



Utah Water Assessment & Conditions Monitoring (Drought Webinar)

The meeting will begin shortly



Thank you to our contributors

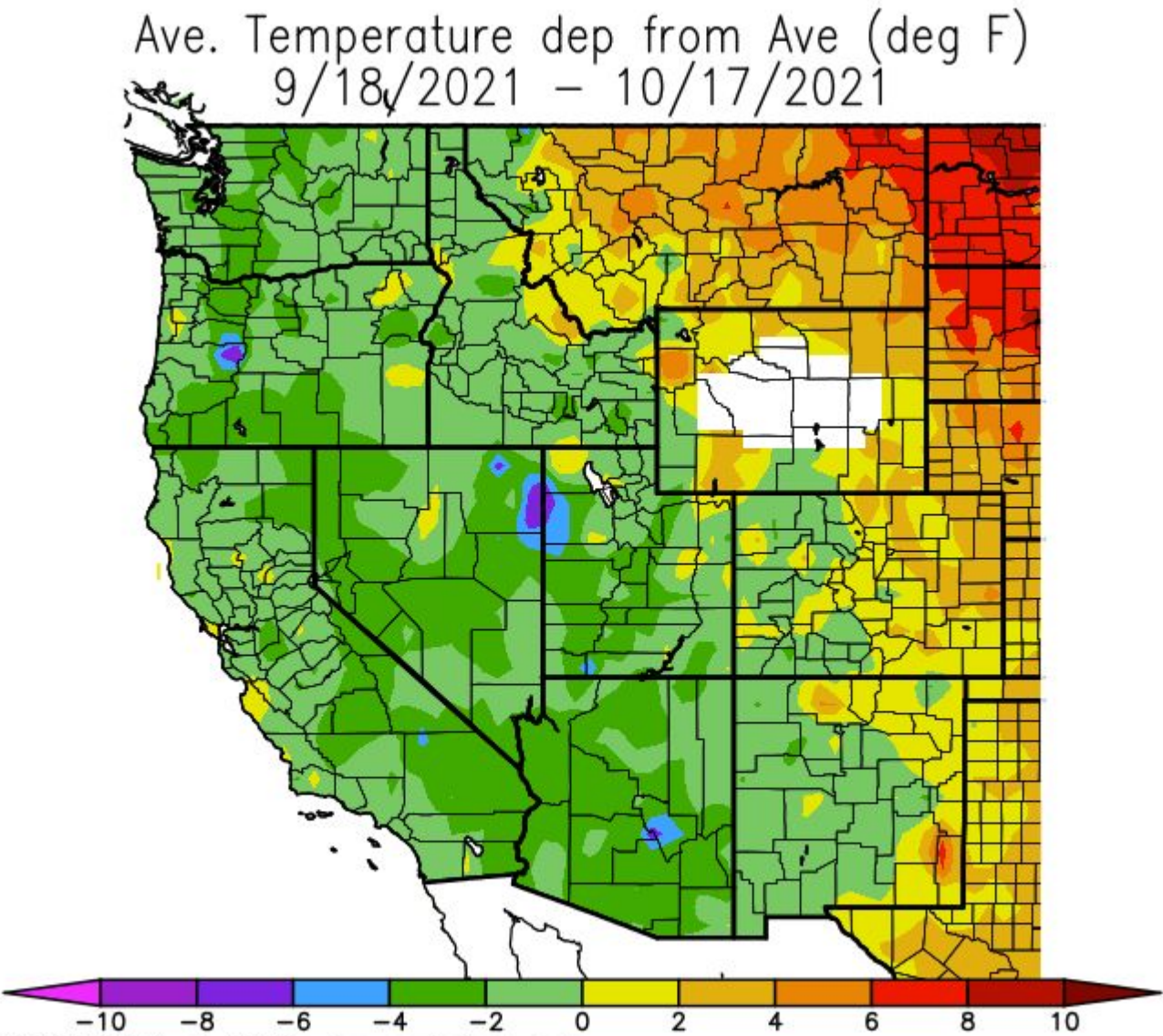




Utah Water Assessment & Conditions Monitoring Webinar

October 19, 2021

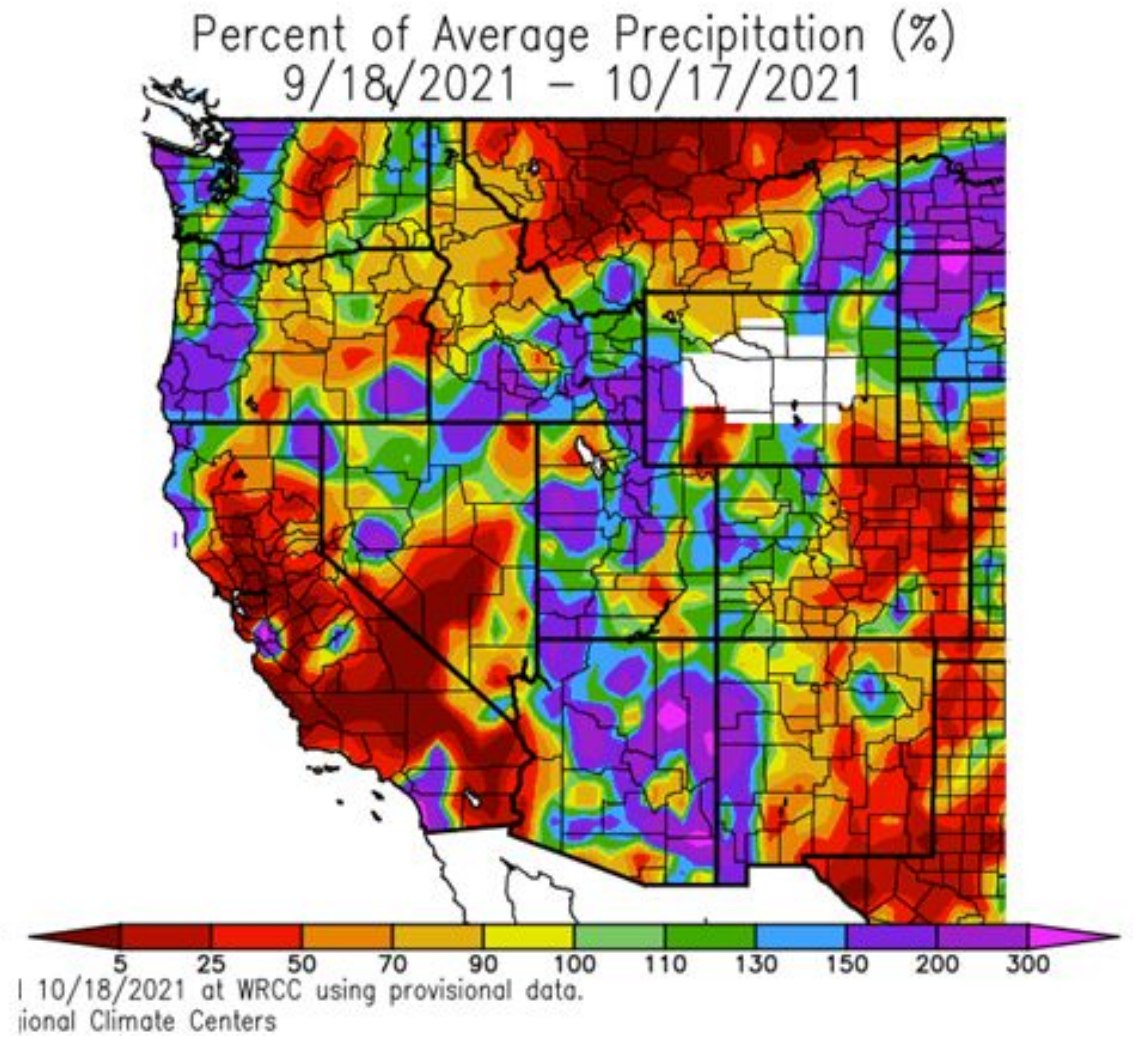
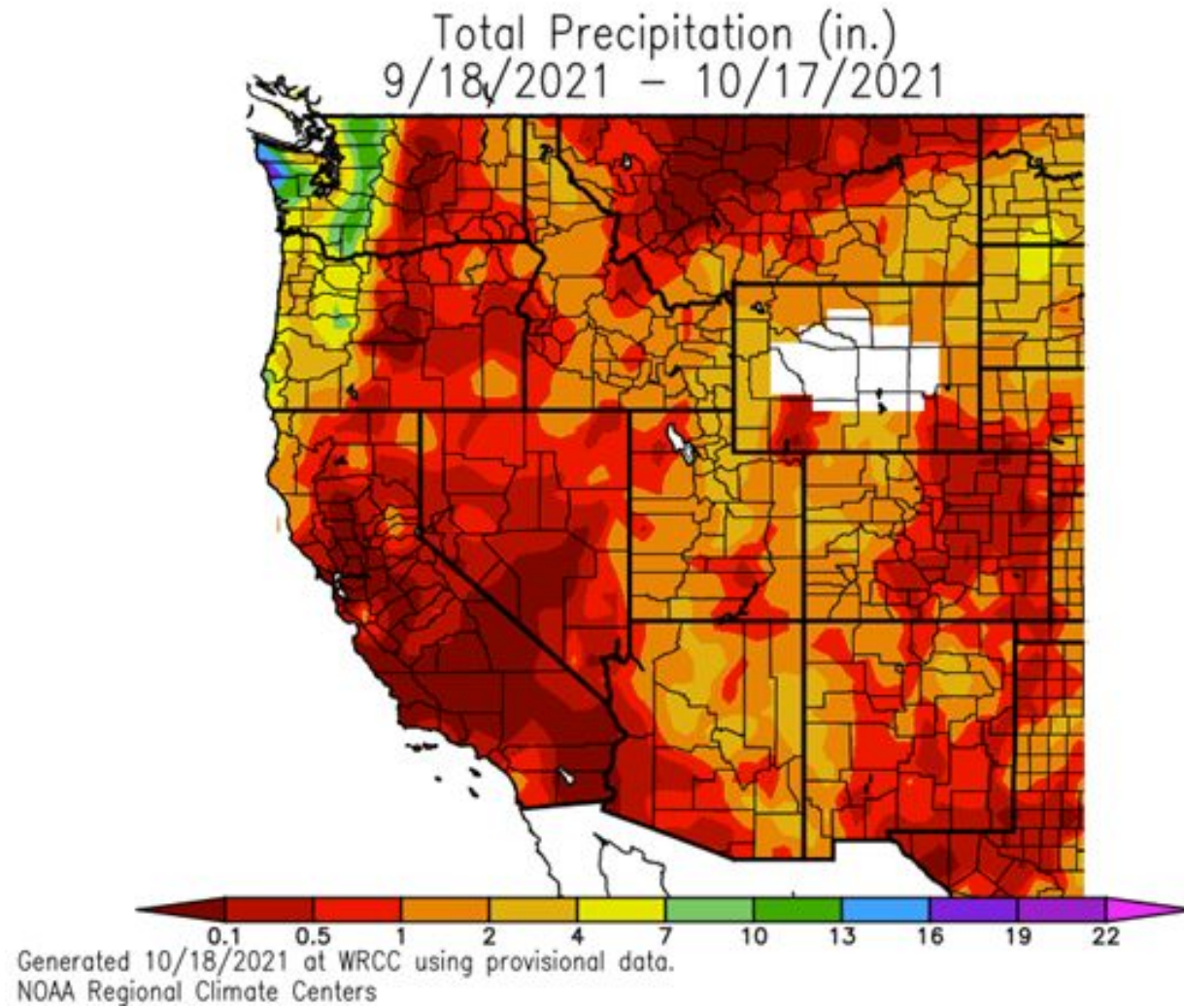
One Month Temperatures (Percent of Average)



