



— BUREAU OF —
RECLAMATION

Water Supply Outlook and Hungry Horse Operations 2022

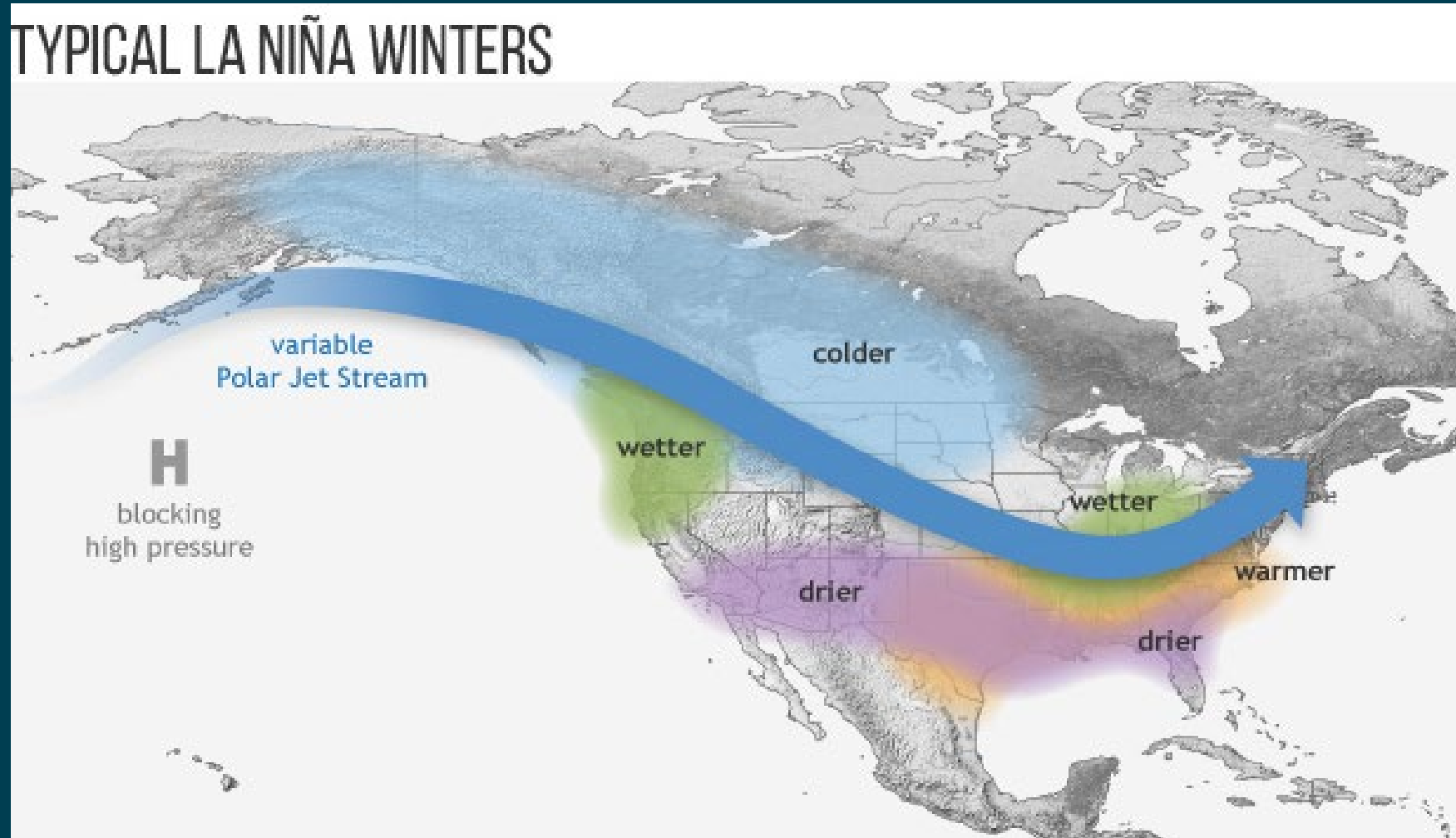
Joel Fenolio, P.E.

C-PN Region Water Management Group

May 9, 2021

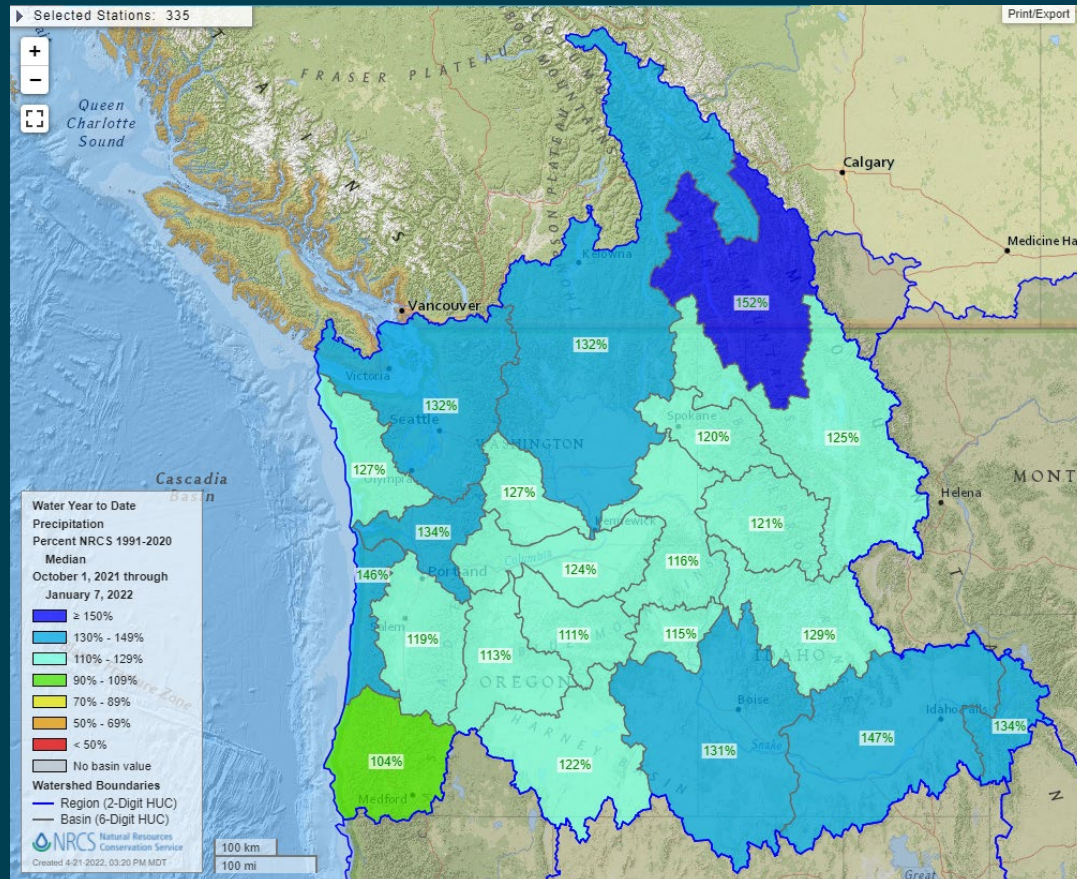
Seasonal Outlook: La Niña Advisory

La Niña is underway and will likely (59% chance) through summer and potentially into the fall (50-55% chance)

