

# Water Supply Outlook for Water Year 2021

WSAC Dec 11 , 2020  
Brent Bower NWS Seattle



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# Winter 2020-2021

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Brent Bower –Senior Service Hydrologist



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# El Niño or La Niña?

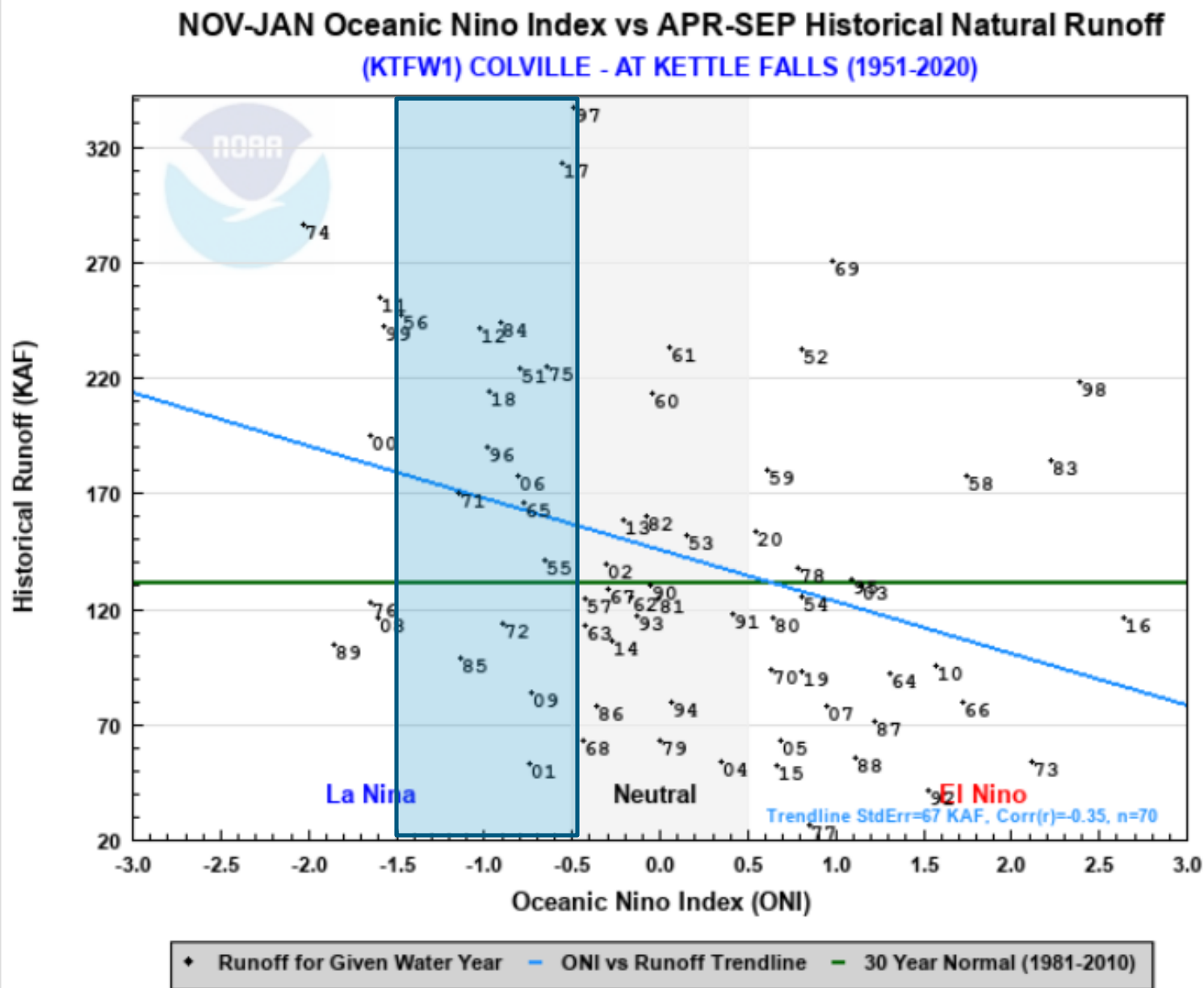
- **La Niña Advisory**
- La Niña conditions are have been observed and there is a 95% Chance of La Niña continuing through Winter 2020-2021
- La Niña is associated with cooler and wetter than average conditions in the PNW. However, more factors are at play.



Latest ONI for Region 3.4 = ~ 1.0 C

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Dec – Jan - Feb

Outlook Favors



Above Average

Precipitation

Select Lead ▾

## Seasonal Outlook

December 2020-February 2021 (Lead 1)