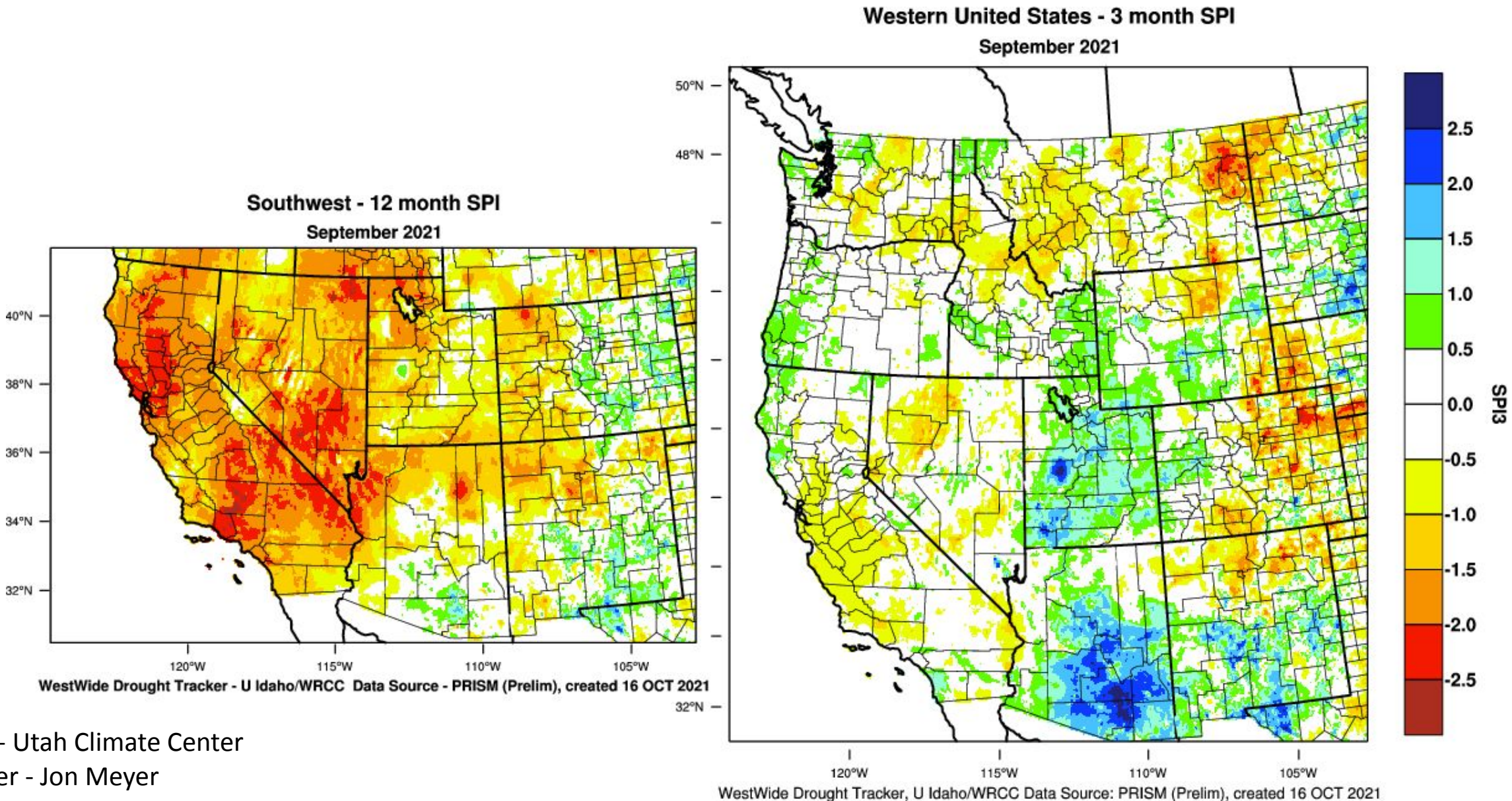
Agency - Utah Climate Center
Presenter - Jon Meyer

Generated 10/18/2021 at WRCC using provisional data.
NOAA Regional Climate Centers

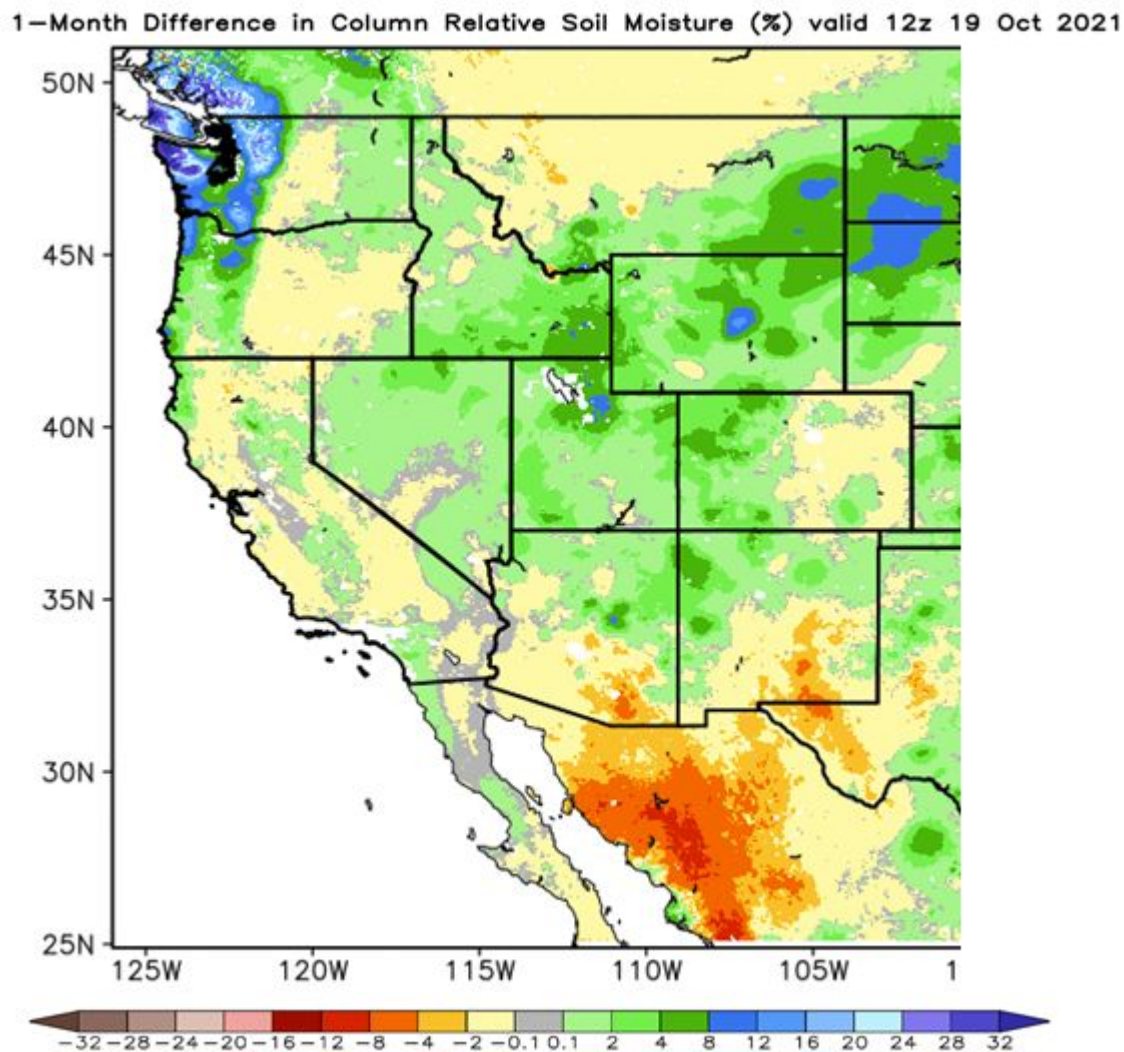
One Month Precipitation



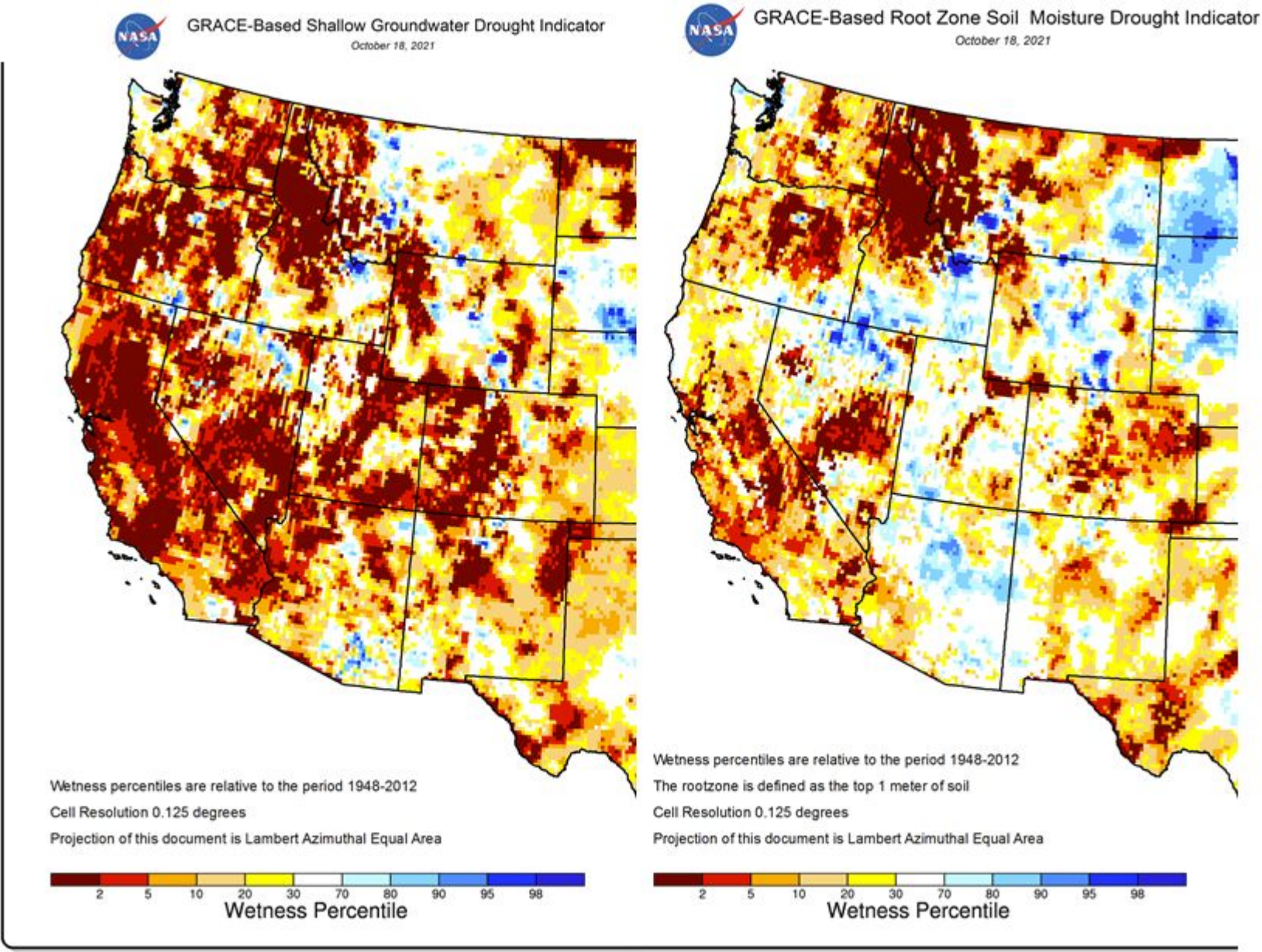
Water Year and 3-month Standardized Precipitation Index



