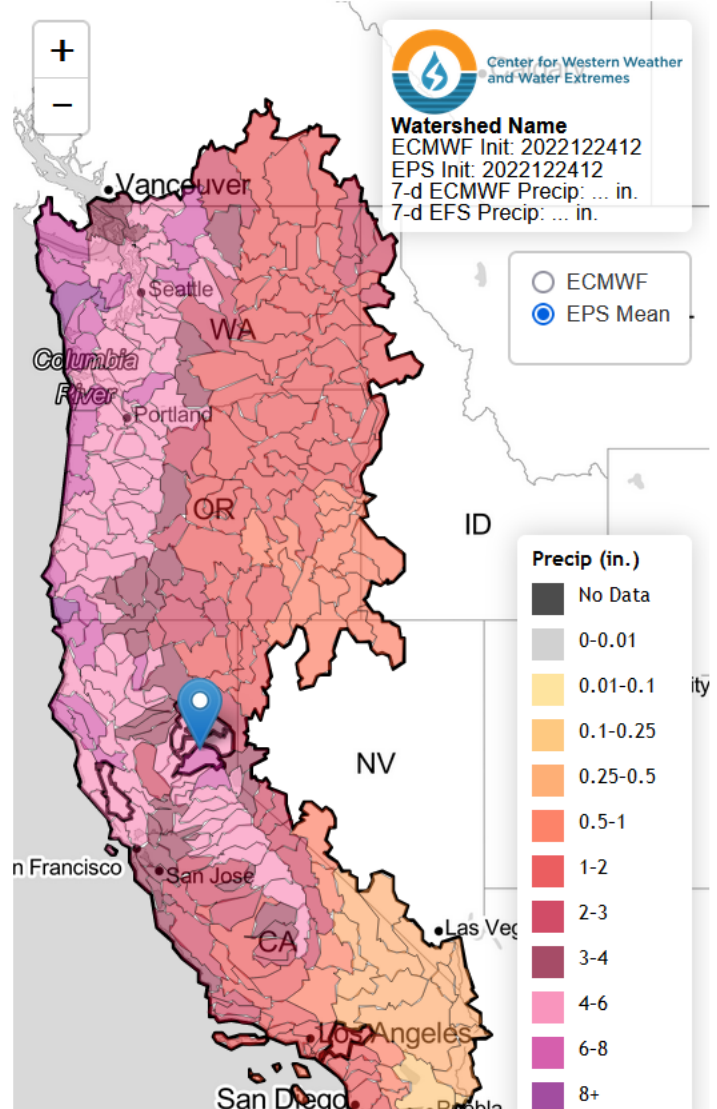
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West HUC8 | FIRO HUC10 | AQPI HUC10