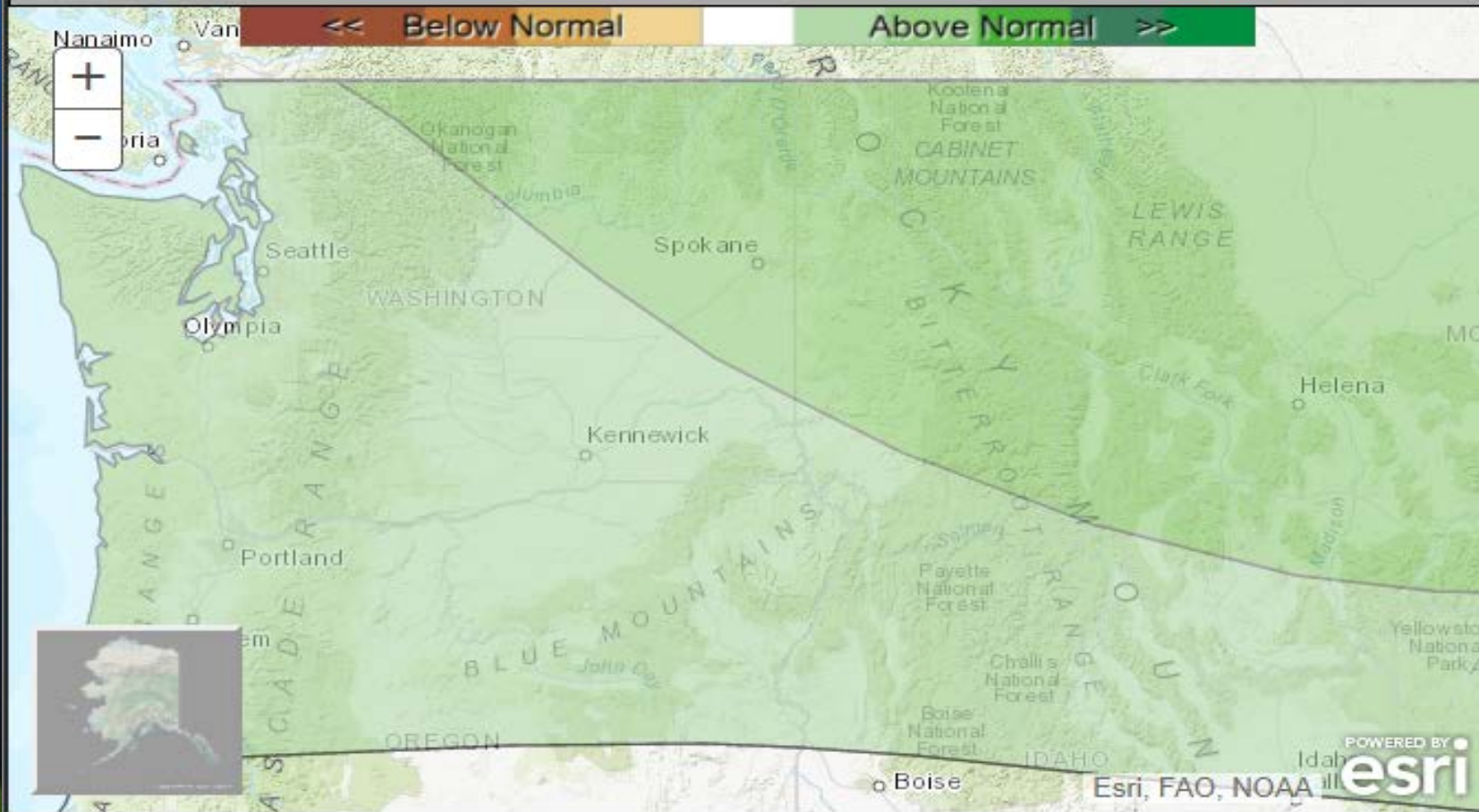
Temperature

● Outlook

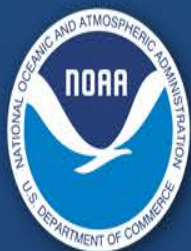
Opacity: 60%

Precipitation

● Outlook







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Dec – Jan - Feb



Outlook Favors

Above Average

Temperature

Select Lead ▾

## Seasonal Outlook

December 2020-February 2021 (Lead 1)