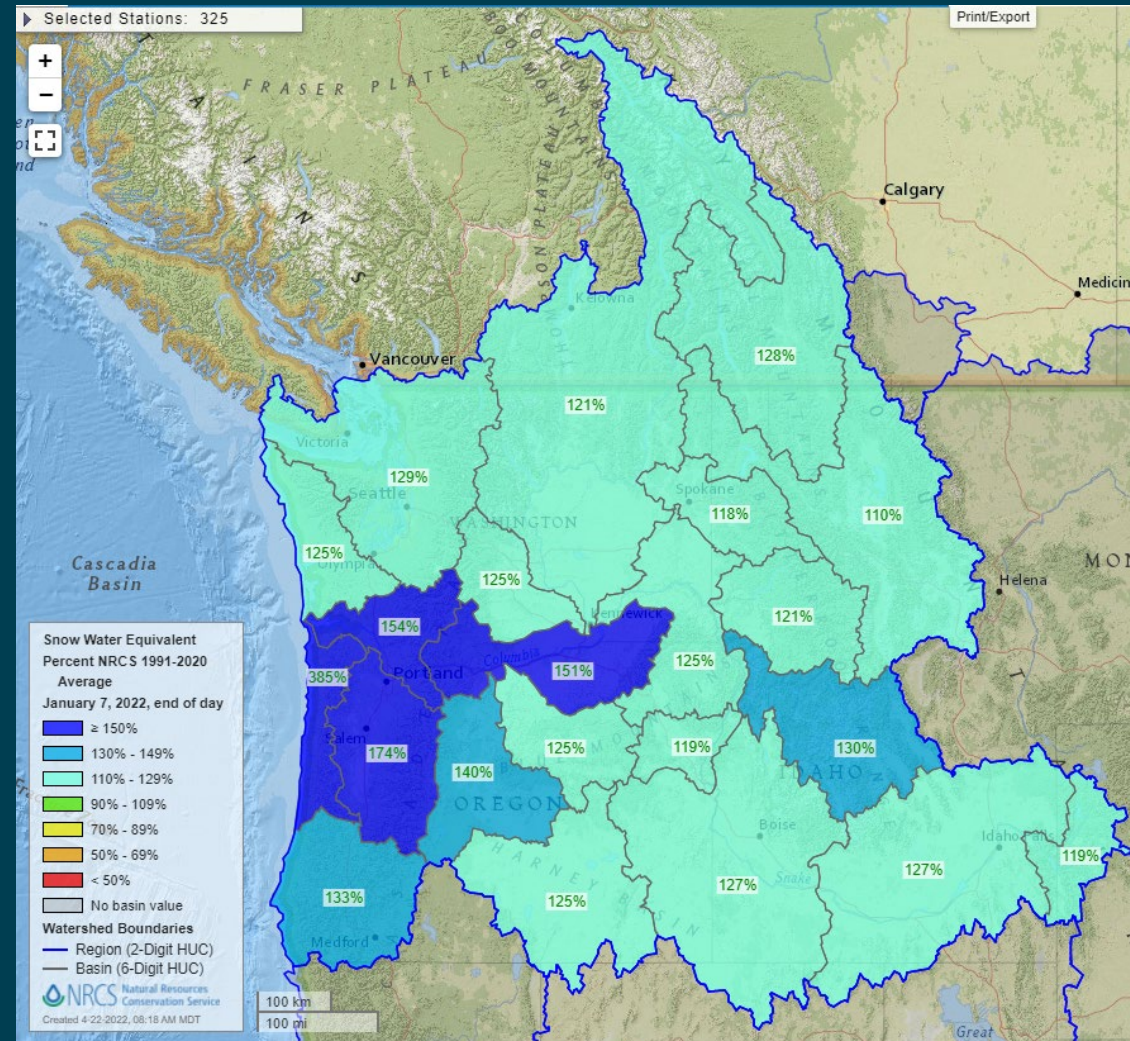


Precipitation Summary Oct 1 to Jan 7

- La Nina conditions were expected heading into 2022
- Except for central Oregon precipitation was average to well above average.
- Upper Snake precipitation was 130 to 140 percent of average

