



AGENDA

IDAHO WATER RESOURCE BOARD

Upper Snake River Advisory Committee Meeting No. 5-24

Thursday, May 9, 2024

10:00 a.m. (MST)

Meeting Location(s):

BOISE
Water Center
Conf. Room 602B
322 E. Front St.

IDAHO FALLS
Eastern Regional Office
Main Conference Room
900 N. Skyline Dr.

or

VIDEO conference via Zoom is available upon registration, contact
cooper.fritz@idwr.idaho.gov for registration information

Brad Little
Governor

Jeff Raybould
Chairman
St. Anthony
At Large

Jo Ann Cole-Hansen
Vice Chair
Lewiston
At Large

Dean Stevenson
Secretary
Paul
District 3

Dale Van Stone
Hope
District 1

Albert Barker
Boise
District 2

Brian Olmstead
Twin Falls
At Large

Marcus Gibbs
Grace
District 4

Patrick McMahon
Sun Valley
At Large

1. Introductions and Attendance
2. Weather Forecast (NOAA)
3. Snow Pack / Streamflow Forecasts (NRCS)
4. Water Supply / Operations Update (USBR)
5. Idaho Power Company
 - a. Operations Update
 - b. Cloud Seeding Update
6. Water District 01 Briefing
7. IWRB Managed Recharge Operations
8. New Business
9. Adjourn

Committee Member: Brian Olmstead

Americans with Disabilities

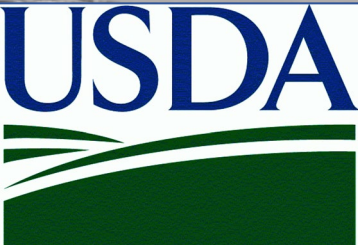
The meeting will be held in person and online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.



Watch later

Snowpack & Water Supply Forecasts

*Upper Snake River Advisory Committee
May 9, 2024*

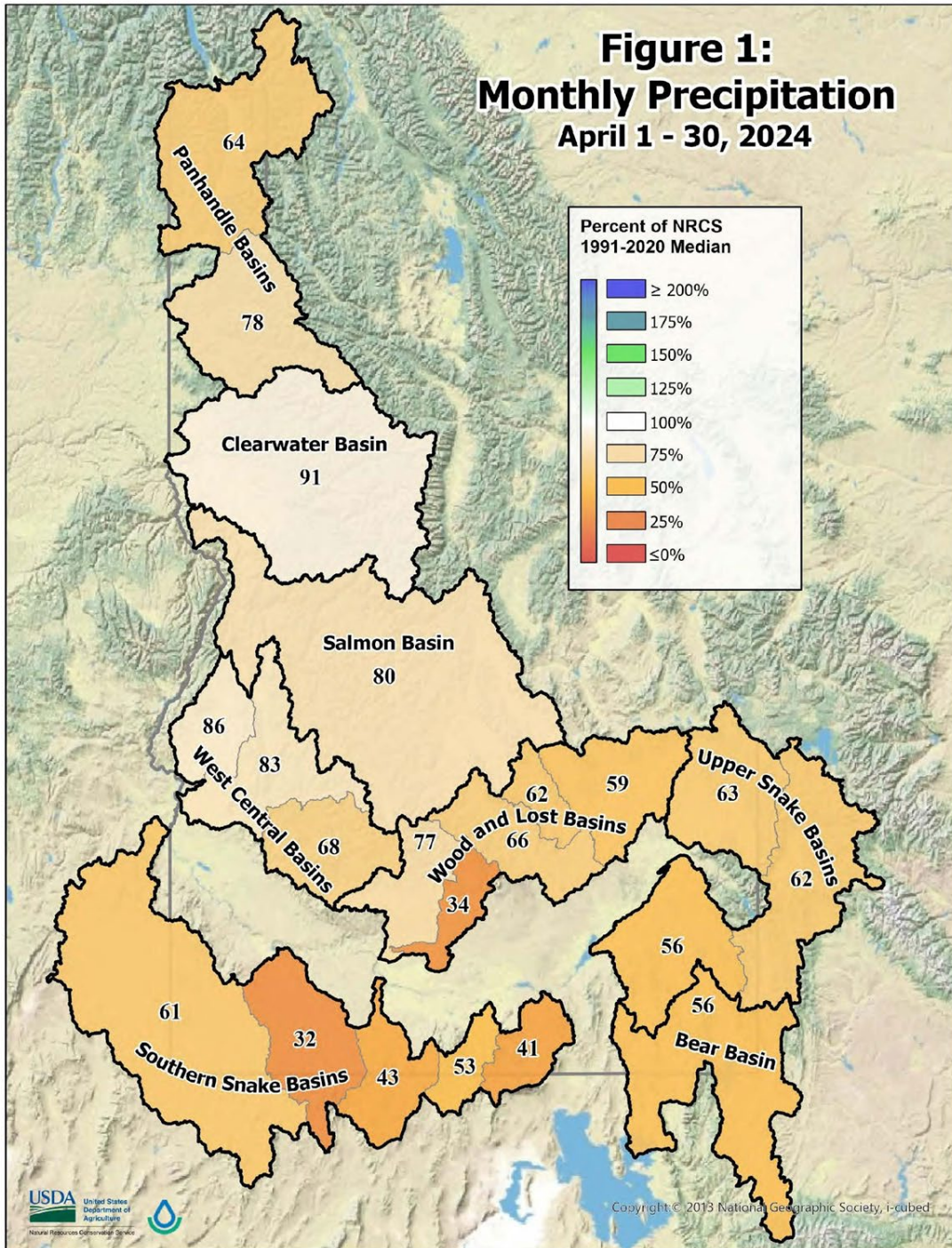


Presented by Erin Whorton

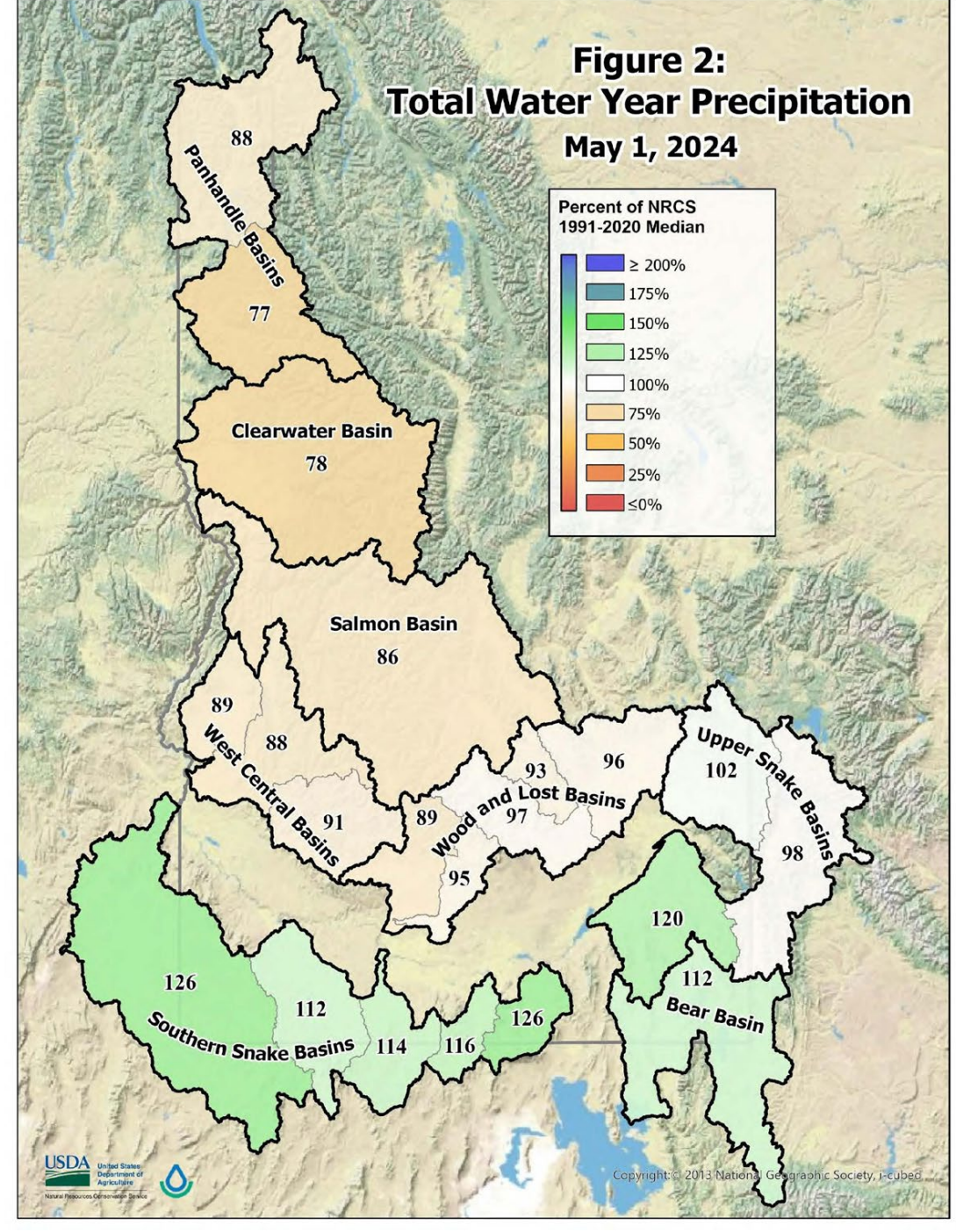




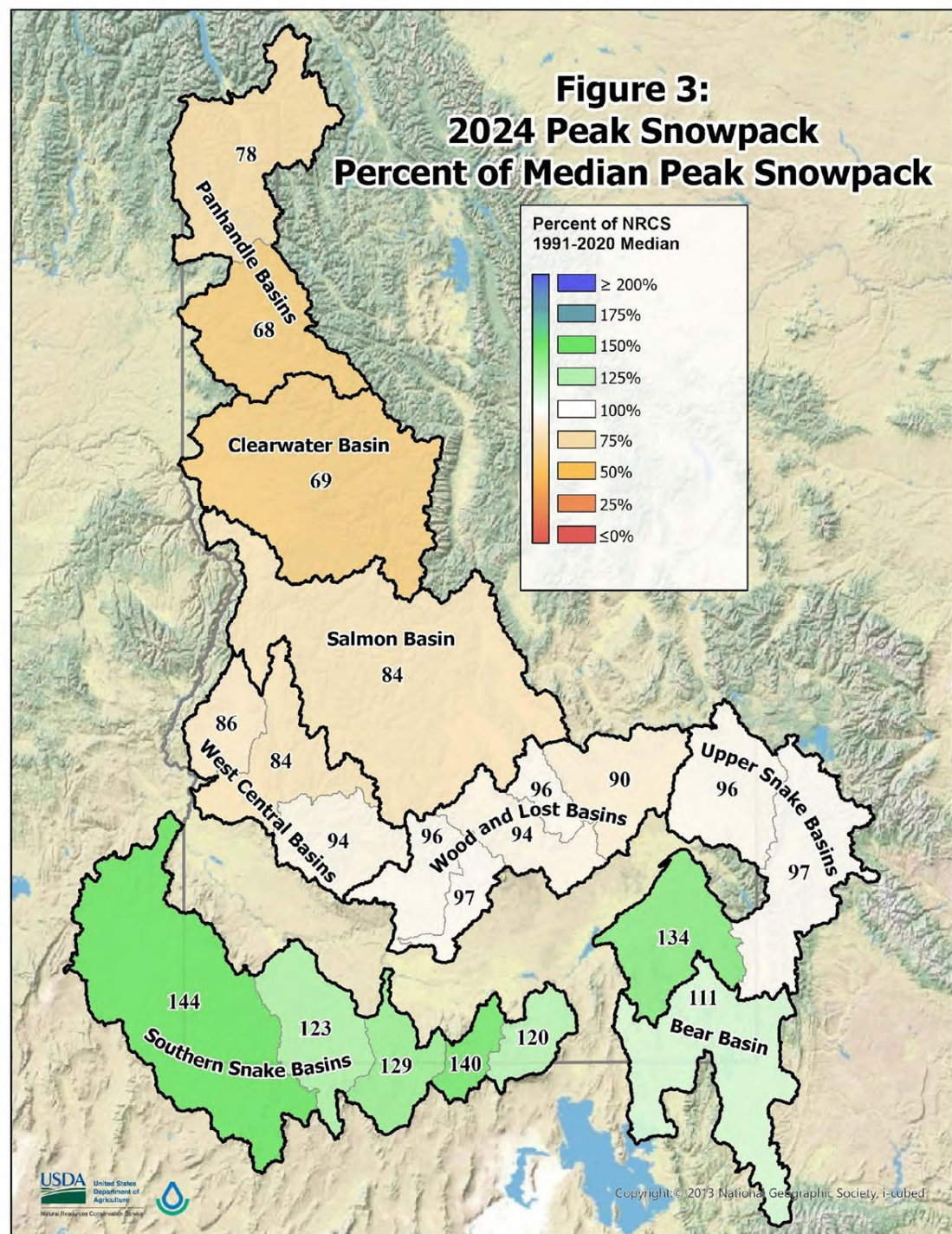
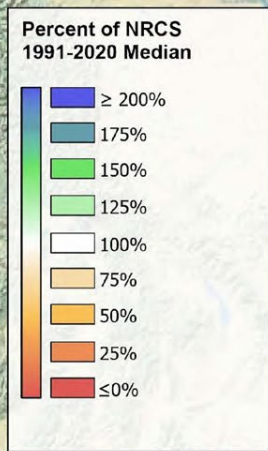
**Figure 1:
Monthly Precipitation
April 1 - 30, 2024**



**Figure 2:
Total Water Year Precipitation
May 1, 2024**



**Figure 3:
2024 Peak Snowpack
Percent of Median Peak Snowpack**



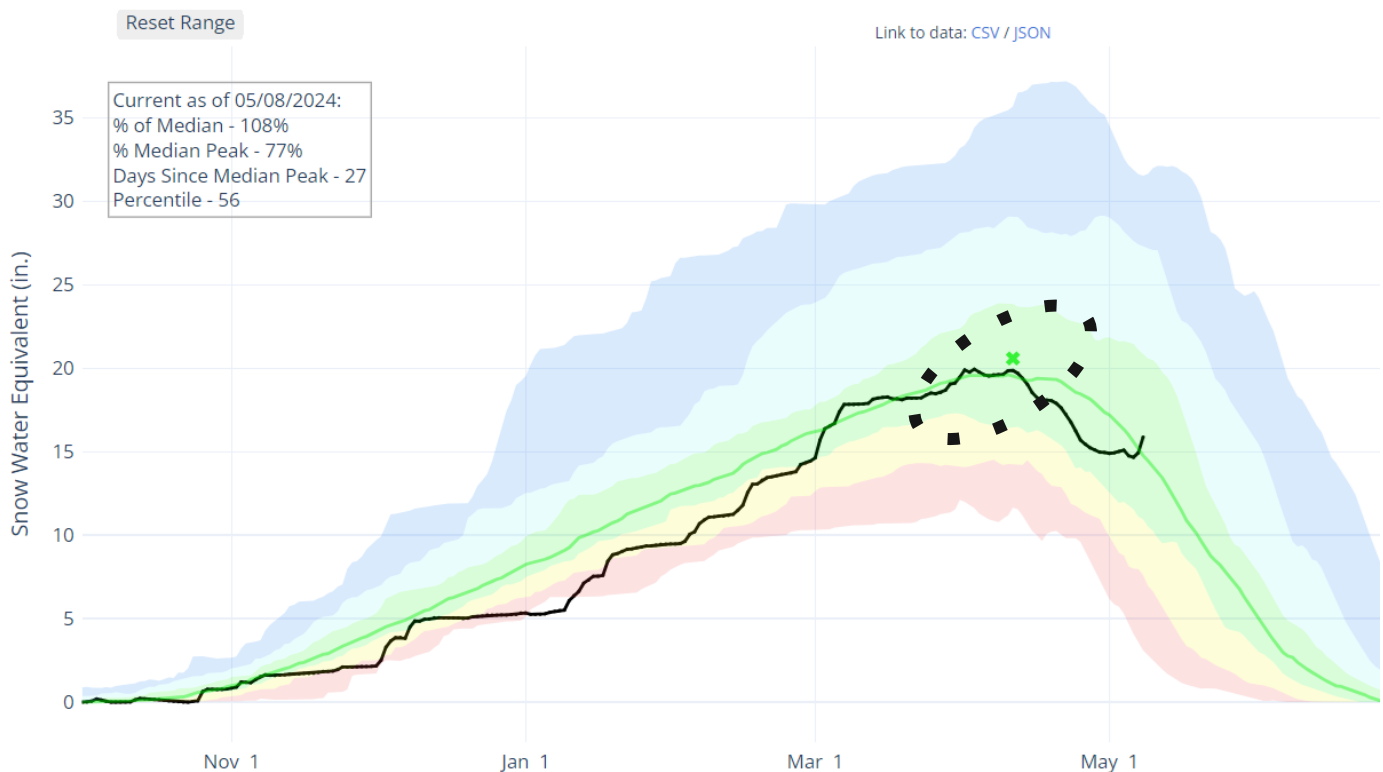
Map on left compares:

- The 2024 **water year peak SWE** (maximum SWE value on the black line)

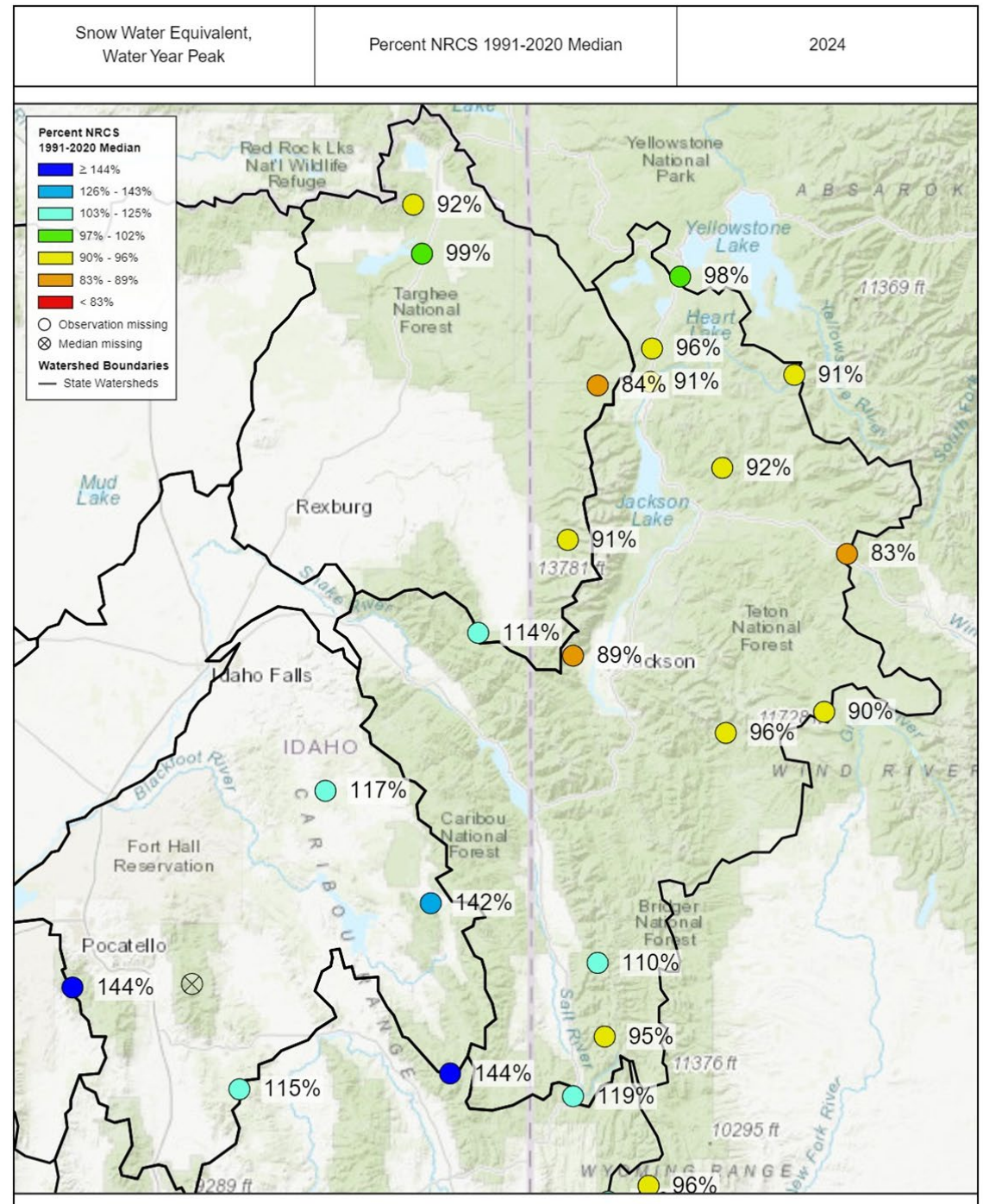
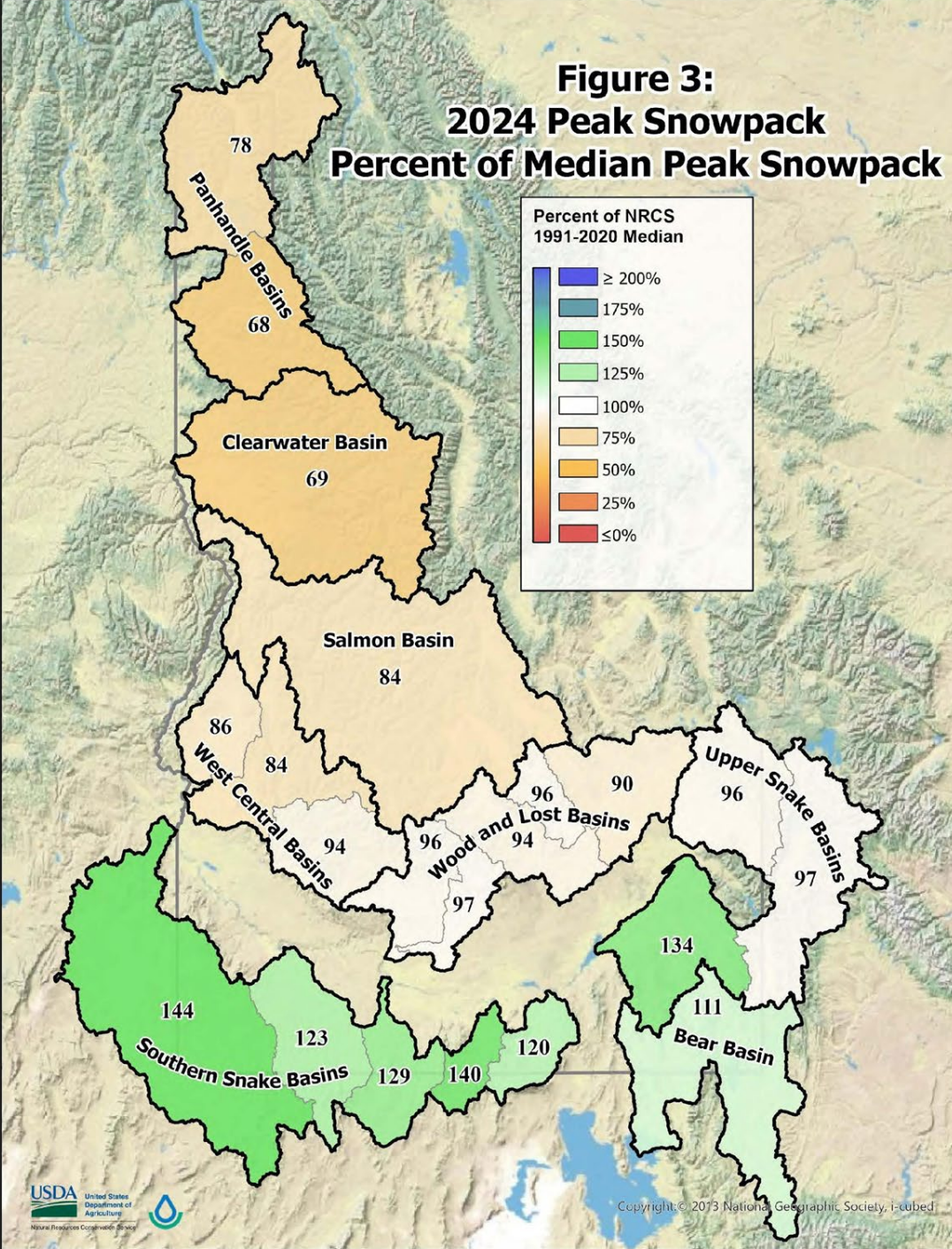
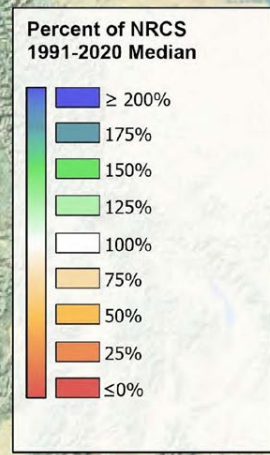
to

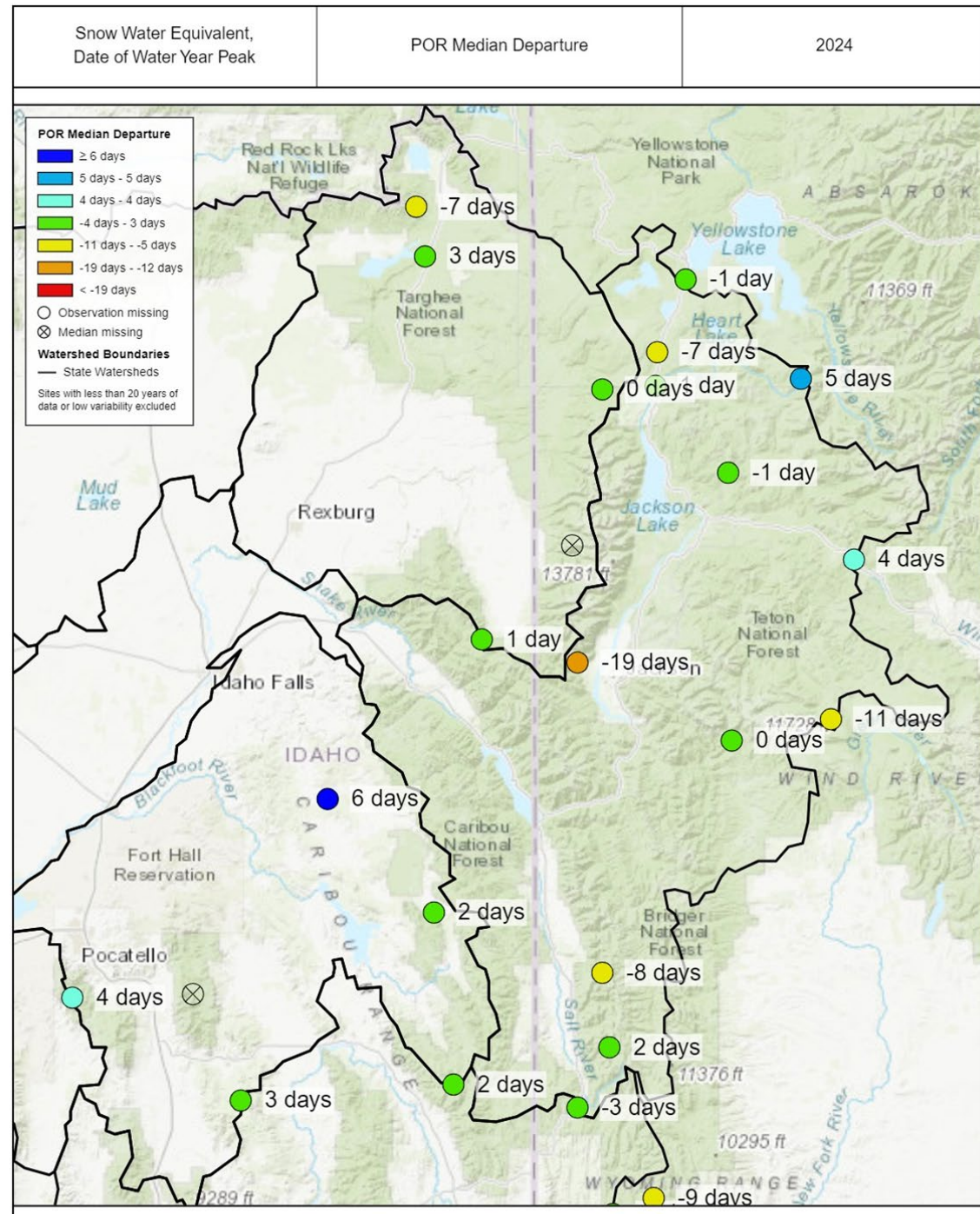
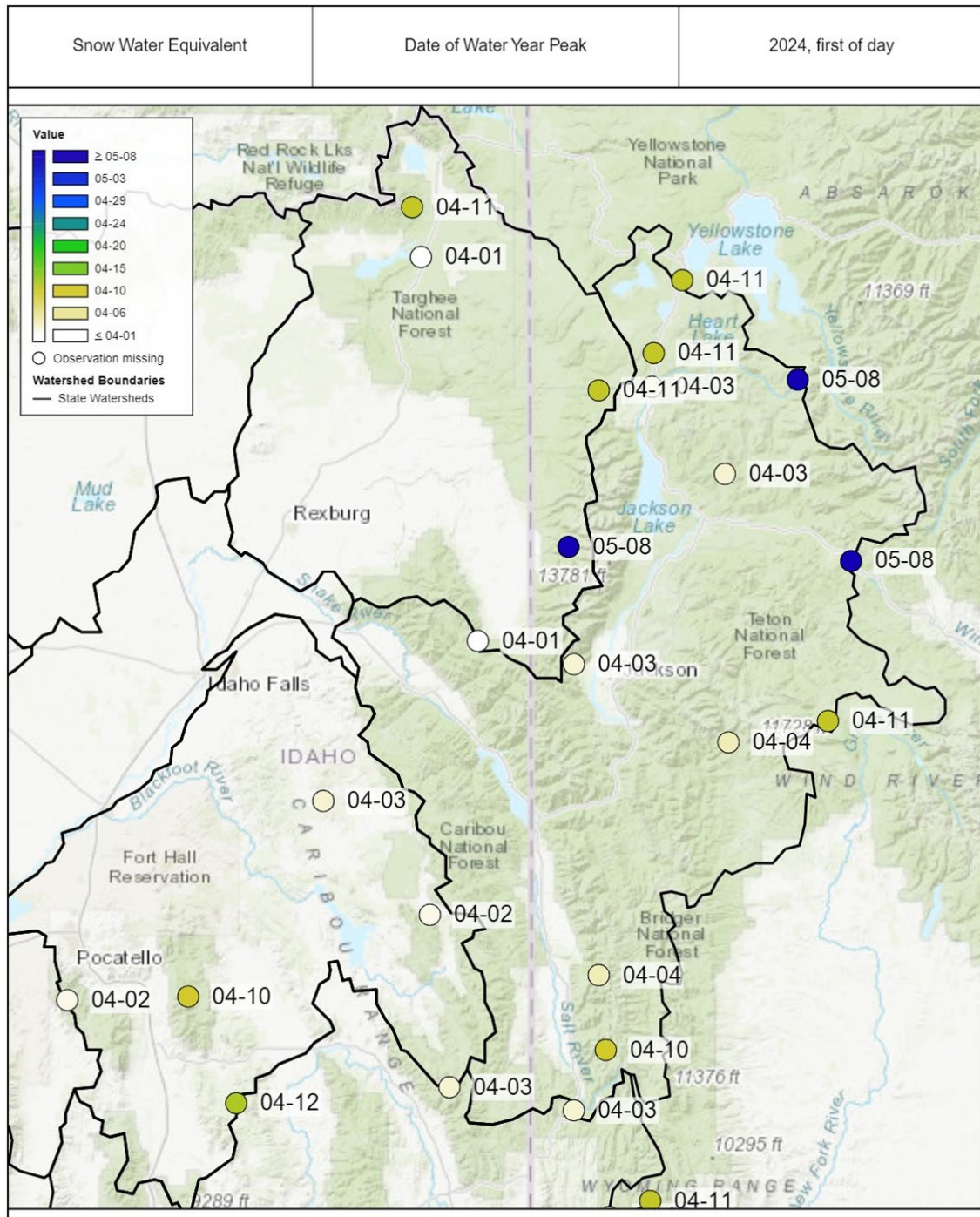
- The **green 'X'** which is the 30-year median SWE peak for this basin