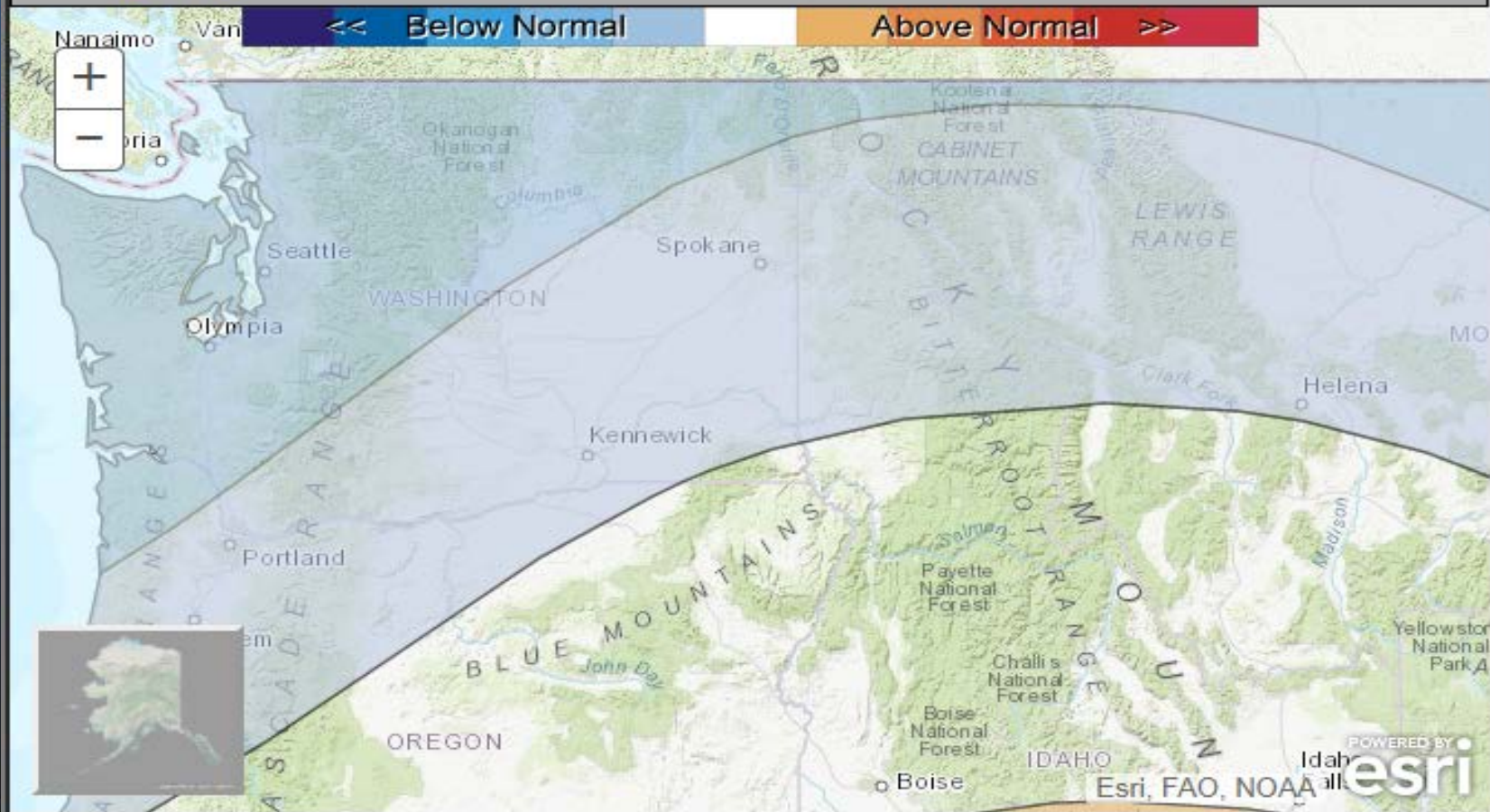
Temperature

● Outlook

Opacity: 60%

Precipitation

● Outlook





Mar – Apr - May

Outlook Favors



Above Average

Precipitation

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Select Lead v

## Seasonal Outlook

March 2021-May 2021 (Lead 4)

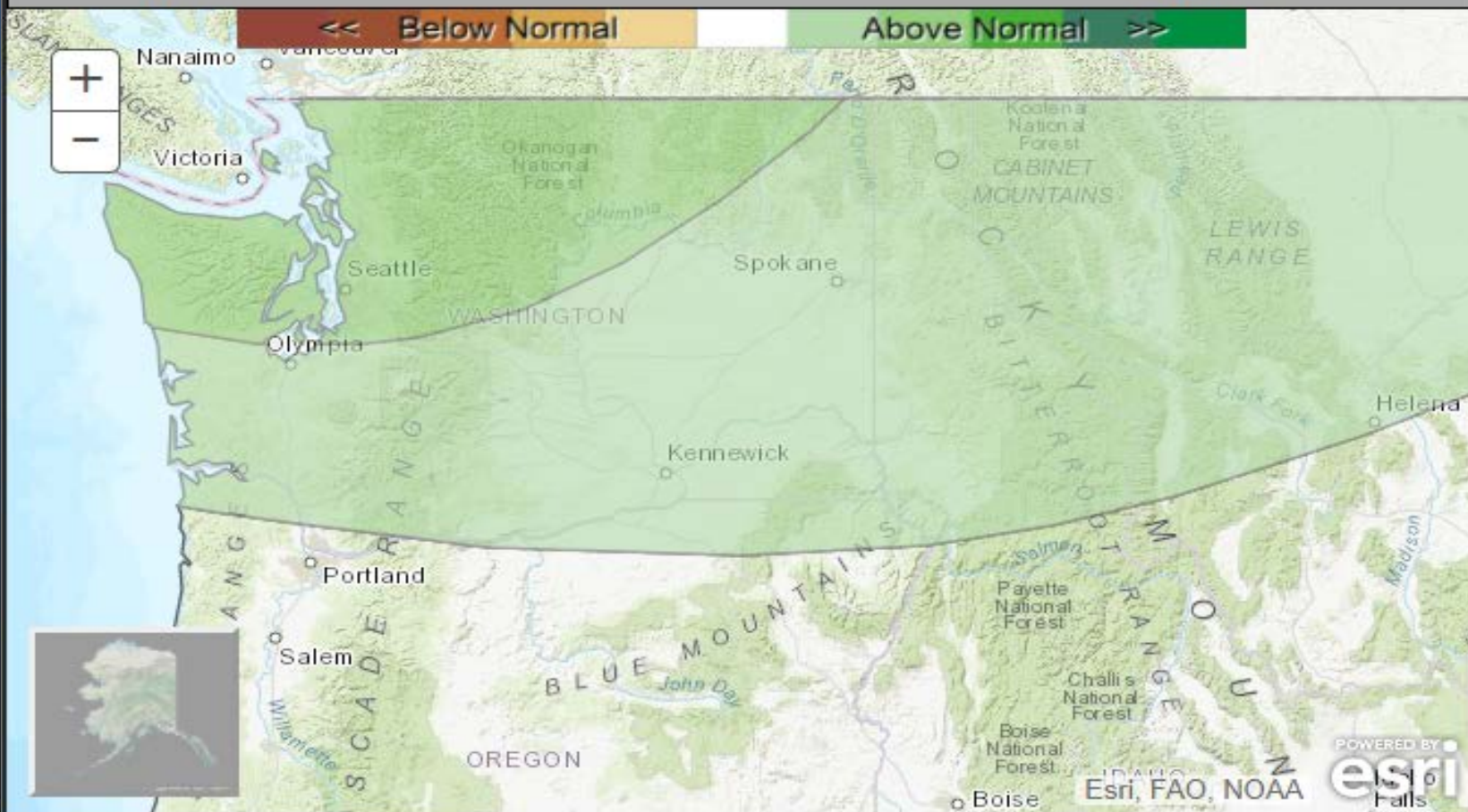
Temperature

● Outlook

Opacity: 60%

Precipitation

● Outlook







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Mar – Apr - May



Outlook Favors

Above Average

Temperature

Select Lead ▾

## Seasonal Outlook

March 2021-May 2021 (Lead 4)