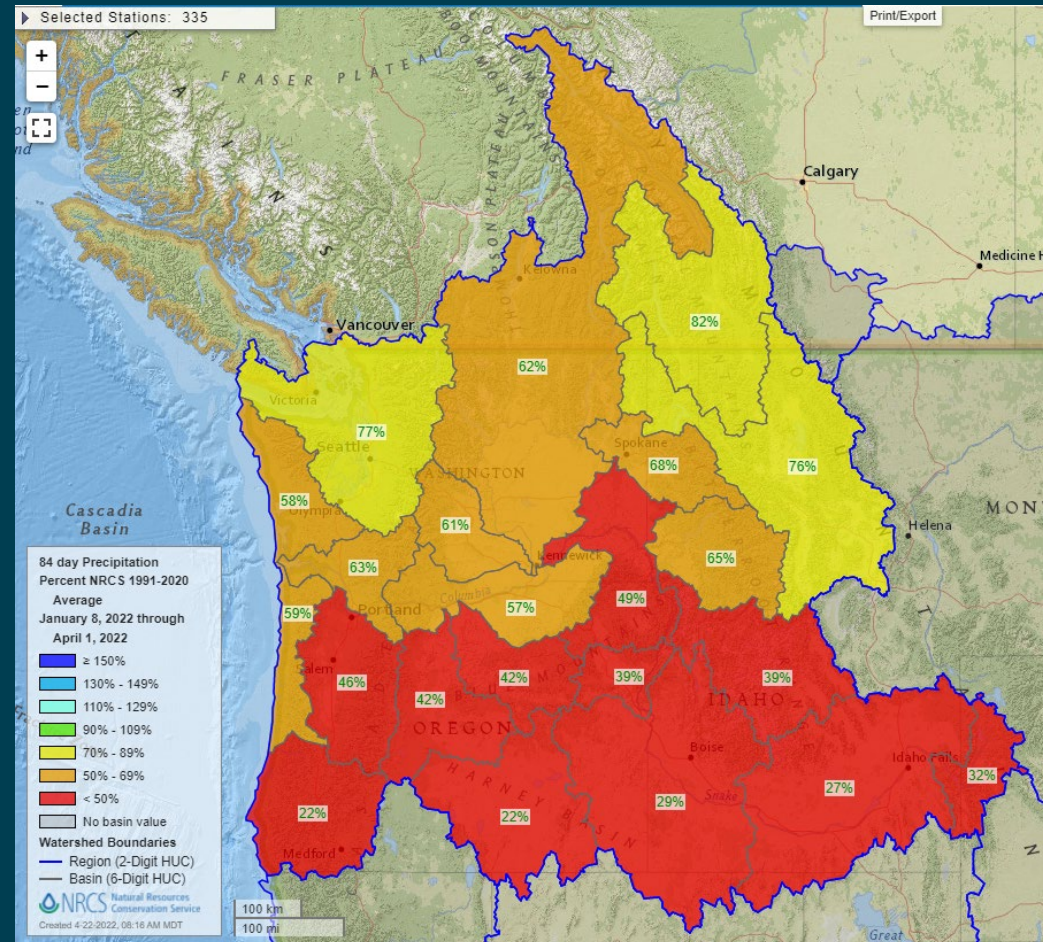


Jan 7 - Snowpack

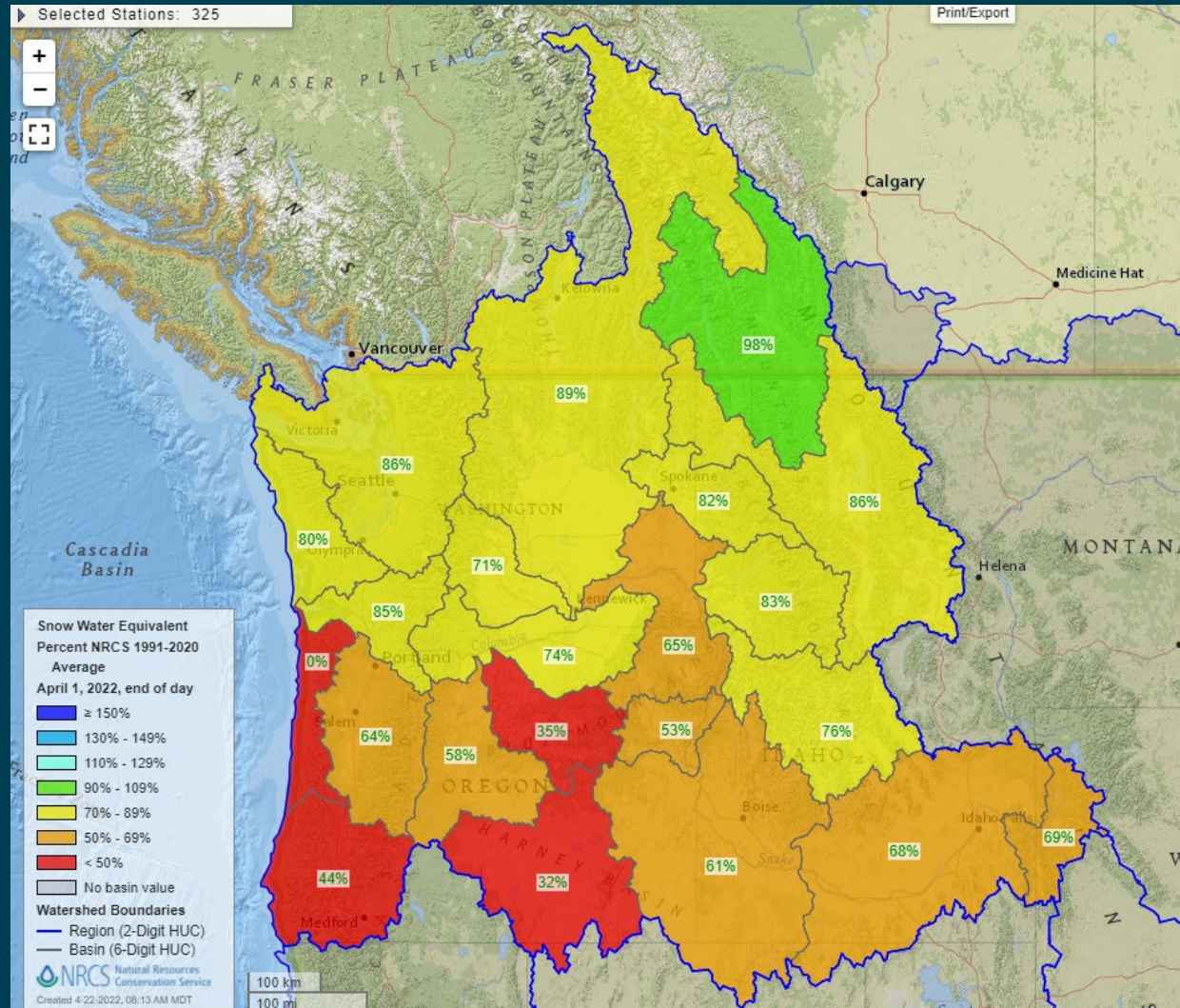


Precipitation Summary Jan 7 to Apr 1

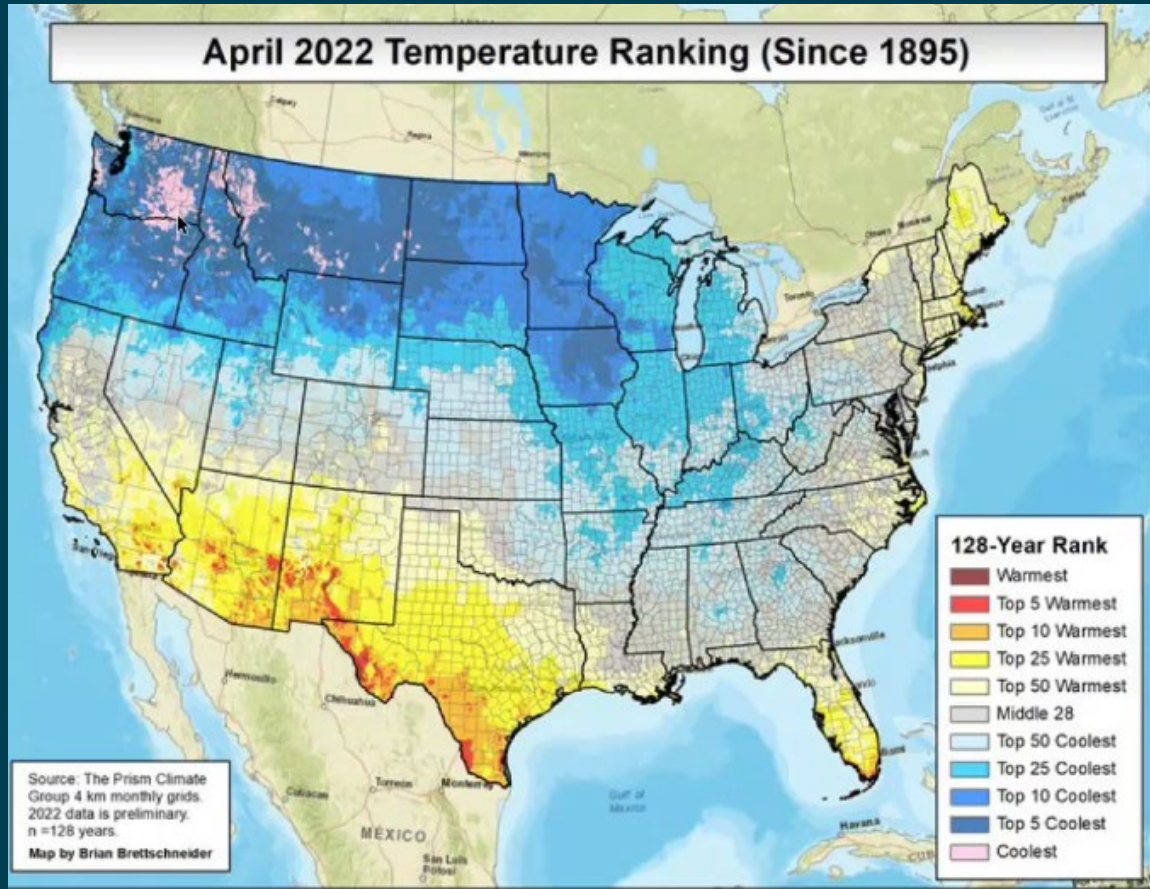
- Since Jan 7 the Upper Snake has experienced one of the driest February to March standpoint
- The rest of the basin has also experienced below normal precipitation