SNOW WATER EQUIVALENT IN SNAKE RIVER ABOVE HEISE

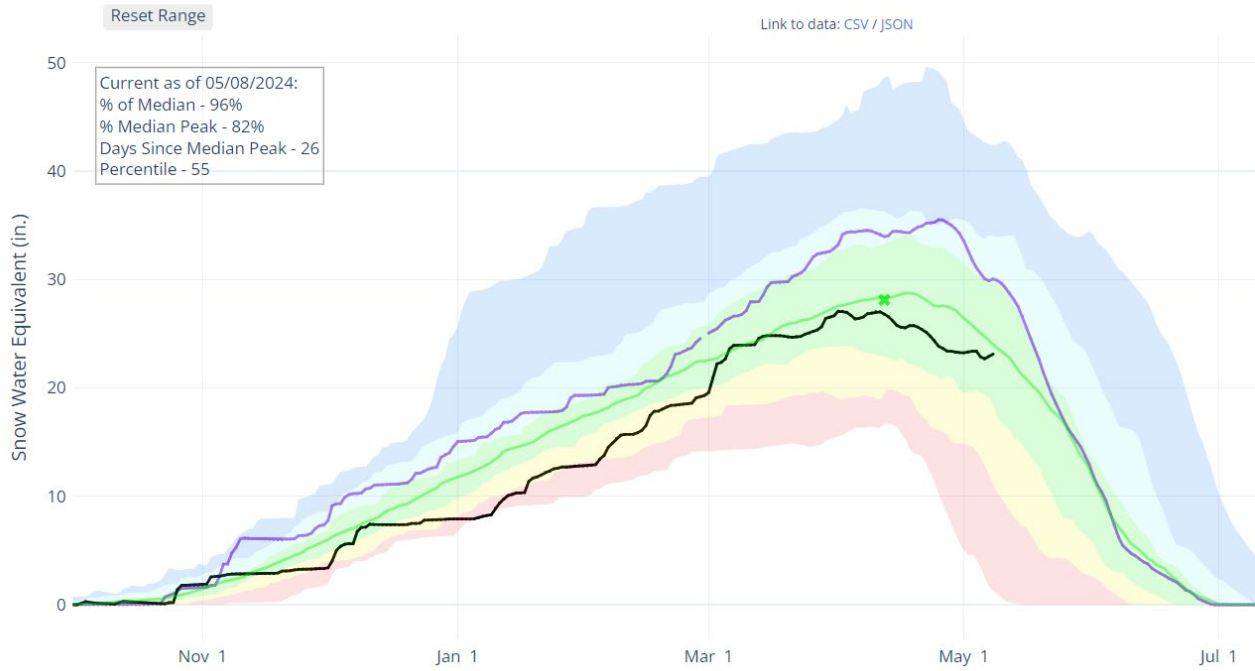


**Figure 3:
2024 Peak Snowpack
Percent of Median Peak Snowpack**

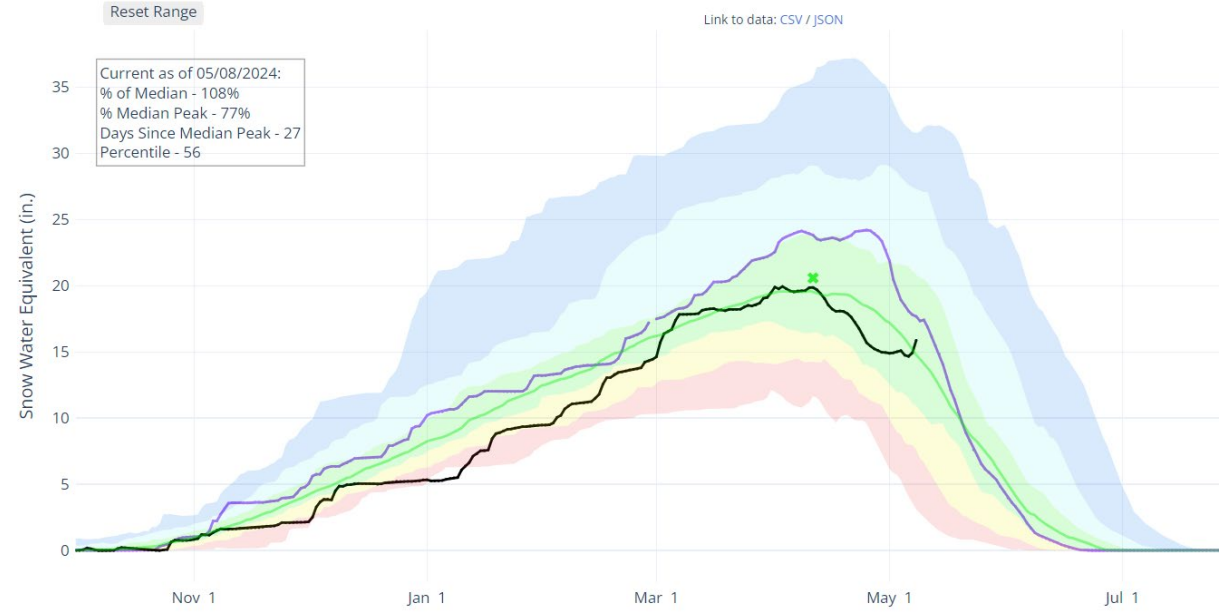




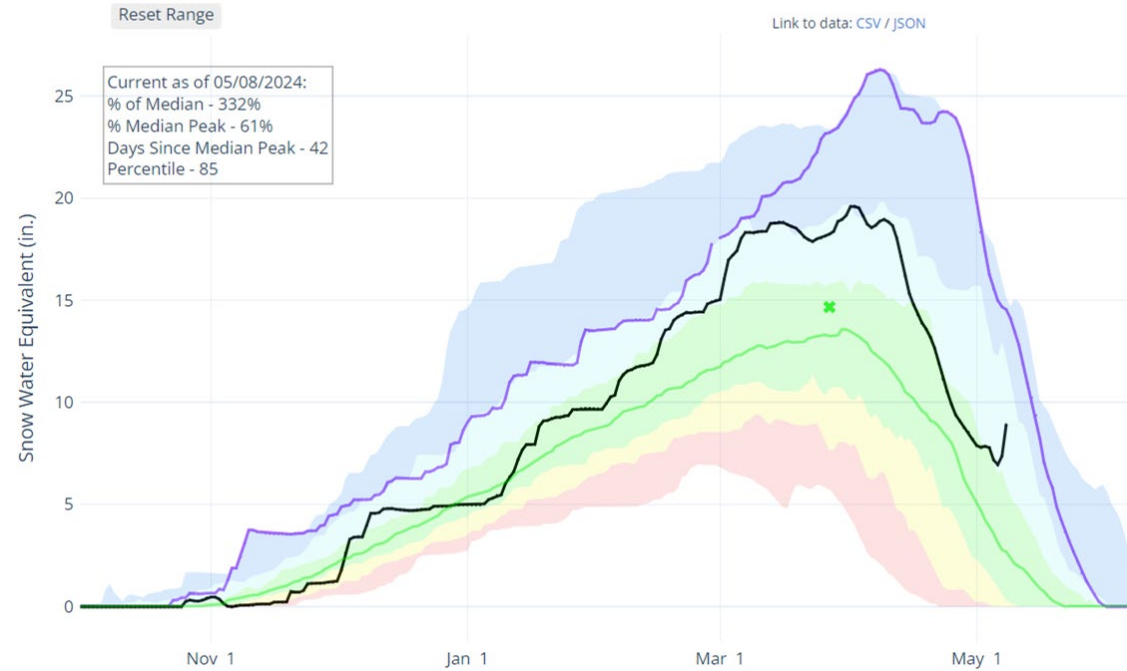
SNOW WATER EQUIVALENT IN HENRYS FORK-TETON



SNOW WATER EQUIVALENT IN SNAKE RIVER ABOVE HEISE



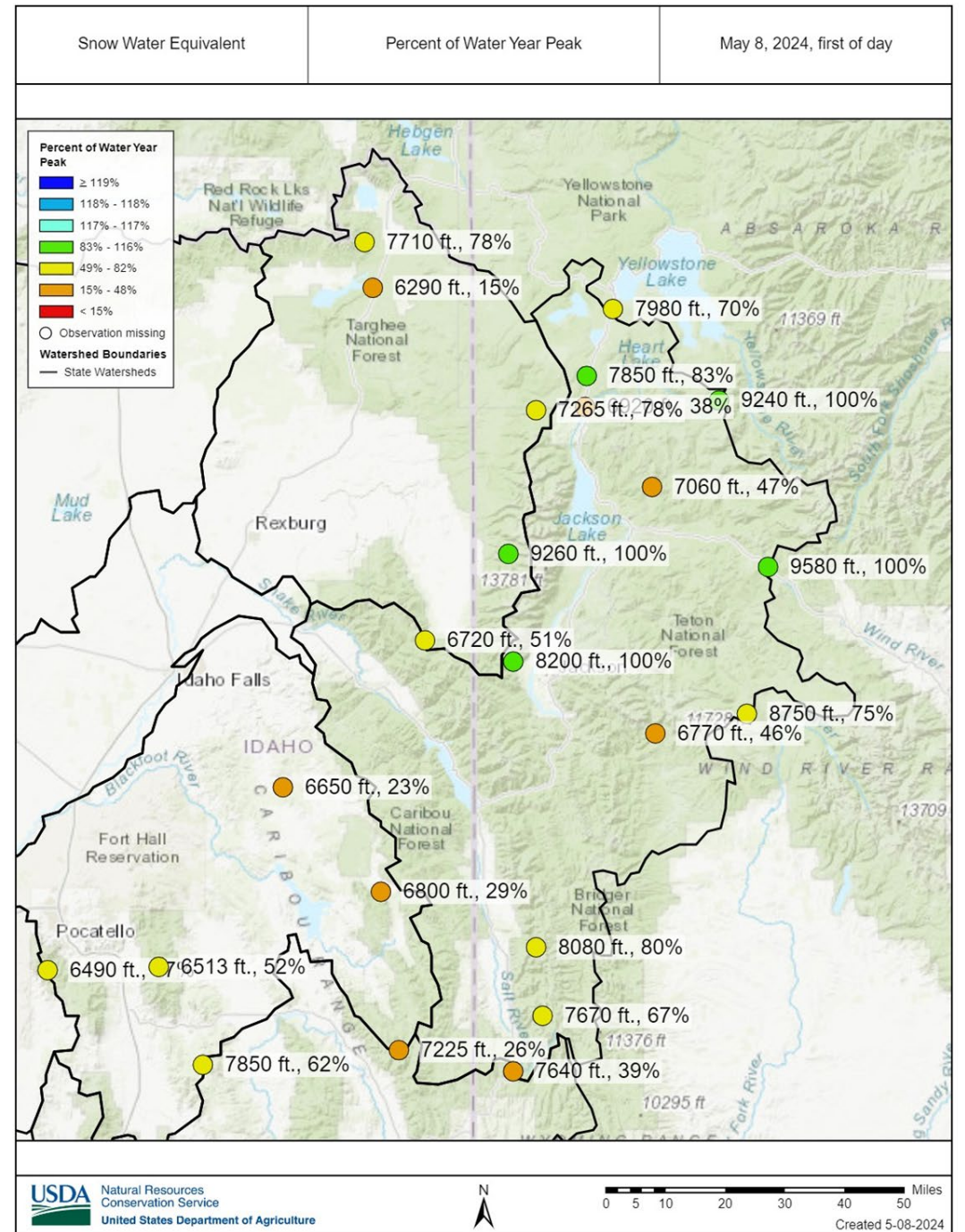
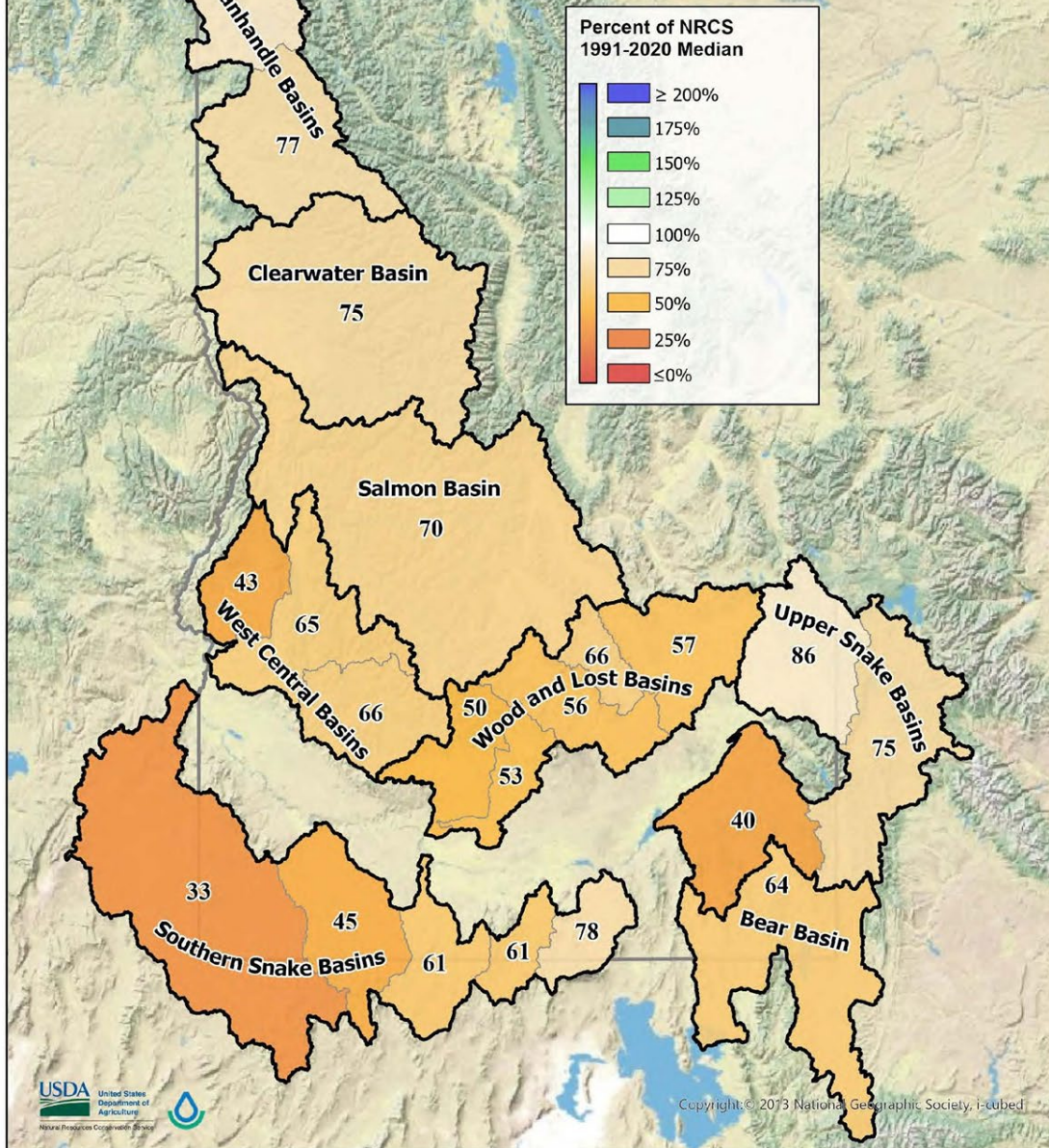
SNOW WATER EQUIVALENT IN WILLOW-BLACKFOOT-PORTNEUF



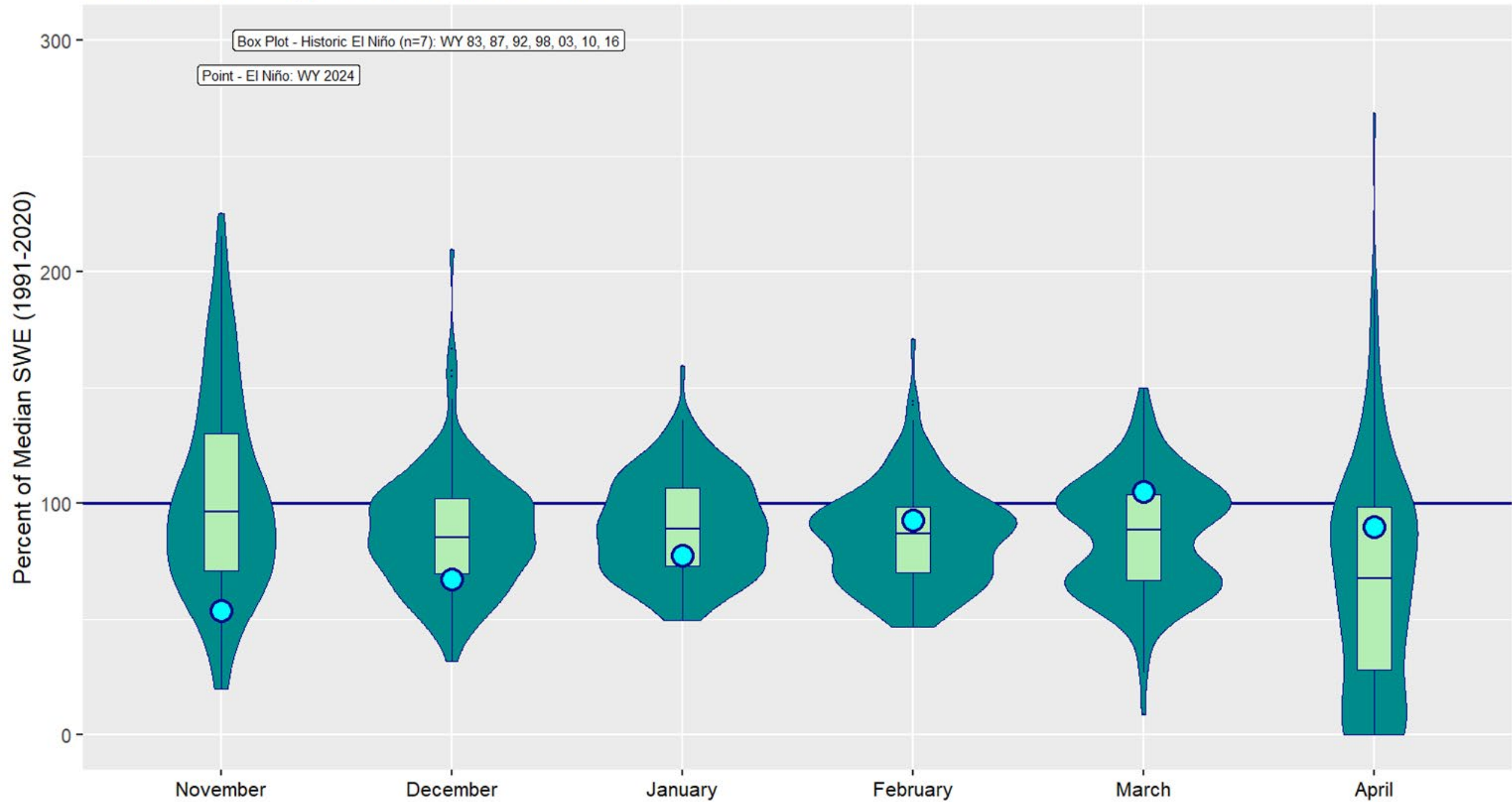
Station List

- ✖ Median Peak SWE
- Median ('91-'20)
- Stats. Shading
- 2024 (22 sites)
- 2023 (22 sites)

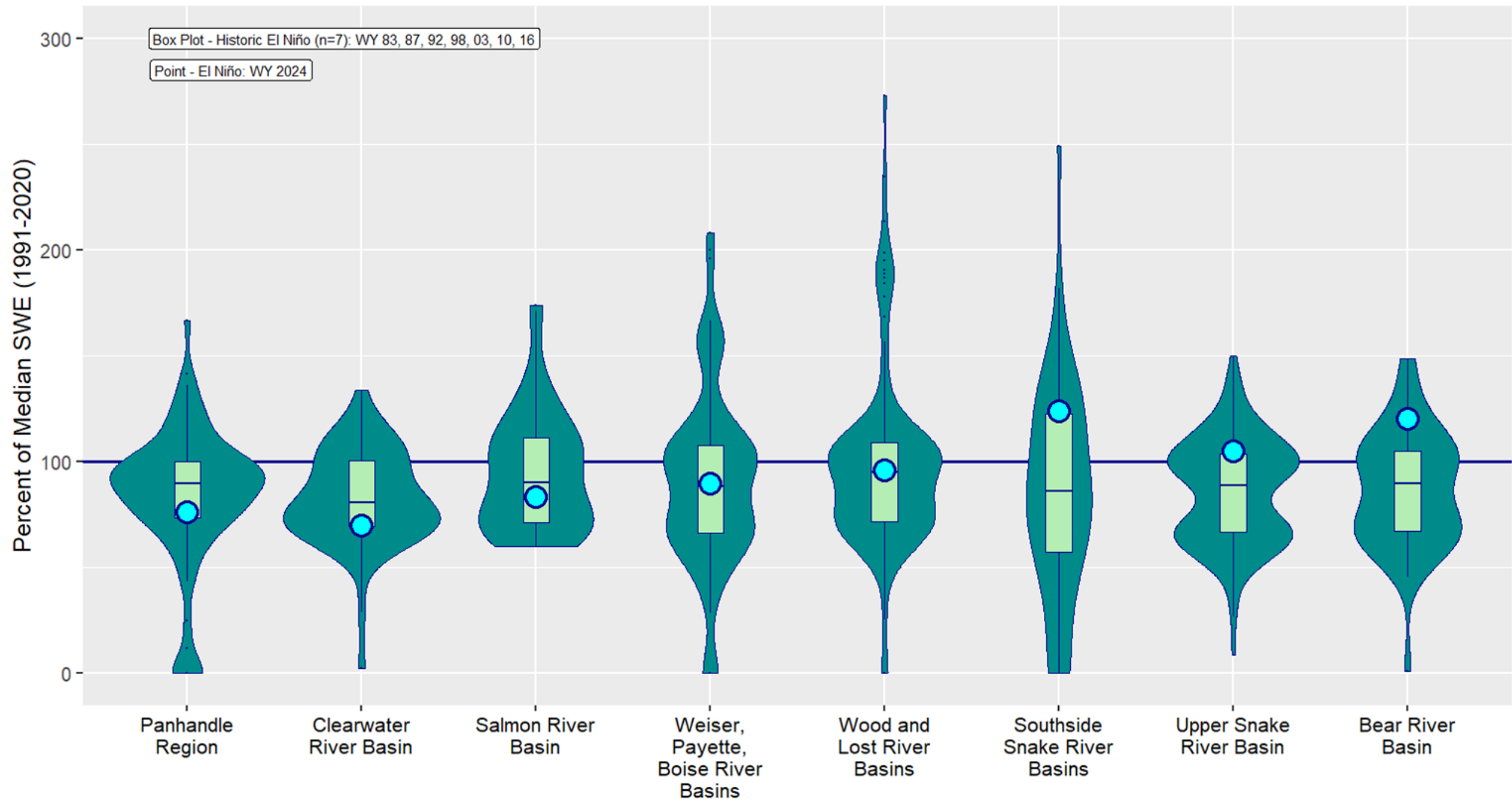
**Figure 4:
Percent of Peak Snowpack
Remaining
May 1, 2024**

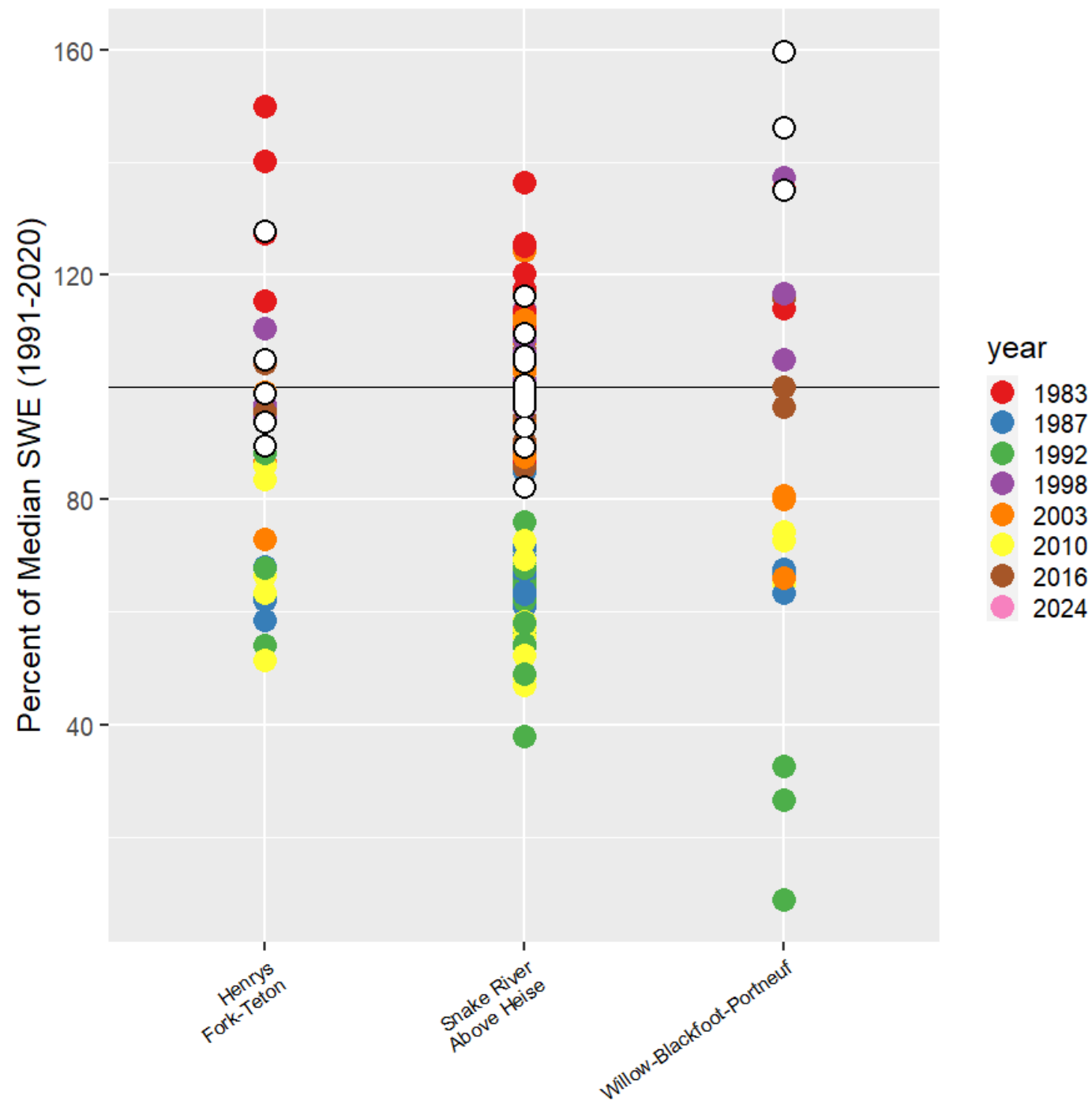


El Niño SWE - Upper Snake River Basin SNOTEL



El Niño SWE - Idaho SNOTEL Sites - Late Winter (April 1)