7-day GFS/GEFS Precipitation Forecasts

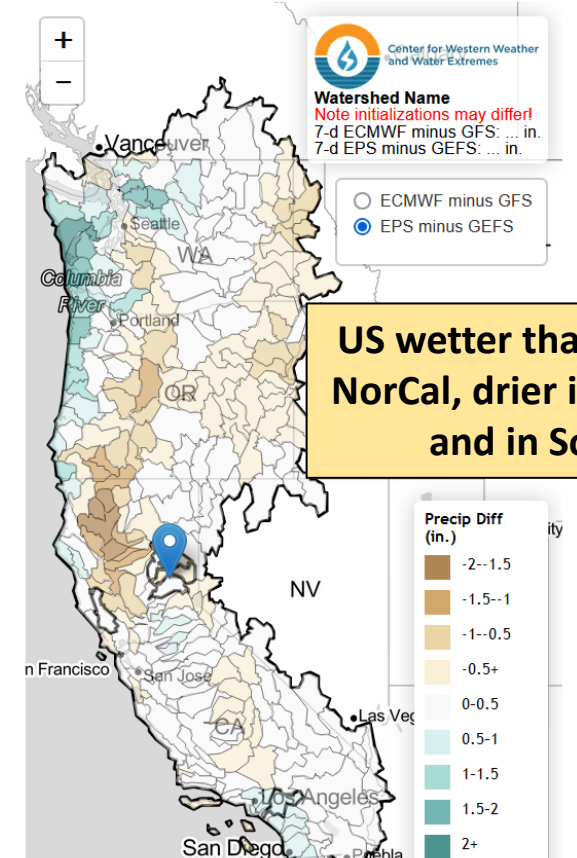


7-day ECMWF/EFS Precipitation Forecast



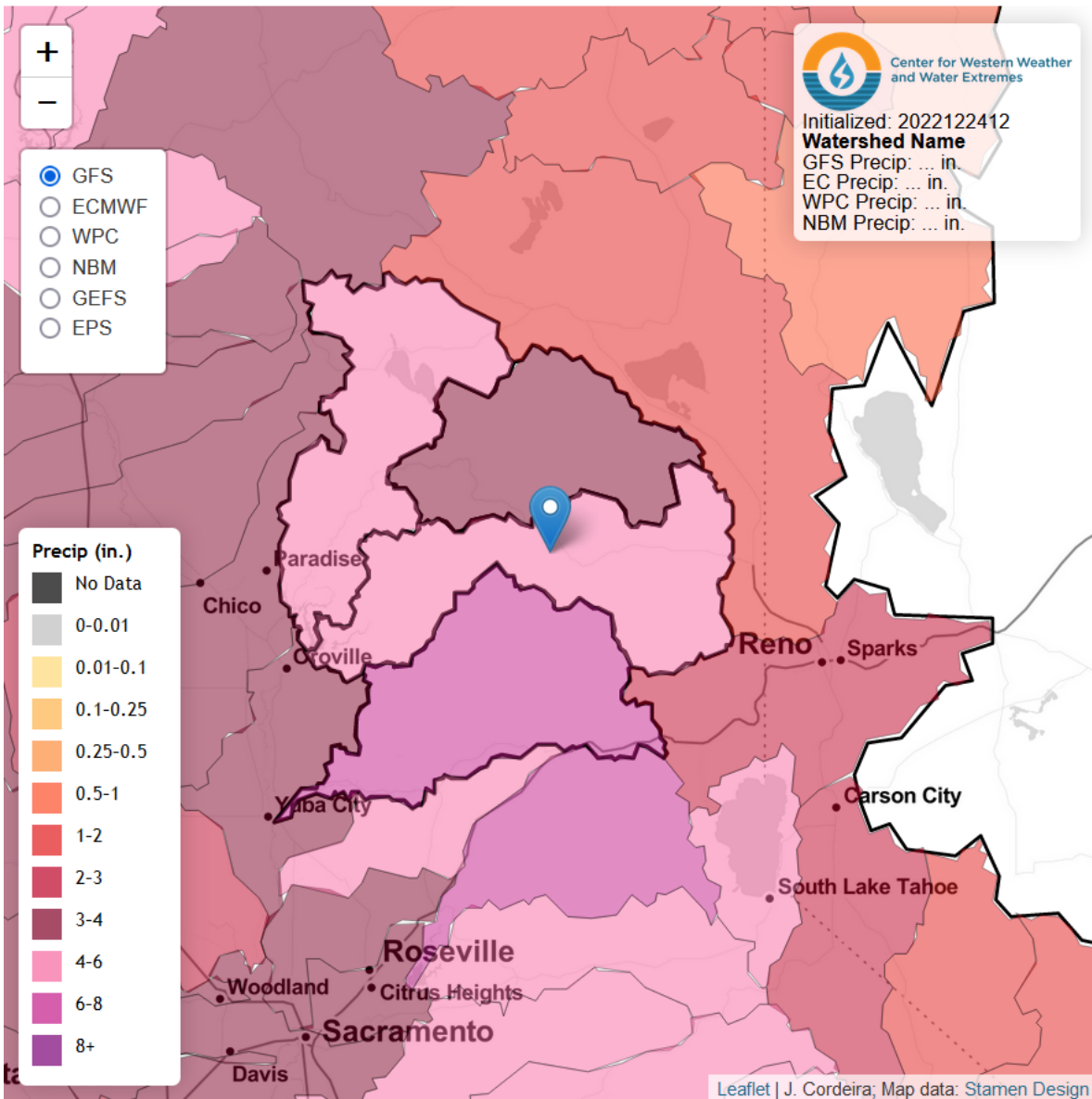
Watershed Scale Precip US and Euro Models -Agree on wet week ahead

7-day Difference Precipitation Forecast



US wetter than Euro in NorCal, drier in WA/OR and in SoCal

7-day Model Precipitation Forecasts



Watershed Information:

Watershed Name: Feather
 Watershed ID: 18020123
 Watershed State(s): CA
 Watershed Area: 873437.77 Acres

7-day Mean Areal Precipitation (MAP)