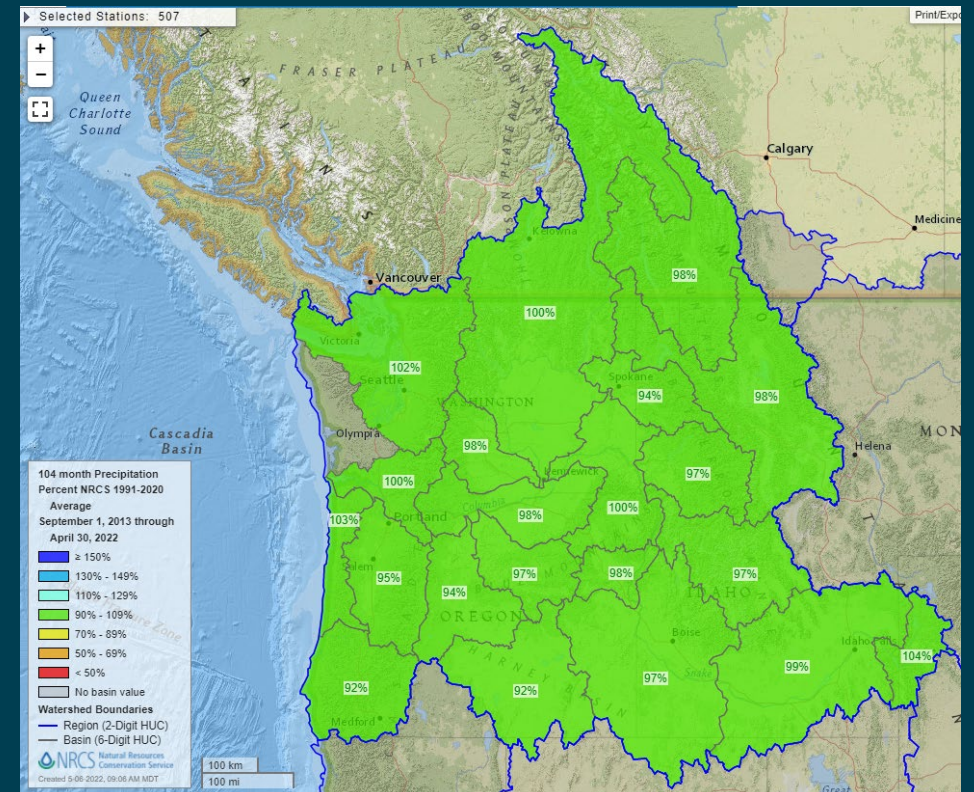
April 1 - Snowpack



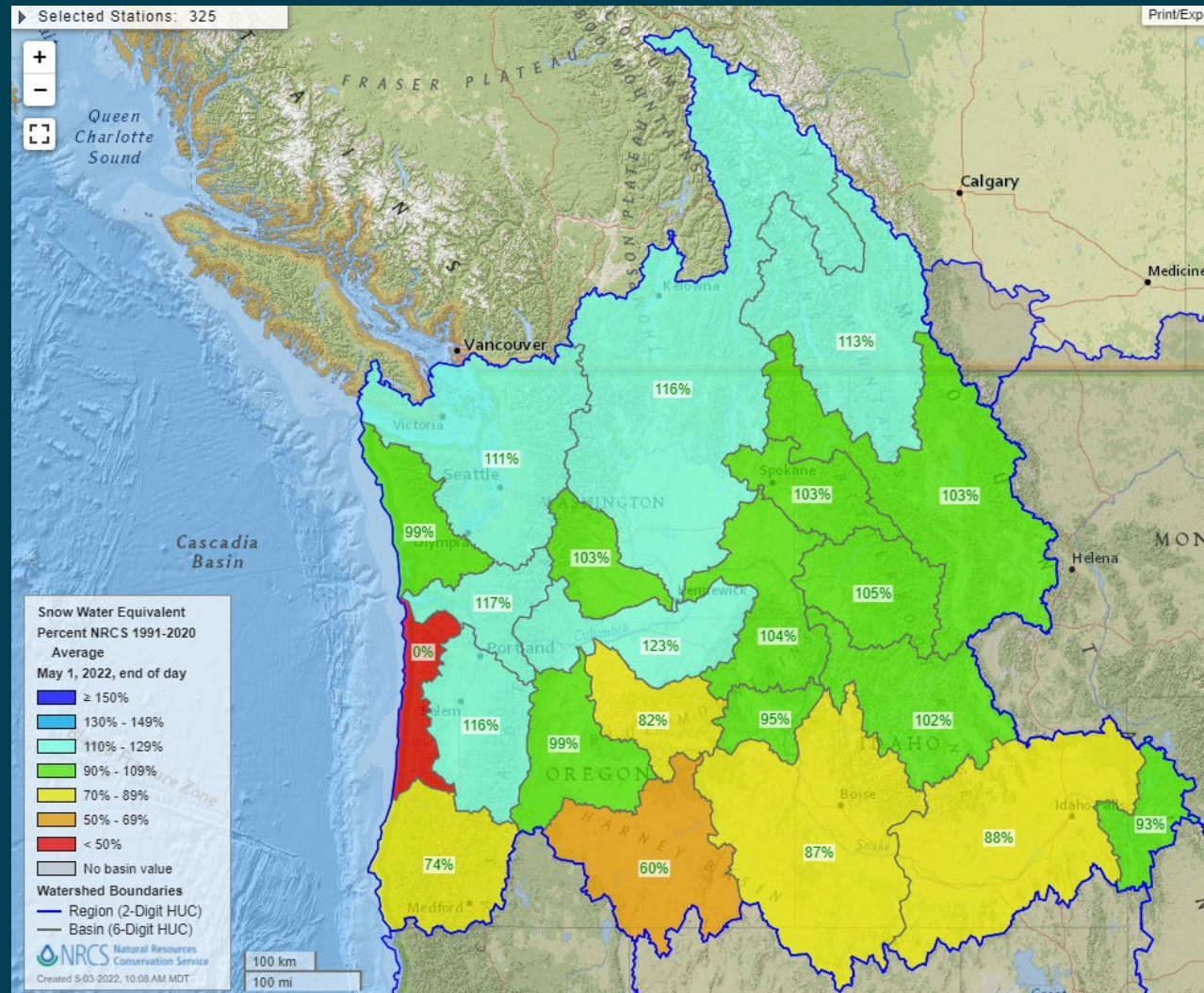
April Temperature and Precipitation