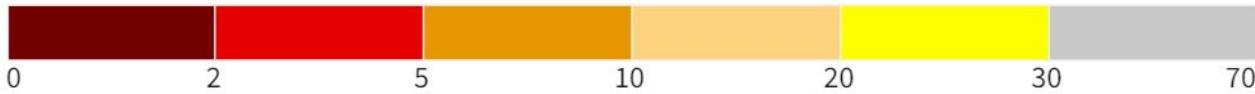
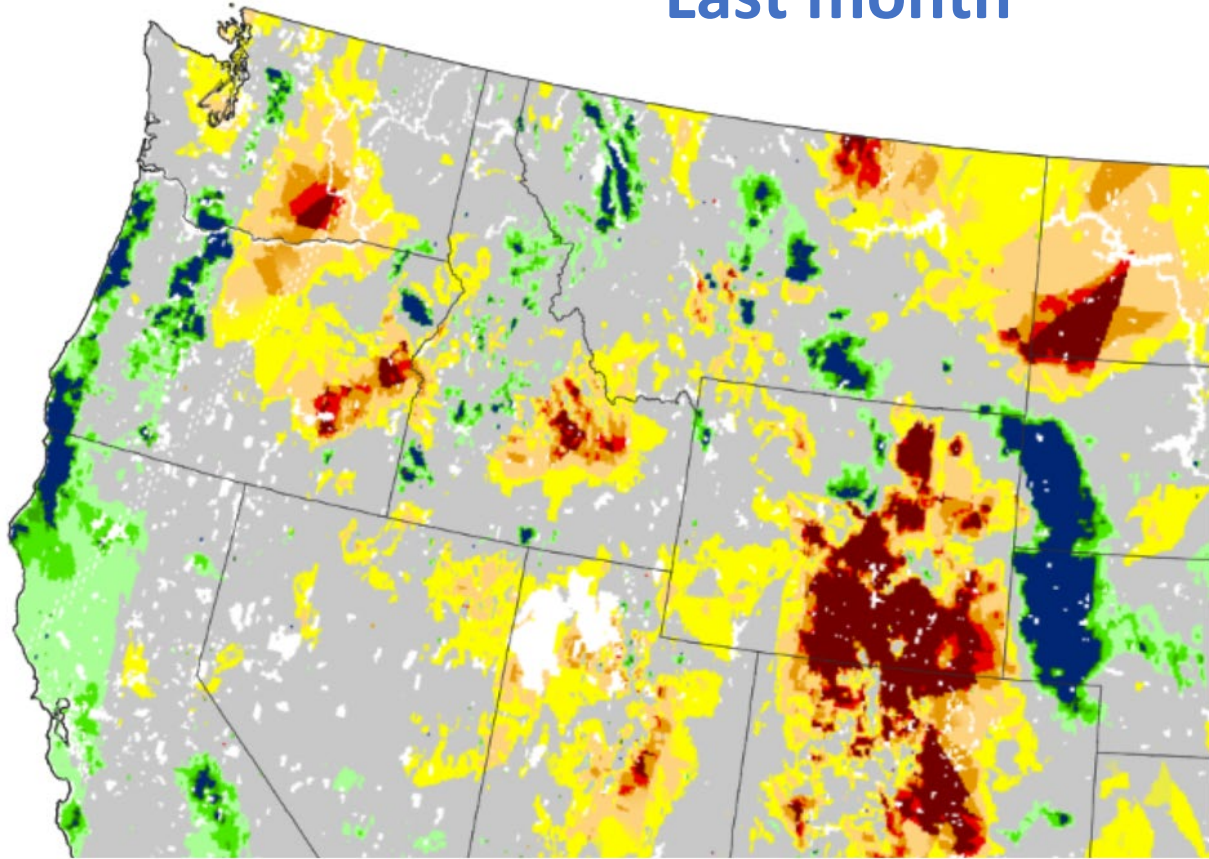




20 cm Soil Moisture Percentile



Last month



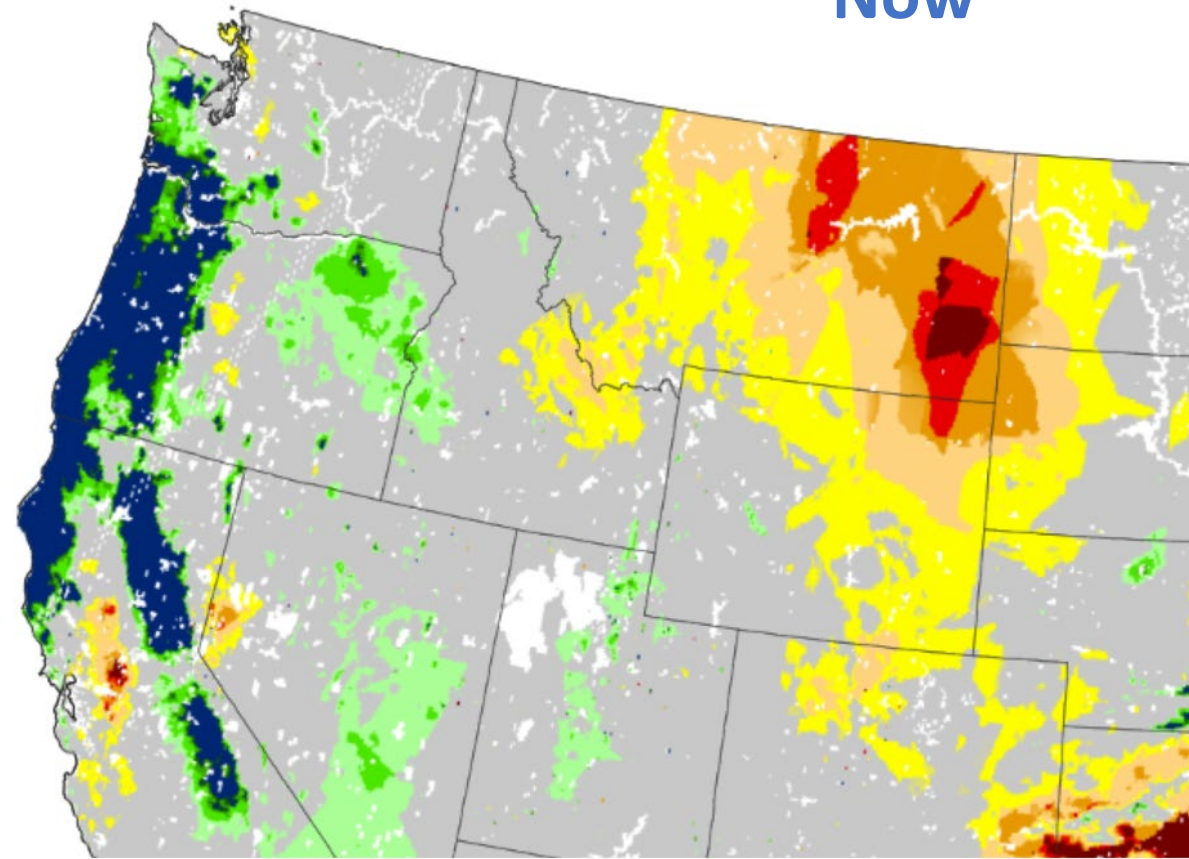
Source(s): NationalSoilMoisture.com
Data Valid: 04/06/24

Drought.gov

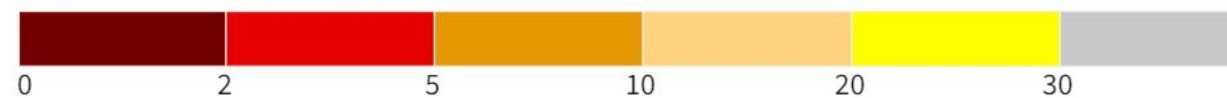
20 cm Soil Moisture Percentile



Now



20 cm Soil Moisture Percentile



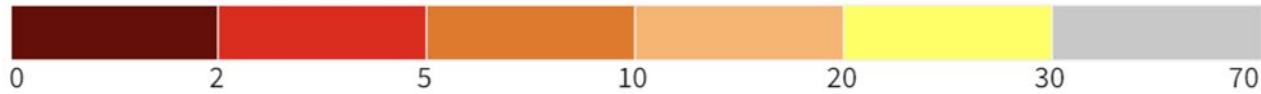
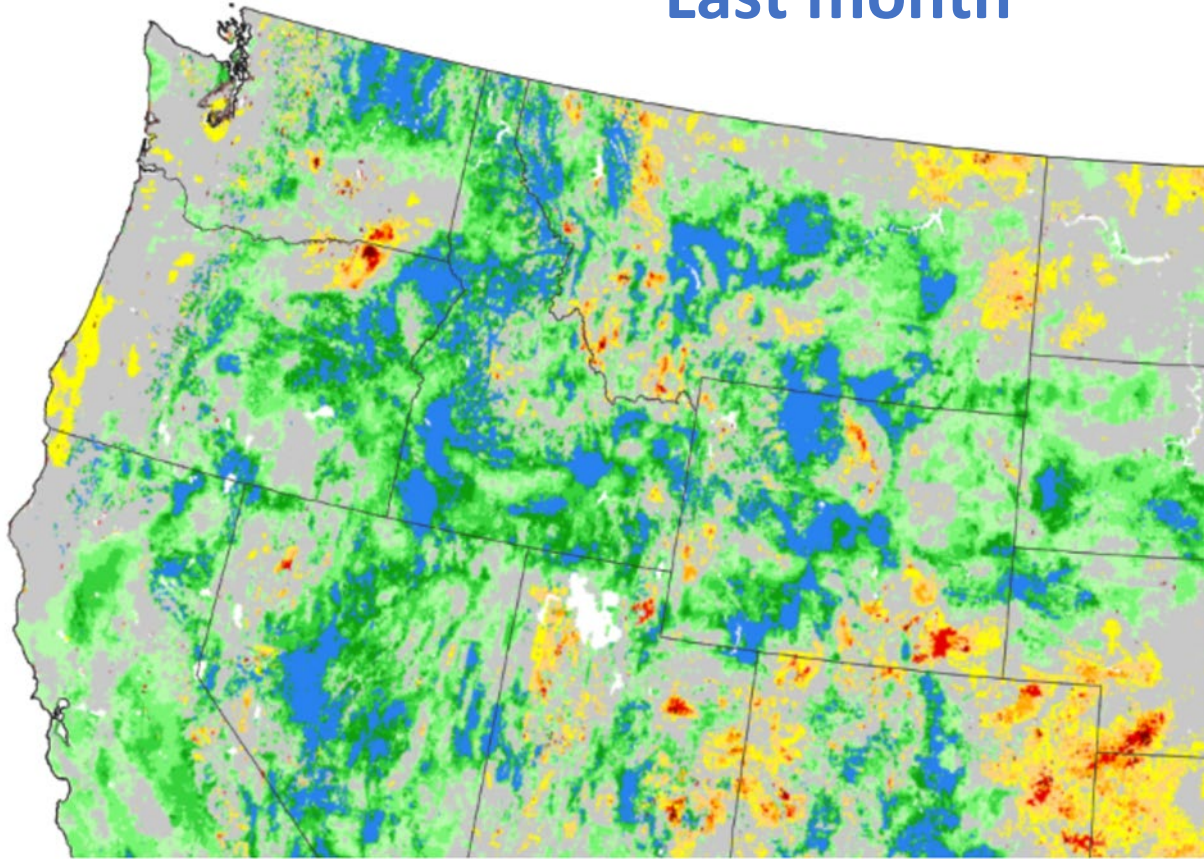
Source(s): NationalSoilMoisture.com
Data Valid: 05/04/24

Drought.gov

0-100 cm Soil Moisture Percentile



Last month



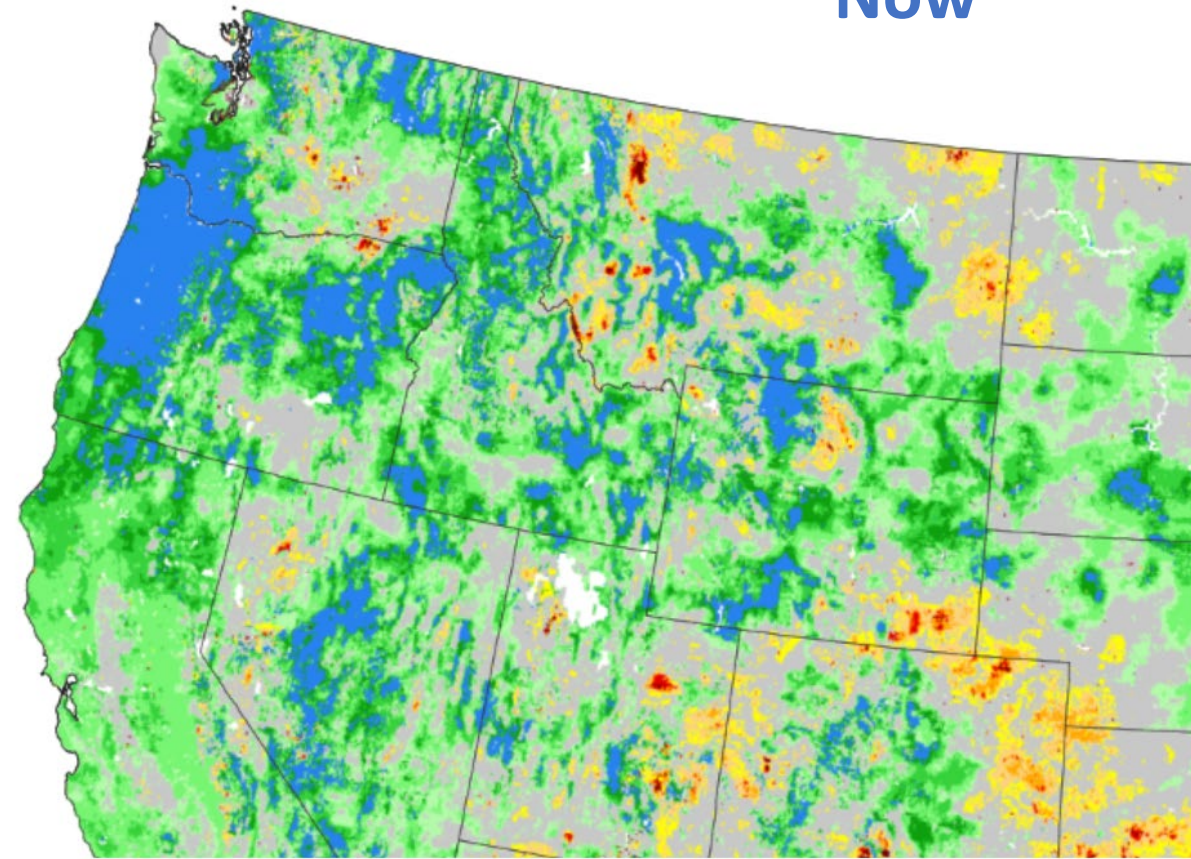
Source(s): NASA
Data Valid: 04/09/24

[Drought.gov](https://drought.gov)

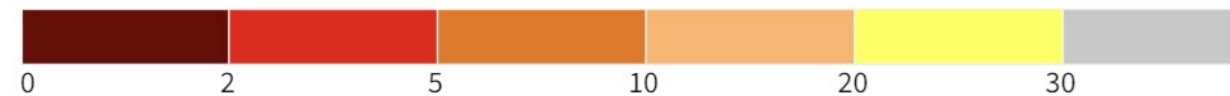
0-100 cm Soil Moisture Percentile



Now



0-100 cm Soil Moisture Percentile



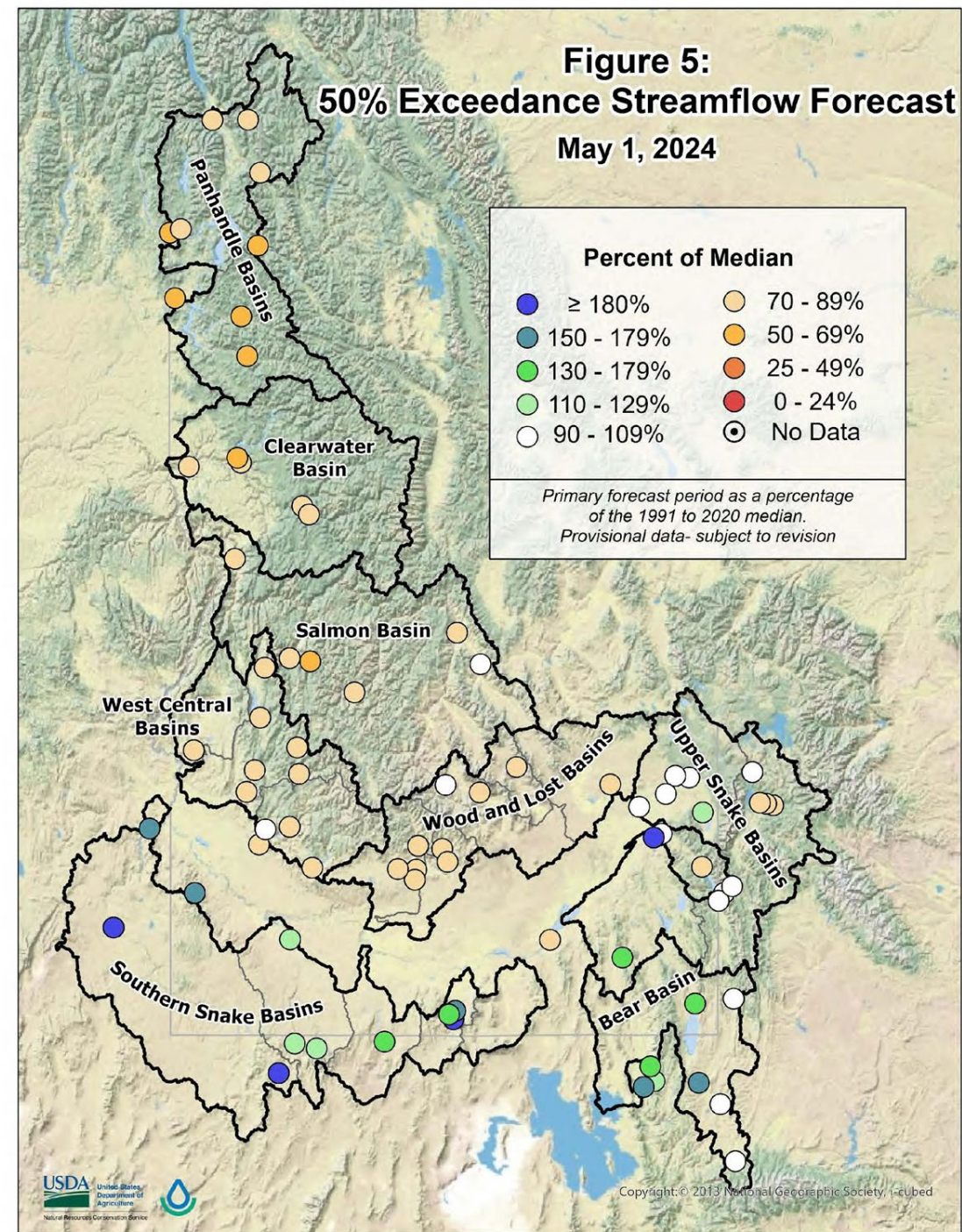
Source(s): NASA
Data Valid: 05/07/24

[Drought.gov](https://drought.gov)

May 1, May to July Median Forecast

Forecast Point	KAF	% *normal
NF Clearwater (Dworshak Inflow)	1110	64%
Salmon R at Salmon	545	80%
Boise R nr Boise	690	82%
Big Wood bl Magic Dam	94	79%
Big Lost R at Howell	115	92%
Snake R nr Heise	2460	90%
Oakley Inflow	21	179%
Salmon Falls nr San Jacinto	52	130%
Owyhee R nr Rome	210	186%

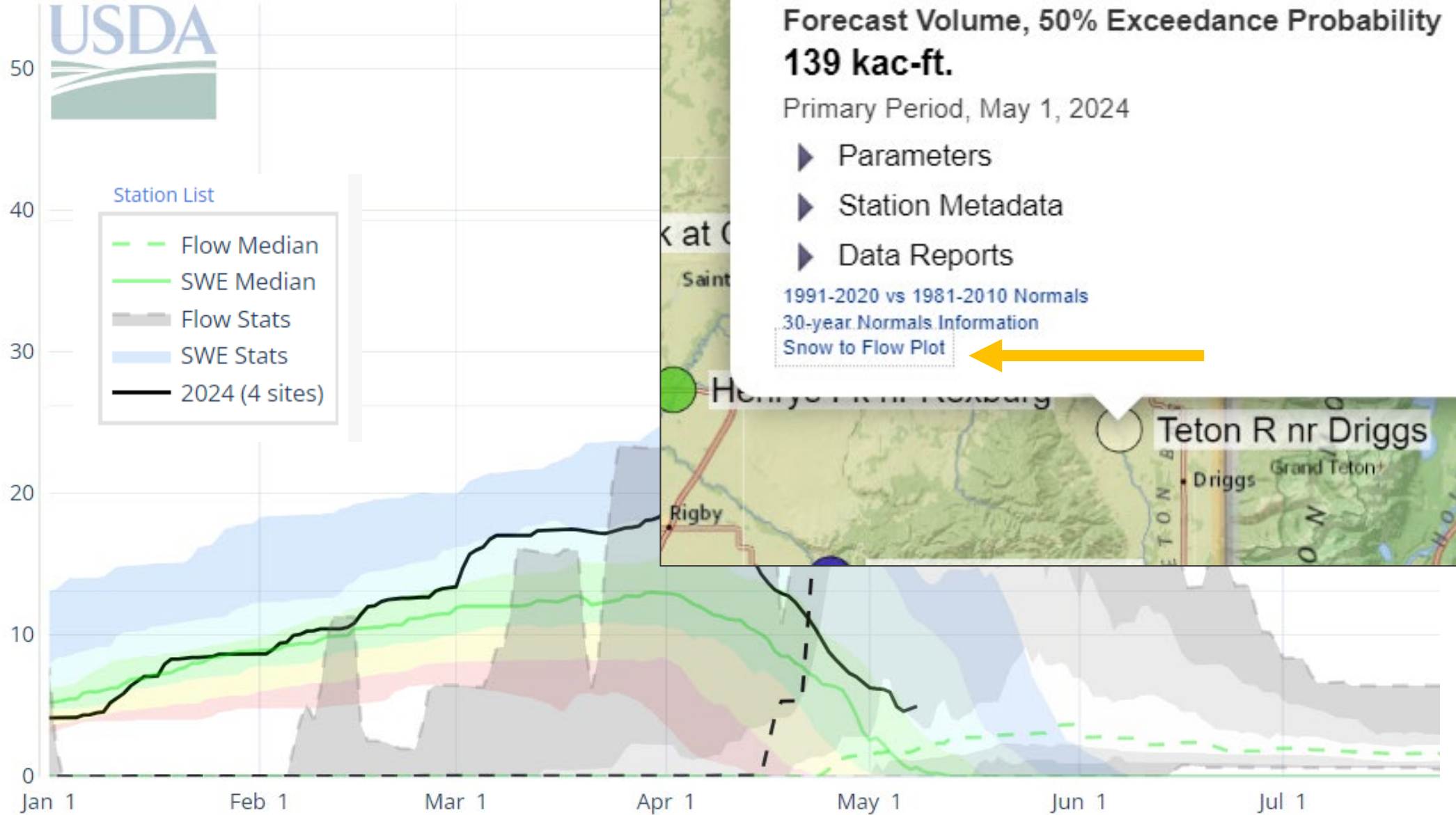
**normal climatological reference is based on 1991-2020 NRCS median streamflow data*



Willow Ck nr Ririe Snow to Flow Plot



Snow Water Equivalent (in.)



Teton R nr Driggs Streamflow 5,953 ft.
Forecast Volume, 50% Exceedance Probability
139 kac-ft.

Primary Period, May 1, 2024

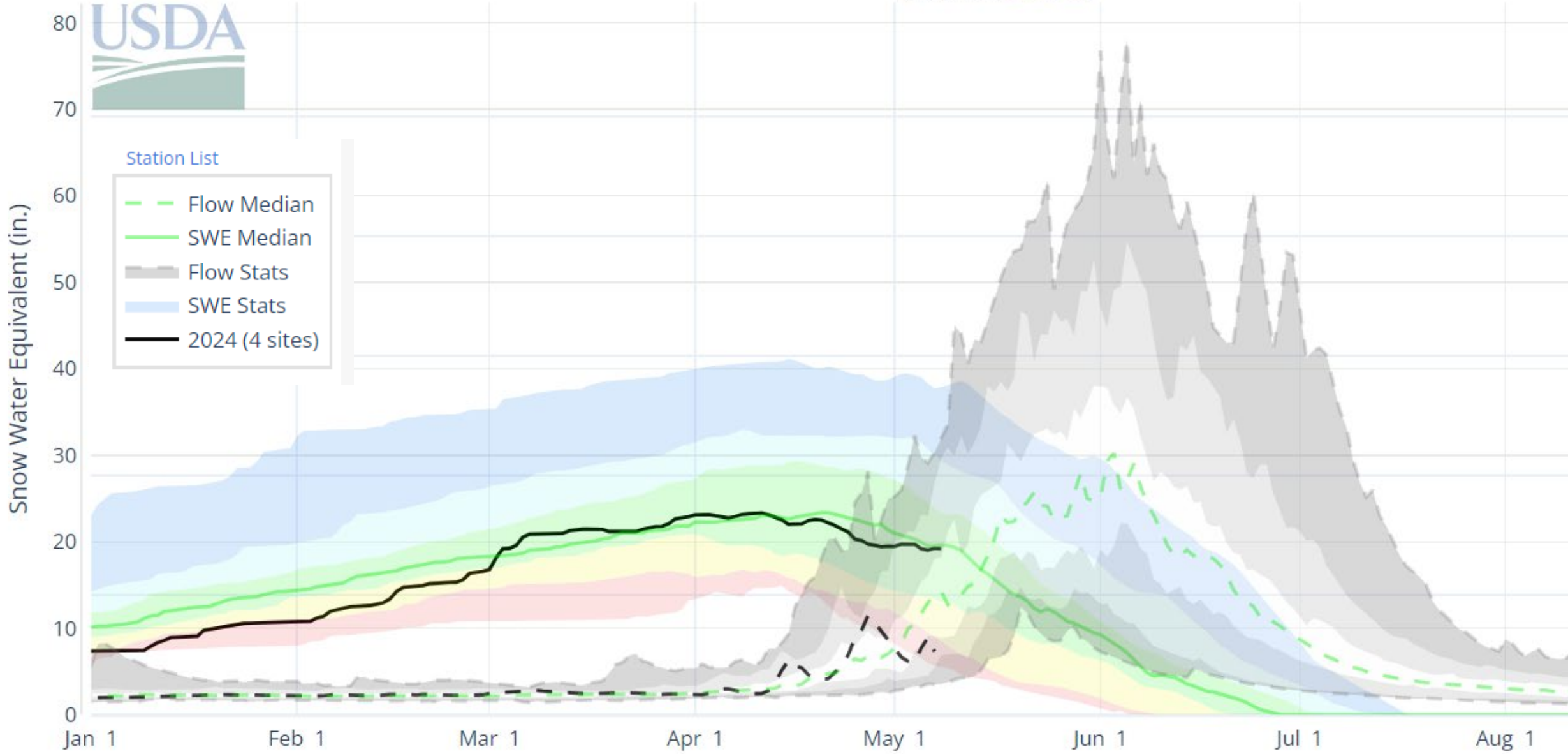
- ▶ Parameters
- ▶ Station Metadata
- ▶ Data Reports

1991-2020 vs 1981-2010 Normals
30-year Normals Information
Snow to Flow Plot



Snake R at Flagg Ranch Snow to Flow Plot

[Link to data: CSV / JSON](#)



Comparing streamflow forecasts on Imap...