Model	Initialized	7-day QPF	7-day Volume
GFS (Op)	2022122412	4.83 in.	351 TAF
ECMWF (Op)	2022122412	5.51 in.	401 TAF
NOAA WPC	2022122412	5.19 in.	377 TAF
National Blend	2022122412	5.61 in.	408 TAF
GEFS Ensemble Mean	2022122412	5.20 in. ± 1.40	378 TAF ±110
ECMWF Ensemble Mean	2022122412	5.19 in. ± 0.89	377 TAF ±70

Daily Mean Areal Precipitation (MAP) for

Model	Day-1	Day-2
GFS (Op)	0.00	0.00
ECMWF (Op)	0.00	0.00
NOAA WPC	0.00	0.00
National Blend	0.00	0.00
GEFS Ensemble Mean	0.00	0.00
ECMWF Ensemble Mean	0.00	0.00

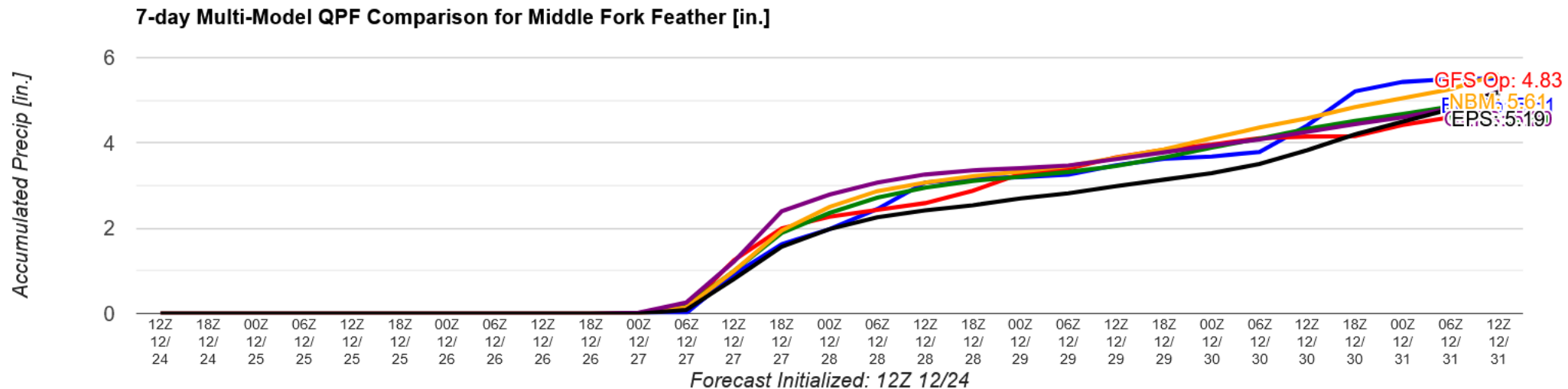
Situational Awareness
 Multi-Model Precip
 forecast – Middle Feather

About 300-500 Thousand Acre Feet (TAF) Precip in Middle Fork Feather Same for North Fork East Branch Middle: 150-350 TAF
Total of 3 forks: 1 million AF +/- 25%
SEE NWS/CNRFC for Precise Forecasts

Mult-Model Forecast Accumulated QPF: Middle Fork Feather
 Forecast initialized: 12Z 12/24 | Through F168

Refresh Chart

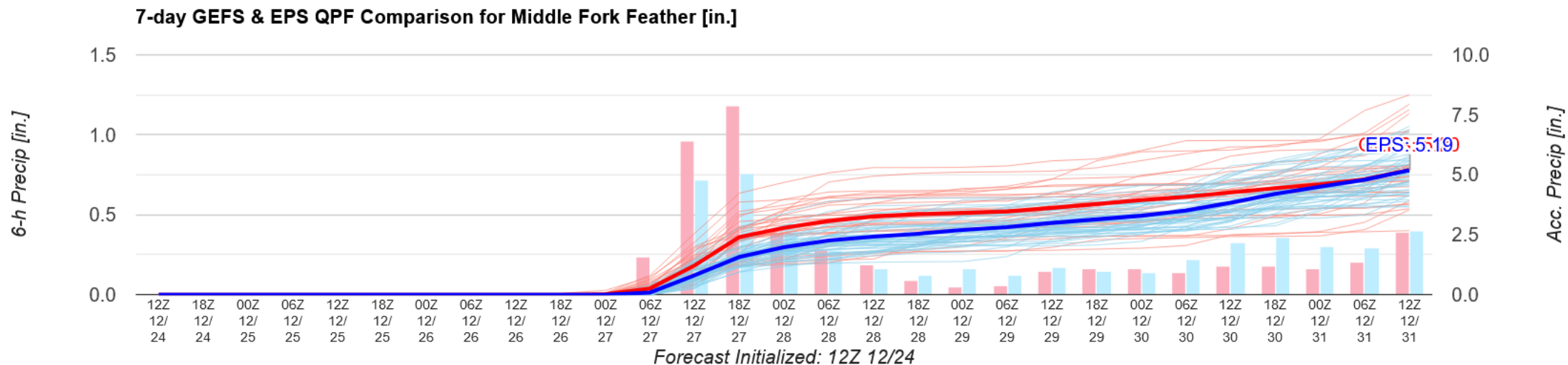
[Right click here & open in new to save](#)