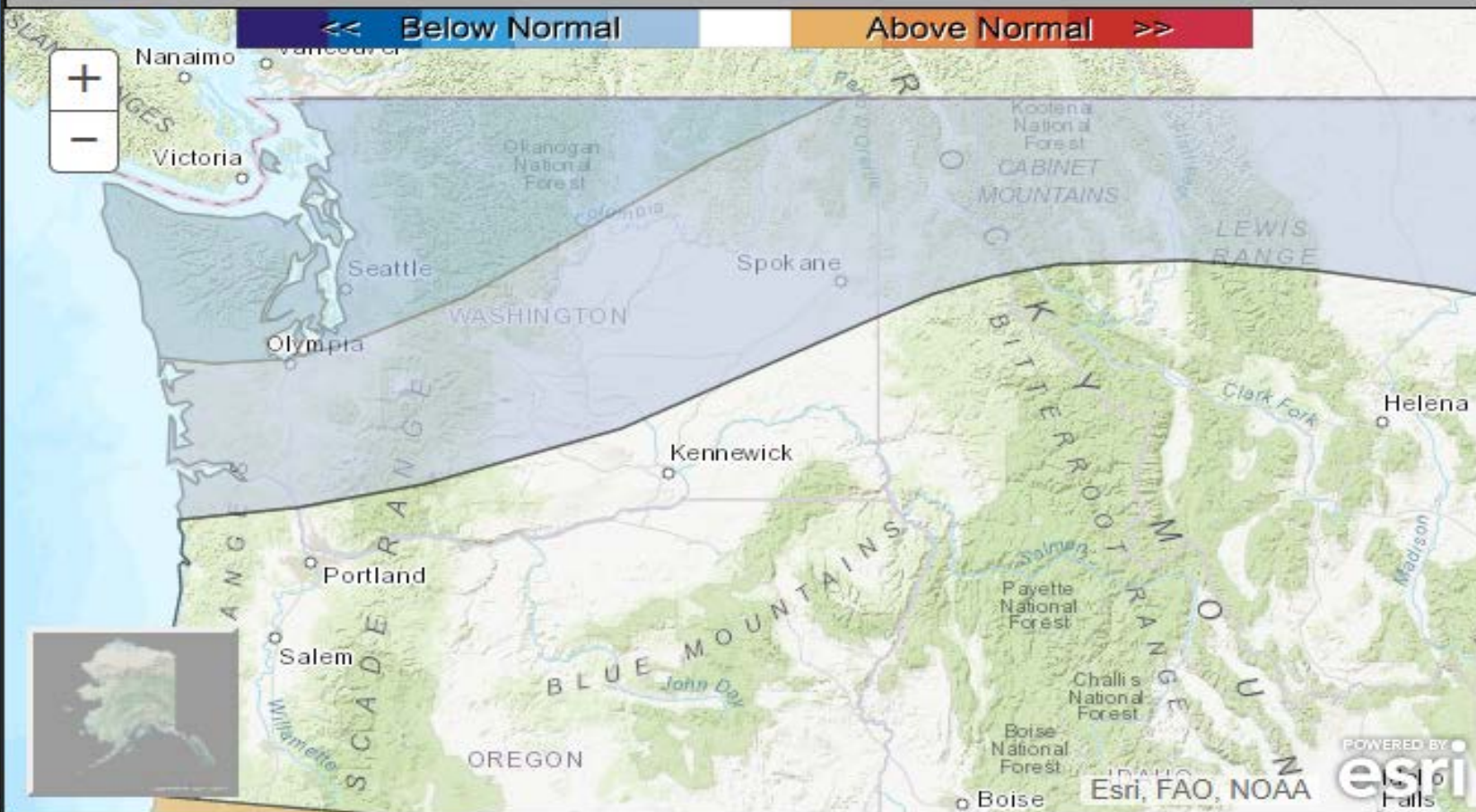
Temperature

● Outlook

Opacity: 60%

Precipitation

● Outlook







# Northwest River Forecast Center

## Current Station Snow Conditions



River and Hydrology

Water Supply

Observations

Weather Forecasts

Climate

NWRFC

Home

Zoom Out

--- Quick Zooms ---

Refresh Data

Last Refresh: 2020-12-10 14:16:17 PST

Elevation  
Filter: ☐

Permalink

Search by NWS ID:

GO

Map Overlays

- ☒ NWRFC Boundary
- ☐ NWRFC Basins
- ☐ NWS HSAs
- ☐ Counties

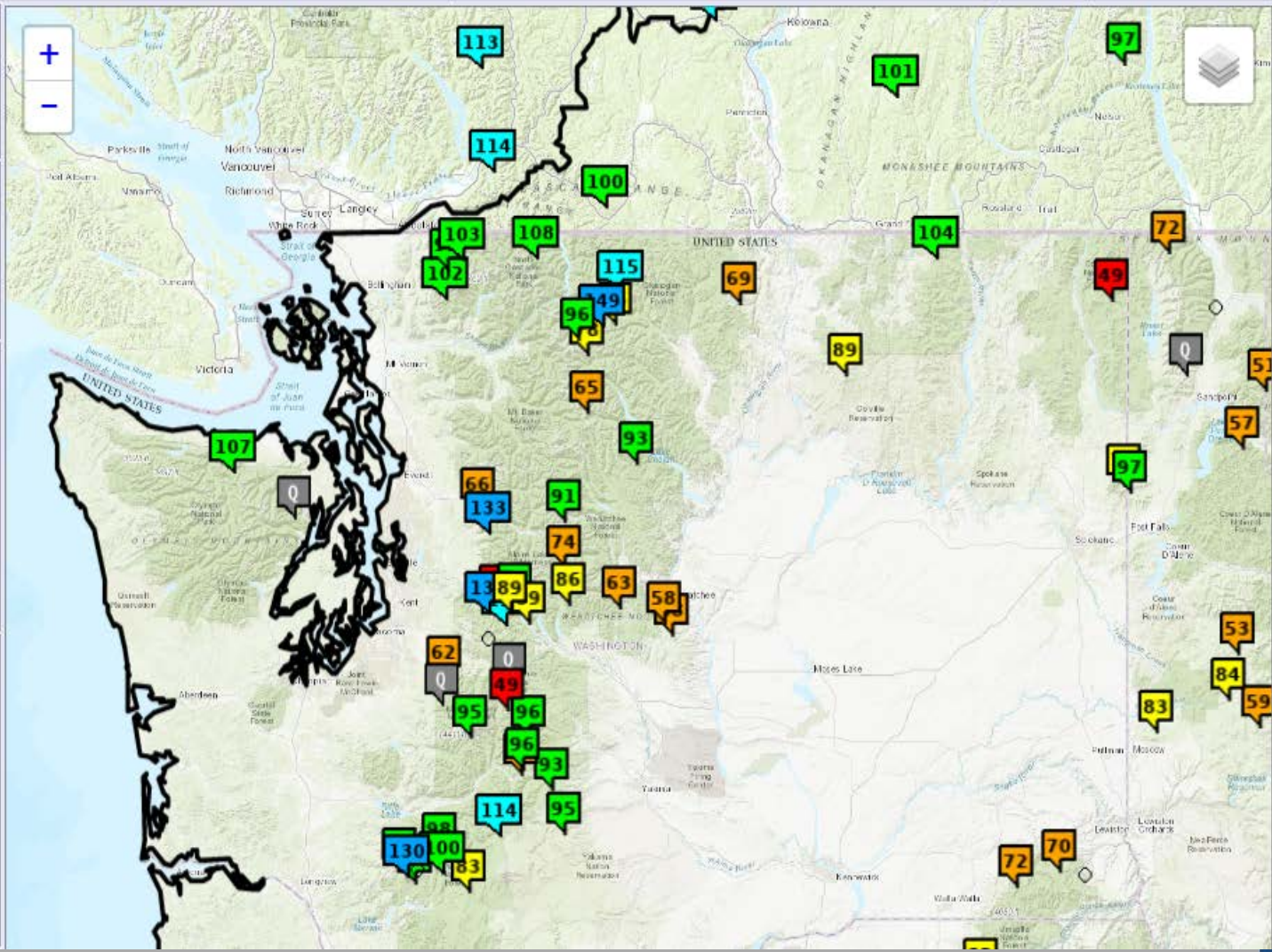
Map Type

- ☐ SWE
- ☐ Snow Status
- ☒ Snow % of Avg
- ☐ Seasonal Peak Status
- ☐ Snow Density
- ☐ Basin Obs Status
- ☐ Basin Sim Status
- ☐ Diff

Legend

SWE (% Avg)

- Questionable
- Not Available
- Zero
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175





# New SNOTEL gage in Olympic Mountains – Mt Tebo



United States Department of Agriculture

[Quick Links](#)

[Snow & Climate Monitoring](#)

[Water Supply](#)

[Climate Support](#)

[Data Access Help](#)

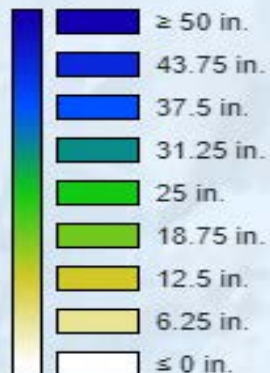
[About Us](#)

Selected Stations: 847

[Print/Export](#)