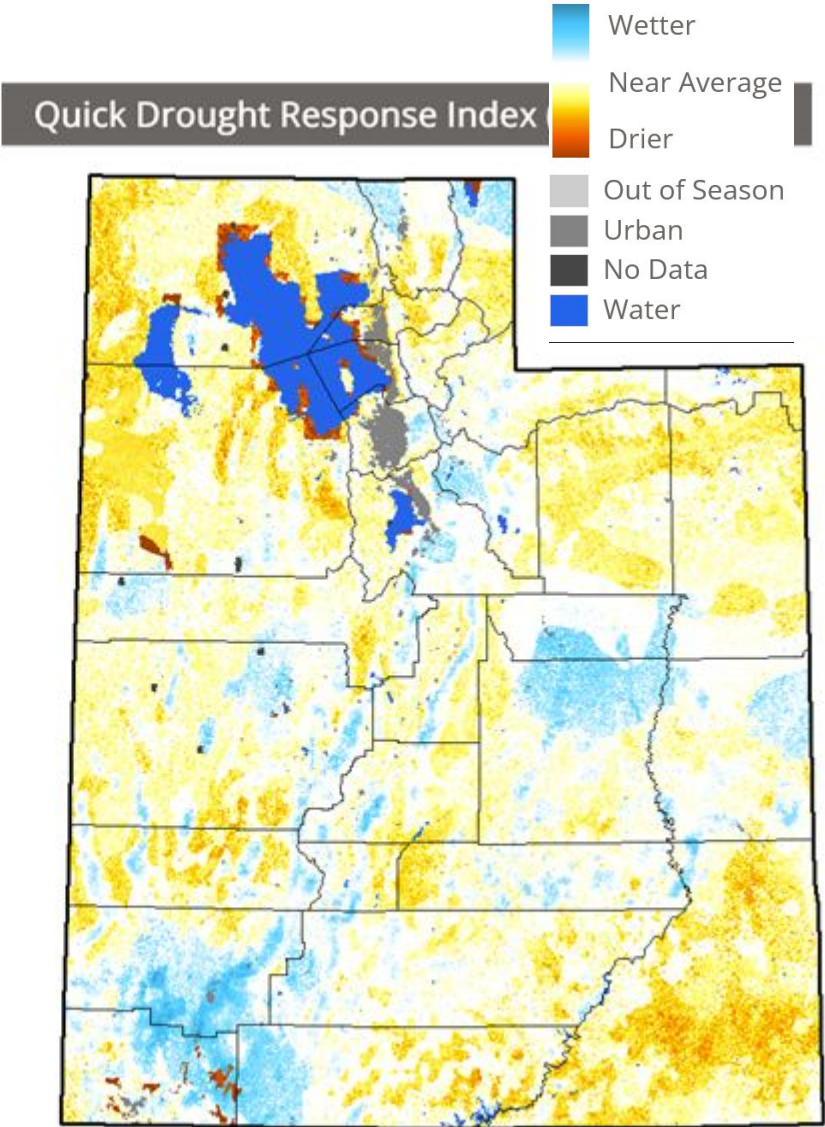
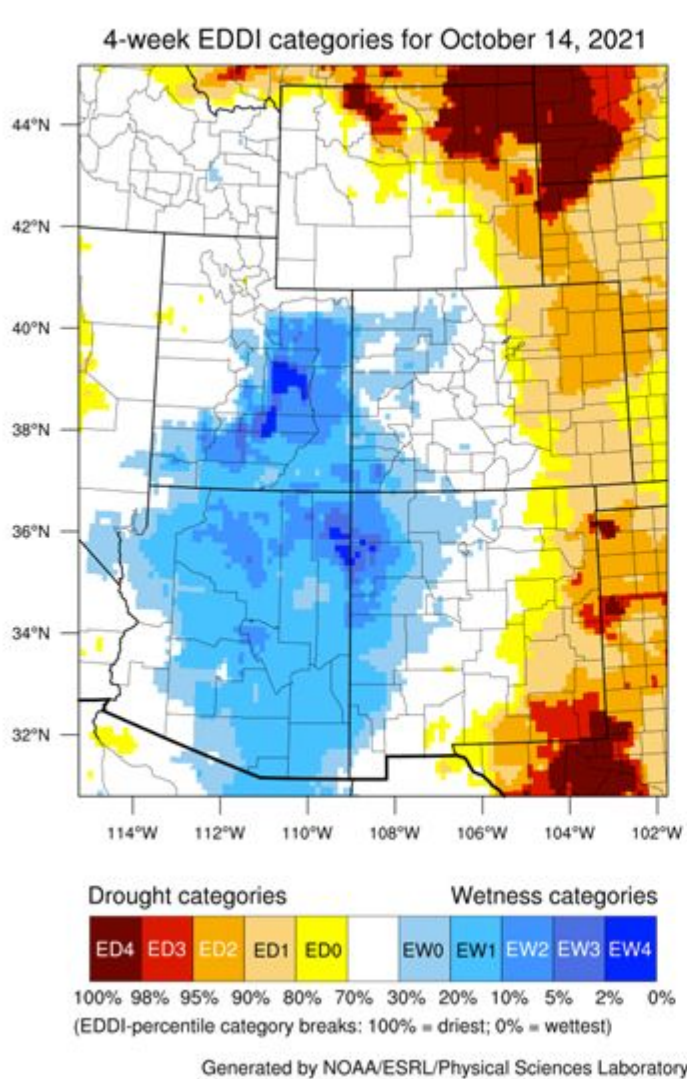
Modeled one-month soil moisture changes