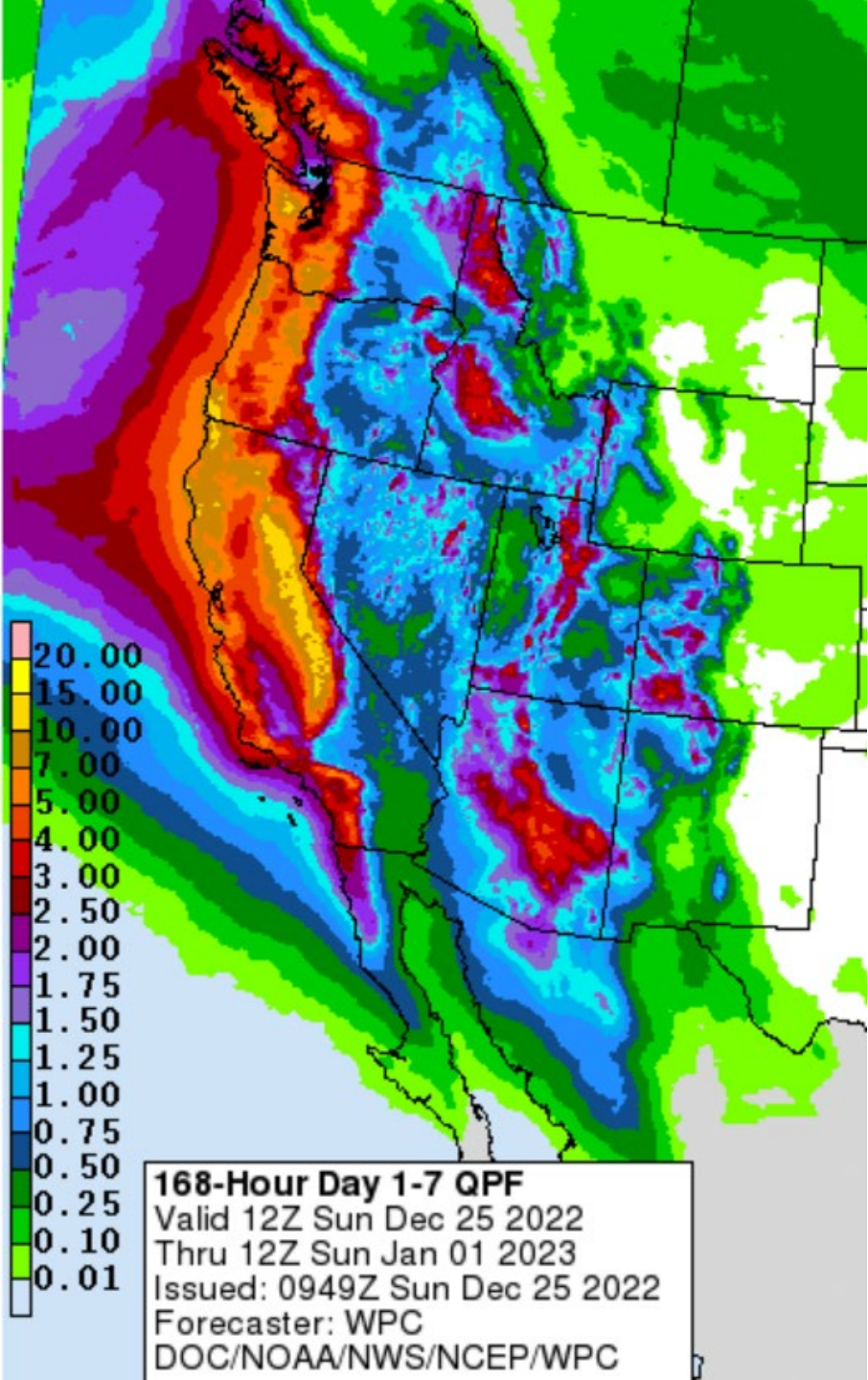


GEFS and EPS Forecast QPF: Middle Fork Feather
 Forecast initialized: 12Z 12/24 | Through F168