Delta

Streamflow Active Forecast Points Only

Adjusted Volume - Observed

Adjusted Volume - Forecast

Exceedance Probability:

Use Mixed Past

Parameter

Date, Frequency, and Duration

Forecast Publication Date

Year:

Month:

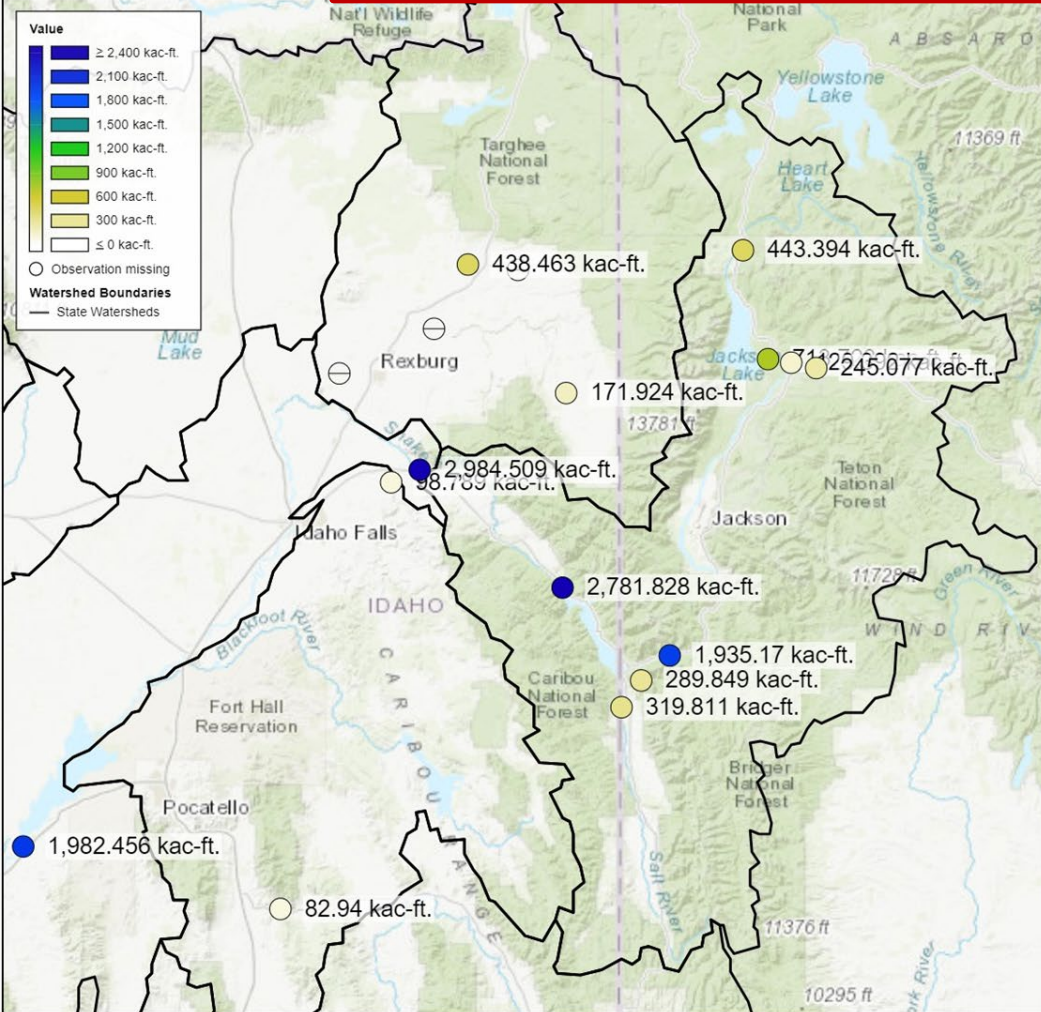
Day:

Forecast Period

Relative date in URL

Forecast Volume,
50% Exceedance Probability

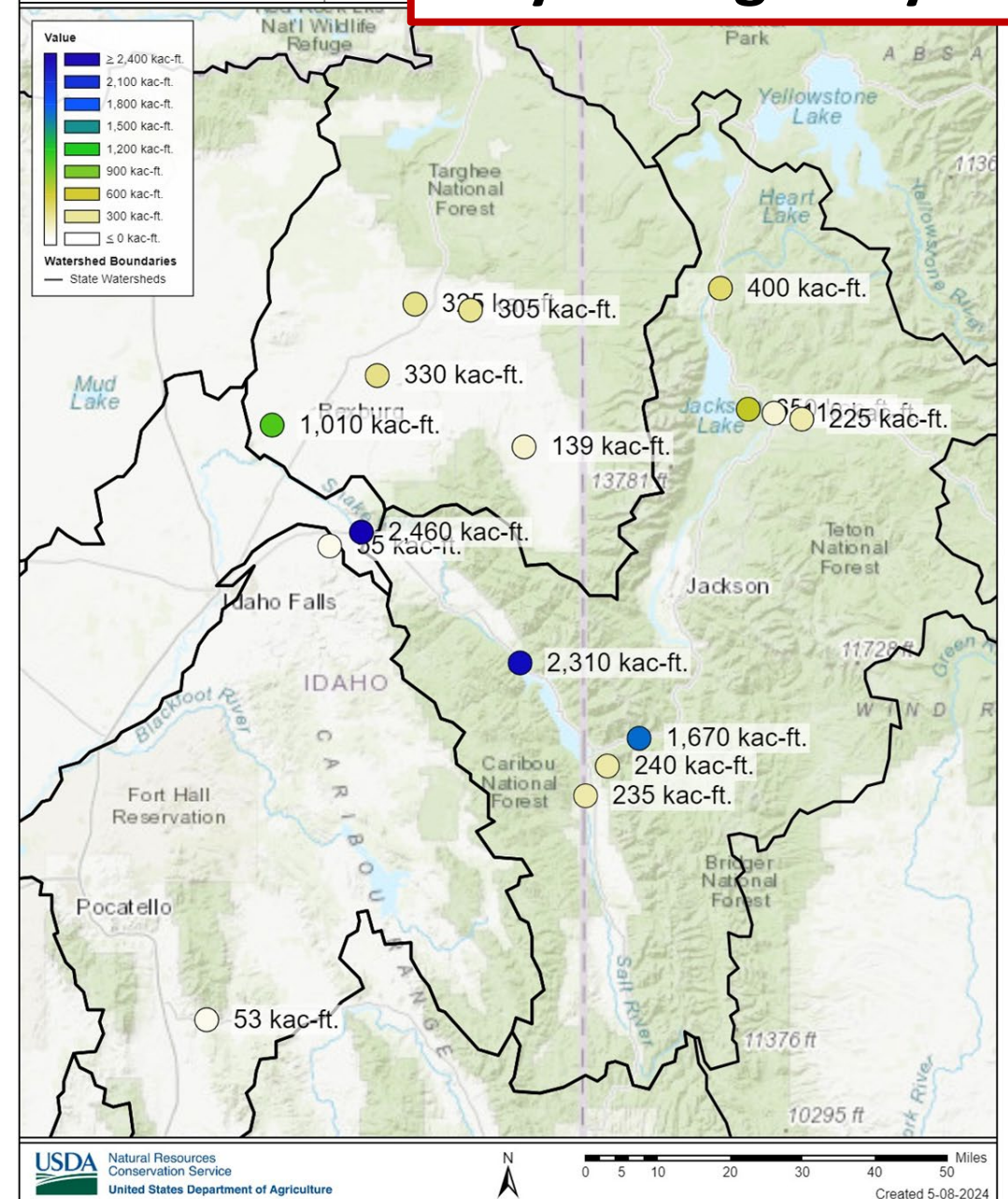
Observed April + May through July forecast



~525 KAF @ Heise in April

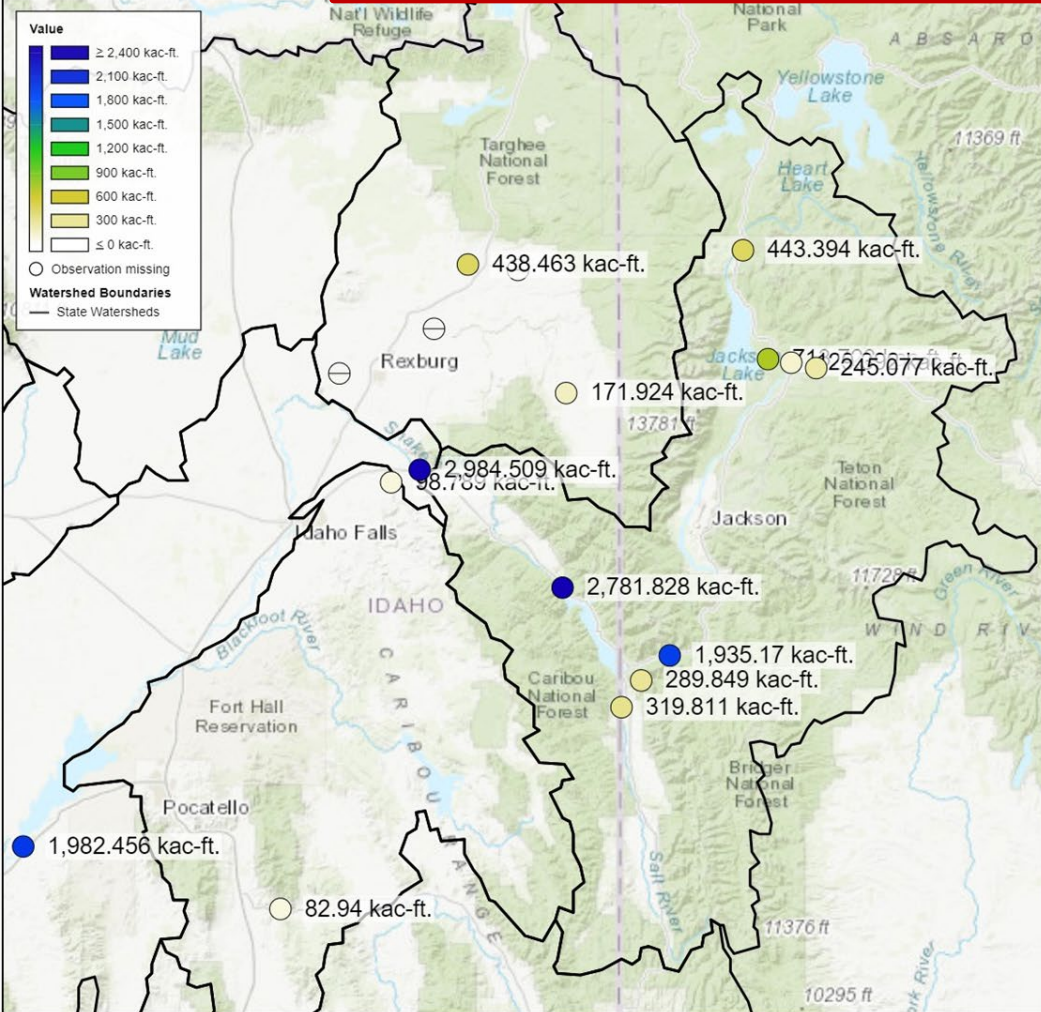
Forecast Volume,
50% Exceedance Probability

May through July



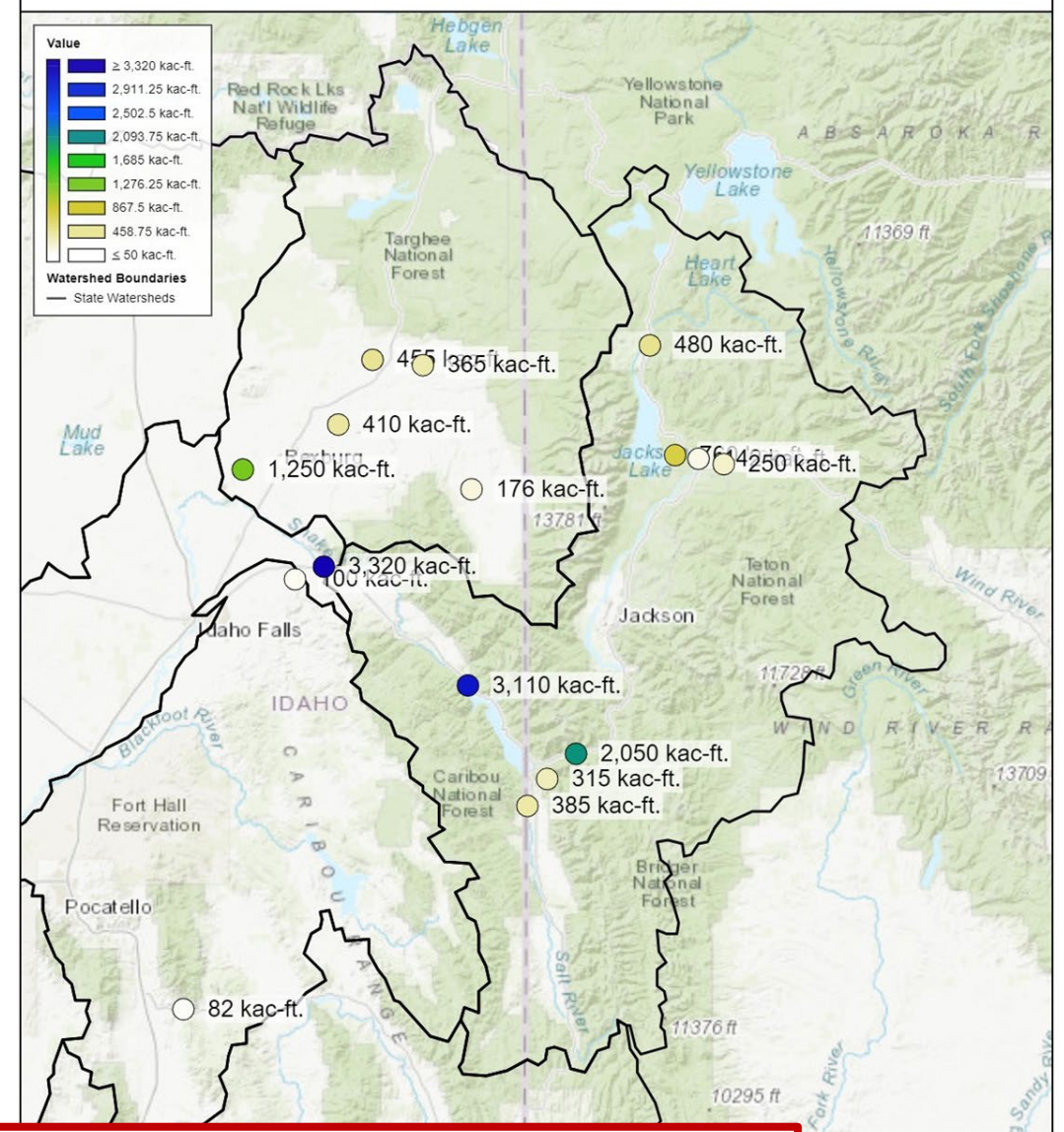
Forecast Volume,
50% Exceedance Probability

Observed April + May through July forecast



Forecast Volume,
50% Exceedance Probability

April 1, April - July



~336 KAF decrease @ Heise from April to May forecast

Natural Resources Conservation Service

Idaho Water Supply Outlook Report May 1, 2024



John Wilford prepares to measure sample point #5 at the Mores Creek Summit Snow Course

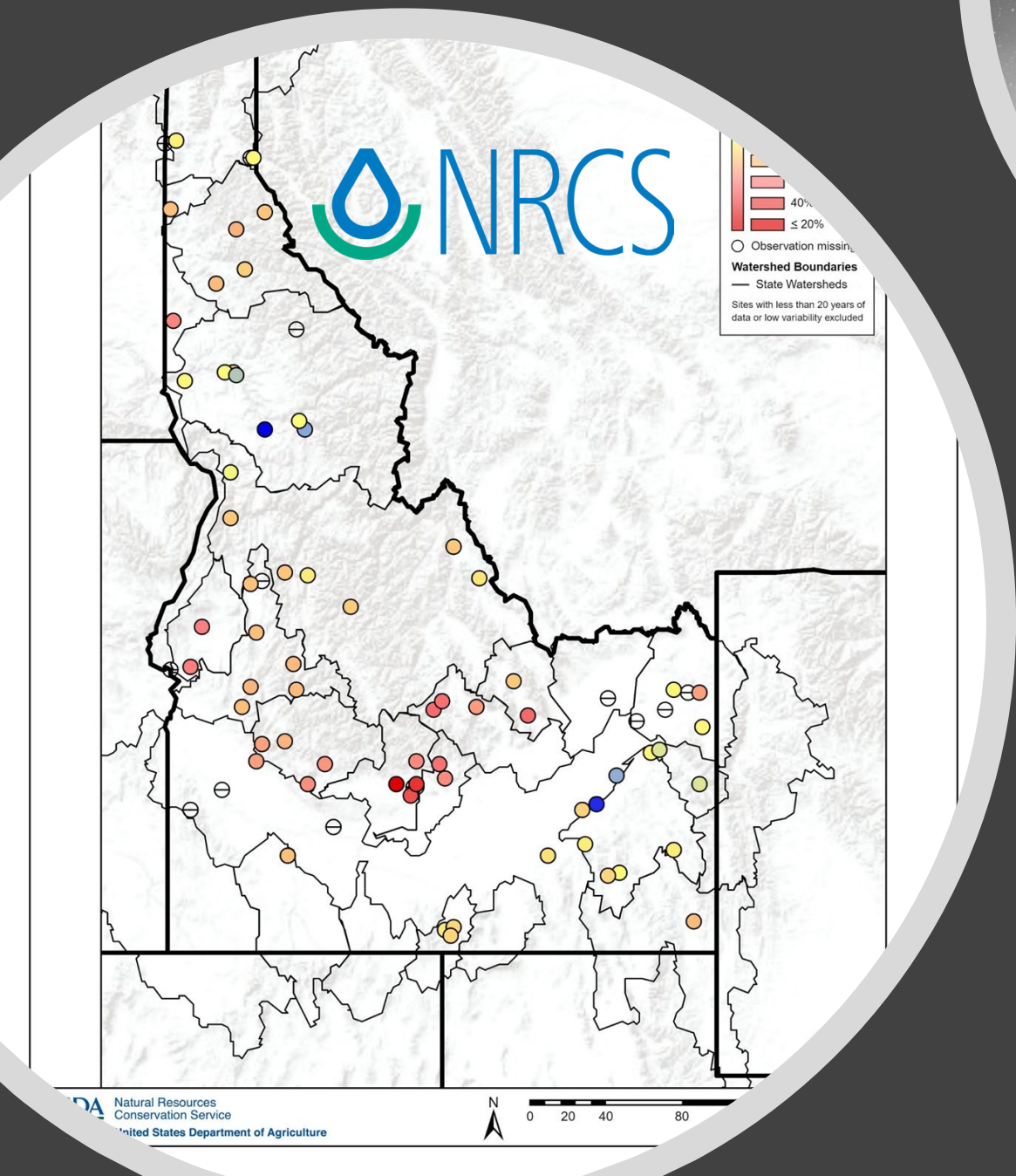
Pictured: John Wilford, Photo Credit: Danny Tappa, 4/30/2024

As we transition to spring and the snow disappears until next season, the NRCS Idaho Snow Survey team will also be going through a period of transition. John Wilford, lead Electronic Technician for the Idaho Snow Survey, will be hanging up his skis and work boots at the end of this month. After nearly 10 years of service with NRCS Idaho Snow Survey, 20 years total service with USDA, and a military veteran, John's retirement is much deserved. During his tenure with Snow Survey, he oversaw the installation of four new SNOTEL stations, seven new SNOLITE stations, and the rebuild of one SNOTEL station post fire (Soldier R.S.). In addition, John oversaw the most meaningful infrastructure upgrade to the Idaho SNOTEL network in several decades – the complete overhaul of our telemetry systems to modern (cell, satellite) forms of remote data communications, resulting in more consistent and reliable data delivery to our many users. Over the last 10 years, if your favorite SNOTEL station went offline, it's more than likely John was the one who was directly involved in its repairs!

- May is last water supply outlook report
- Stay tuned in for end of water year report in October
- John Wilford retirement



Thank
you!



<https://www.nrcs.usda.gov/idaho/snow-survey>



Erin Whorton

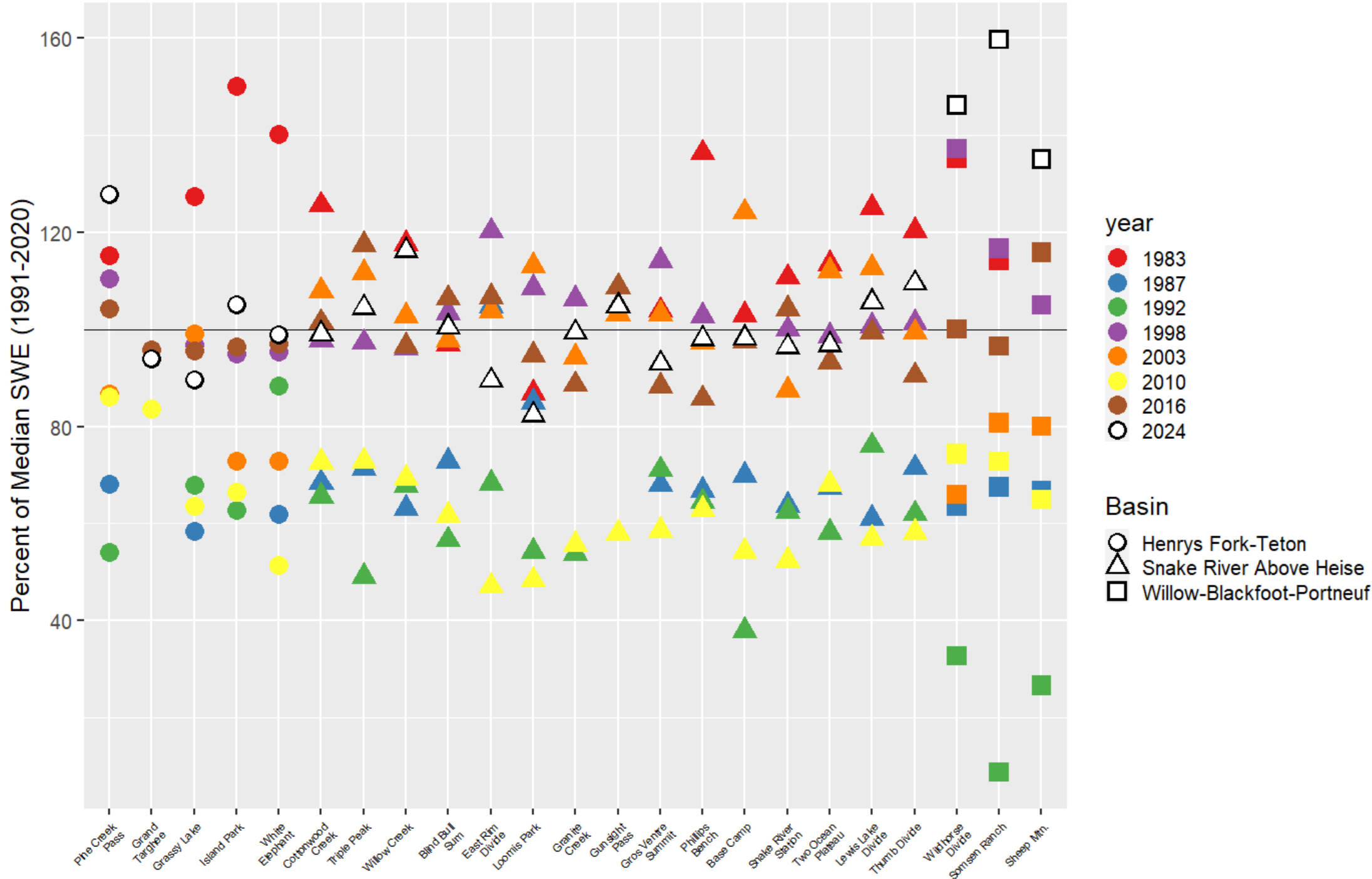


erin.whorton@usda.gov

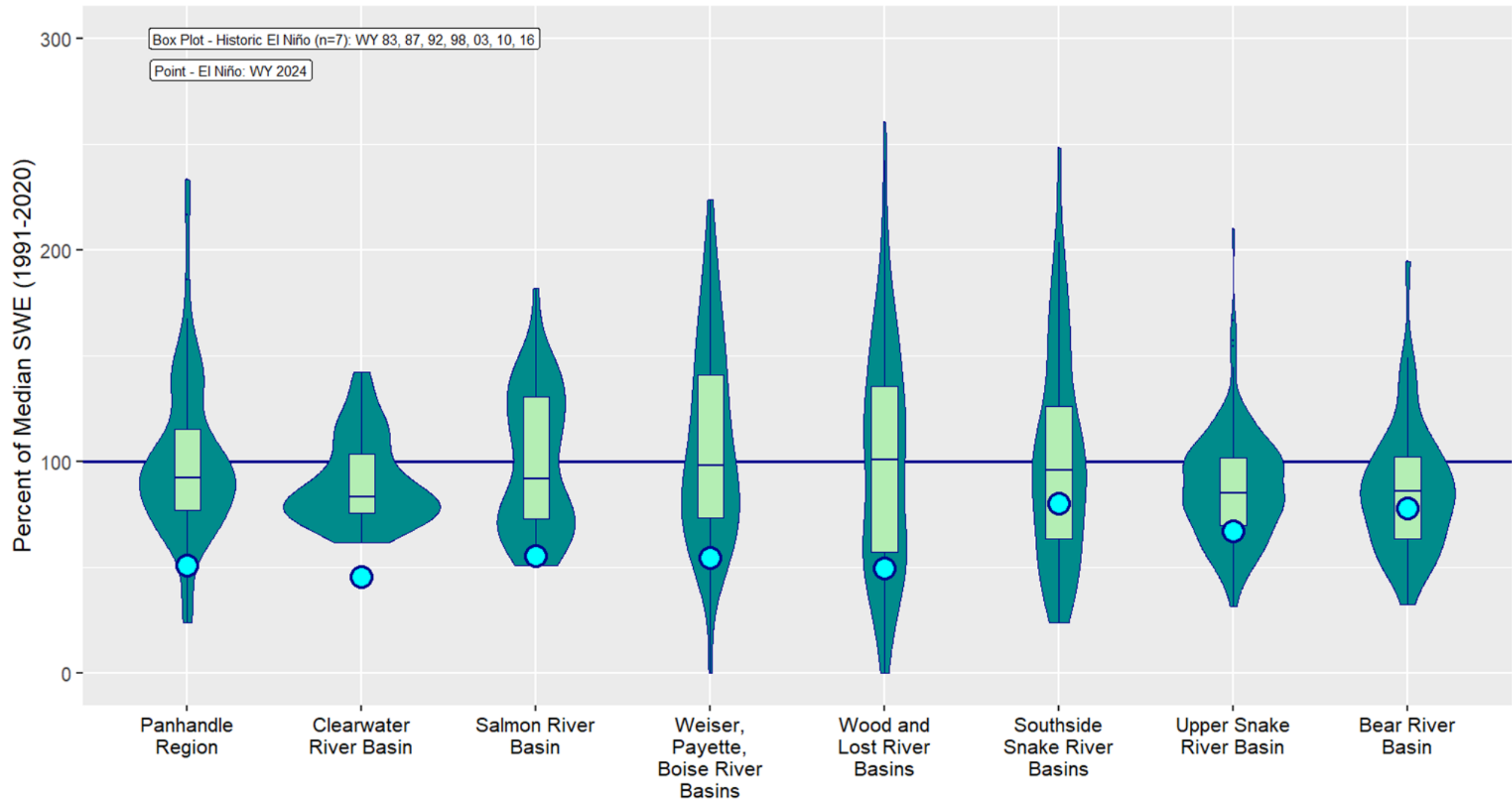


208-685-6983





El Niño SWE - Idaho SNOTEL Sites - Early Winter (January 1)



Portneuf R at Topaz Snow to Flow Plot

[Link to data: CSV / JSON](#)



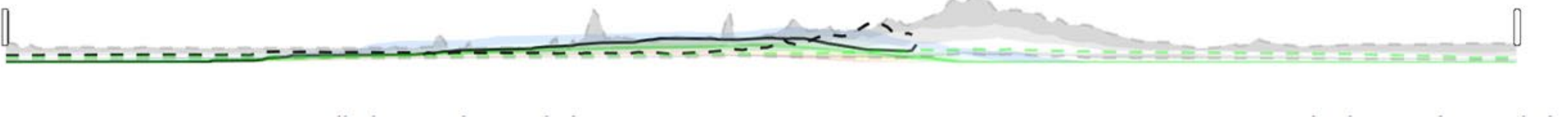
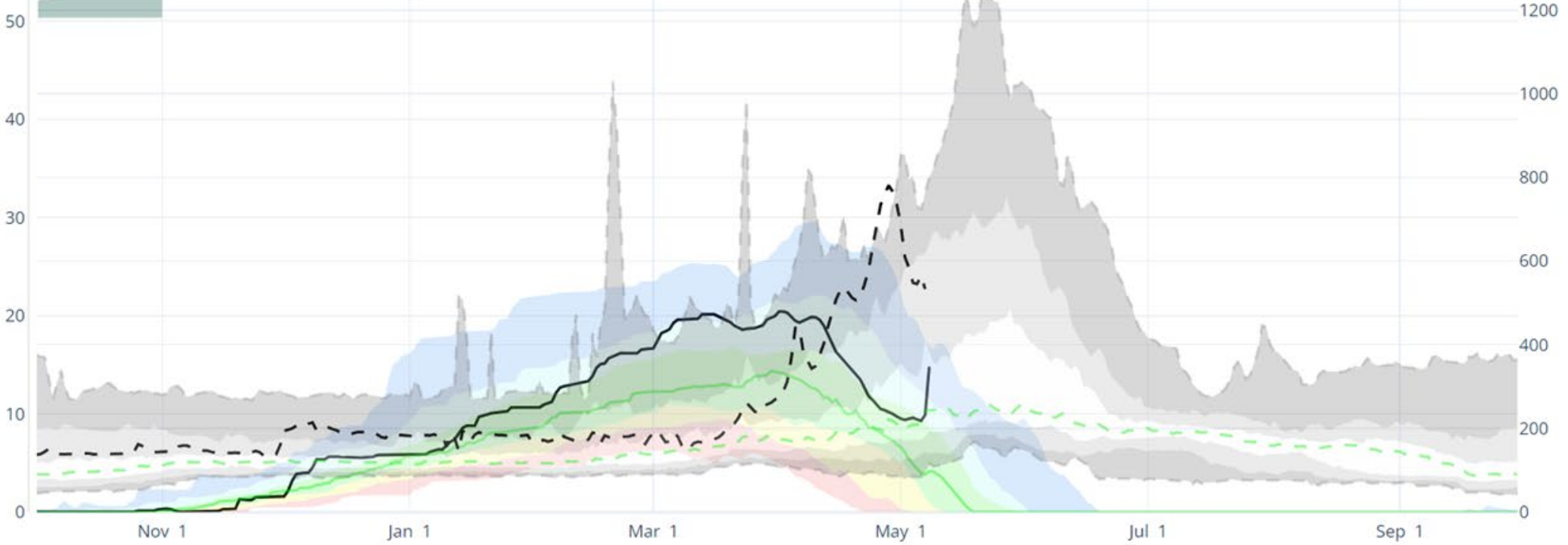
Jan Apr July WY

Station List

- Flow Median
- SWE Median
- Flow Stats
- SWE Stats
- 2024 (3 sites)

Snow Water Equivalent (in.)