Snow Water Equivalent  
December 9, 2020, end of  
day



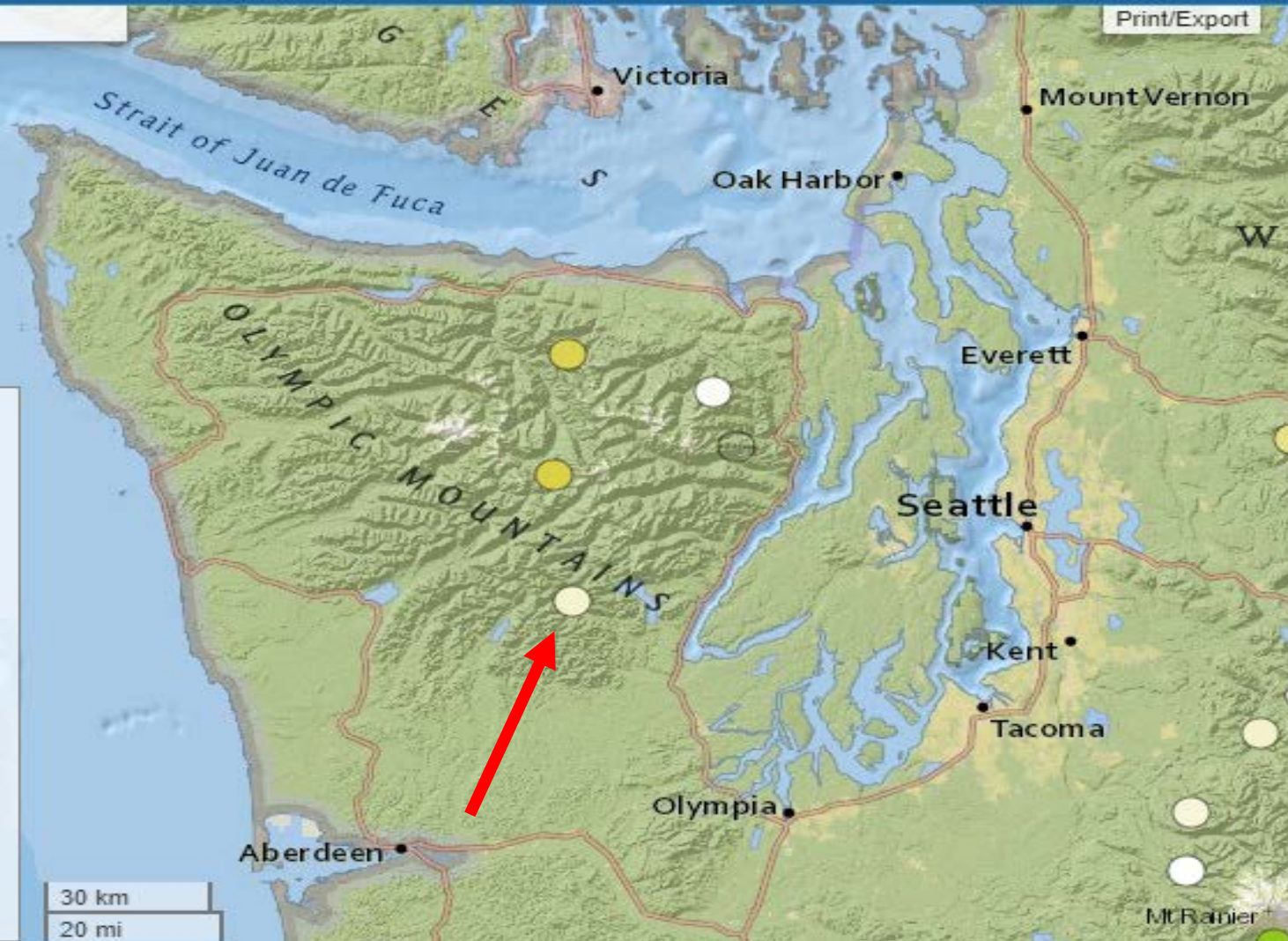
⊖ Observation missing

Natural Resources  
Conservation Service

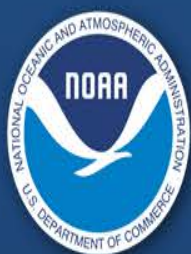
Created 12-10-2020, 02:29 PM PST

30 km

20 mi







# Northwest River Forecast Center

## ESP Natural Forecast



River and Hydrology

Water Supply

Observations

Weather Forecasts

Climate

NWRFC

Home

Zoom Out

--- Quick Zooms ---

ESP Issued: 2020-12-10

Ensemble Date: 2020-12-10

[Permalink](#)

Search

Enter NWS ID:

GO

Map Overlays

- ☒ NWRFC Boundary
- ☐ NWRFC Basins
- ☐ NWS HSAs
- ☐ Counties

ESP Natural Forecast

- ☐ Natural Status
- ☒ Natural % of Normal
- ☐ Rank (ASC)
- ☐ Rank (DESC)
- ☐ Exceedance (%)
- ☐ Percentile (%)