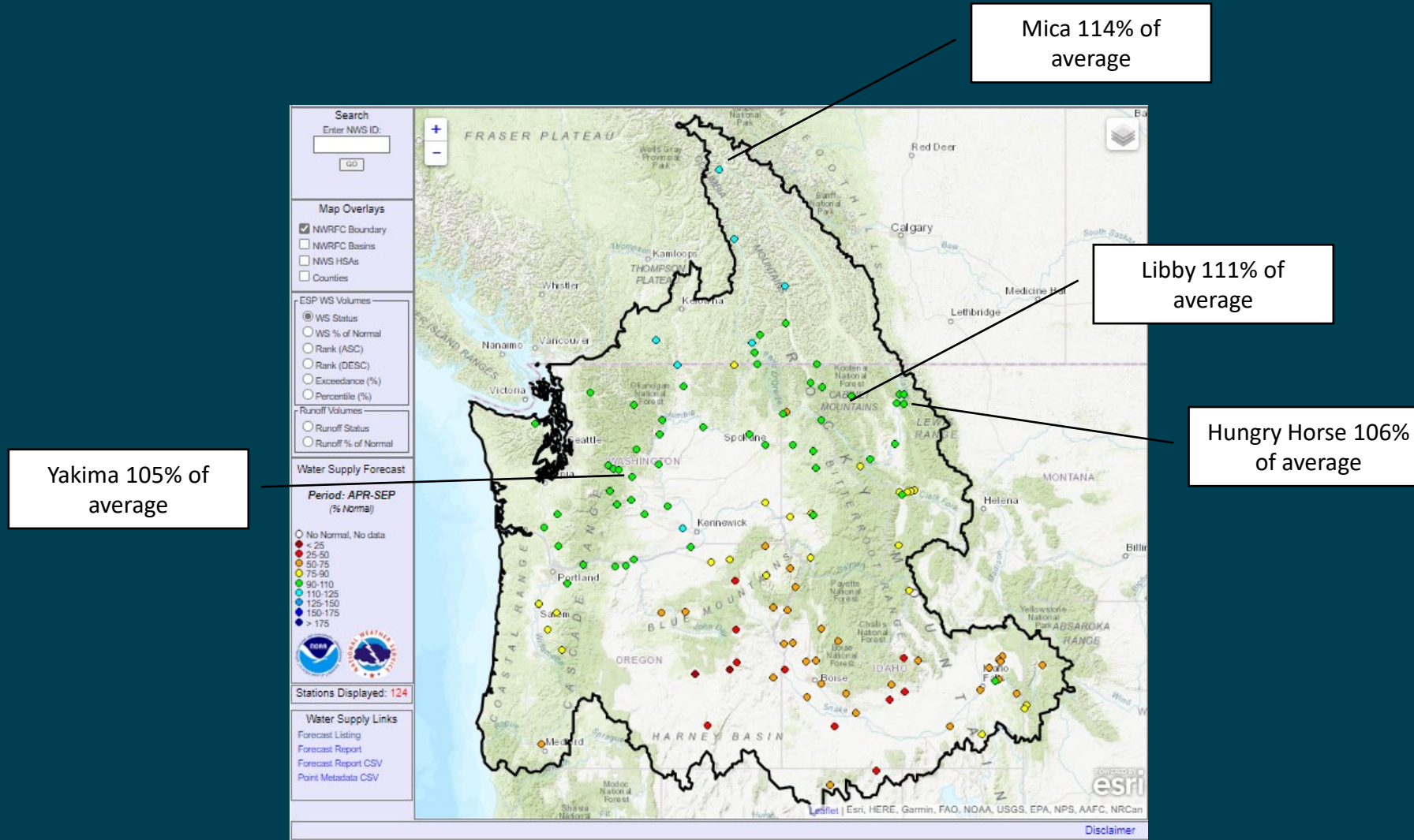
Precipitation



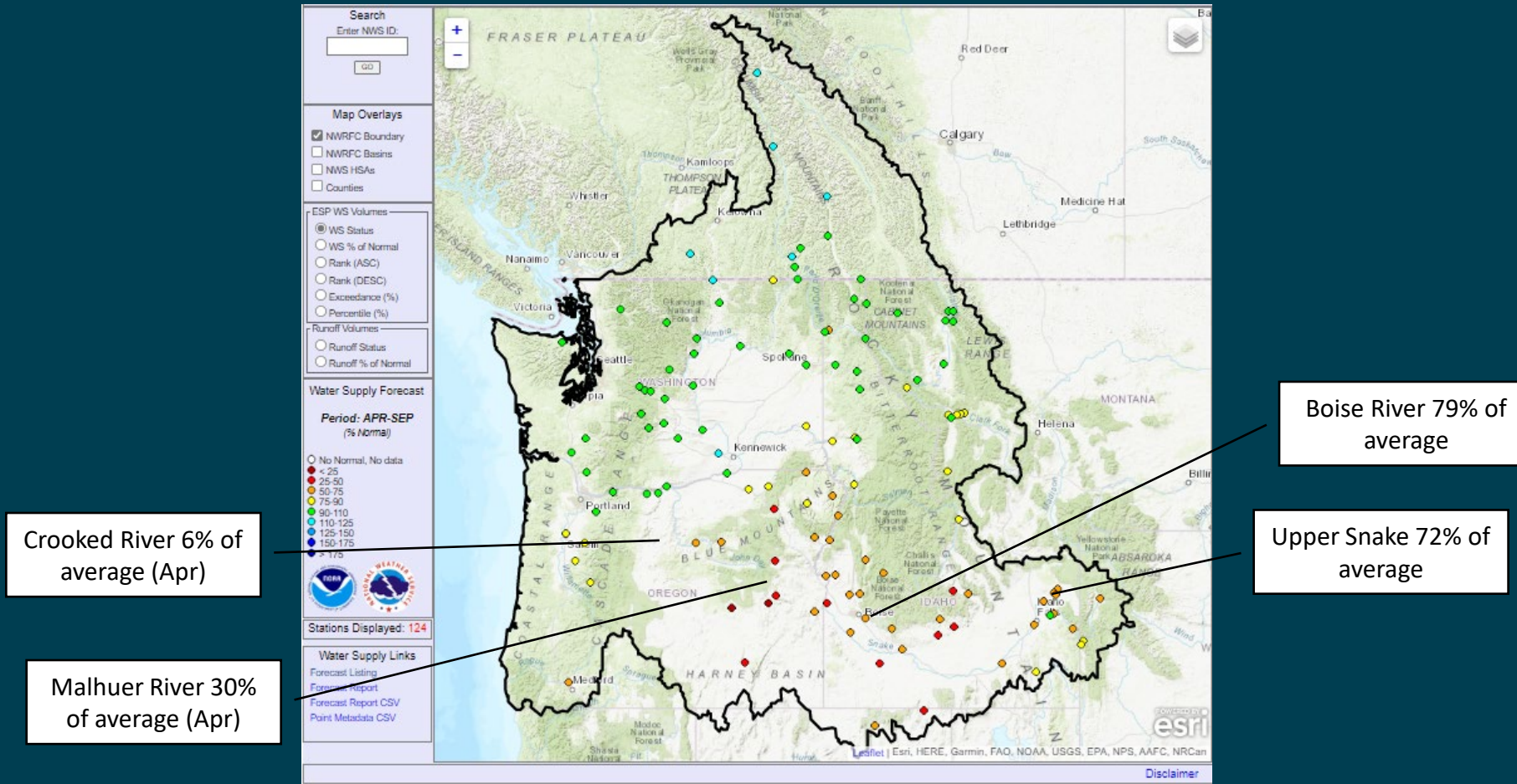
May 1 – Snowpack