Refresh Chart

[Right click here & open in new to save](#)





168-Hour Day 1-7 QPF
Valid 12Z Sun Dec 25 2022
Thru 12Z Sun Jan 01 2023
Issued: 0949Z Sun Dec 25 2022
Forecaster: WPC
DOC/NOAA/NWS/NCEP/WPC

National Weather Service Weather Prediction Center

Site Map News Organization

DOC NOAA NWS NCEP Centers: AWC CPC EMC NCO NHC OPC SPC SWPC WPC

Excessive Rainfall Discussion (Latest Discussion - Issued 1554Z Dec 25, 2022)

Day 3
Valid 12Z Tue Dec 27 2022 - 12Z Wed Dec 28 2022

...THERE IS A SLIGHT RISK OF EXCESSIVE RAINFALL FOR THE COASTAL RANGES OF SOUTHERN OREGON DOWN TO SOUTHERN/CENTRAL CALIFORNIA...

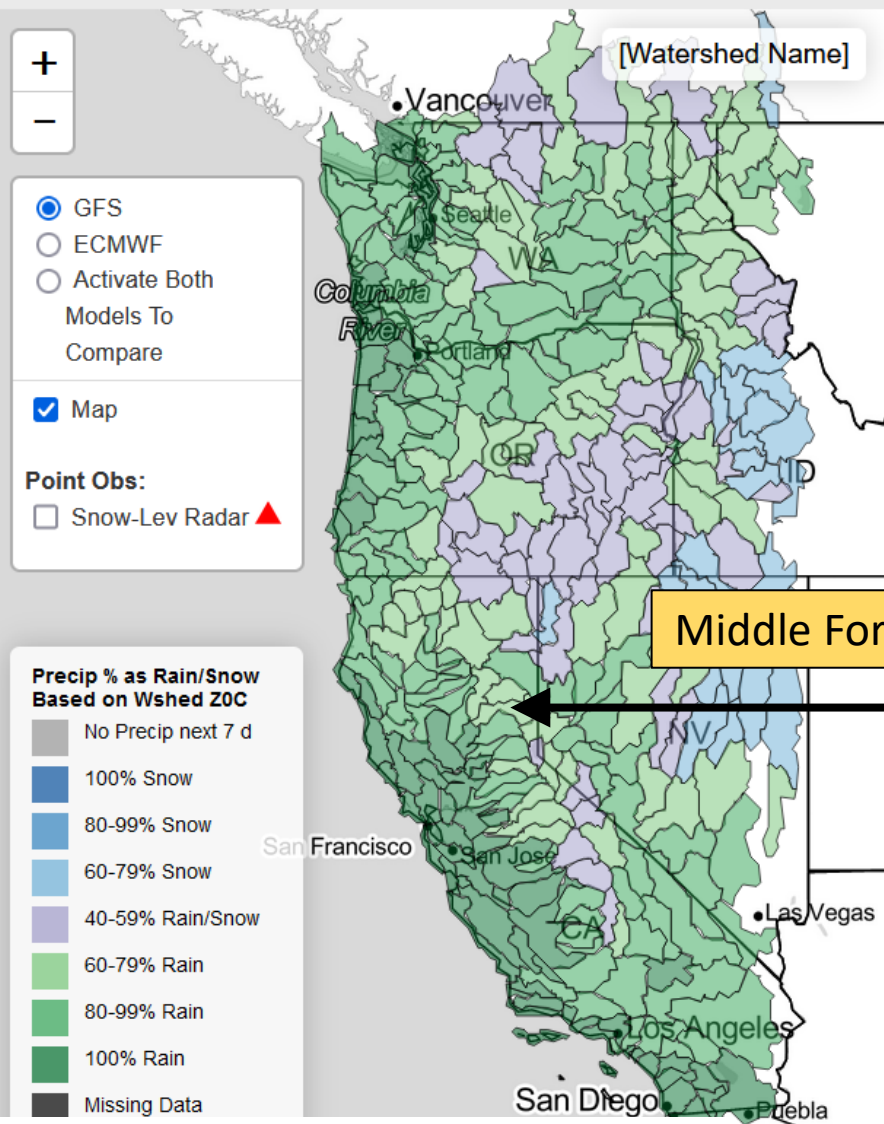
A potent low pressure system will continue to advect anomalous moisture into the West Coast on Tuesday. Pacific moisture associated with an atmospheric river will work its way down the California coast on Tuesday. The upper-level shortwave energy from Monday will open up into a longwave trough as it moves into the Western half of the country. The heaviest rainfall with rates of around 0.1-0.25in/hr will glide down the central California coast Tuesday morning into the afternoon carrying PWATs of around 1-1.5 inches. The greatest flash flooding threat will be over burn scars and urban areas. Freezing temperatures will make their way into the Pacific Northwest and western mountain ranges which will support snowfall in the northern Cascades and Sierra. A 40-50kt low level jet will weaken as the day goes on and the axis of precip shifts southward.