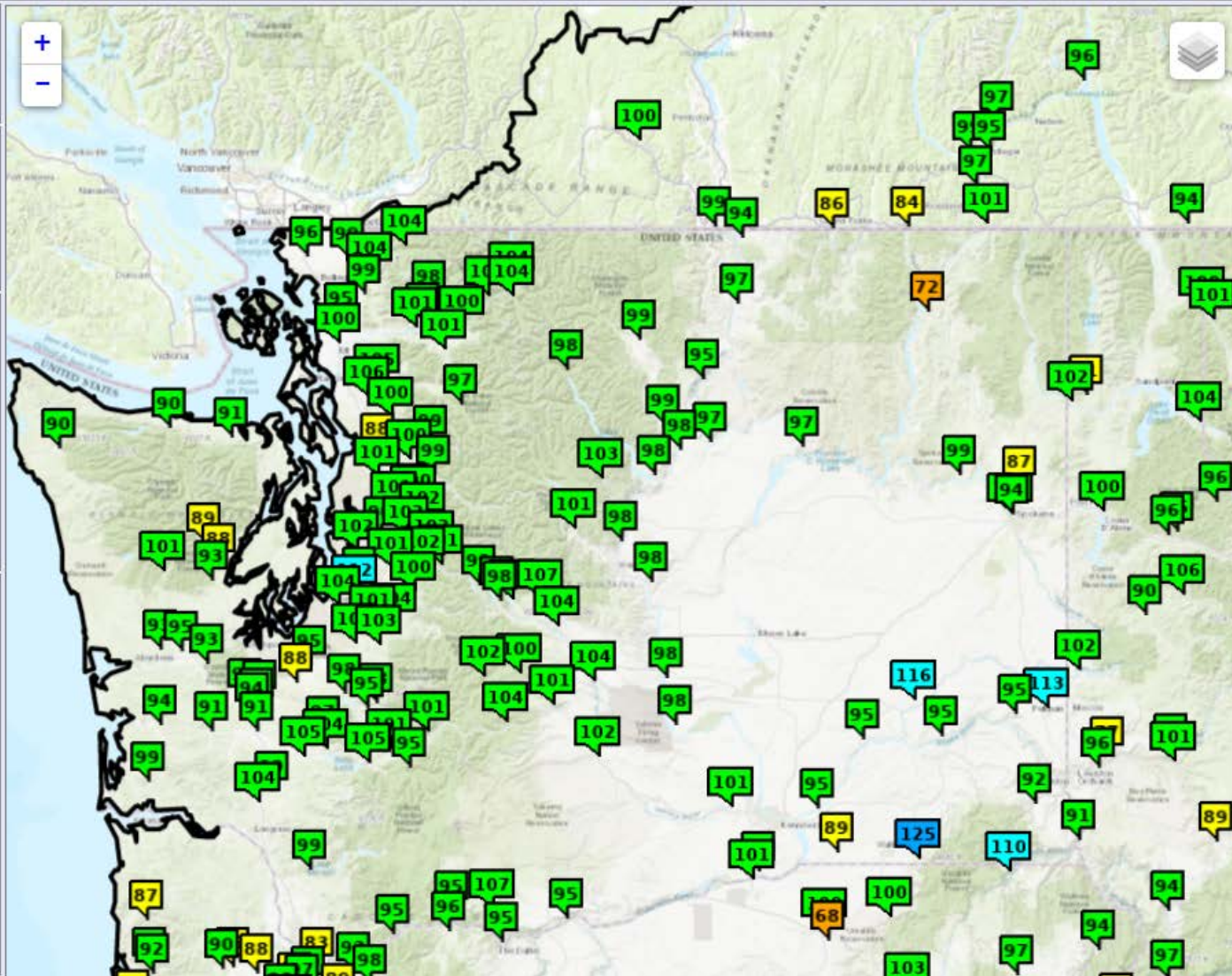
Natural Runoff

- ☐ Runoff Status
- ☐ Runoff % of Normal

ESP Natural Forecast

Period: APR-SEP  
Forecast (% Normal)

- ☐ No Normal, No Data
- ☐ < 25
- ☐ 25-50
- ☐ 50-75
- ☐ 75-90
- ☐ 90-110
- ☐ 110-125
- ☐ 125-150
- ☐ 150-175
- ☐ > 175







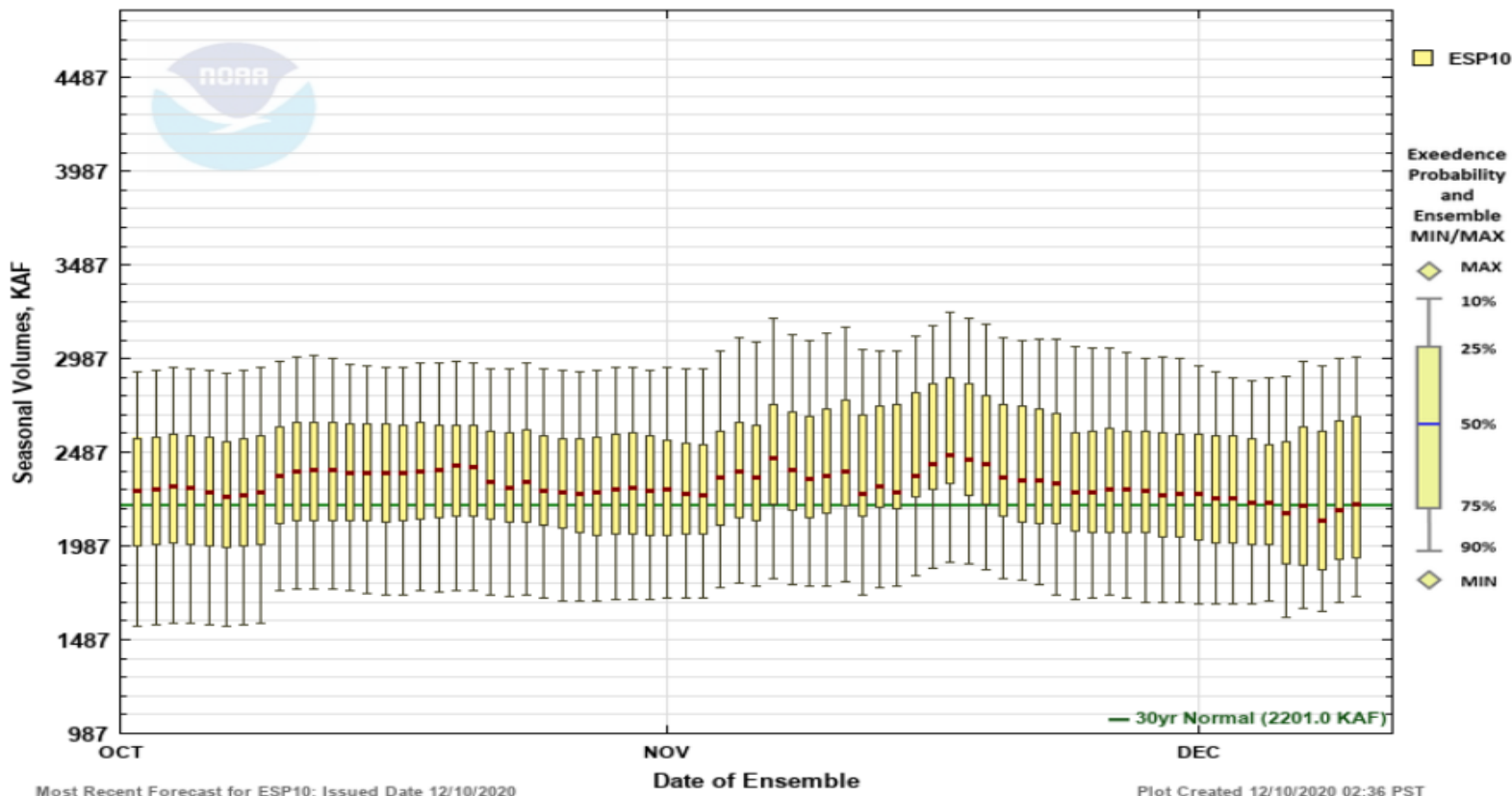
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# Natural Volume Forecasts