May Water Supply Forecasts



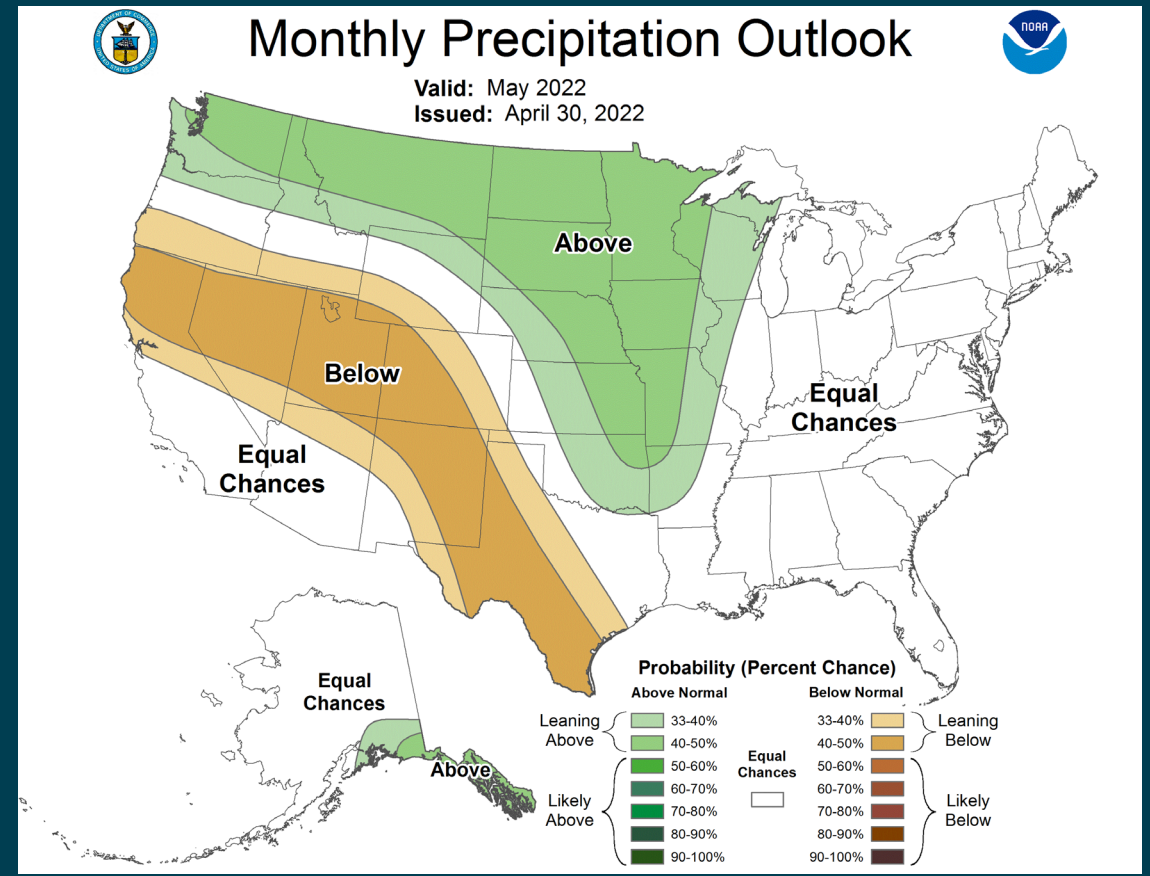
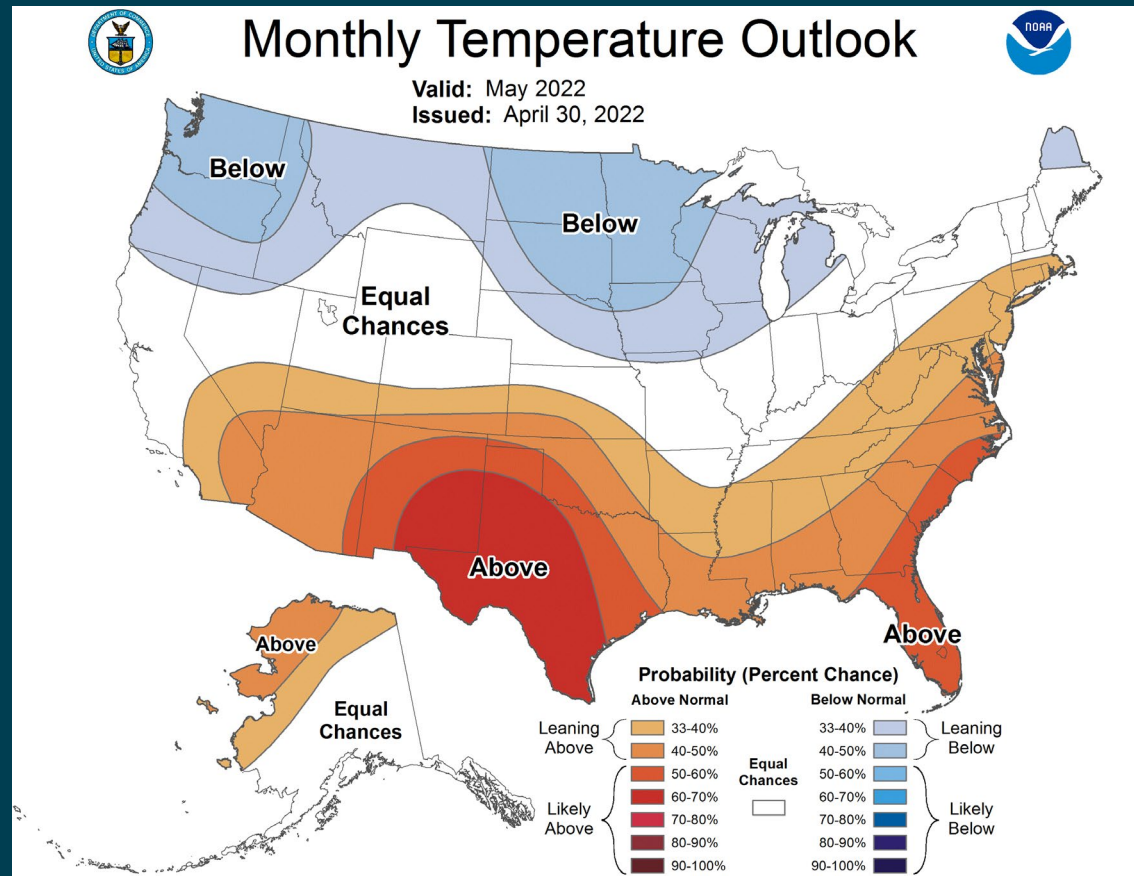