Q (cfs)



Linear Scale

Log Scale



— BUREAU OF —
RECLAMATION

Upper Snake Advisory Committee Meeting

Upper Snake Operations Update



May 9, 2024

Presenter: Brian Stevens

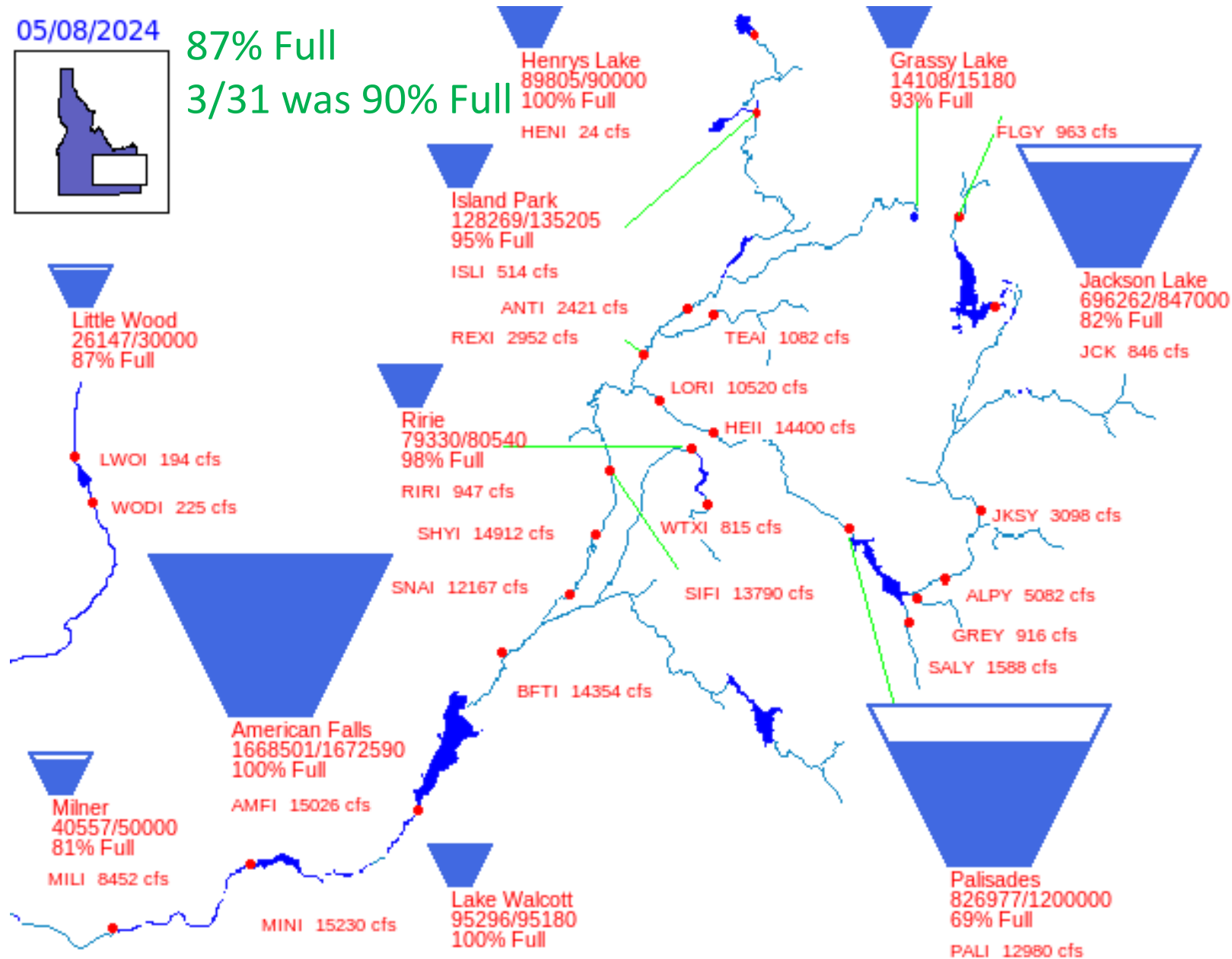
Reservoir System Conditions

05/08/2024



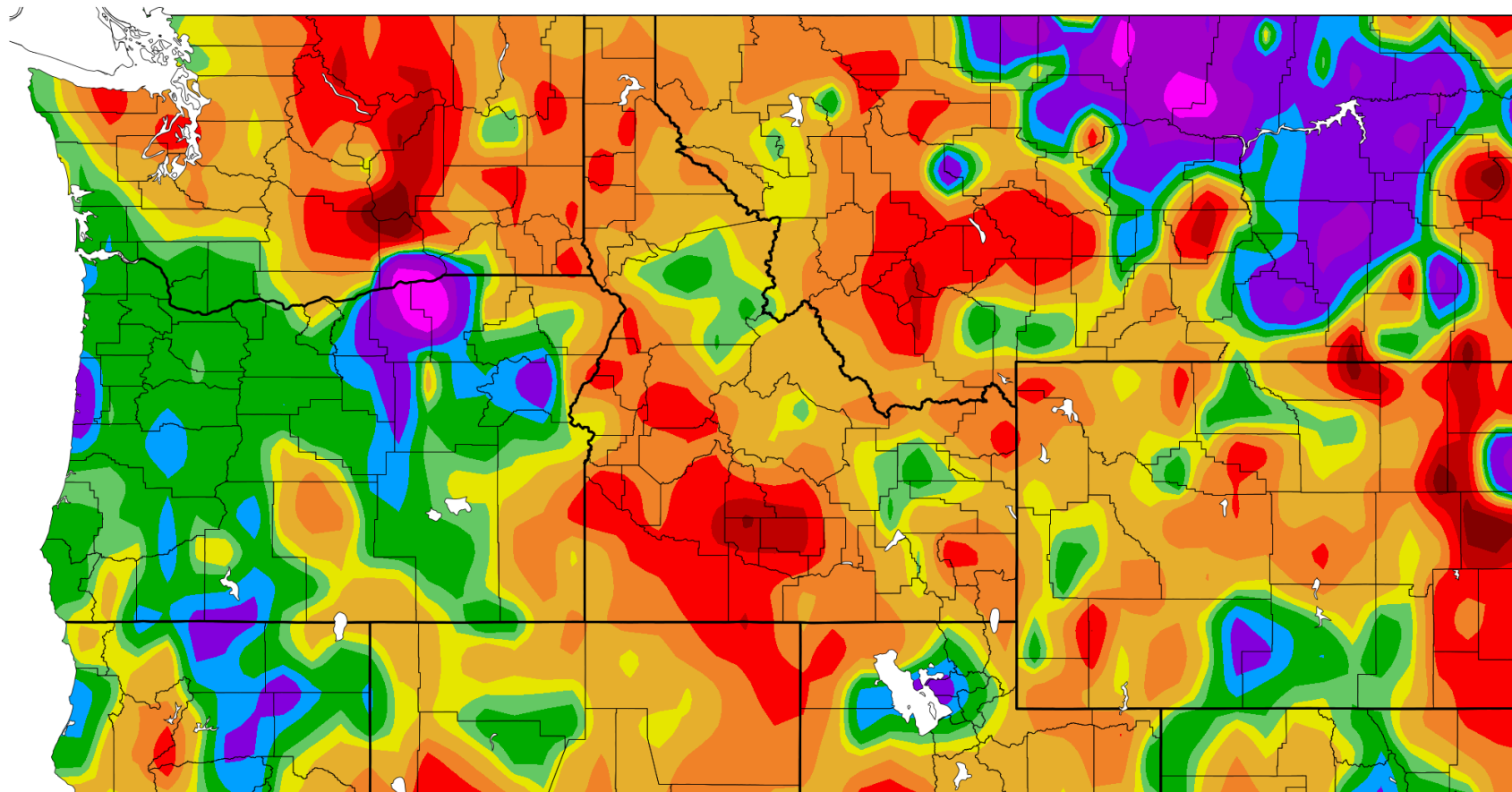
87% Full

3/31 was 90% Full



Percent of Normal Precipitation (%)

4/9/2024 – 5/8/2024



May Forecast

**CURRENT MONTHLY FORECAST SUMMARY
MAY 1, 2024**

FORECAST POINT	FORECAST PERIOD	1991-2020 AVERAGE (KAF)	FORECAST (KAF)	PERCENT NORMAL
*** HEISE	MAY-JUL	2898	2700	93%
JACKSON LAKE	MAY-JUL	701	595	85%
ISLAND PARK	MAY-JUL	158	136	86%
TETON	MAY-JUL	303	305	101%
*** RIRIE	MAY-JUN	35	42	122%
*** LITTLE WOOD	MAY-JUL	52	38	74%

April Forecast

PERCENT NORMAL
102%
95%
95%
99%
145%
100%

* Coordinated with USACE



Select... >

Use List

Show Tooltip Use Instant Data

Apply Deltas to 1st Year

Sum List

Statistics
 Use to data
 Avg Max Min Percentiles

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Chart

Zoom: Drag Points:

Snake River near Irwin, ID, Elevation: 5353 ft (Unregulated flow at Palisades Dam)

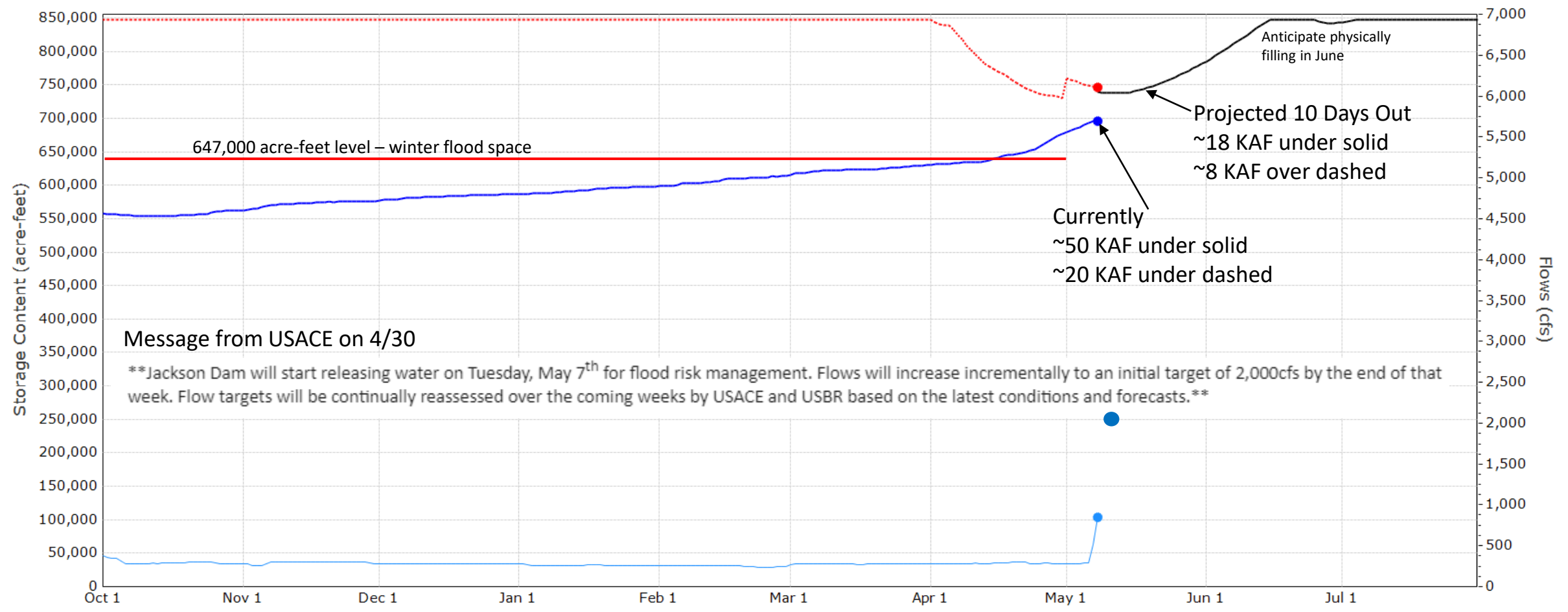
— 2024 — max — 50% — min



Solid curve before 20,000 cfs (less restrictive)
 Dashed curve after 20,000 cfs (more restrictive)
 Transition generally ~3rd to 4th week in May

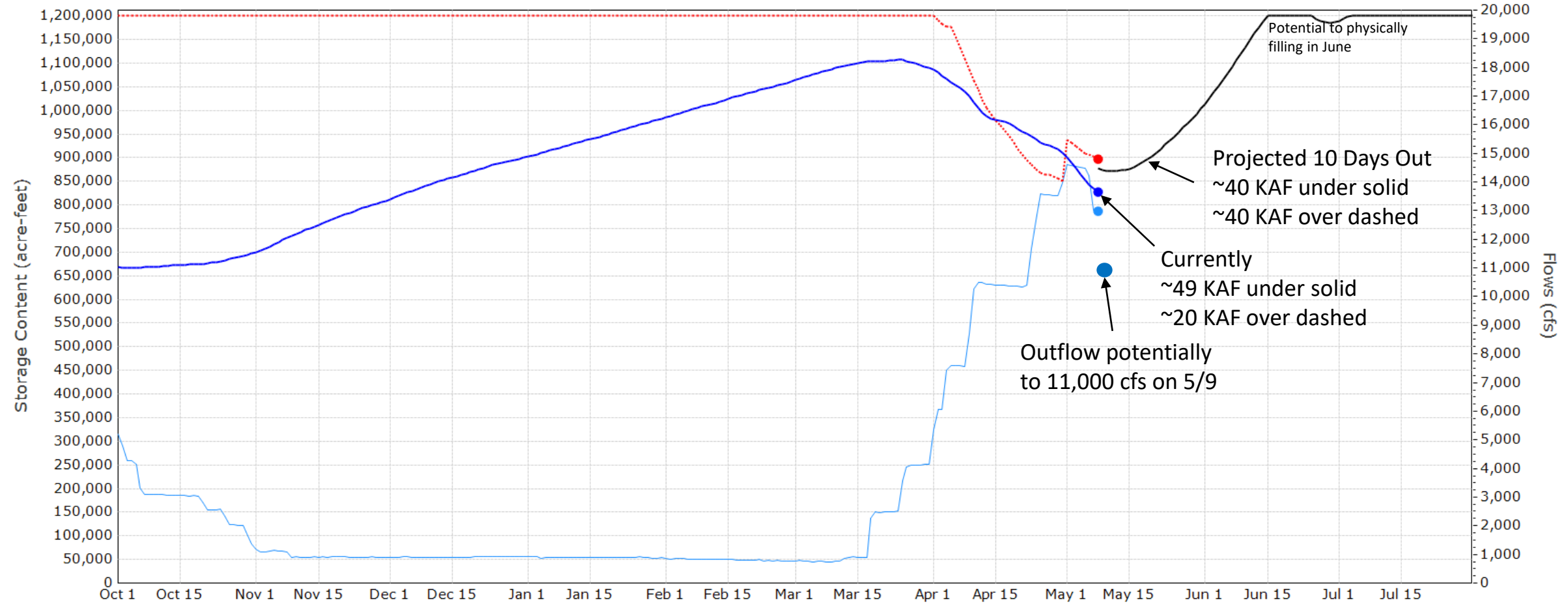
JCK - Jackson Lake

2024 JCK QD 2024 Required 2024 Actual Storage Forecast (93%)2700



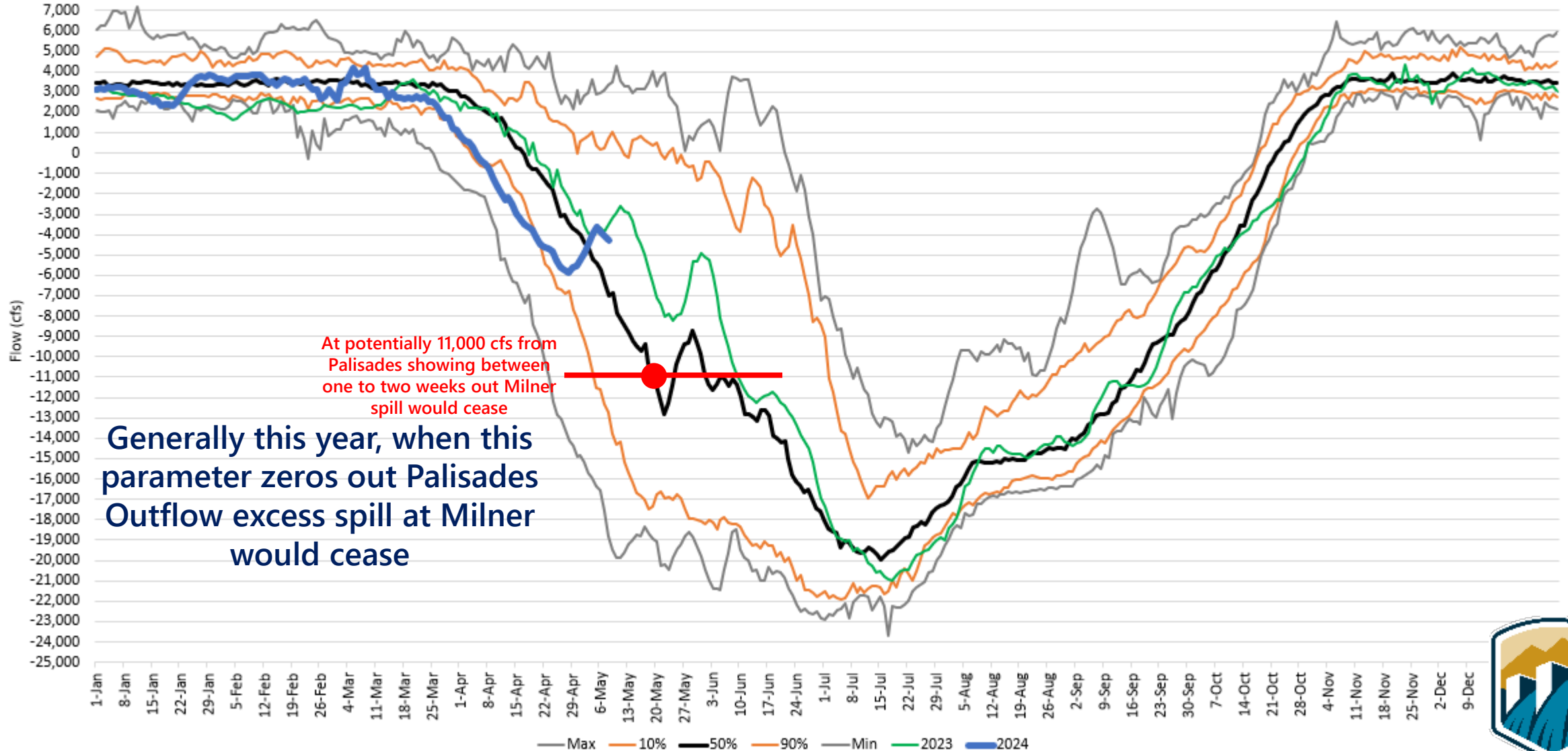
PAL - Palisades

2024 PALI QD 2024 Required 2024 Actual Storage Forecast (93%)2700



Timing of Milner Spill Ceasing

AMF Gain minus Lower Valley Diversions



mili qt

Query Data

Start 03/04/2024

< Dates >

End 05/09/2024

Default Dates

fill gap interval drag points graph flagged data

0 (don't fill gaps) None

show points

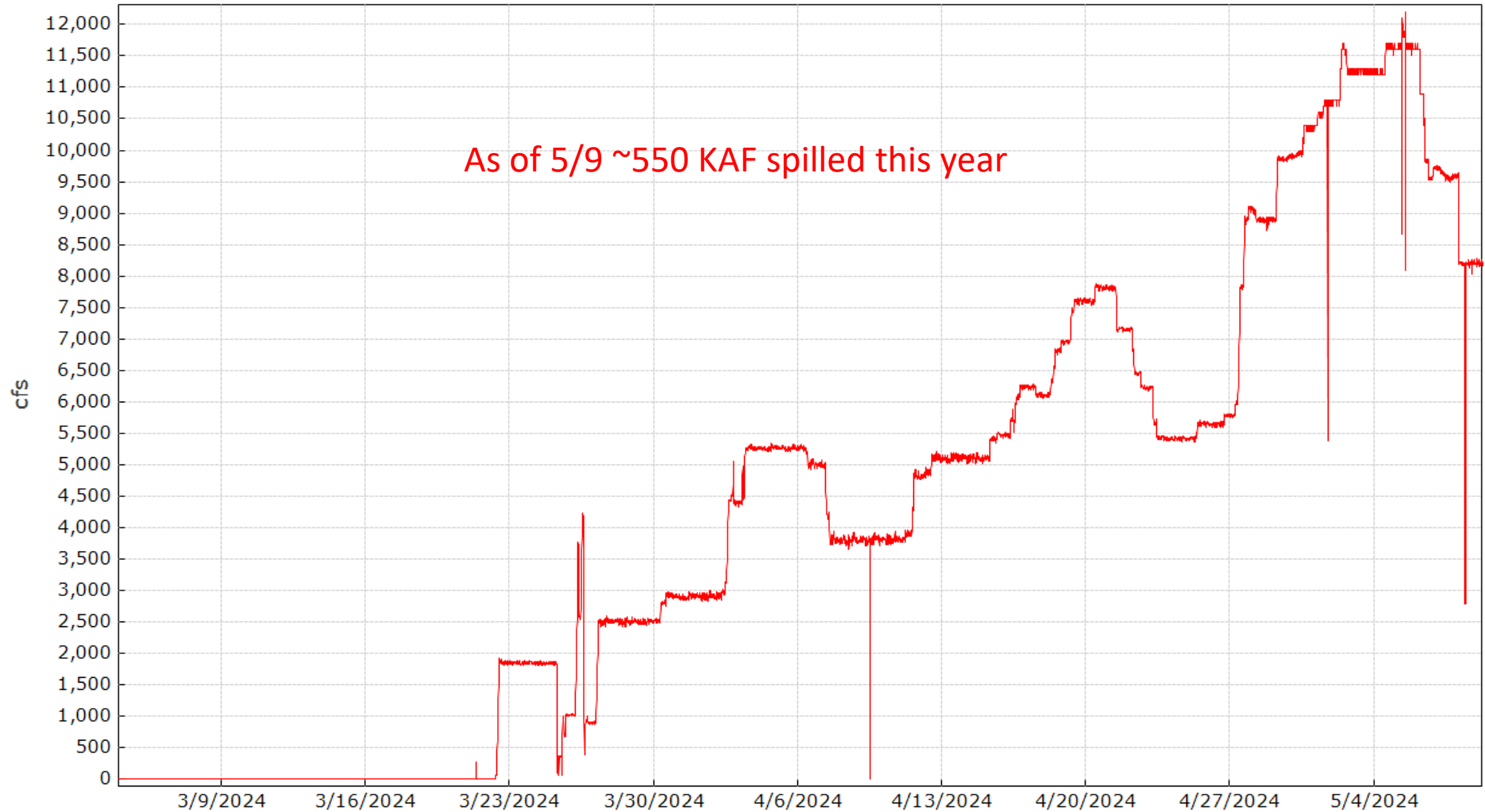
Save

[usgs 13087995](#)

[owrd 13087995](#)

[ipco 13087995](#)

Snake River at Milner, Idaho PNRO - Idaho Falls



^ ^ Hide Gaps ^ ^



Upper Snake Flow Augmentation Outlook

- Average Apr-Sep Runoff: 3,851 KAF
- 2024 Apr-Sep Runoff: 3,928 KAF
- 2024 Rainbow Chart Rental: 150 KAF
- Approximately 20 KAF uncontracted space to be utilized
- Total of approximately 170 KAF in 2024 to be delivered downstream of Milner Dam sometime in the spring

WY 2024 →

October 31st Midnight Carryover 1000s AF	April 1 to Sept 30 Heise Forecast (1000s AF)				
	0	2,920	3,450	4,208	5,042
	to	to	to	to	or
	2,919	3,449	4,207	5,041	greater
0 - 599	0	0	0	150000	185000
600 - 899	0	0	60000	150000	185000
900 - 1499	0	60000	60000	150000	185000
1500 - 2099	0	100000	150000	185000	185000
2100 - 2599	0	100000	150000	205000	205000
2600 - 2999	0	185000	185000	205000	205000
3000 - 3199	60000	185000	185000	205000	205000
> 3199	100000	185000	185000	205000	205000



Upcoming Meetings

- Friday May 17 River Operations Subcommittee Meeting
- Thursday May 23 Jackson Lake Public Information Meeting
- Friday May 24 Windshield Snow Survey



For More Information

Snake River Area Office

Lanie Paquin (Mike Hilliard Acting) -
Area Manager
208-383-2246
mpaquin@usbr.gov

Upper Snake Field Office

Mike Hilliard (Ben Cano Acting) – Assistant Area Manager
208-678-0461 (x34)
mhilliard@usbr.gov
David Child – Natural Resources Manager (x15)
dchild@usbr.gov
Brian Stevens – Water Operations Supervisory Civil Engineer (x24)
bstevens@usbr.gov
Jeremy Dalling - Water Operations Civil Engineer (x25)
jdalling@usbr.gov
Darrin Fredrickson - Staff Assistant (x17)
dfredrickson@usbr.gov

Snake River Operations Web Sites

Upper Snake water information site -

<http://www.usbr.gov/pn/hydromet/uppersnake/index.html>

USBR HydroMet - <http://www.usbr.gov/pn/hydromet/>

Northwest River Forecast Center - <http://www.nwrfc.noaa.gov/rfc/>

NRCS SNOTEL Data - <http://www.id.nrcs.usda.gov/snow/>

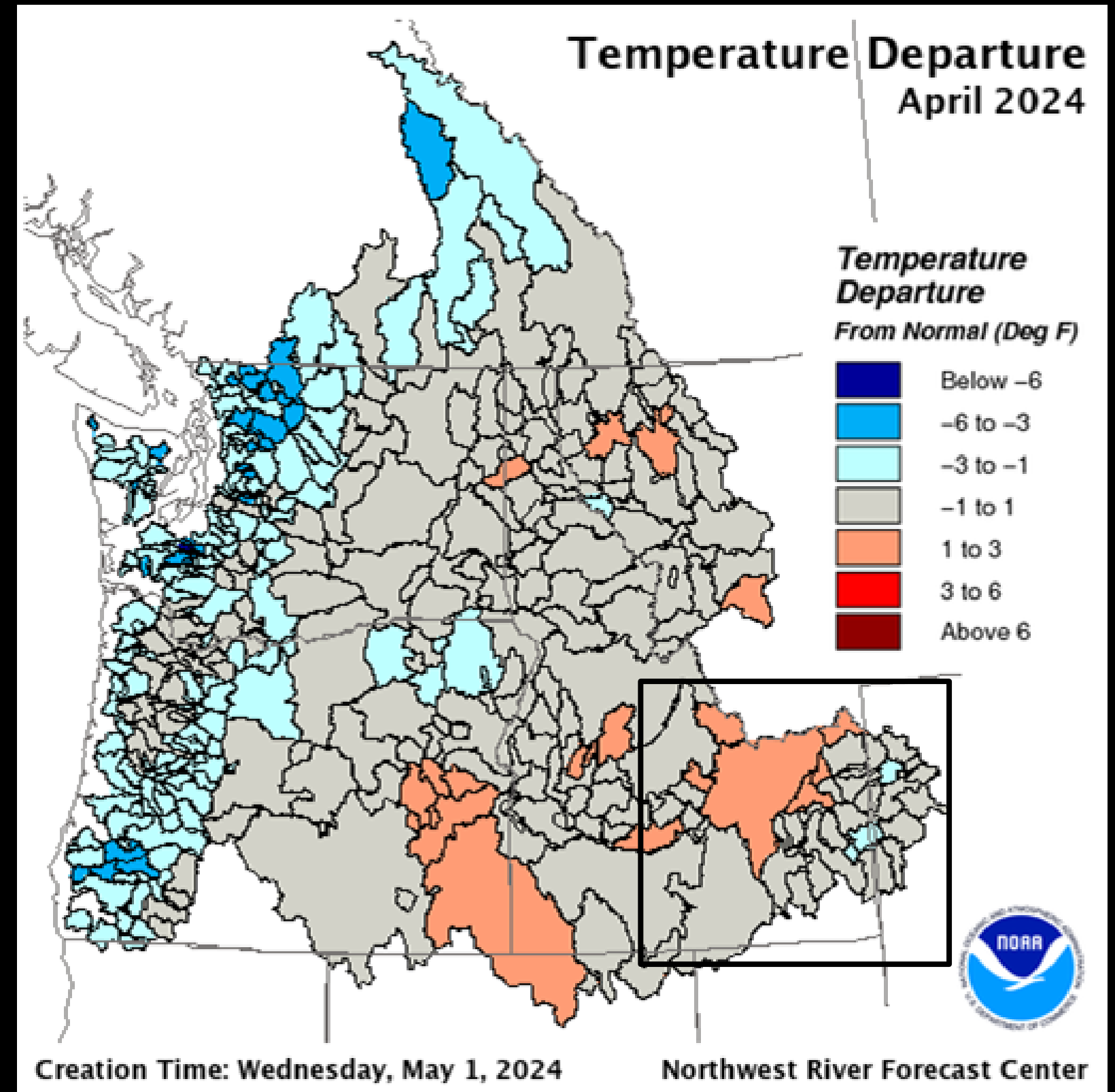
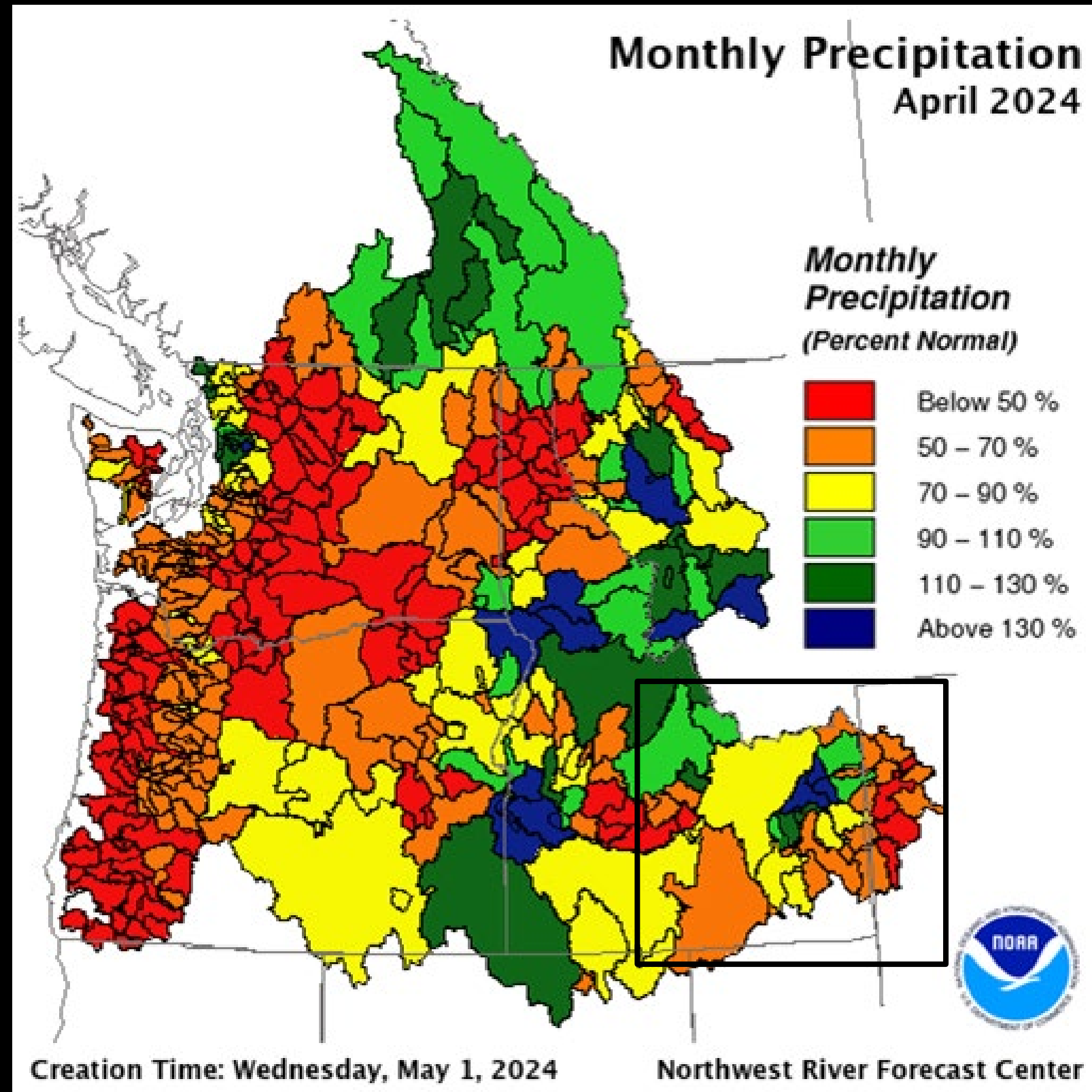