## YAKIMA - AT KIONA

Period APR to SEP -- Water Year 2021



## YAKIMA - AT KIONA (KIOW1) Forecasts for Water Year 2021

### Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-12-10 Issued: 2020-12-10

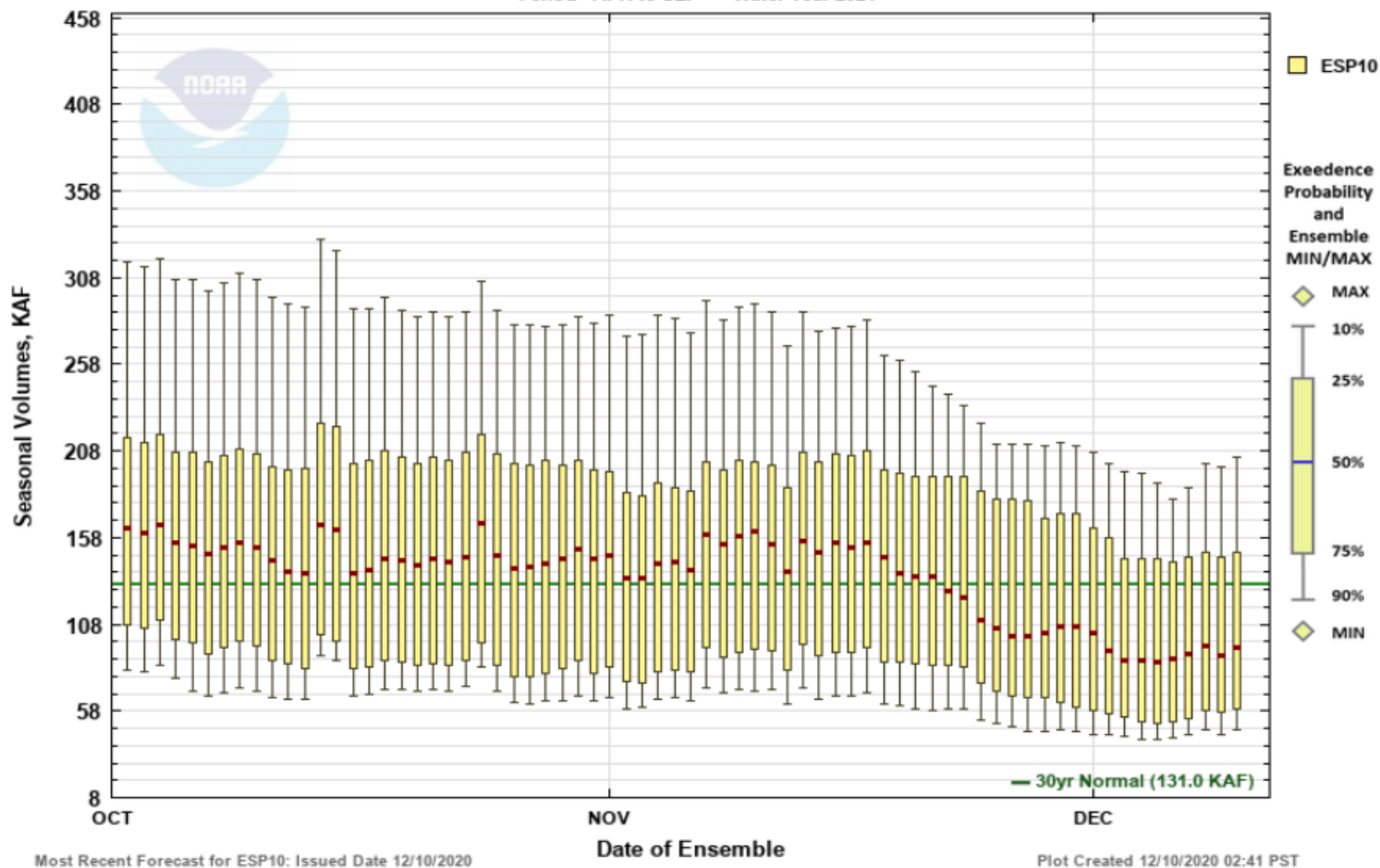
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1717	2213	101	2998	2201
APR-JUL	1525	2012	102	2689	1976
JAN-SEP	2528	3250	101	4334	3224
JAN-JUL	2340	3031	101	4013	3000
OCT-SEP	3102	3851	101	4948	3827



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# Natural Volume Forecasts COLVILLE - AT KETTLE FALLS Period APR to SEP -- Water Year 2021



## Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-12-10 Issued: 2020-12-10

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	47	95	72	205	131
APR-JUL	43	87	73	185	119
JAN-SEP	80	144	75	267	193
JAN-JUL	76	136	75	248	182
OCT-SEP	105	170	77	293	220



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# Bottom Line

- Weather outlook for cooler, wetter La Nina
- Usually not a bad snow pack
- Still early in season for trends in precipitation and snow accumulation
- Water Supply volumes are mostly near normal