May Water Supply Forecasts



Seasonal Outlook: May

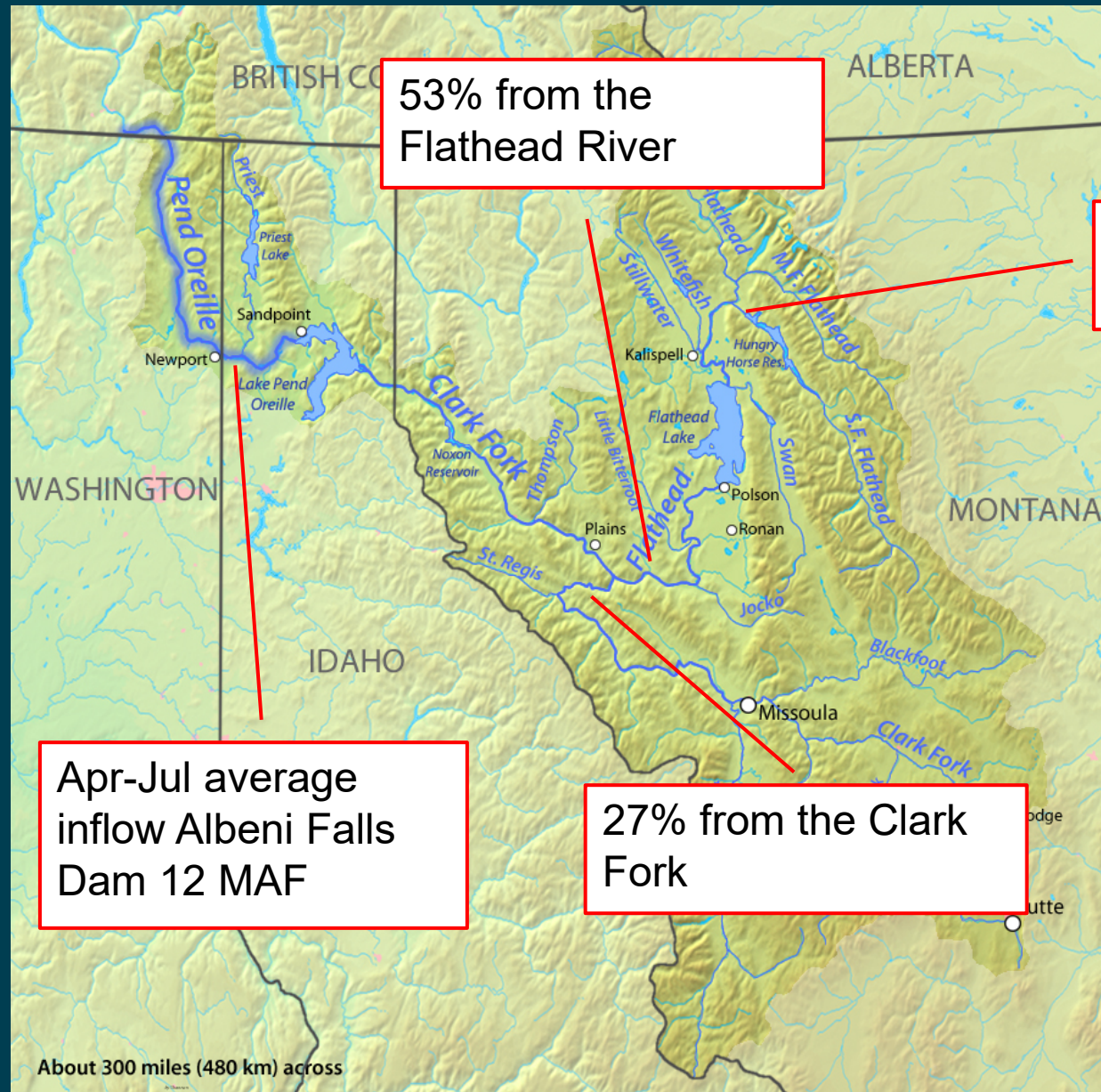
Higher chances for below normal temperatures