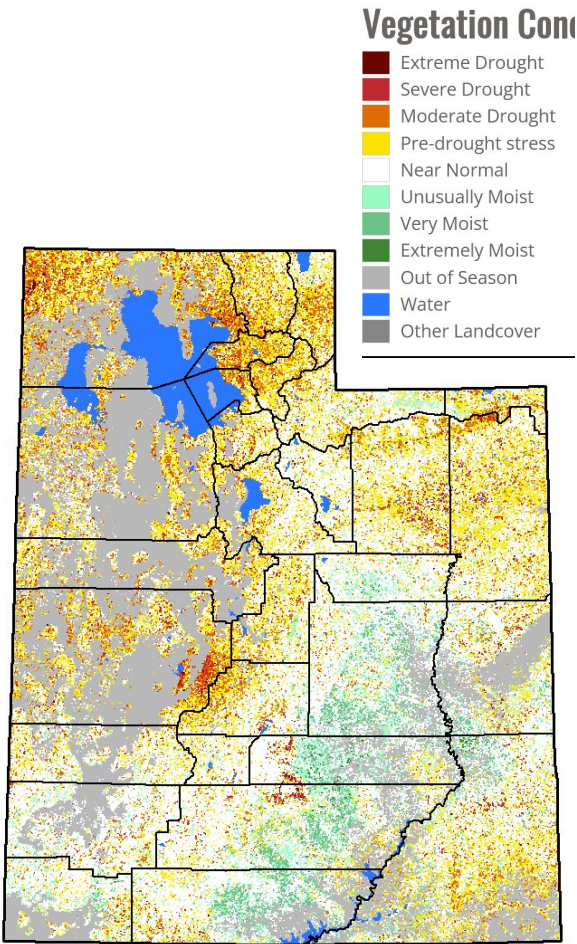
GRACE Satellite soil moisture



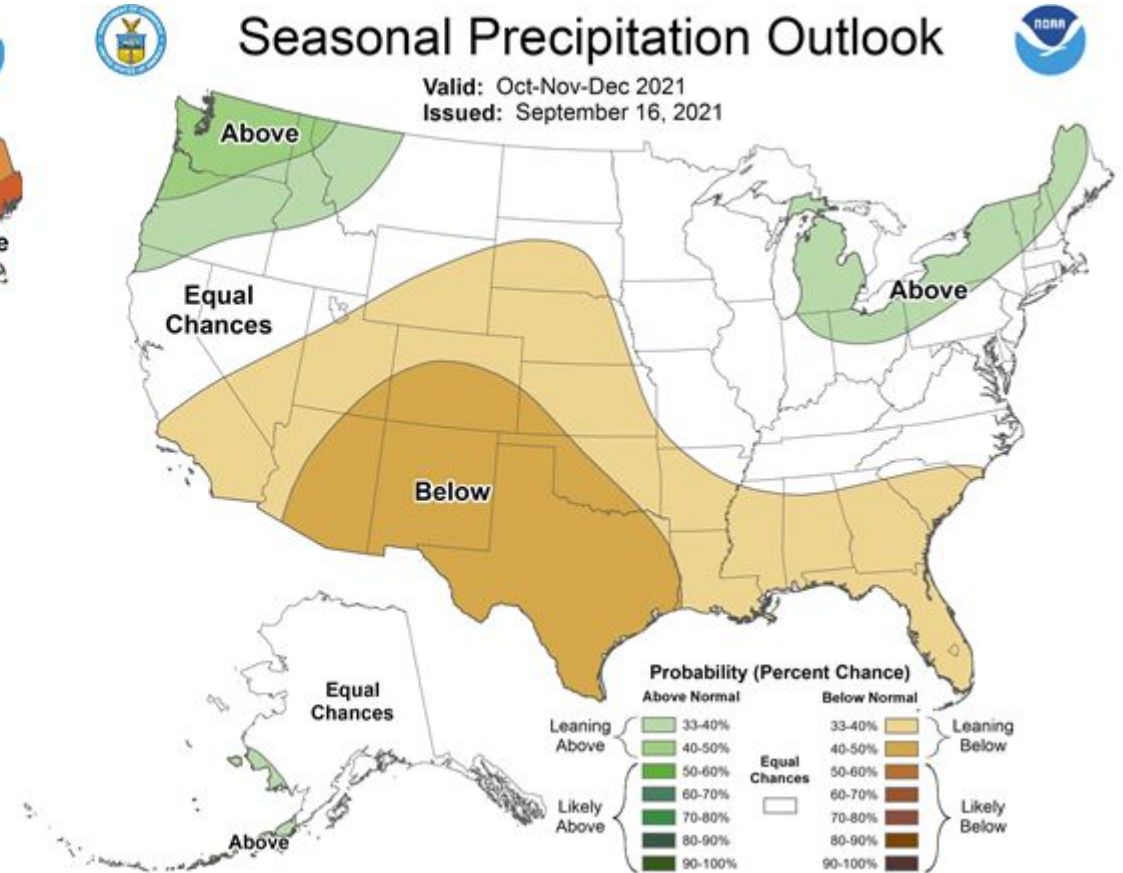
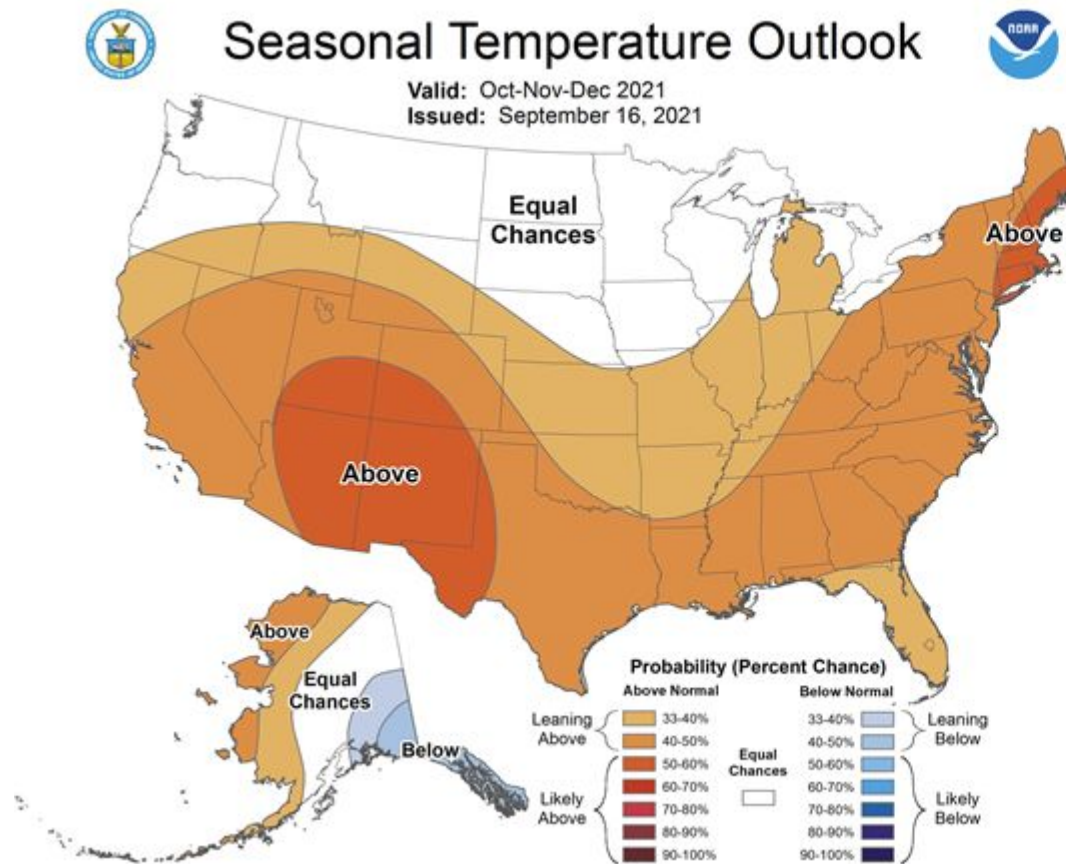
Drought Indices



Vegetation Drought Response Index (VegDRI)

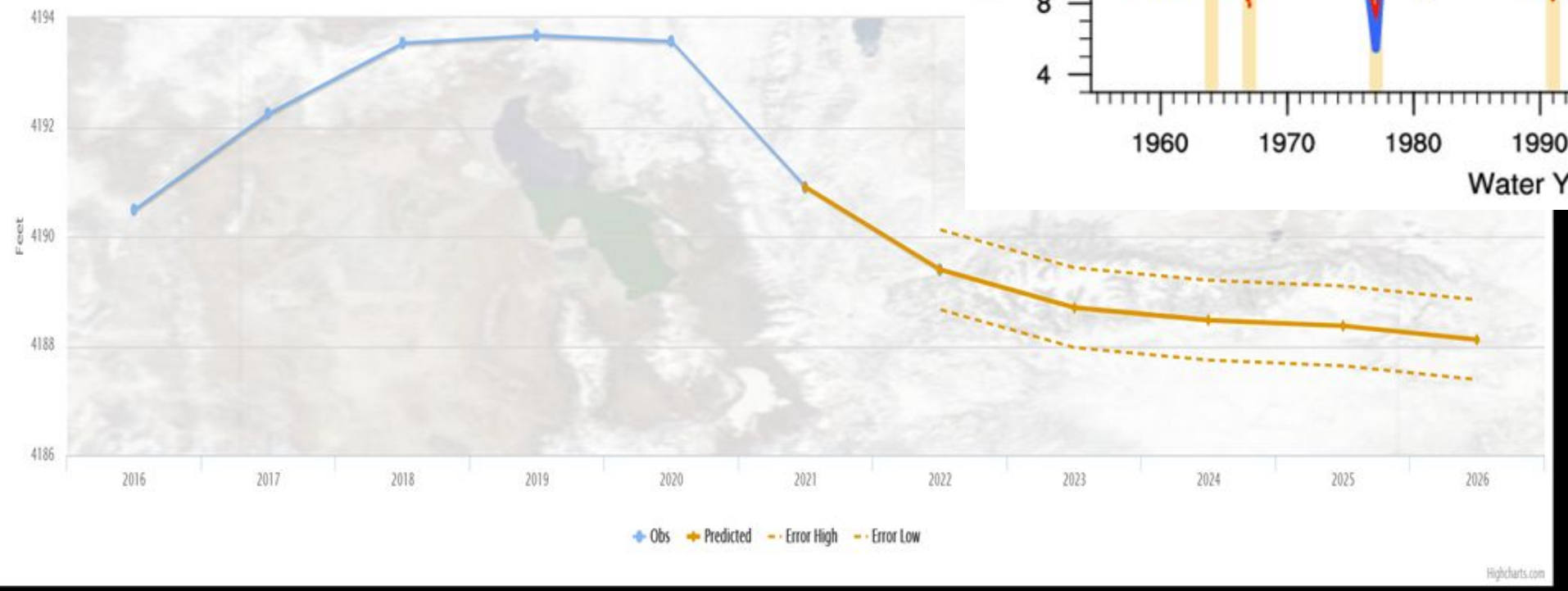


CPC 3-month outlook (Oct-Dec)