Upper Snake Weather Outlook

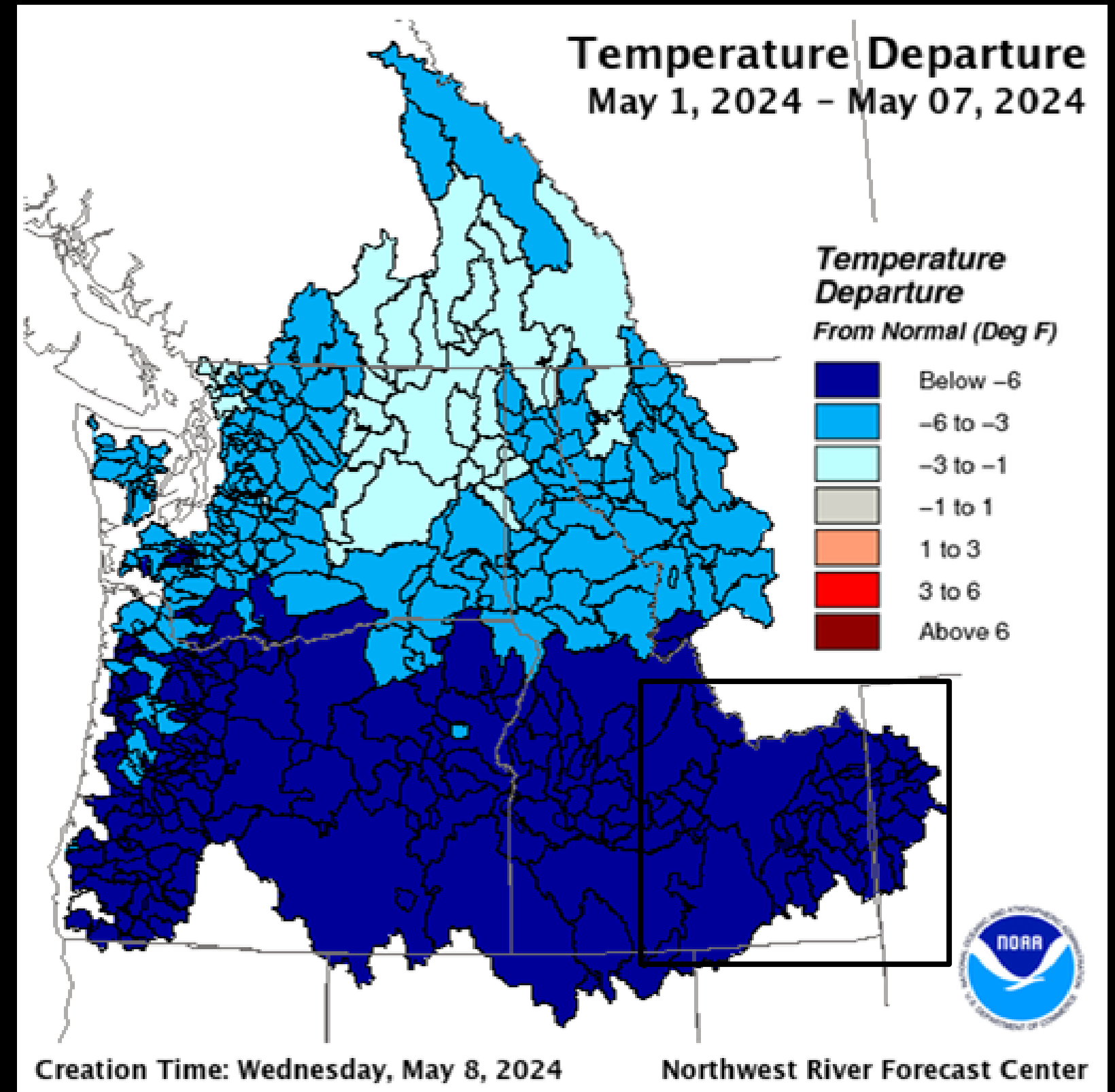
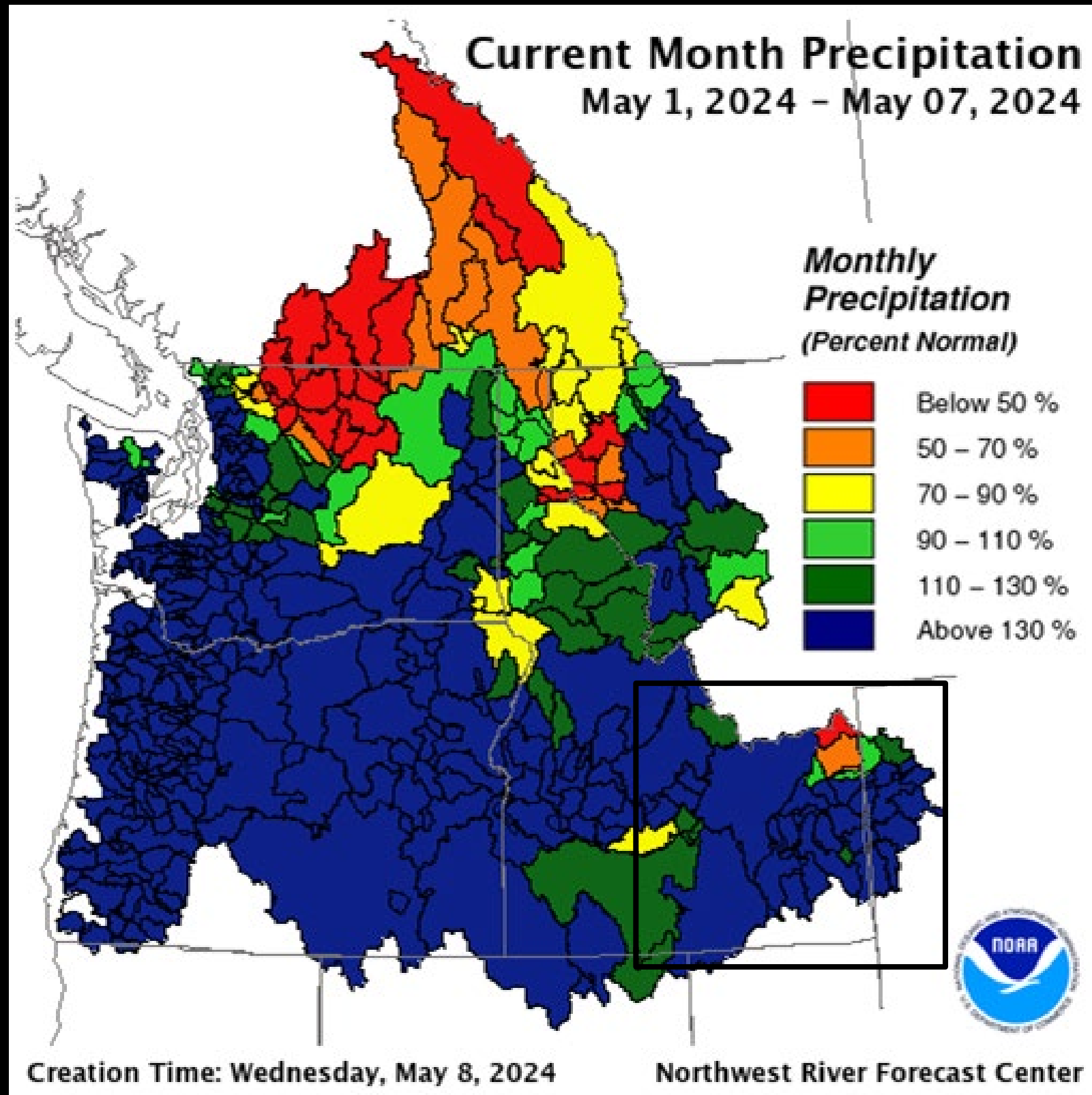


National Weather Service
Pocatello, Idaho
May 9, 2024

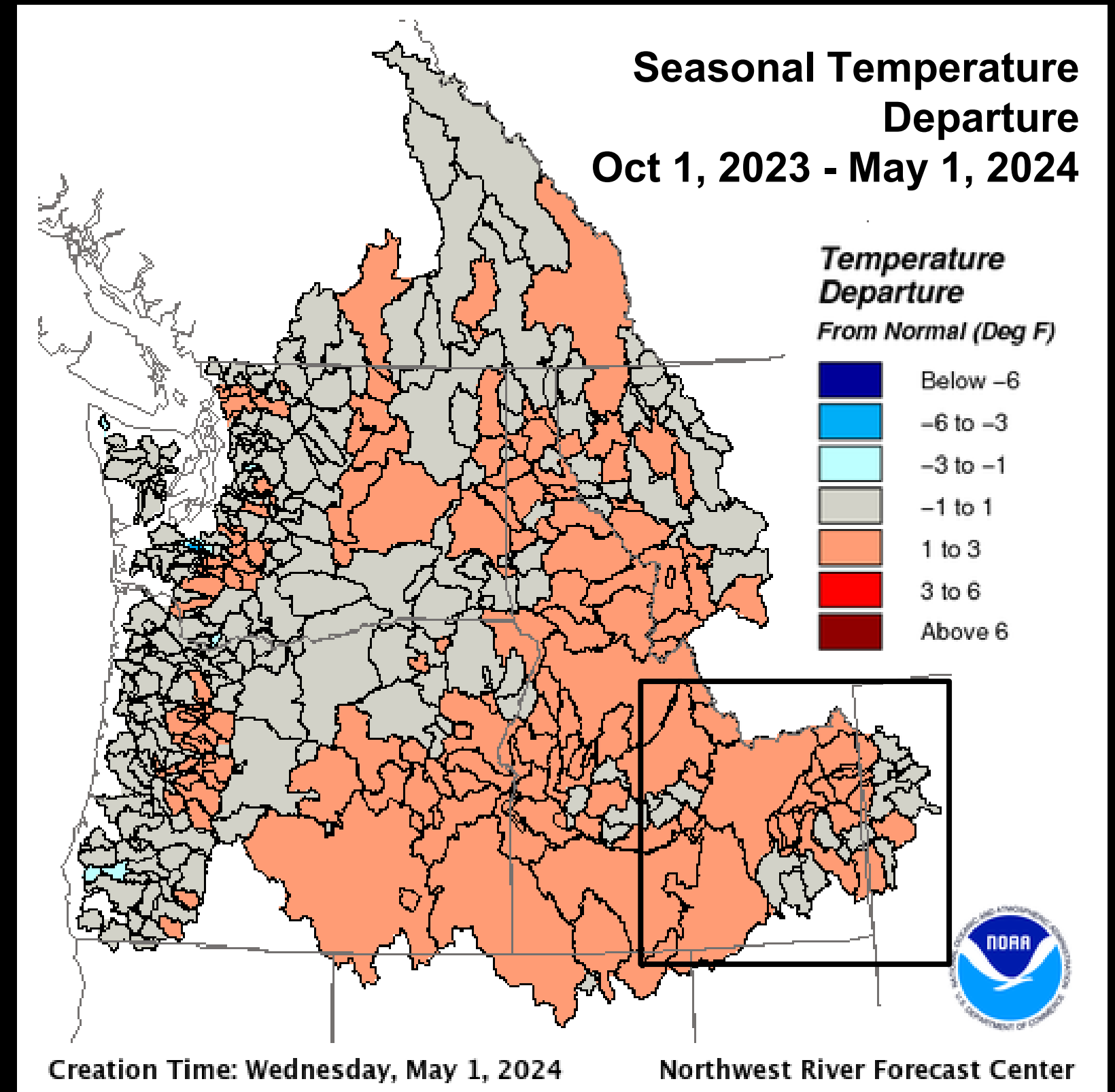
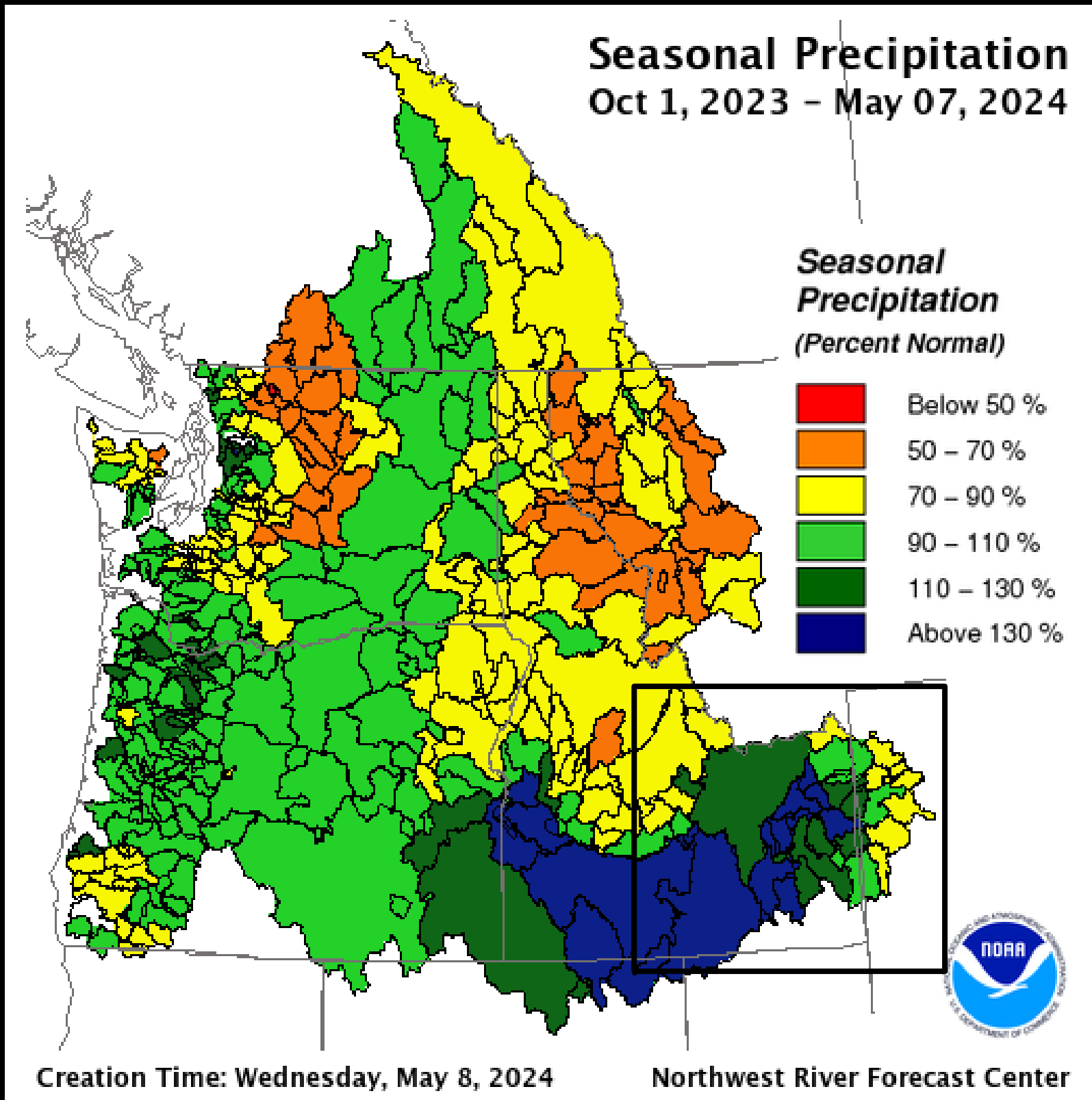
April - Hit & Miss



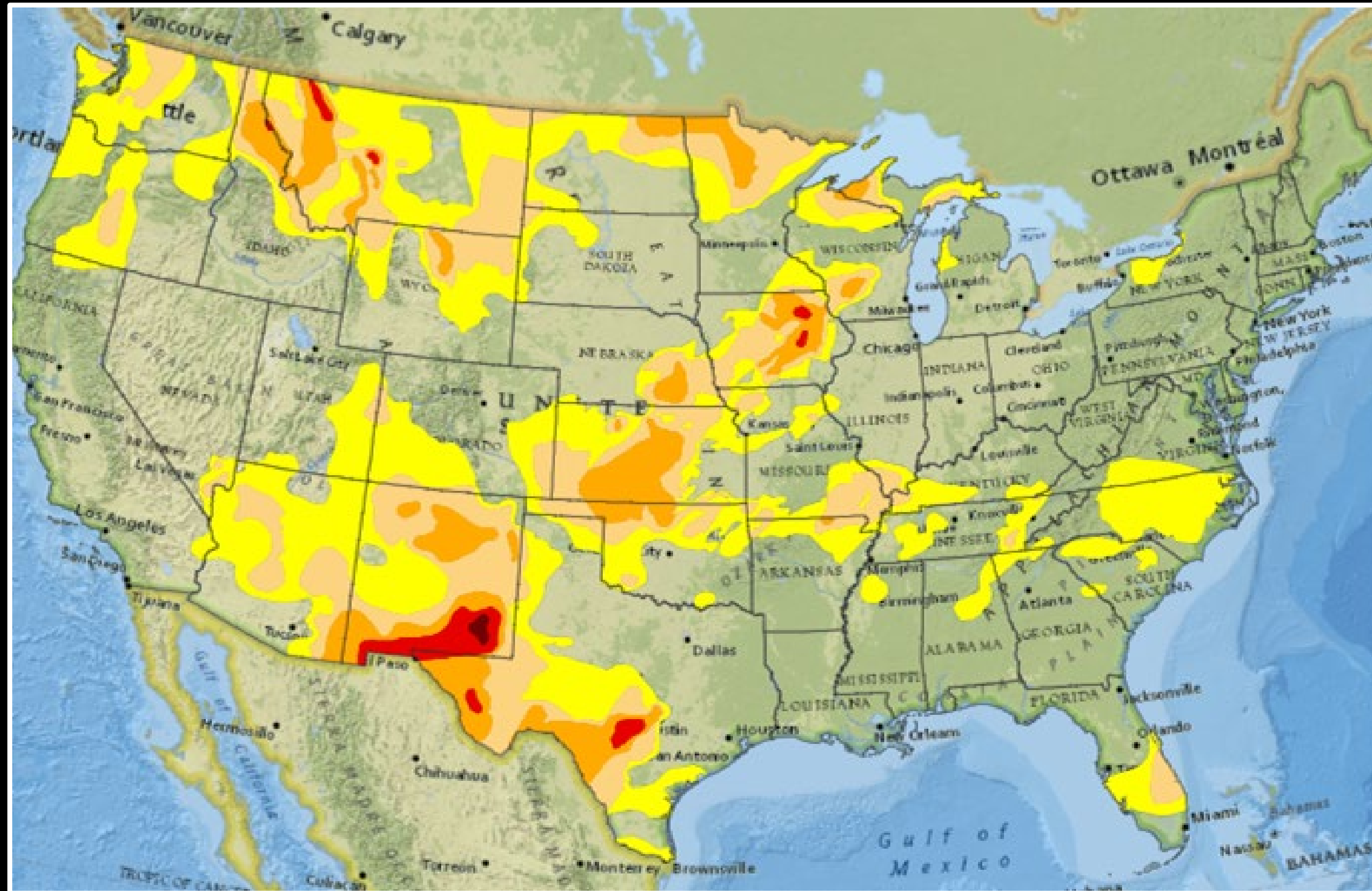
May So Far...



Warmer than Average, but also Wet



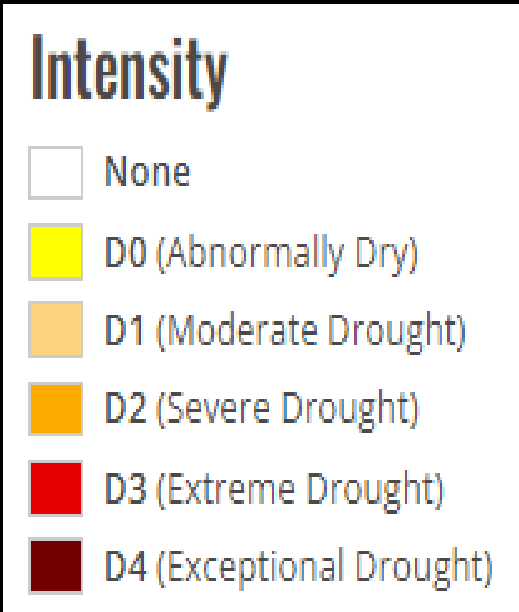
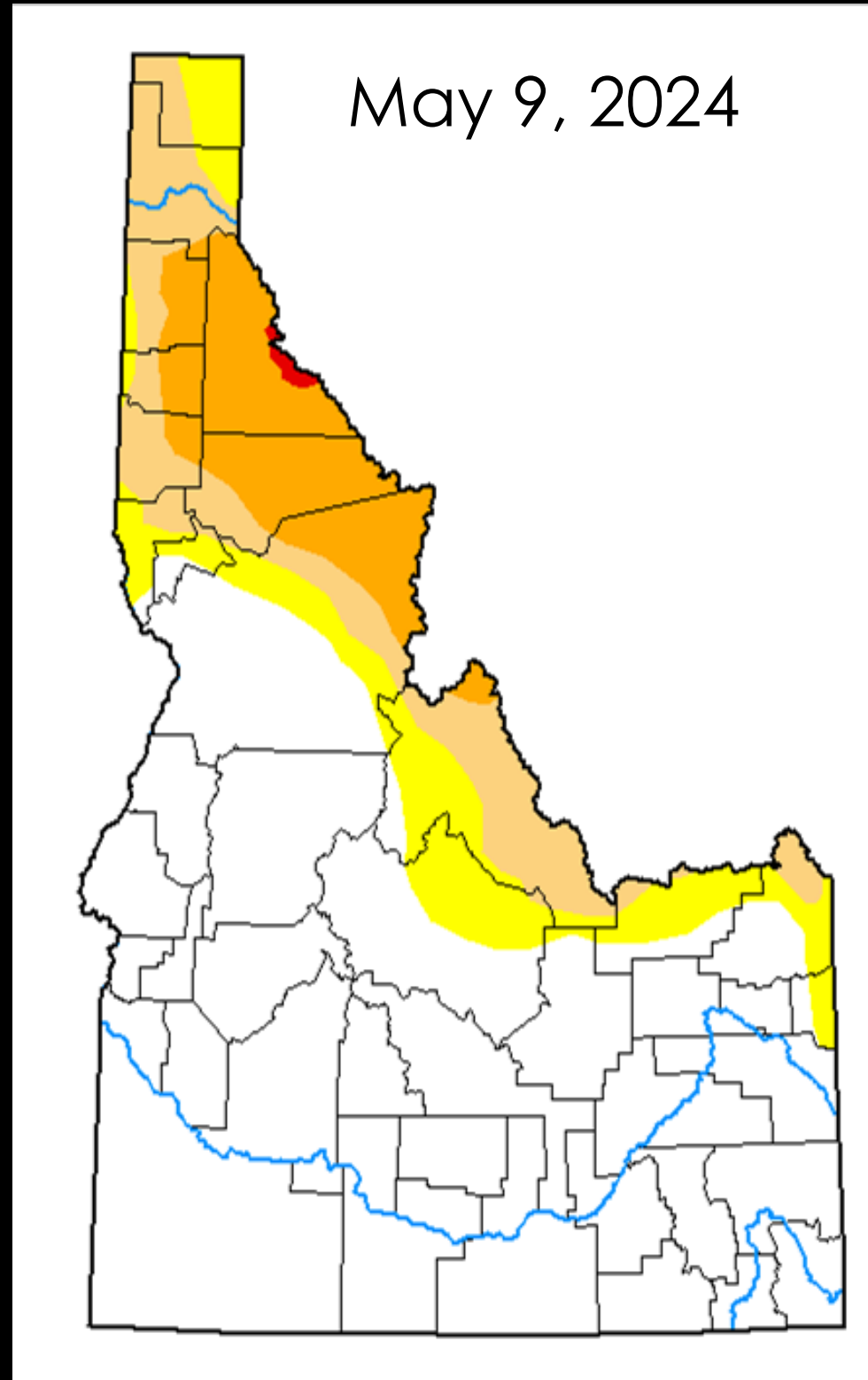
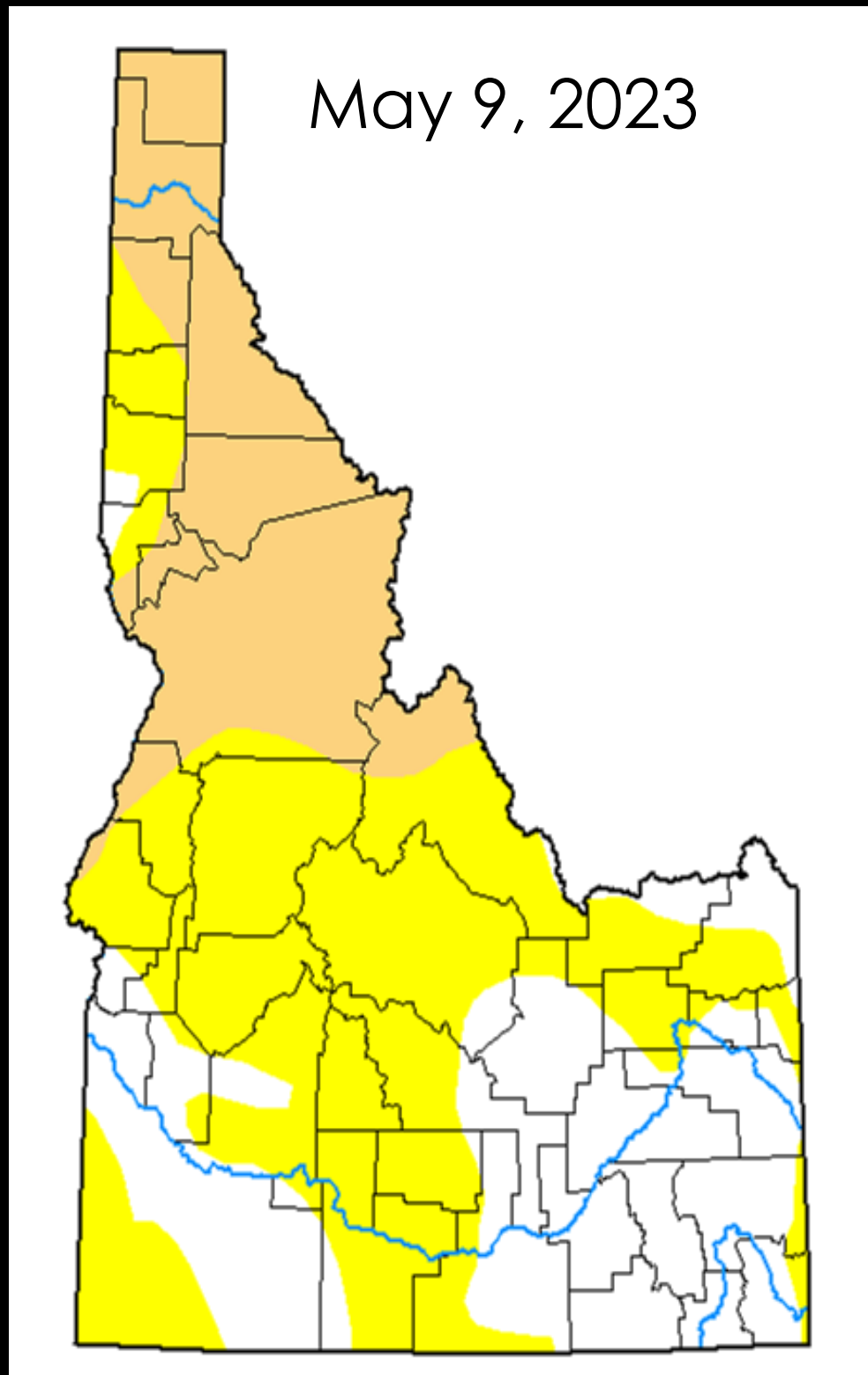
Current Drought - National