Higher chances of above normal precipitation





- Hungry Horse
Southfork of the Flathead
1,600 mi² of watershed
- Total Pend Oreille
Watershed
20,000 mi²
Encompasses most
of Western MT



53% from the Flathead River

15% from South Fork of the Flathead

Apr-Jul average inflow Albeni Falls Dam 12 MAF

27% from the Clark Fork

About 300 miles (480 km) across

Hungry Horse Dam

- Powerhouse has 4 units – maximum generating capacity of 408 MW.
 - Transmission restrictions in the Flathead Valley limit the amount of power produced at Hungry Horse Dam to 310 MW
 - At full capacity powerhouse can discharge up to 12,000 cfs.
- Spillway capacity of 50,000 cfs
- Operating Range between 3,336 ft and 3,560 ft.
 - About 3 million acre-ft of space



Hungry Horse Dam

- Typical Operations
 - Winter Months – discharge water to maintain minimum flow at Columbia Falls or draft for flood risk management
 - Spring Months – discharge water for flood risk management
 - Summer Months – refill around the end of June or early July, begin drafting to provide water for flow augmentation on lower Columbia River.
 - Fall Months – draft by September 30th, 10 or 20 feet from full, continue maintaining Columbia Falls minimum flow

Current Conditions and Operations

- Conditions

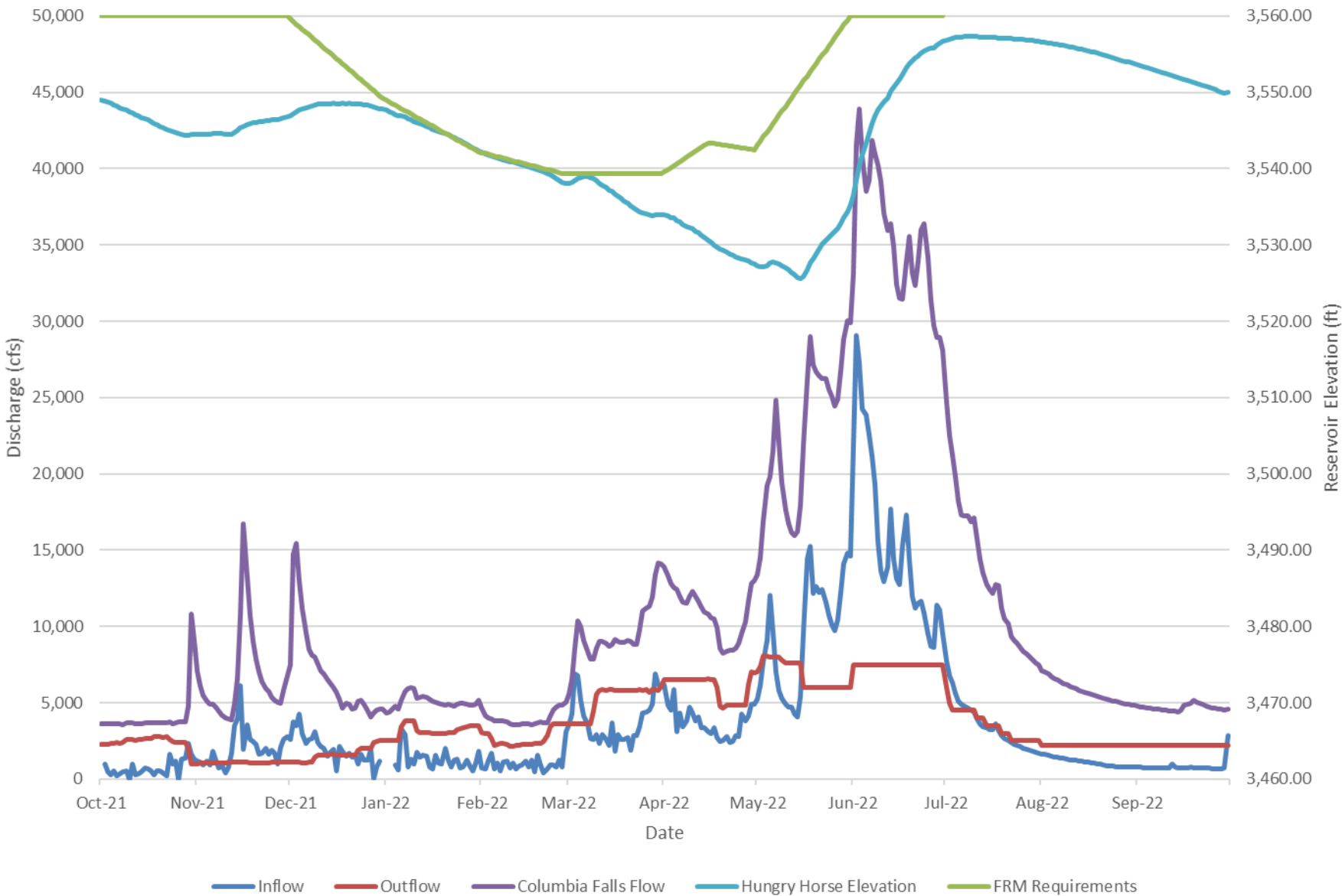
- May Water Supply Forecast 106% of average
- Flathead Snowpack is 108% of average
- Precipitation is 108% of average

- Operations

- Trying to minimize spill with only 2 generation units available
 - Trying to keep gas saturation levels to 110%
- Currently refilling for flood risk
- Refill date is around June 30th
- Elevated potential for flood risk management operations



Hungry Horse Dam Projected Operations for 2022
Residual Forecast of 106% of Average



Questions?



— BUREAU OF —
RECLAMATION