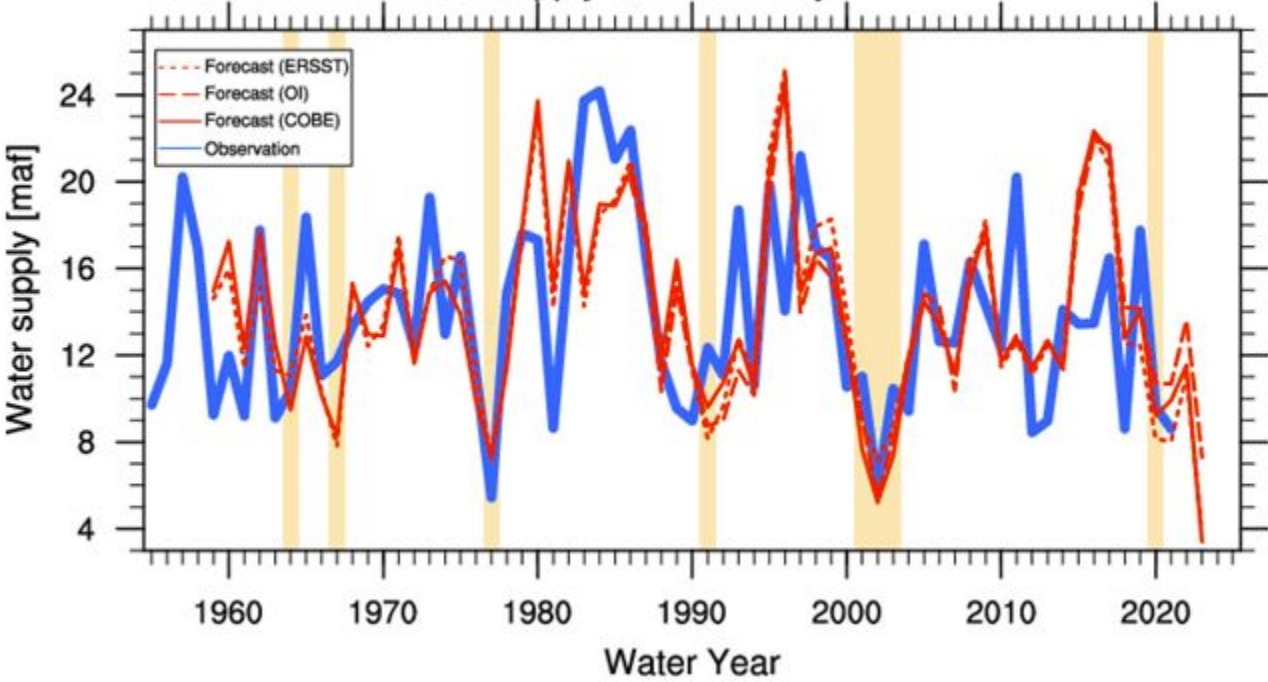


UCC long-term outlook

Great Salt Lake Annual Level Prediction



Colorado River water supply @ Lees Ferry

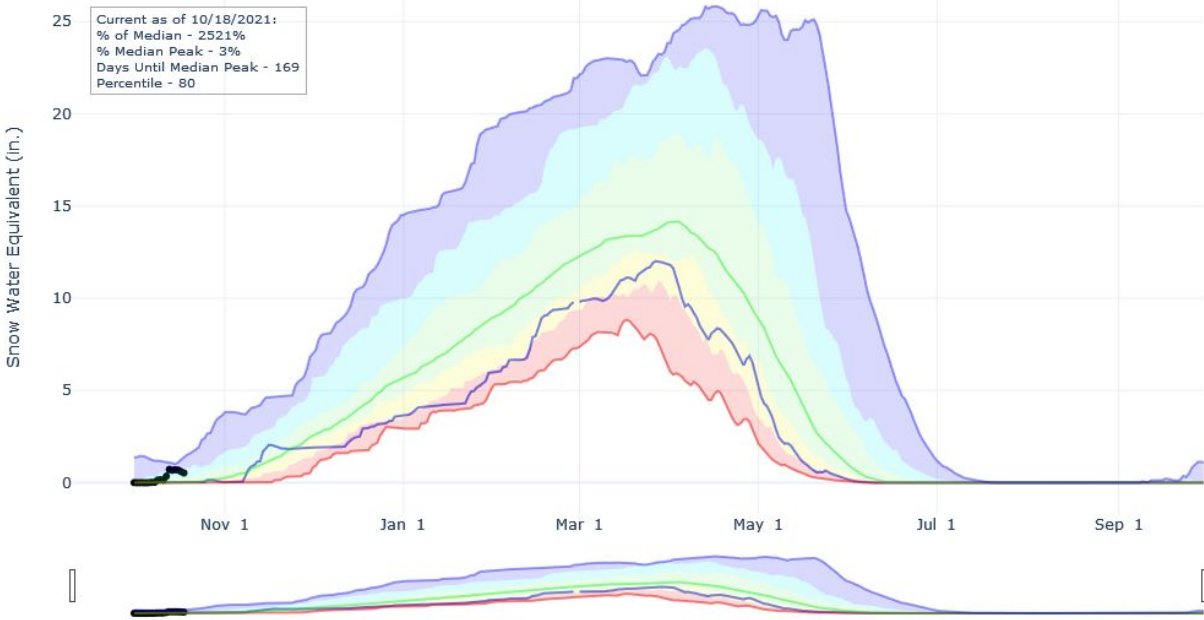


Snowpack

SNOW WATER EQUIVALENT IN STATE OF UTAH

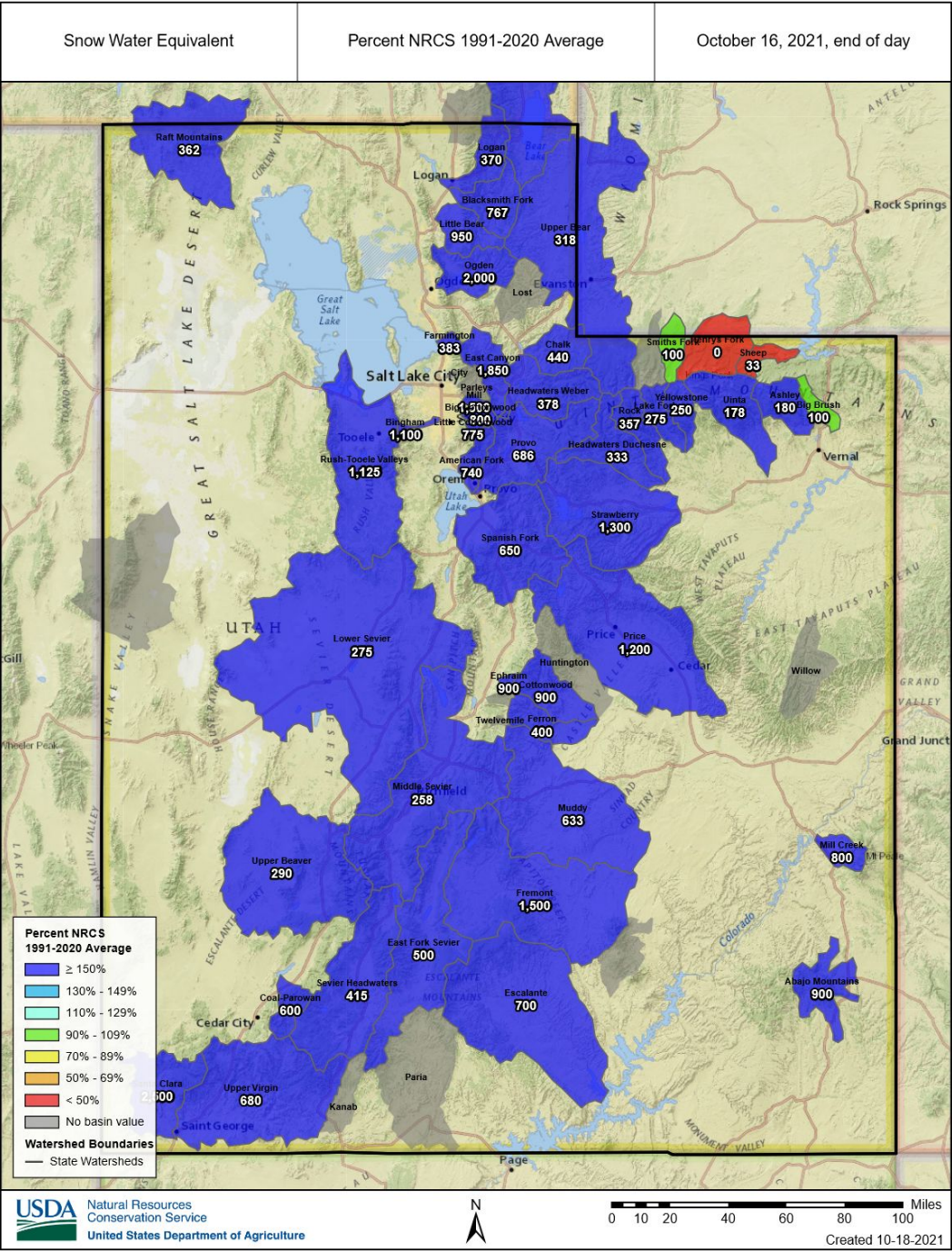
Reset Range

Link to data: CSV / JSON



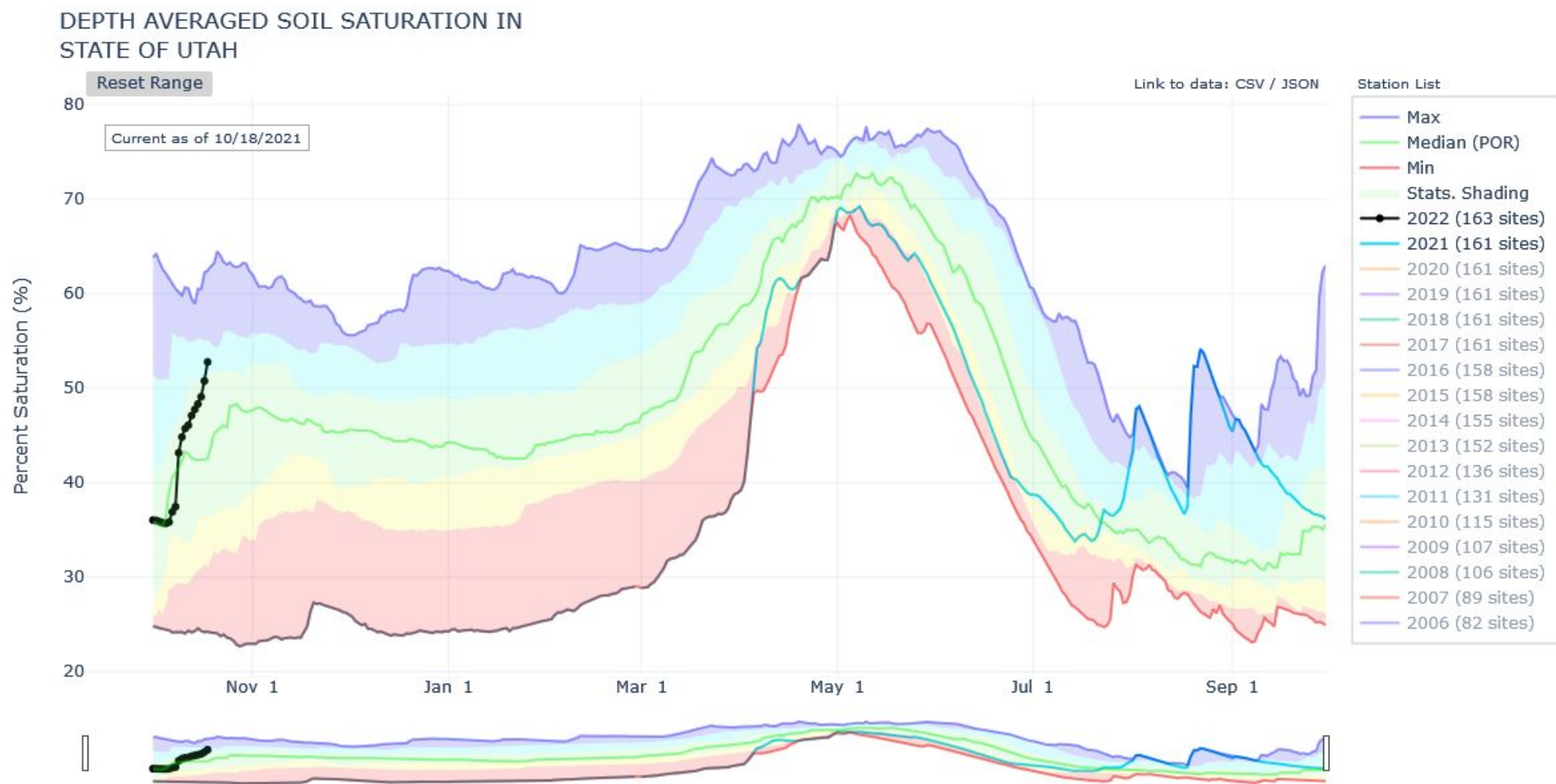
- Station List
- Median Peak SWE
 - Max
 - Median (POR)
 - Median ('91-'20)
 - Min
 - Stats. Shading
 - 2022 (113 sites)
 - 2021 (113 sites)
 - 2020 (113 sites)
 - 2019 (113 sites)
 - 2018 (112 sites)
 - 2017 (113 sites)
 - 2016 (113 sites)
 - 2015 (113 sites)
 - 2014 (113 sites)
 - 2013 (113 sites)
 - 2012 (113 sites)
 - 2011 (113 sites)
 - 2010 (104 sites)
 - 2009 (98 sites)
 - 2008 (98 sites)
 - 2007 (95 sites)
 - 2006 (95 sites)