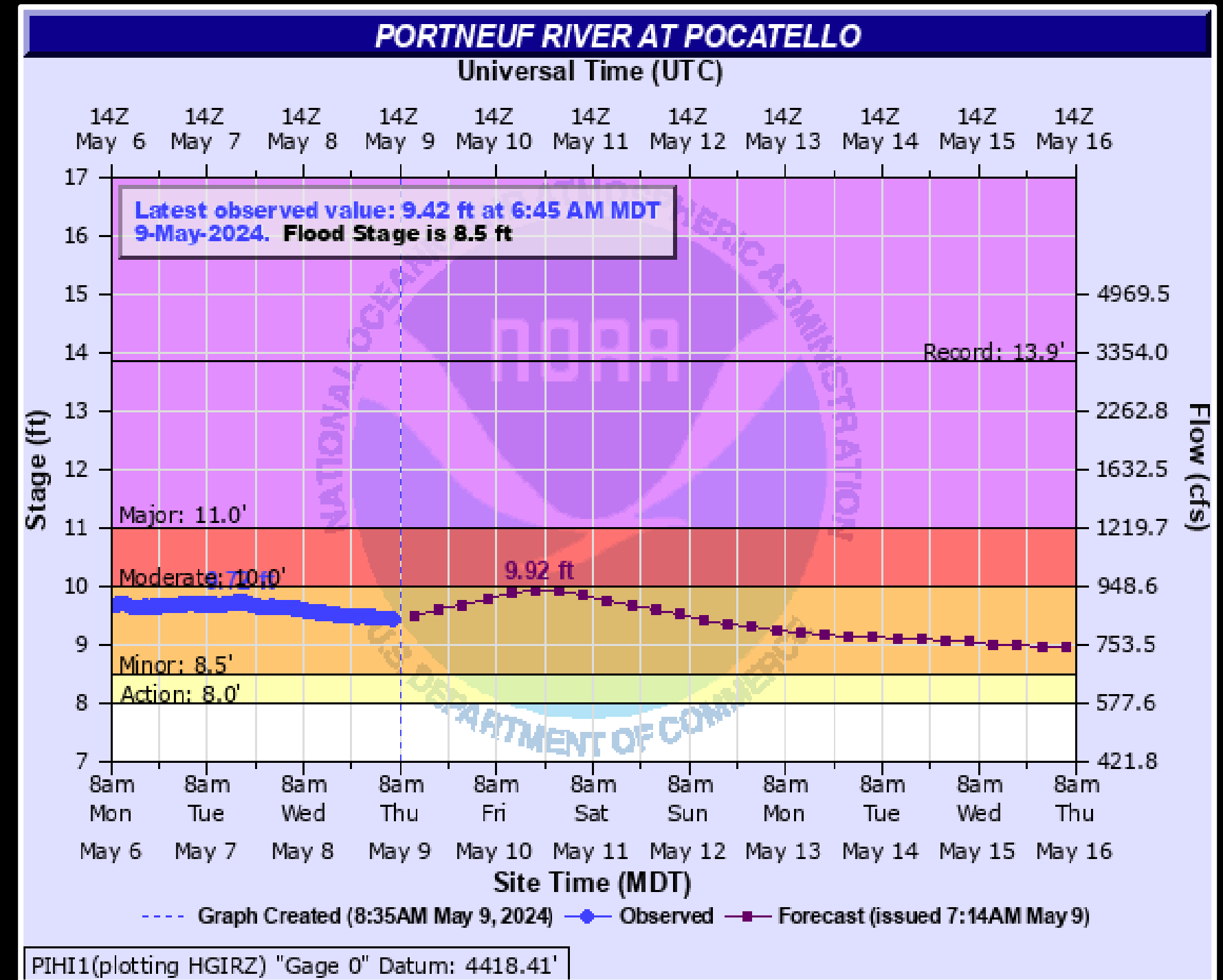
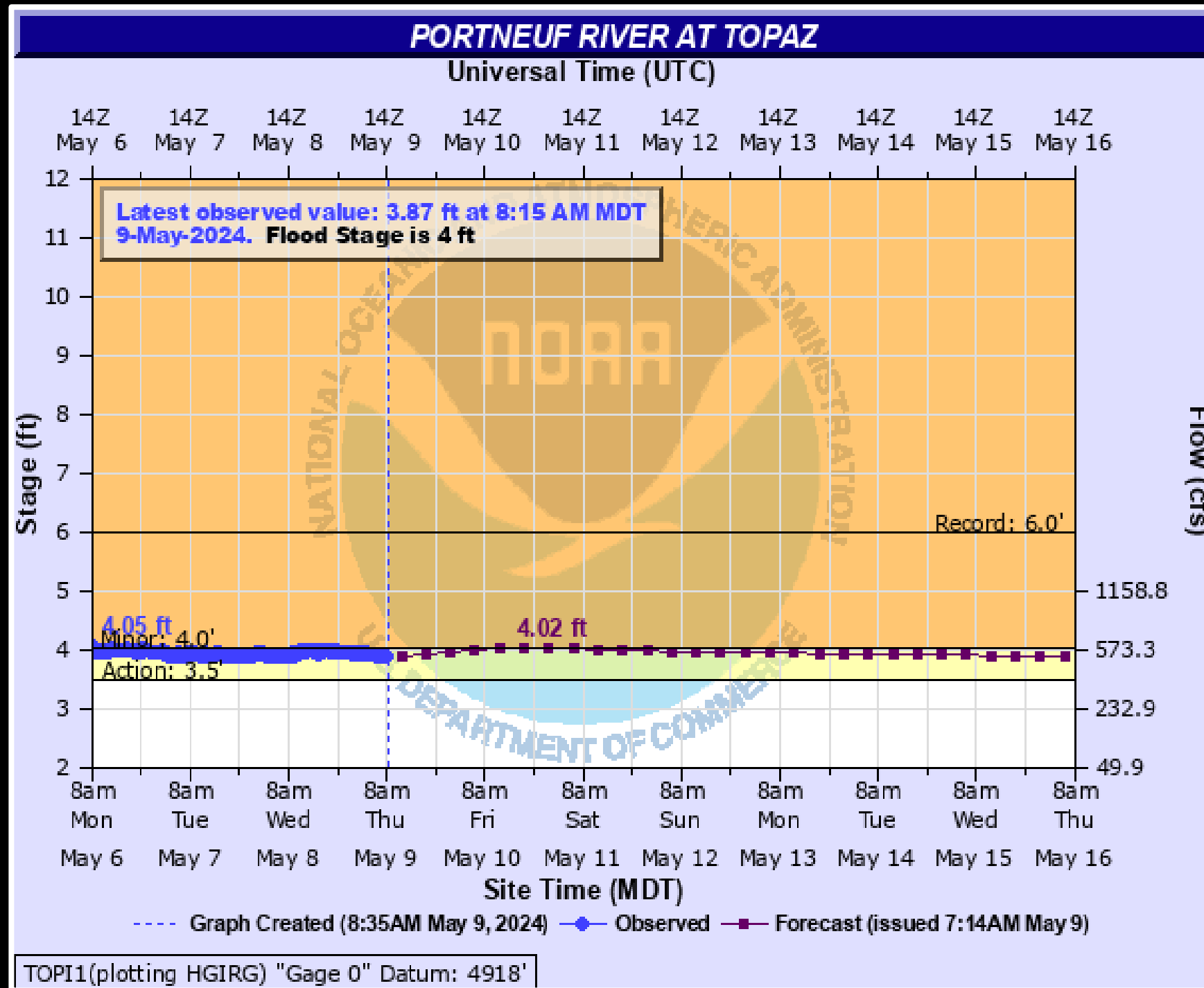
Basemap Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA,



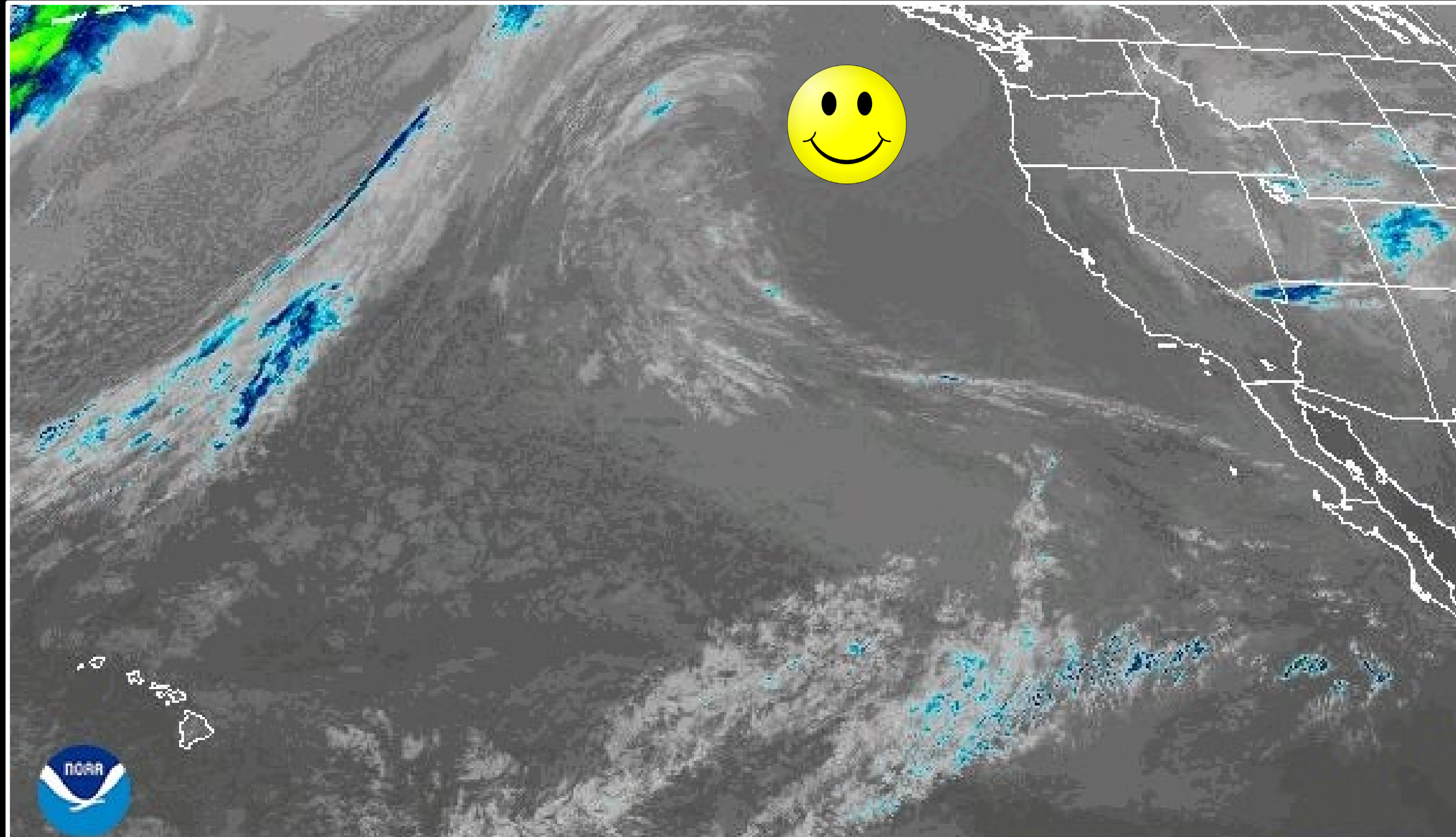
Current Drought Comparison



River Levels: Portneuf River



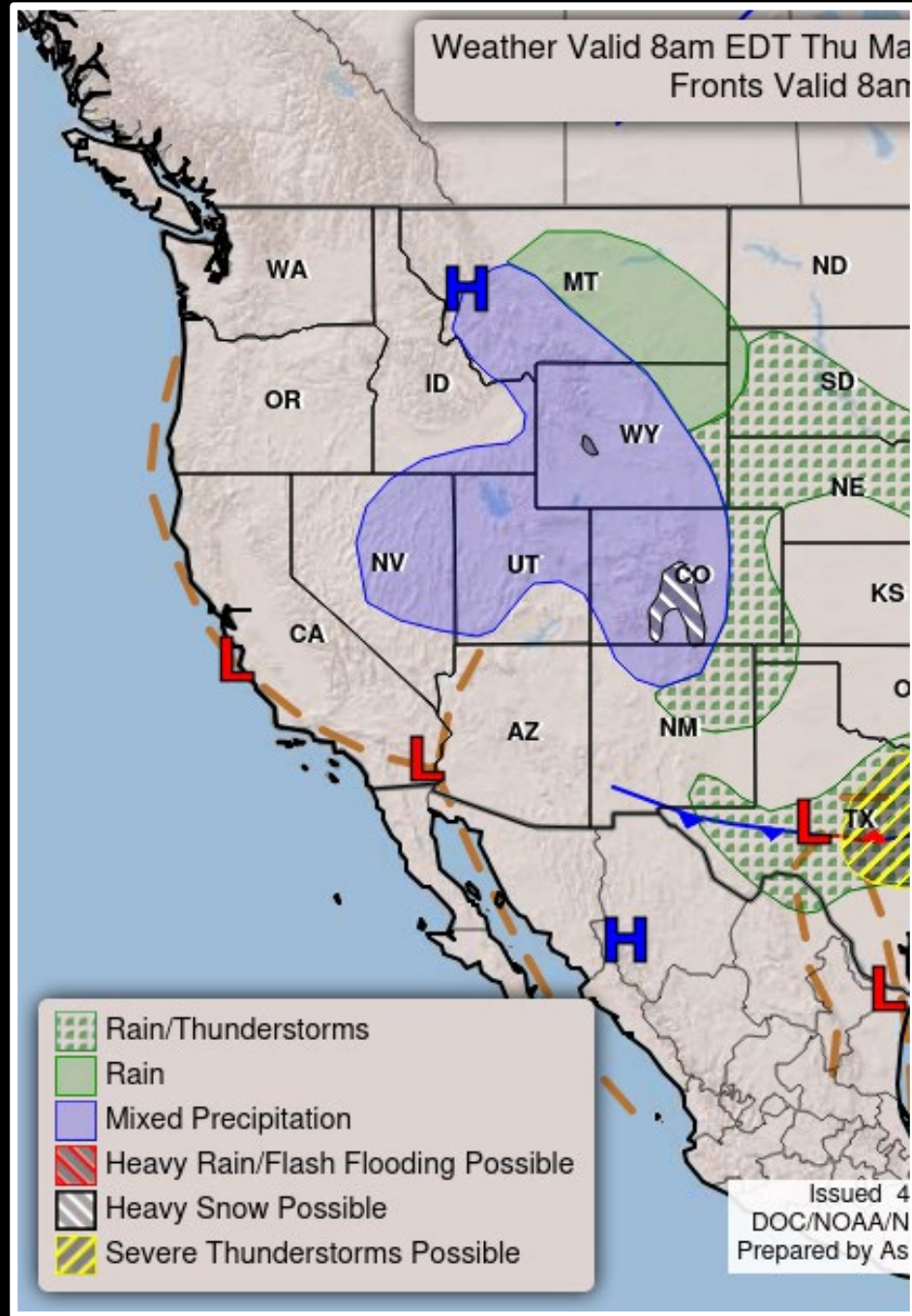
Current Satellite



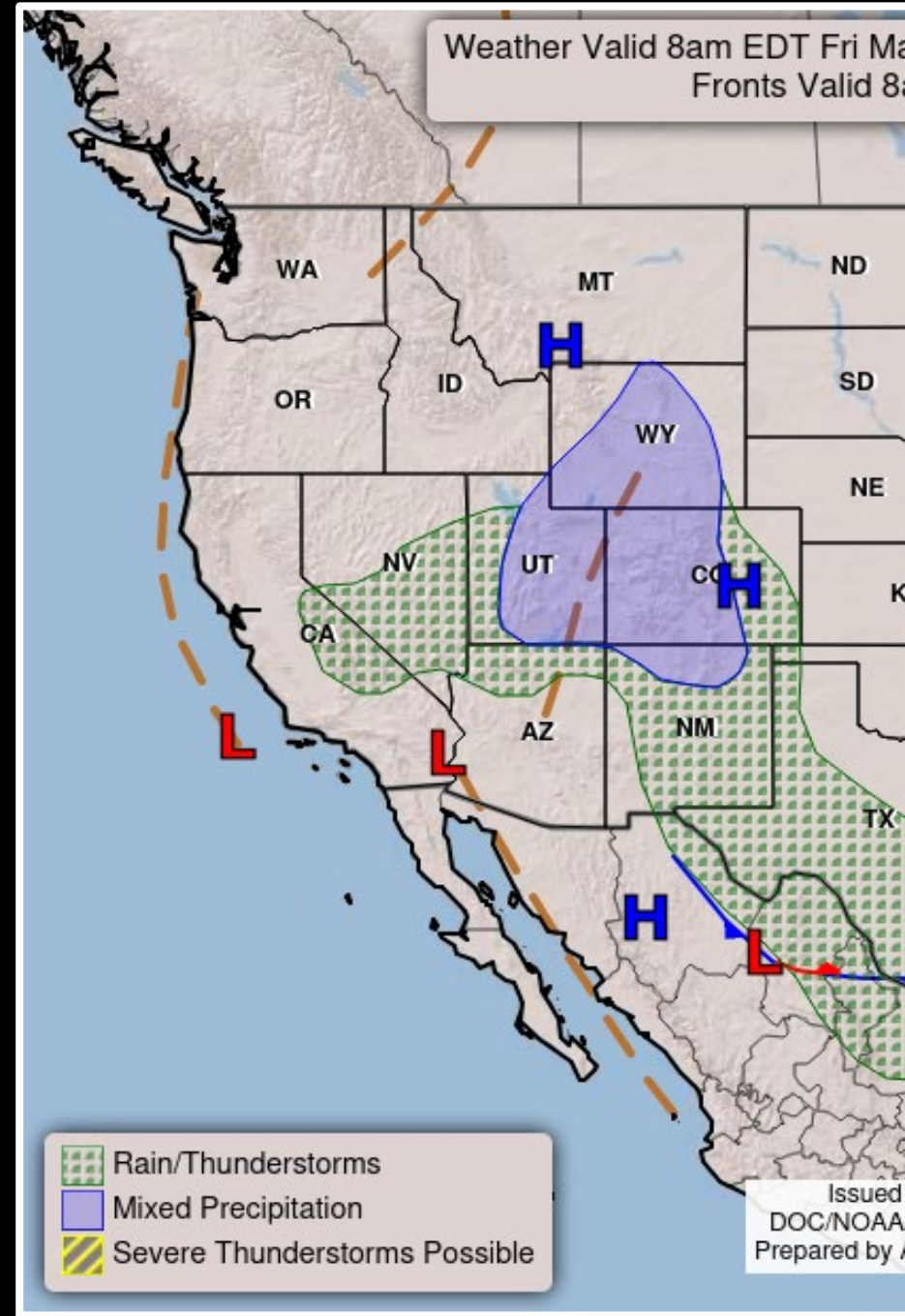
09 May 2024 10:16Z - NOAA/NESDIS/STAR - PACUS - Band 13

Upcoming Weather Pattern

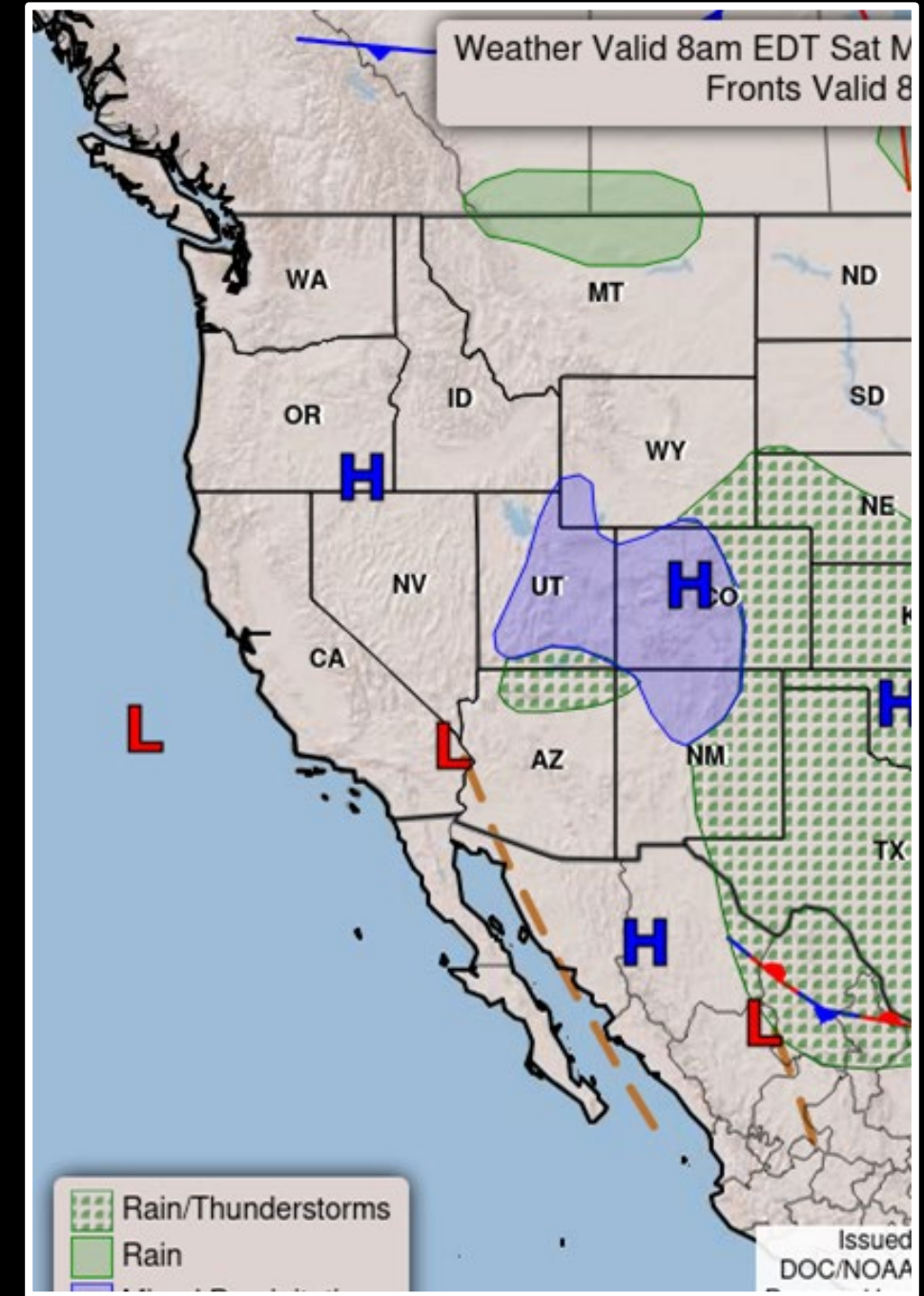
Today



Friday

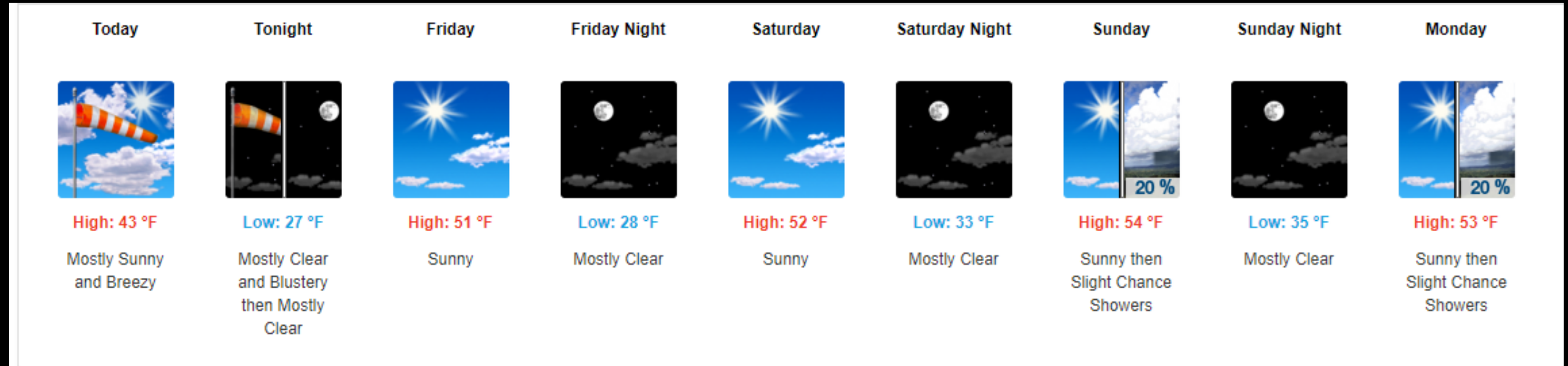


Saturday



Short Term Forecast

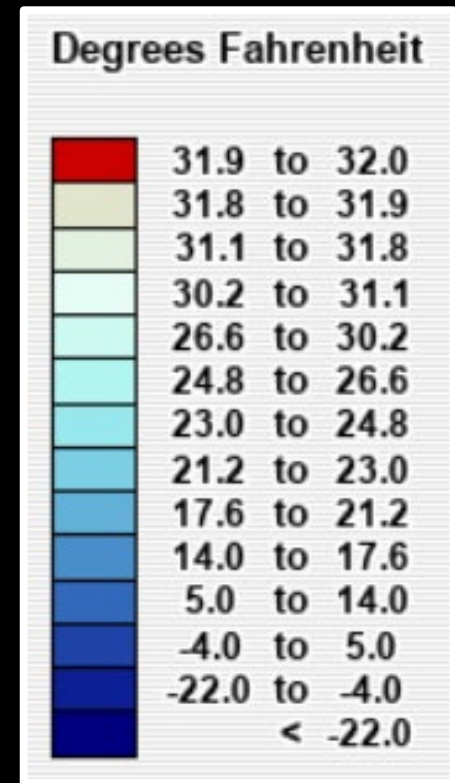
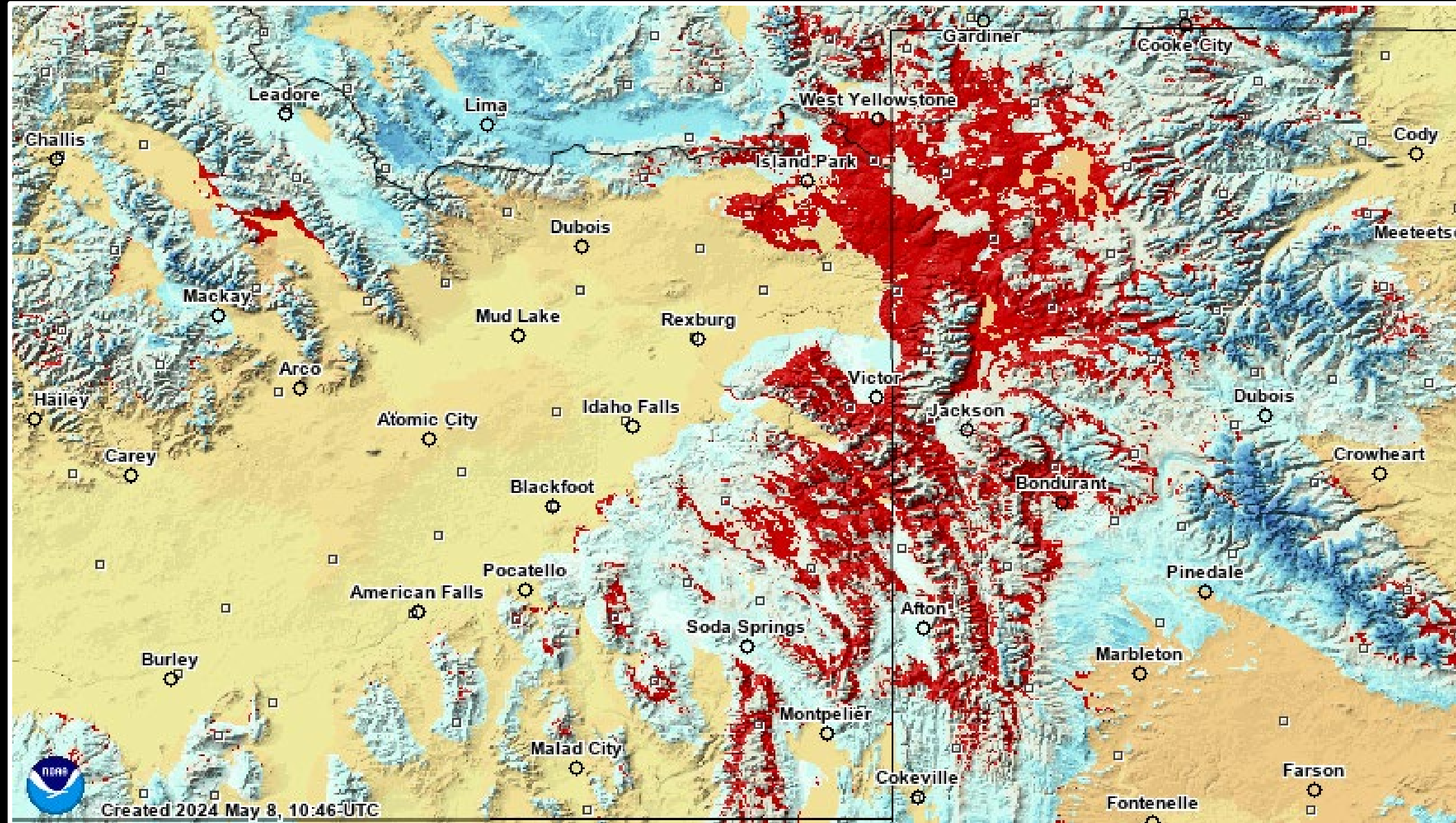
High Elevation Forecast (Teton Pass)