Kebede

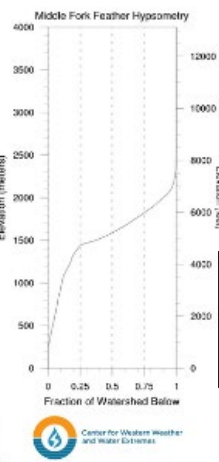
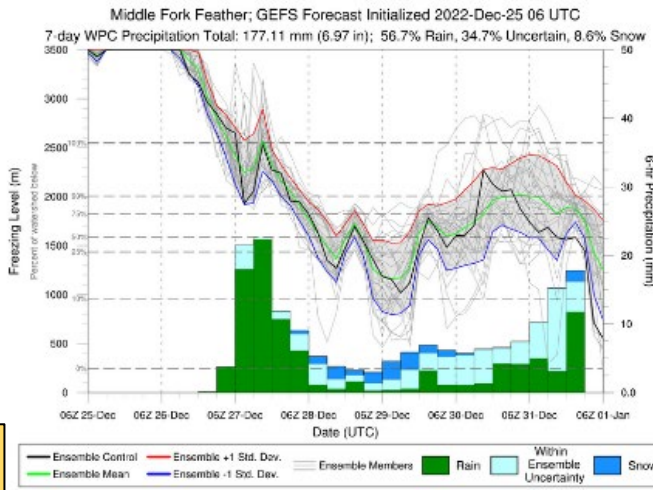
Warm storm sequence overall
(normal for AR storms to be warm)

Most watersheds will see >50% of precipitation over the next 7 days as rain

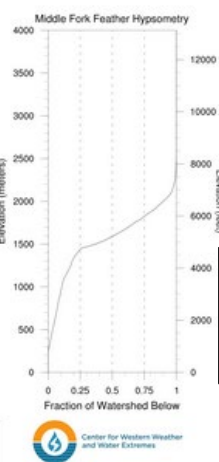
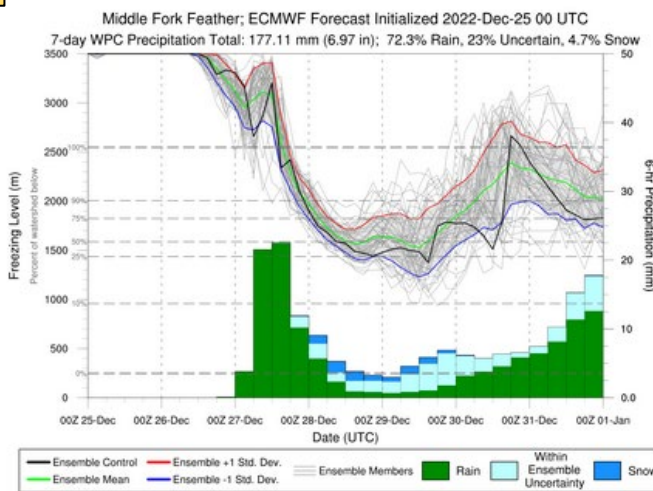
Rain-Snow fractions



Note: Clicking the GEFS/ECMWF radio button will load precipitation-derived map data for each ensemble member allowing you to click an individual watershed to see its respective ensemble-plume diagram. Clicking the third radio button option will produce a white map, but will allow you to see both model system's ensemble-plume diagrams after you click a watershed.



US Model – GFS
57% falls as rain



Euro. Model – ECMWF
72% falls as rain