Agency - NRCS Snow Survey
Presenter - Jordan Clayton

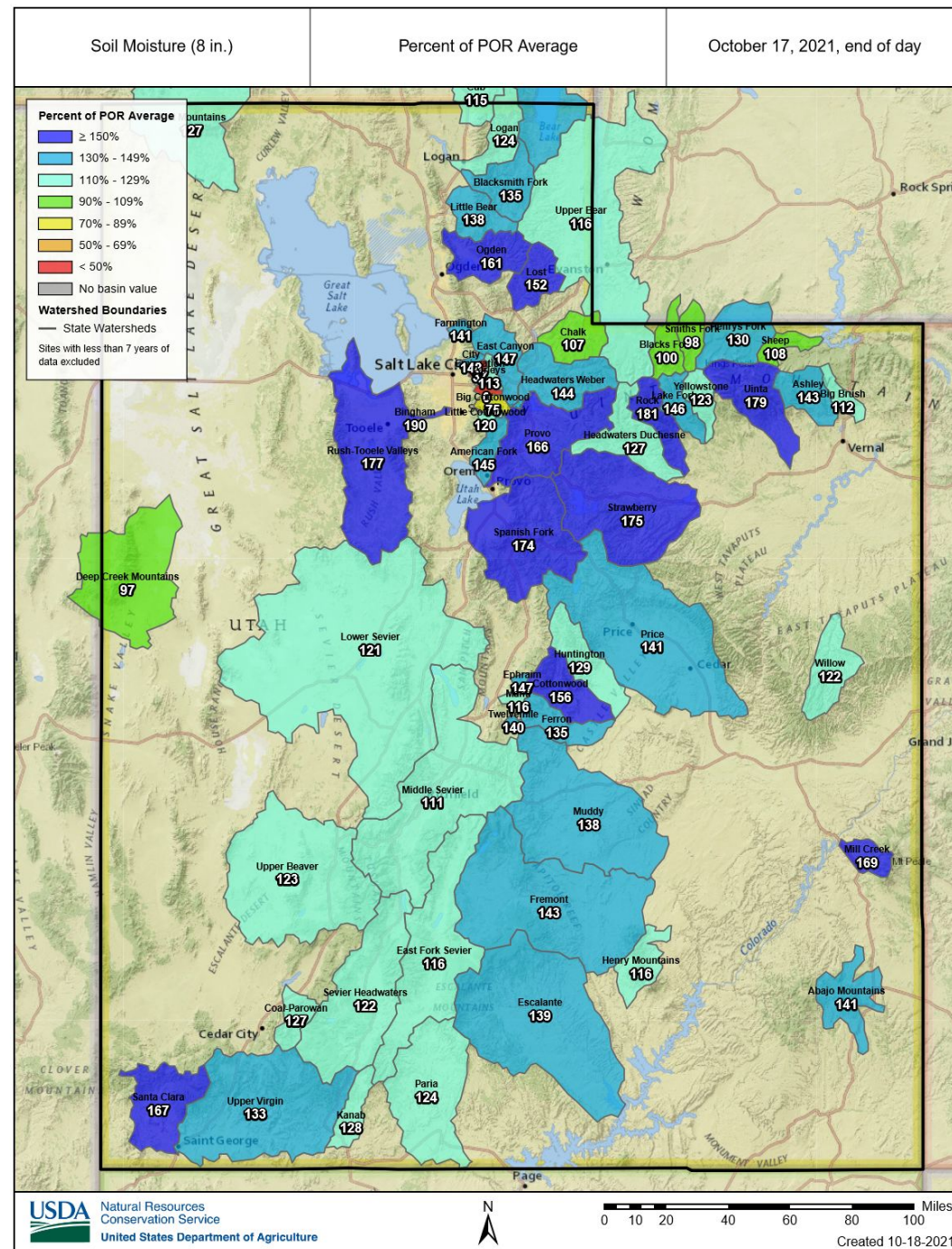


Soil Moisture

Depth-averaged
SNOTEL only

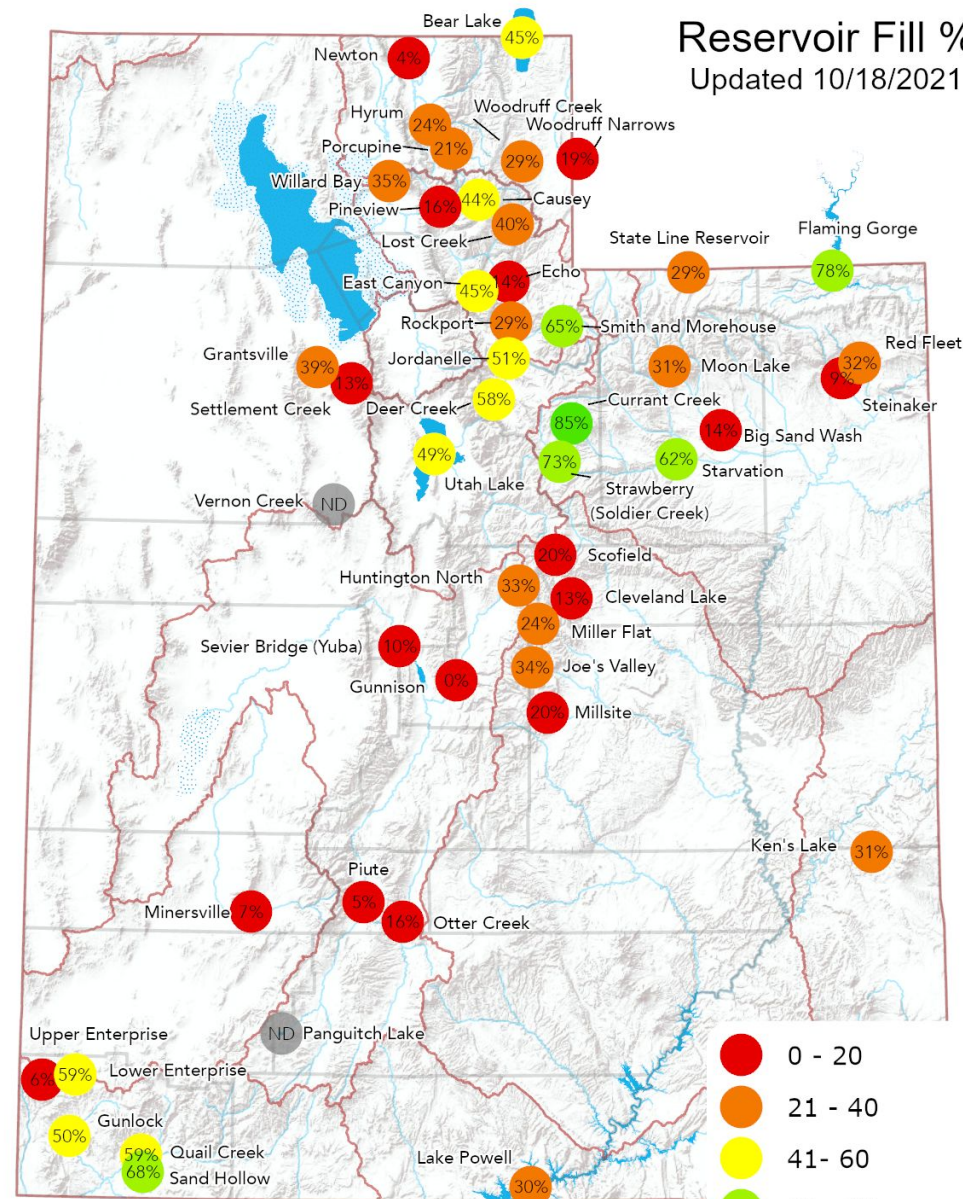


8" sensor
SNOTEL & SCAN



Agency - NRCS Snow Survey
Presenter - Jordan Clayton

Reservoir Fill % Updated 10/18/2021



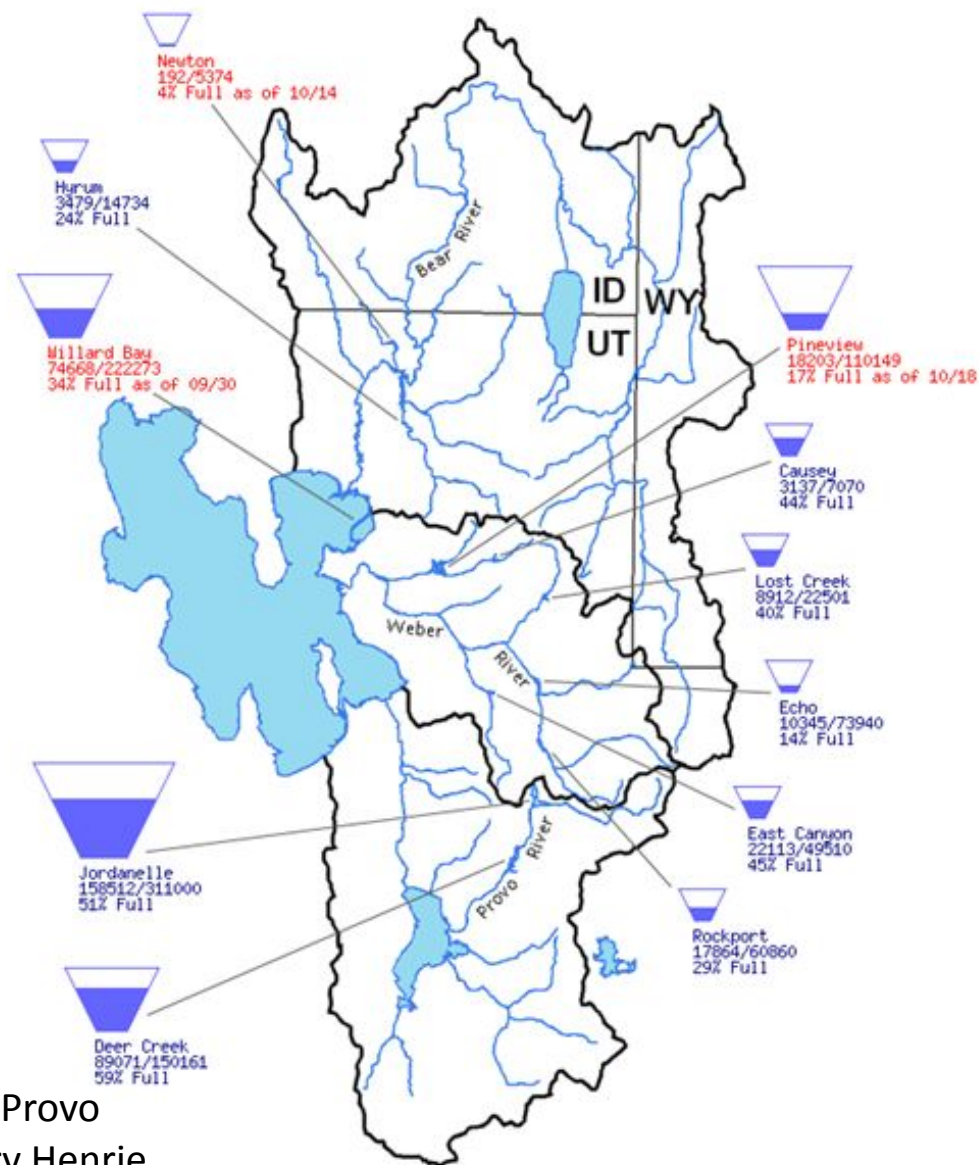
Data Sources
Bureau of Reclamation, Bear River Commission,
Duchesne County Water Conservancy District,
Emery Water Conservancy District,
Utah Division of Water Rights,
Sevier River Water Users Association,
Washington County Water Conservancy District

Agency - Division of Water Resources
w/NRCS & other data
Presenter - Laura Haskell