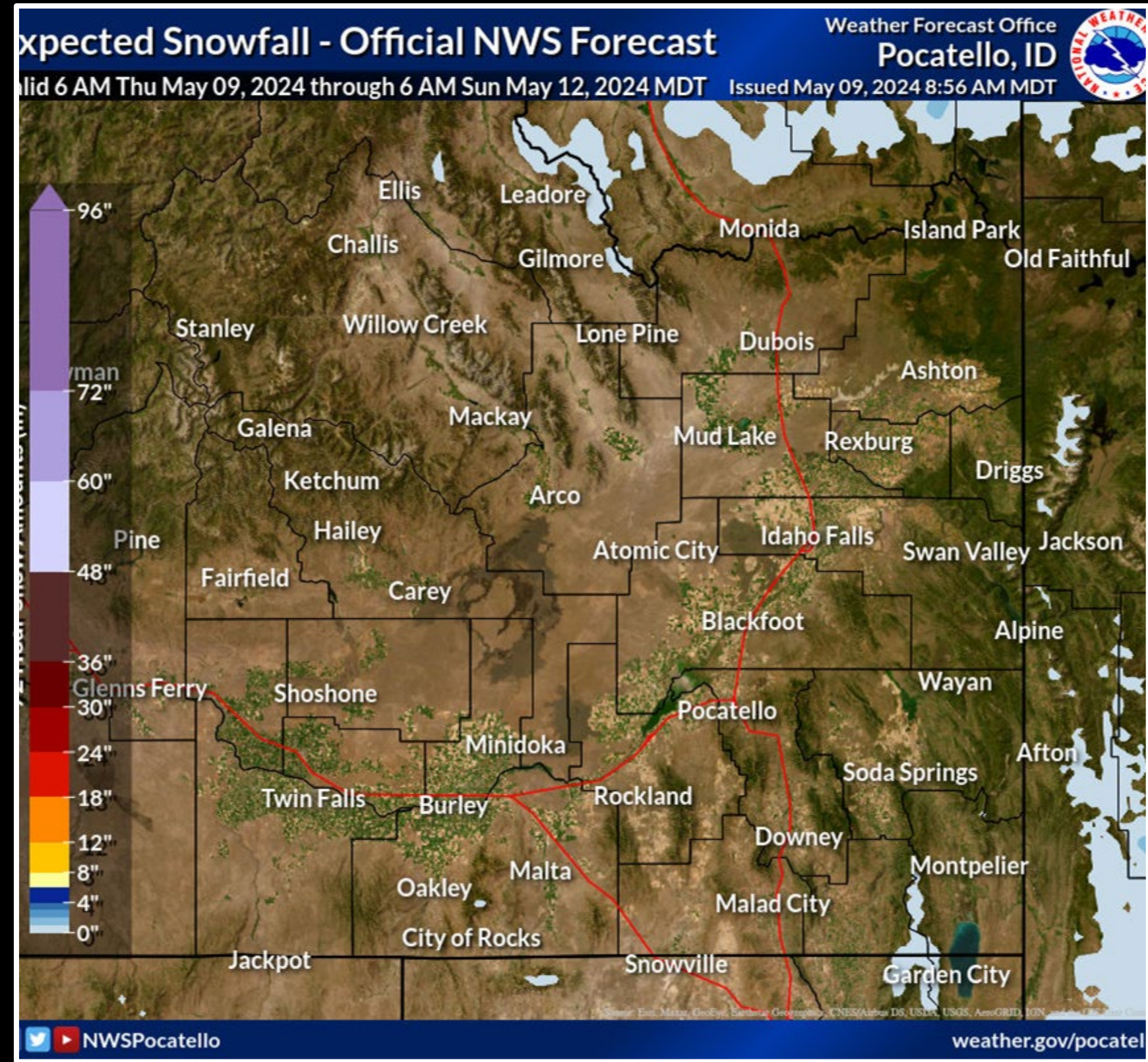
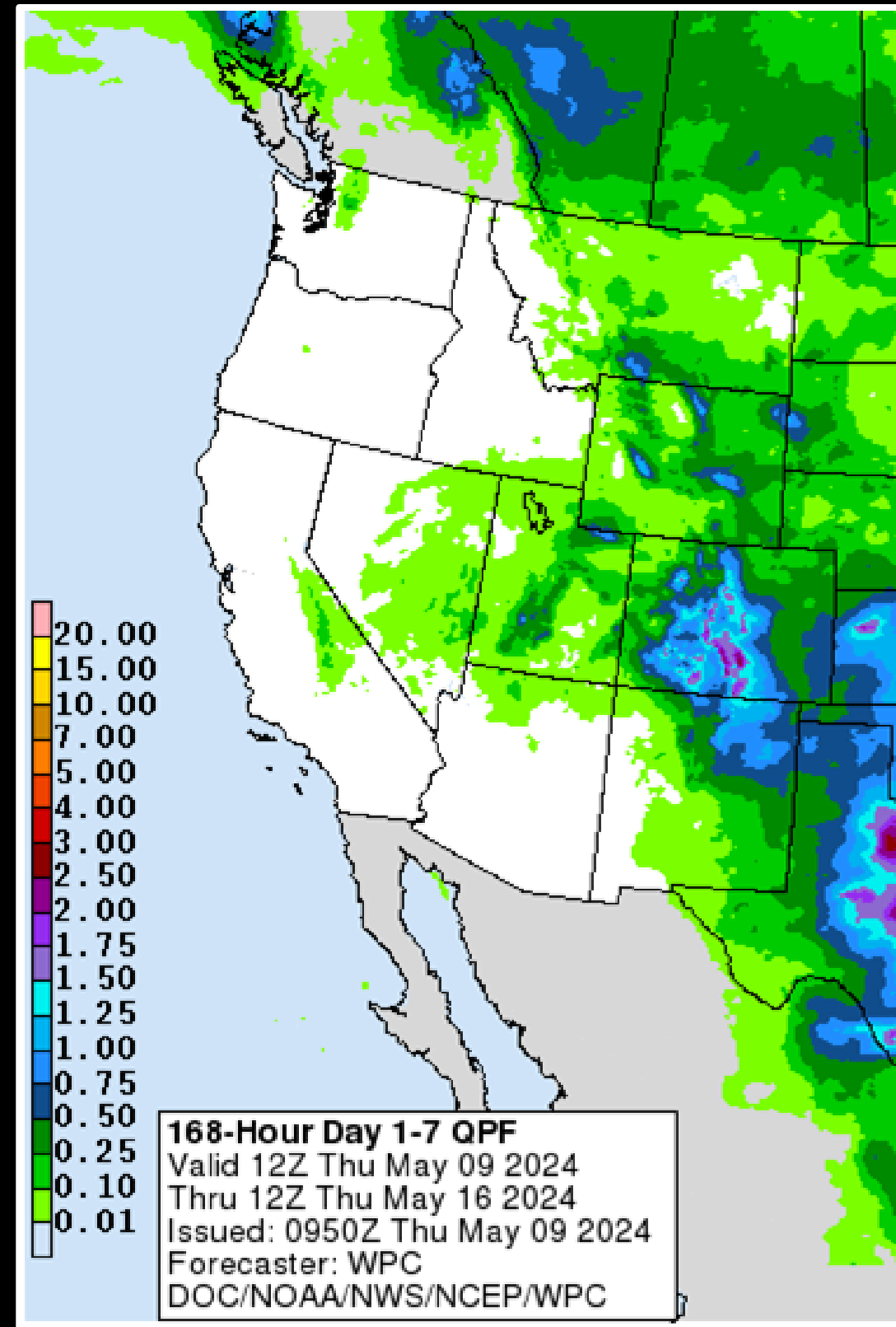
Low Elevation Forecast (Pocatello)



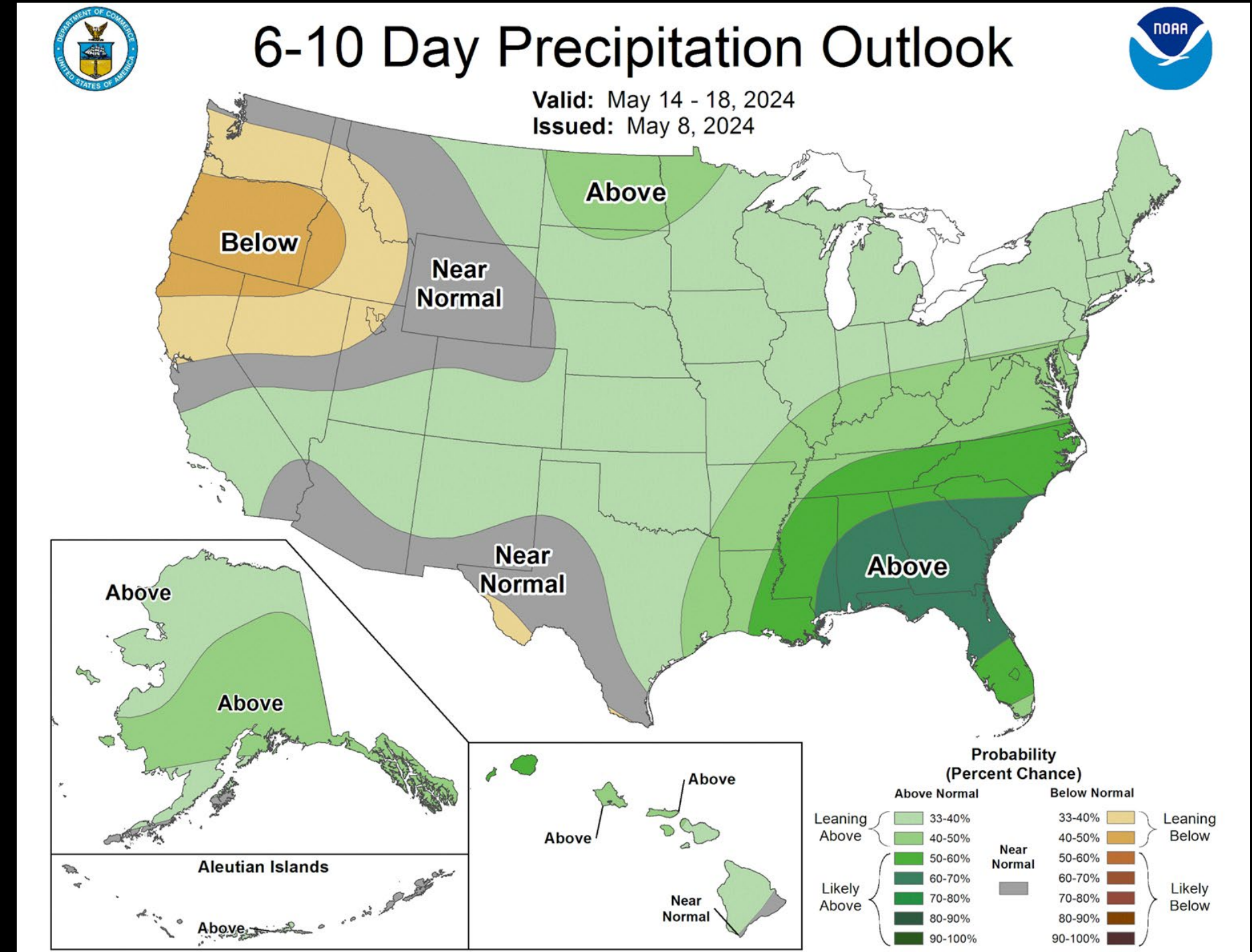
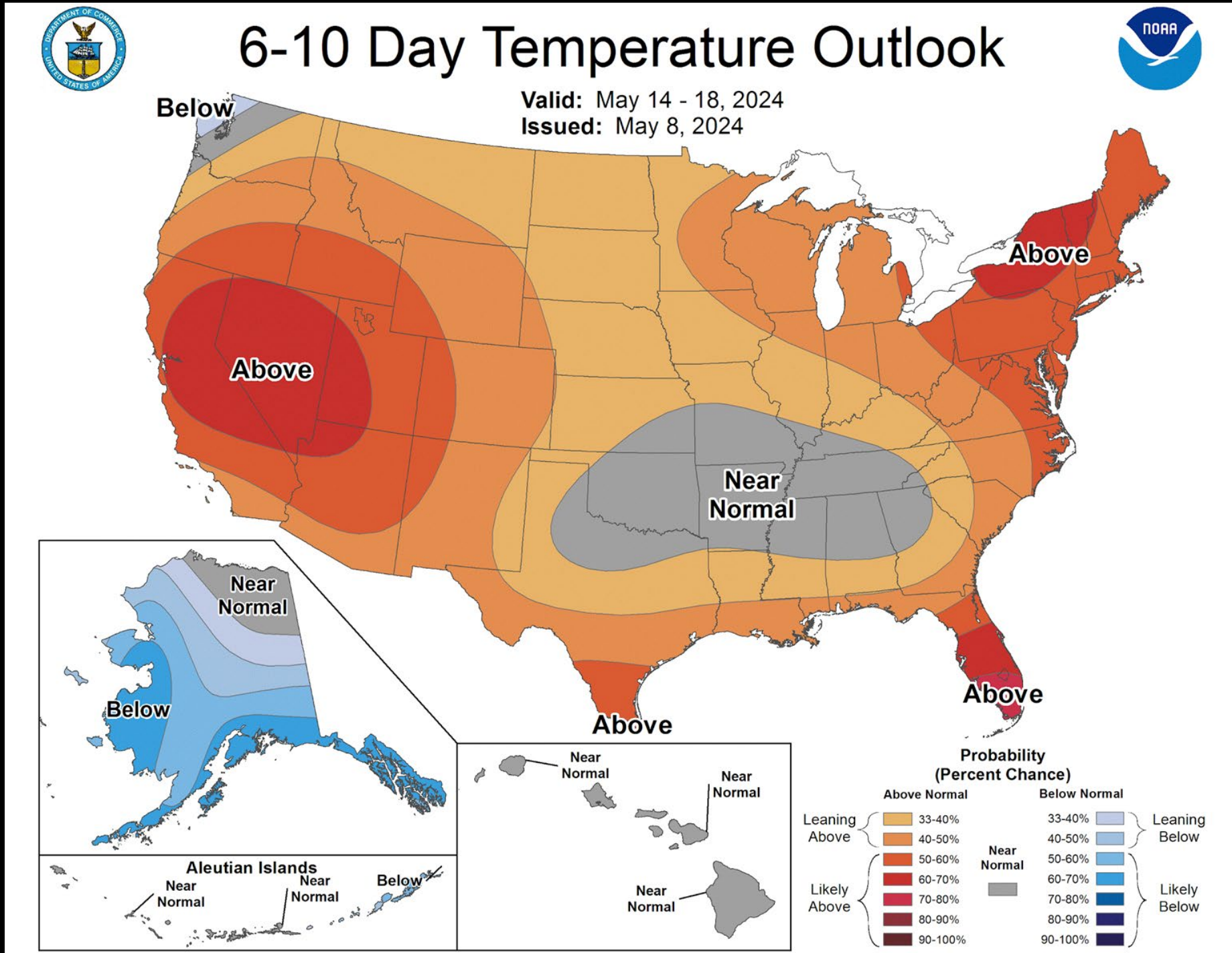
Snow Temperature - Ripe & Ready!



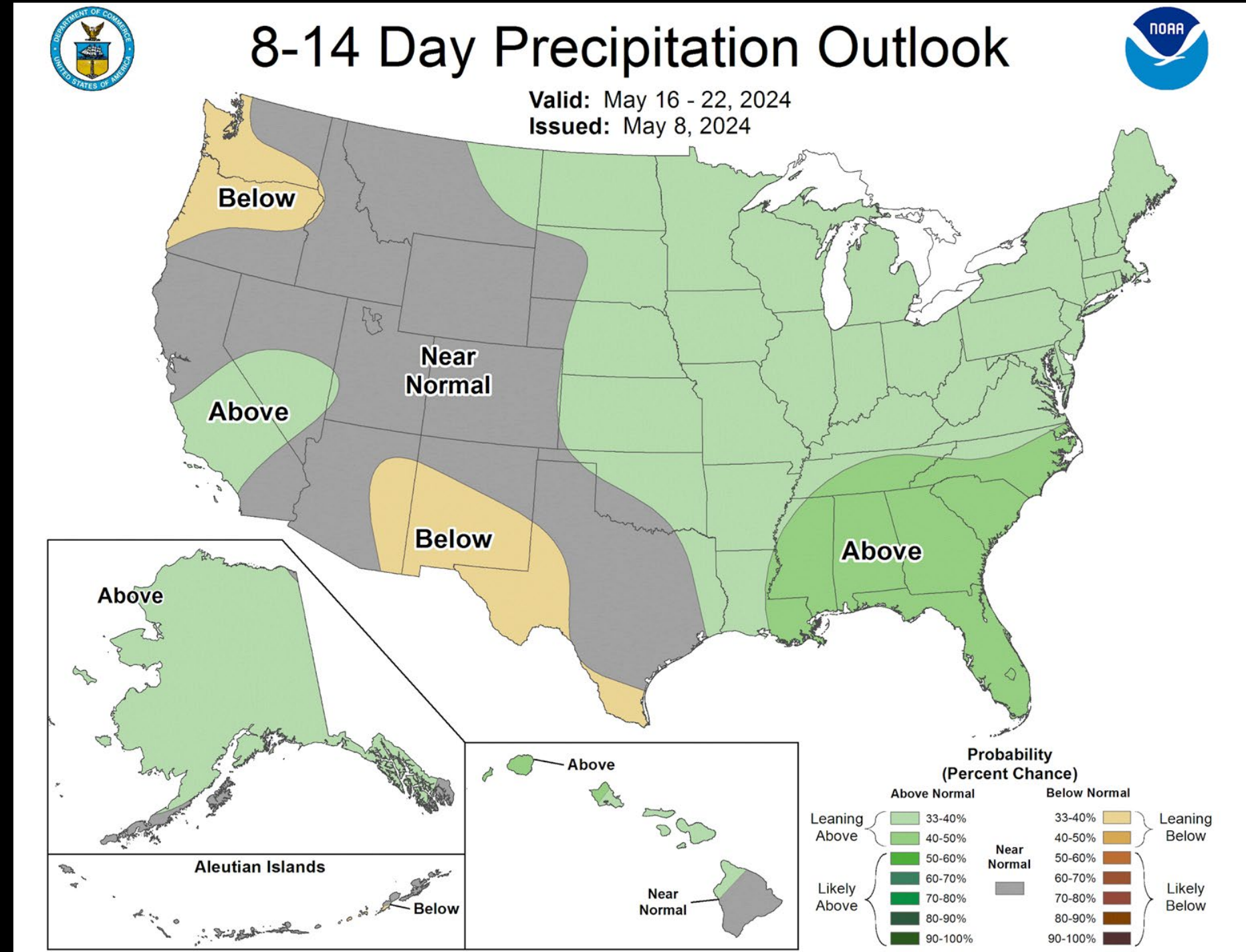
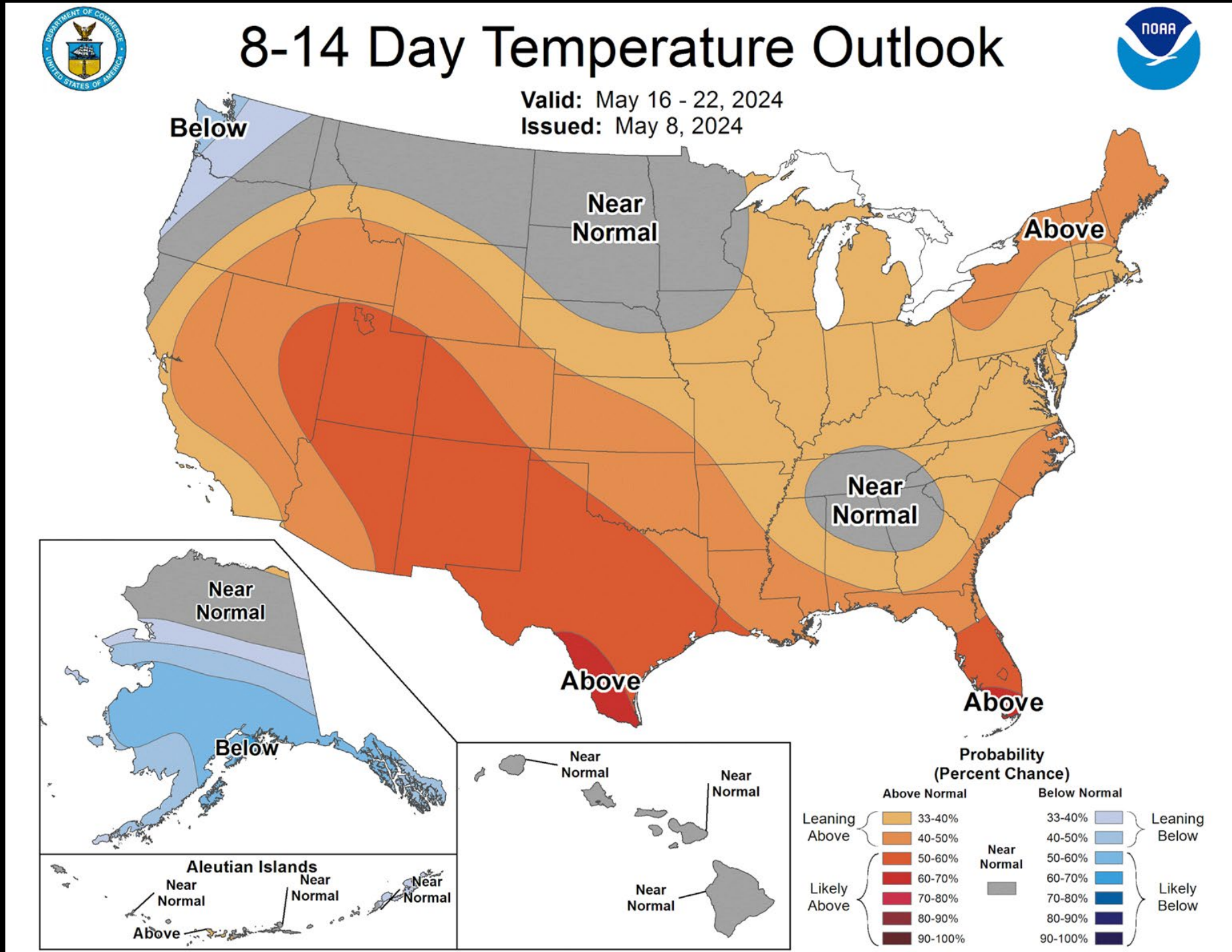
7-Day Precipitation and Snow Forecast



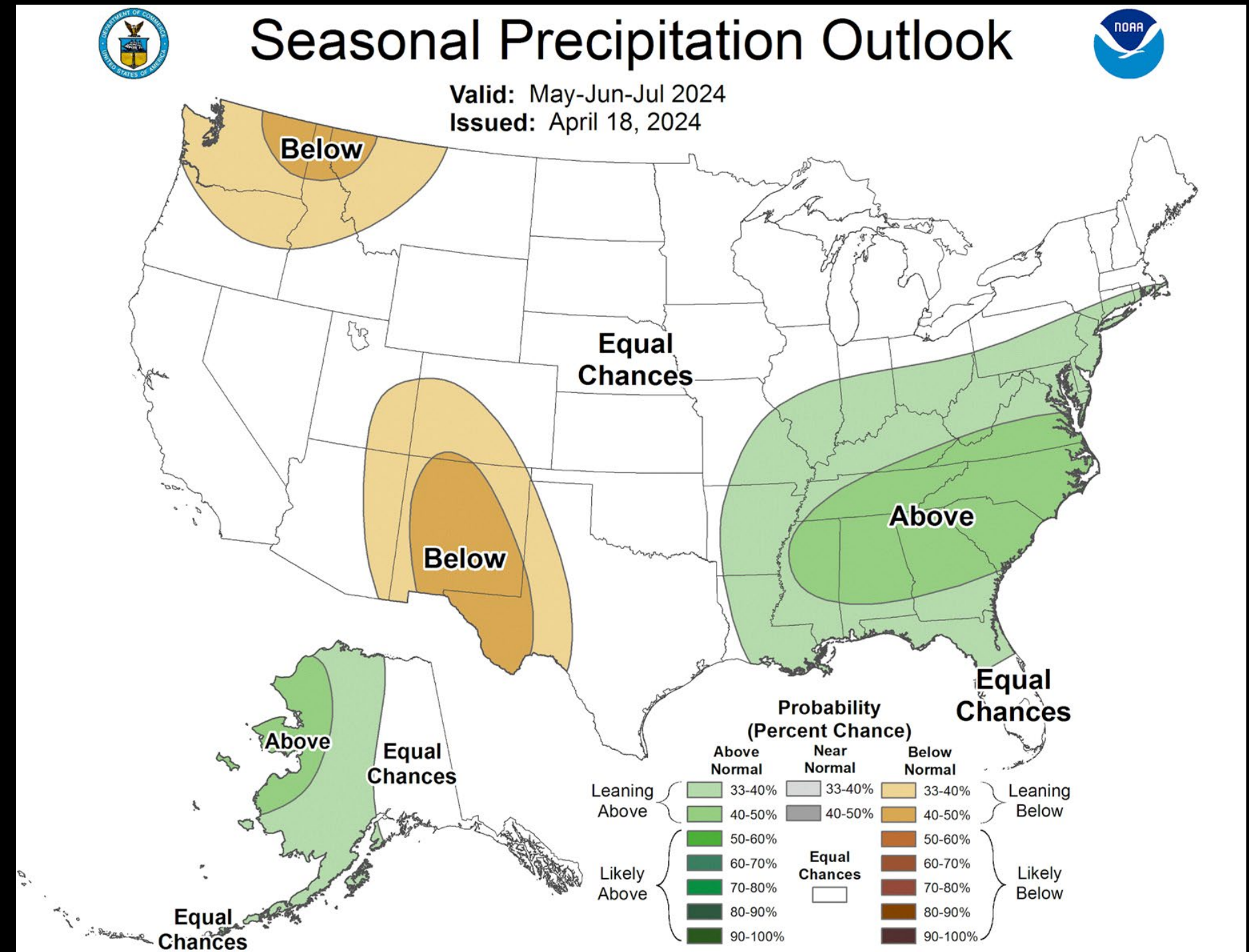
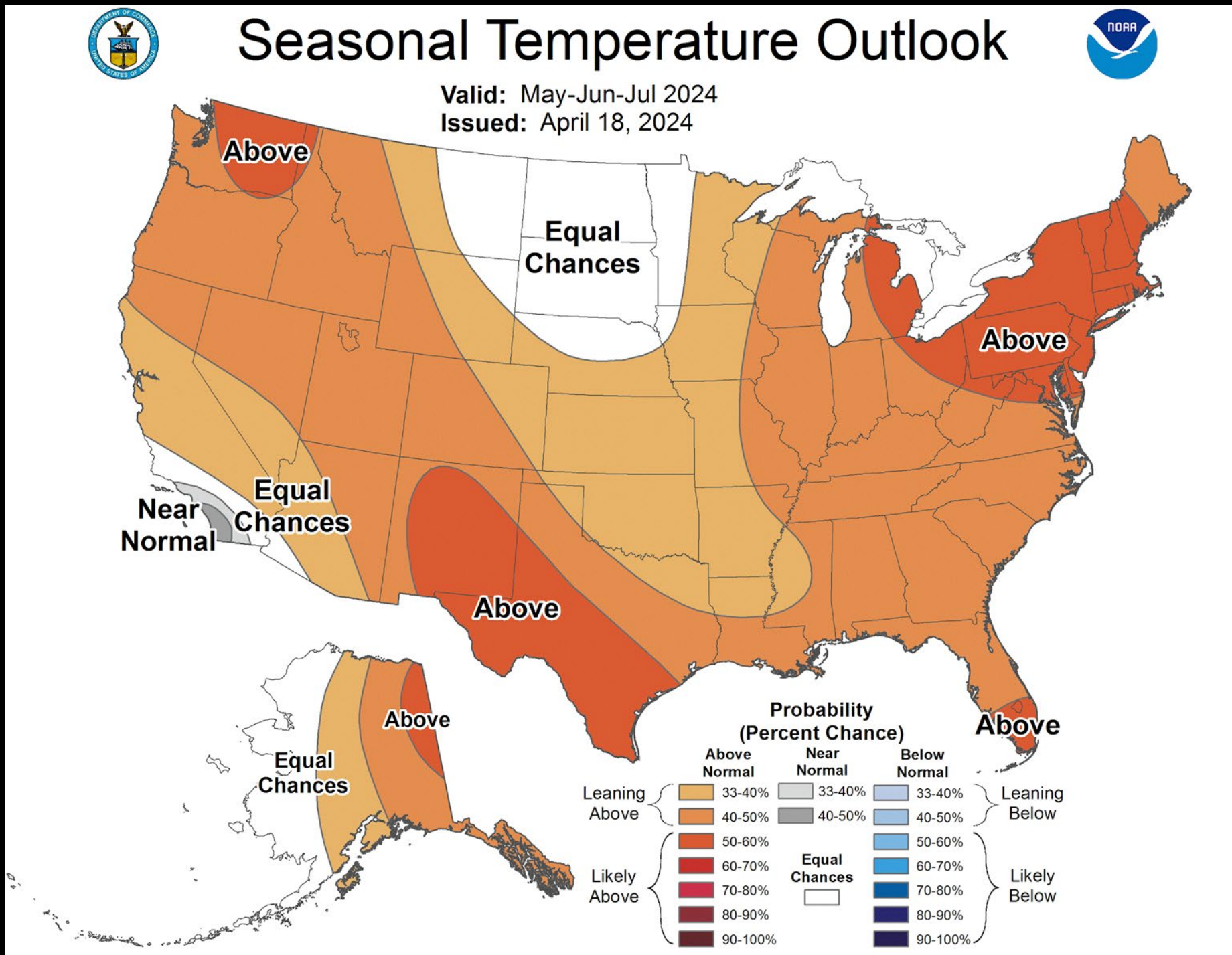
6 to 10 Day: May 14 - 18



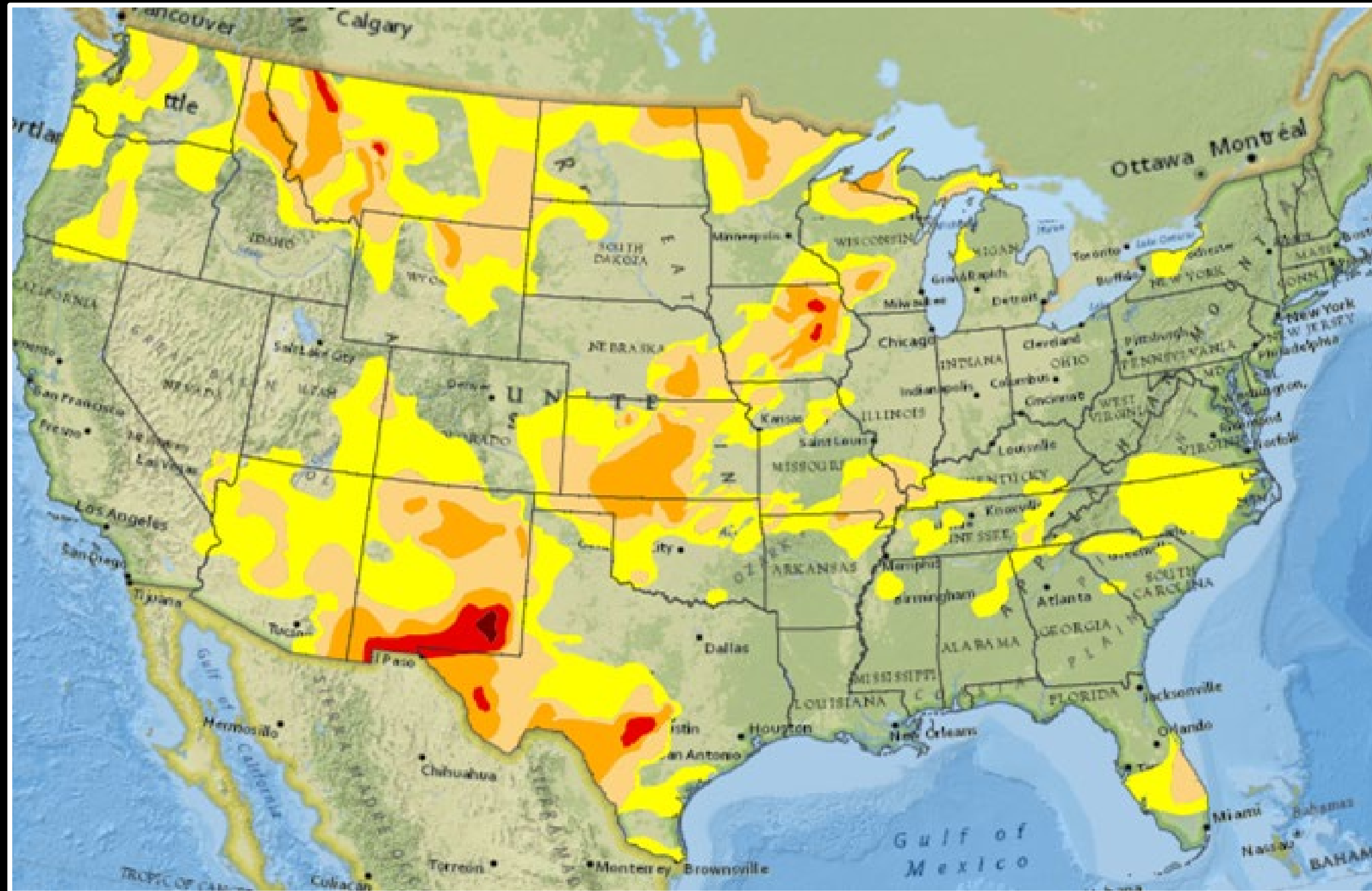
8 to 14 Day: May 16 - 22



May - June - July



Drought Outlook: May - June - July



Basemap Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA,



Upper Snake Weather Outlook



Questions?