Reservoir Storage – Great Basin

Data Current as of:
10/17/2021

Bear, Weber, and Provo River Basins

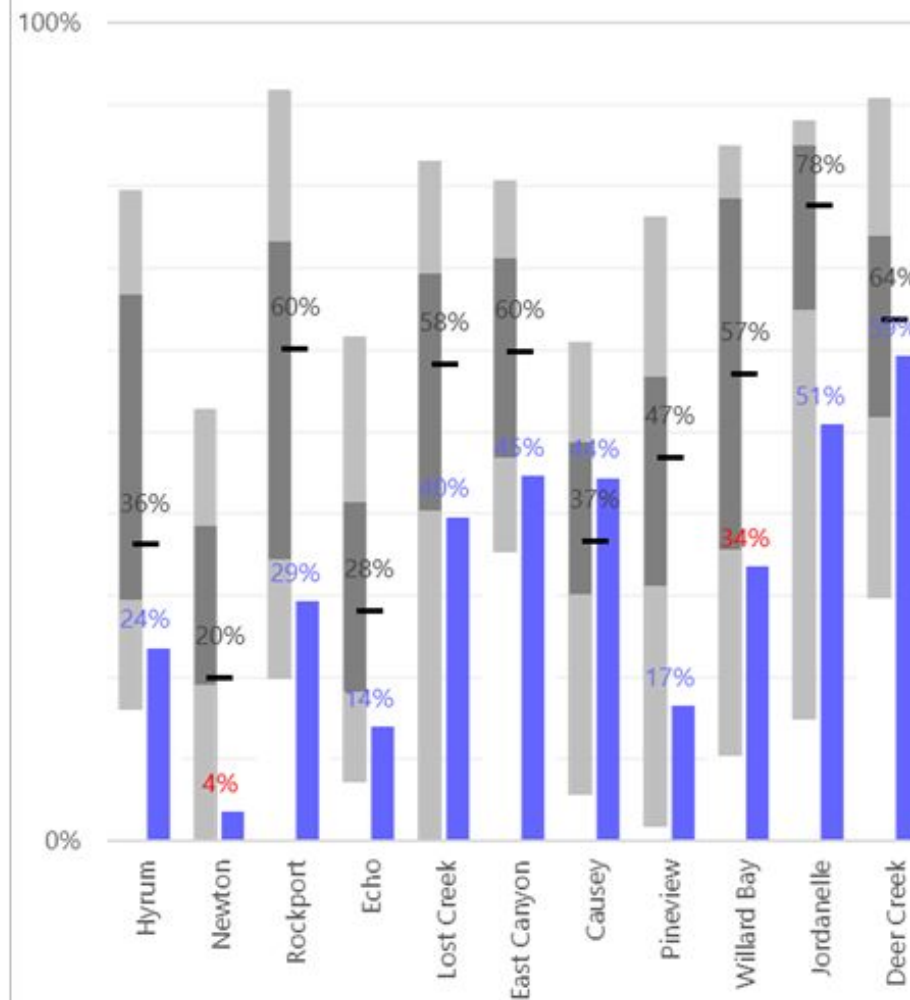


Agency - USBR Provo
Presenter - Gary Henrie

Reservoir Storage

10/17/2021

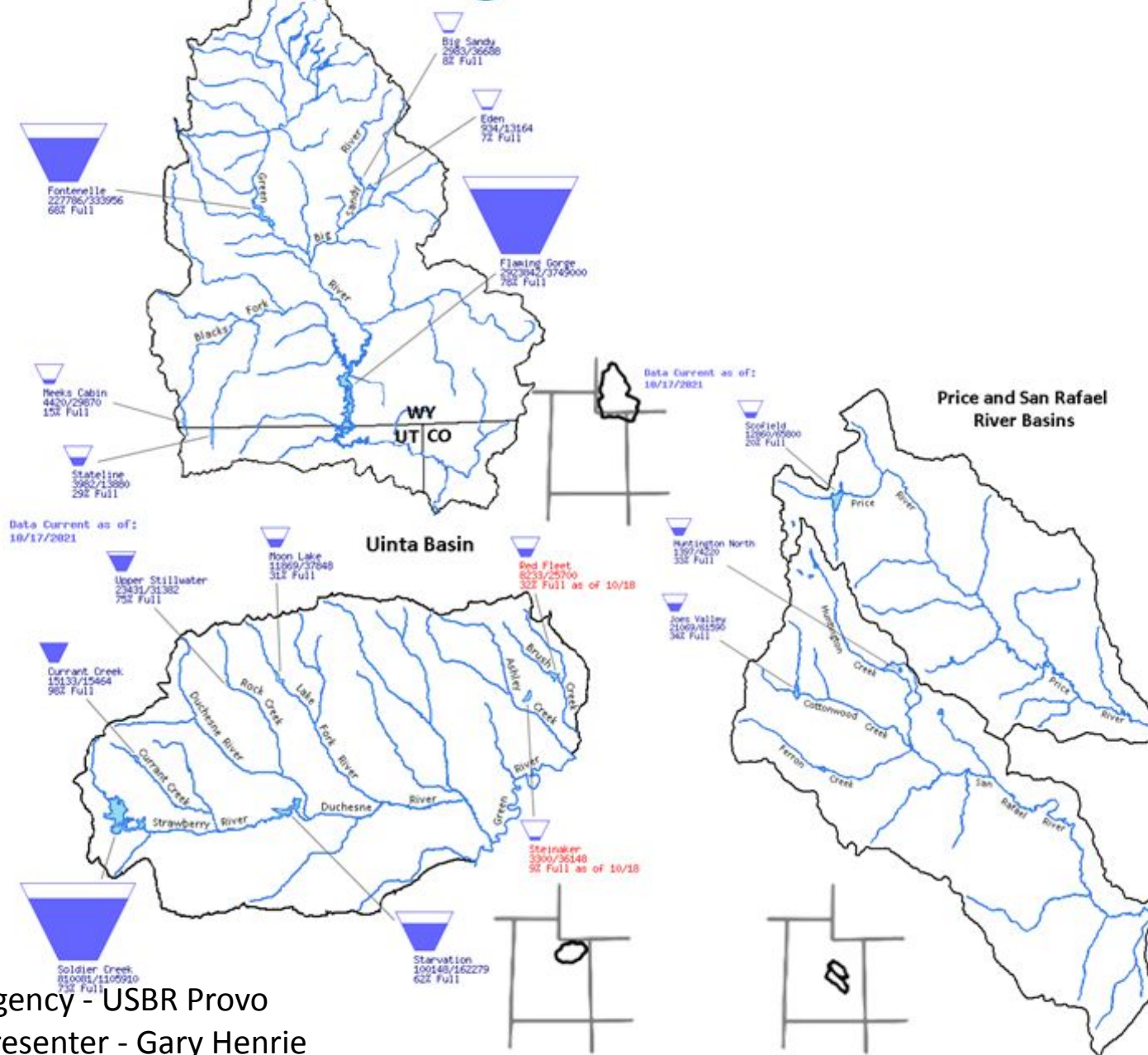
As Percent Full, Compared to 1991-2020 Statistics



Data Current as of:
10/17/2021

Upper Green River Basin

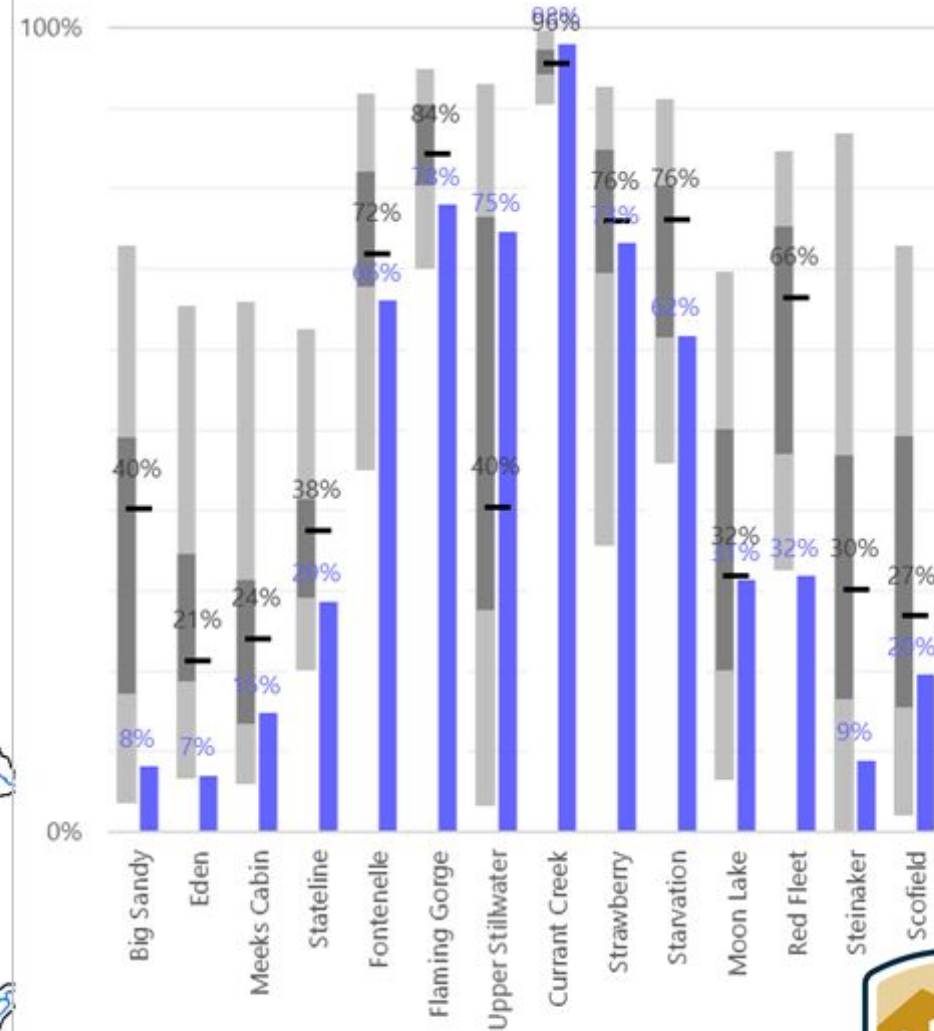
Reservoir Storage – Green Basin



Reservoir Storage

10/17/2021

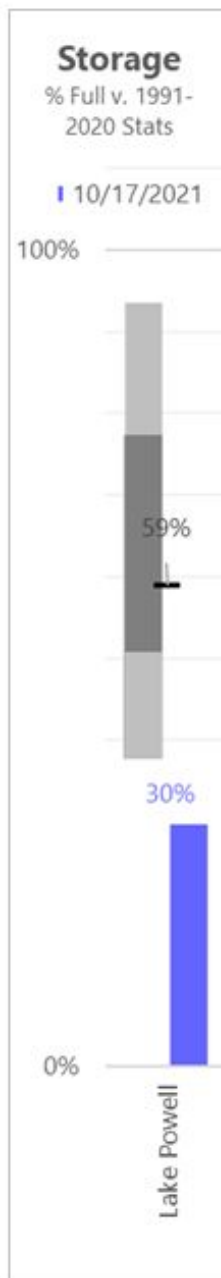
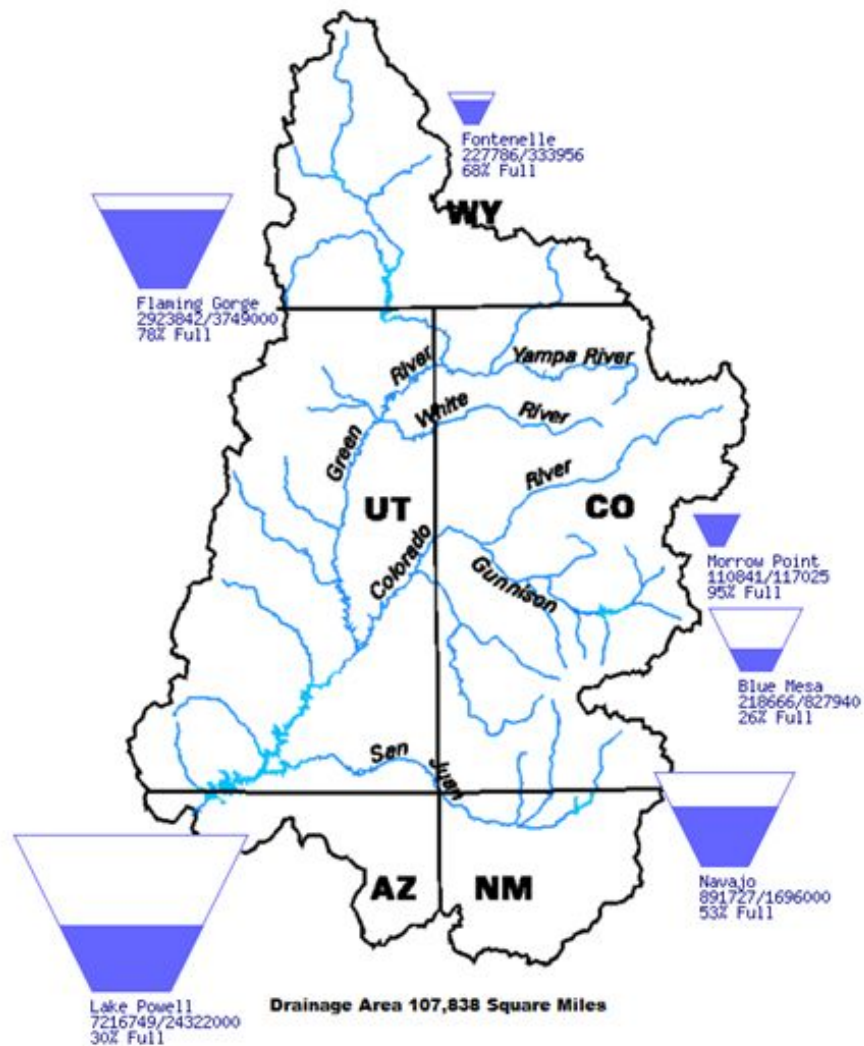
As Percent Full, Compared to 1991-2020 Statistics



Reservoir Storage – Lake Powell

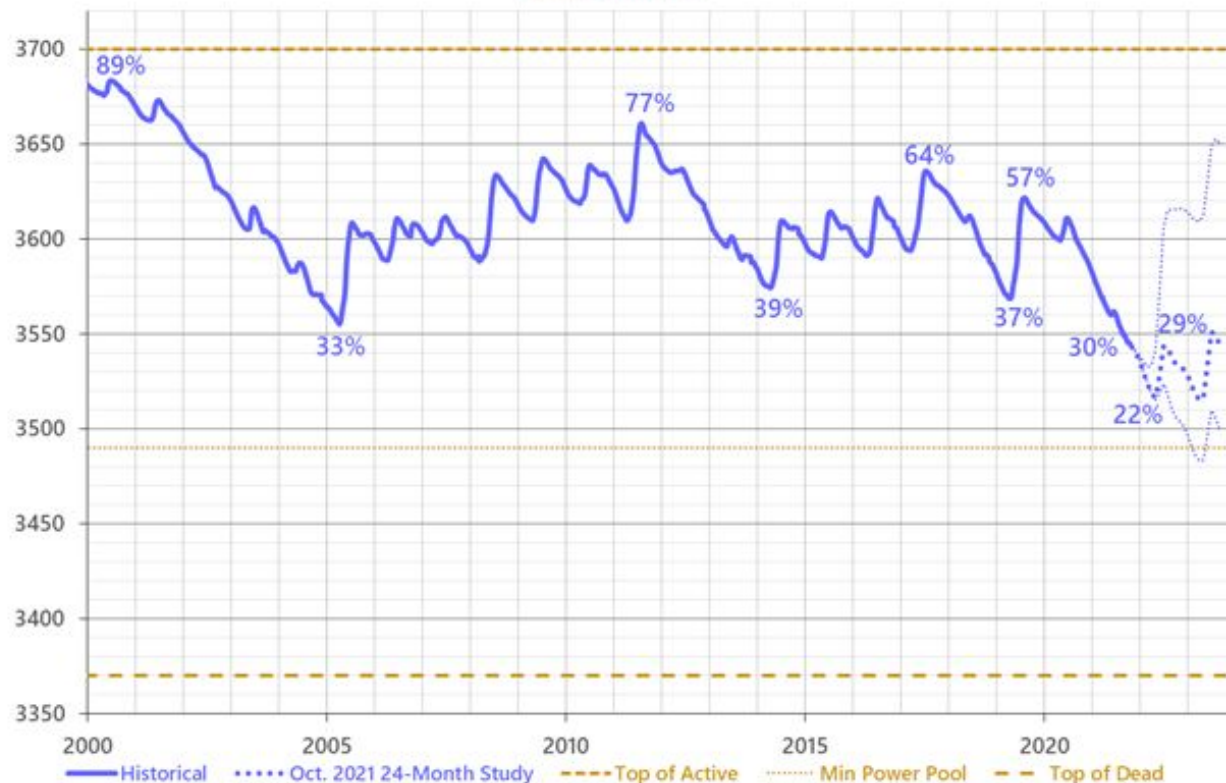
Data Current as of:
10/17/2021

Upper Colorado River Drainage Basin



Lake Powell

Elevation in feet



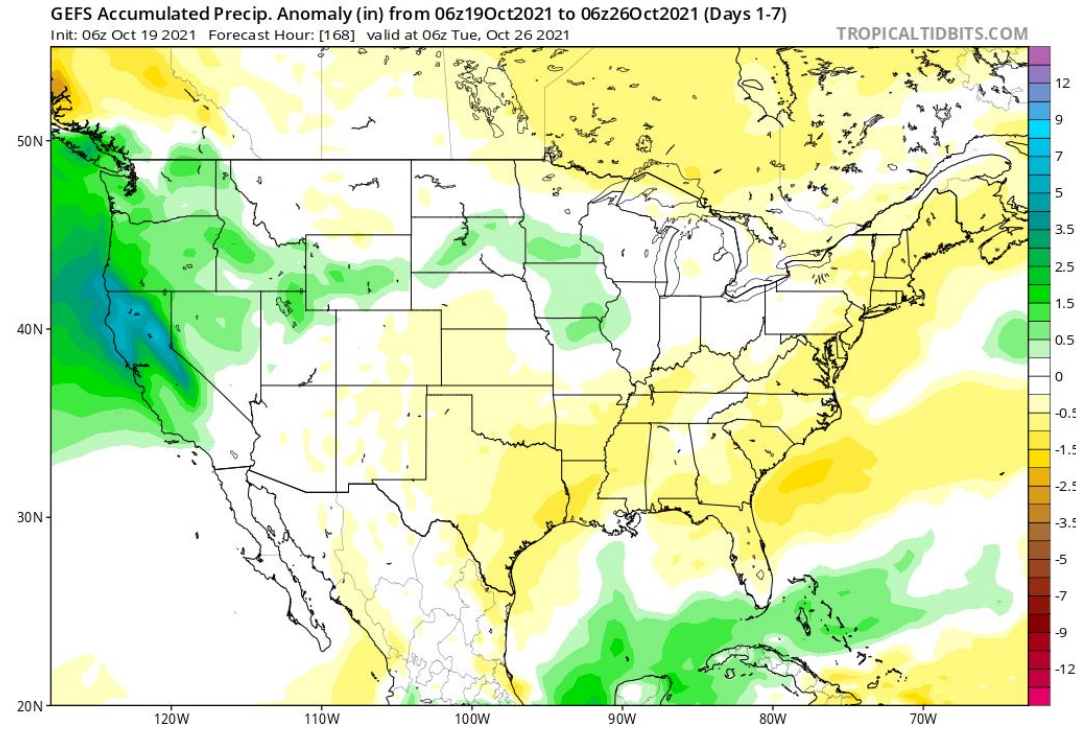
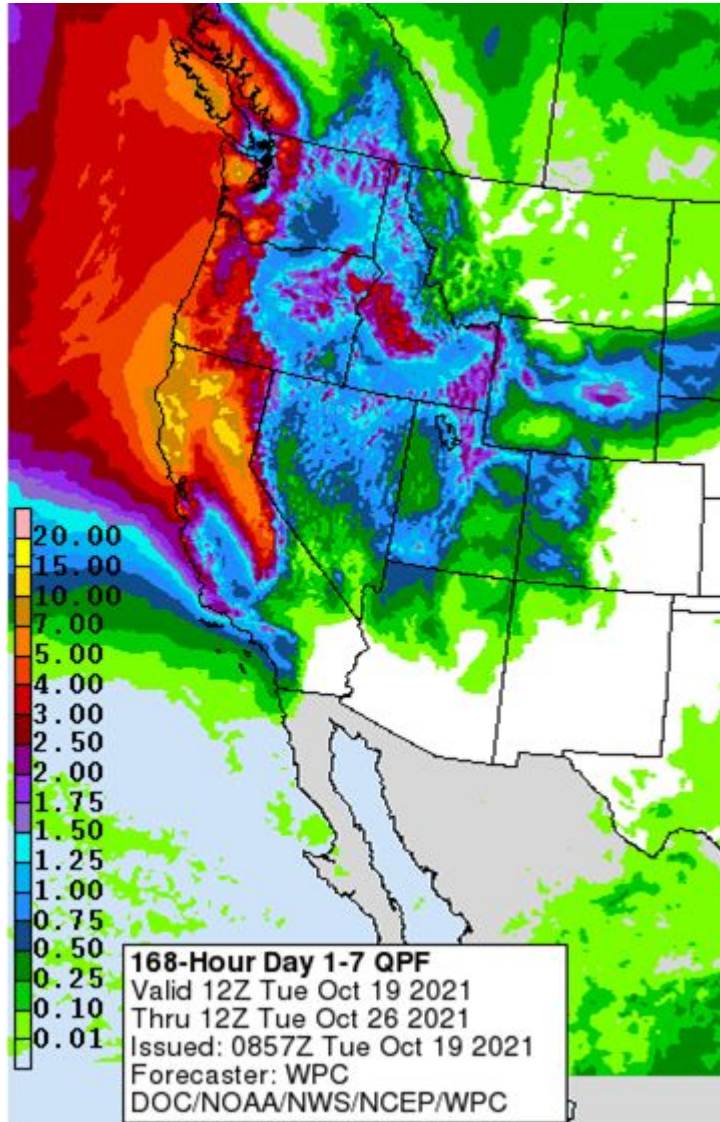
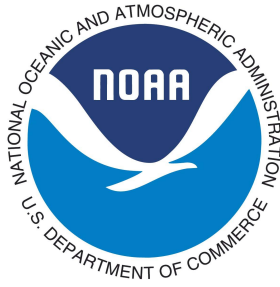
Consistent with the Upper Basin Drought Response Operations Agreement (DROA) provisions to protect a target elevation at Lake Powell of 3,525 feet, this October 2021 24-Month Study includes releases from the upstream initial units of the Colorado River Storage Project Act to deliver an additional 181 thousand acre-feet (kaf) to Lake Powell by the end of December 2021. The additional releases began in July and will continue to be implemented based on the following schedule:

	Jul	Aug	Sep	Oct	Nov	Dec	Total
	(kaf)	(kaf)	(kaf)	(kaf)	(kaf)	(kaf)	(kaf)
Flaming Gorge Reservoir	13	42	43	27	0	0	125
Blue Mesa Reservoir	0	14	18	4	0	0	36
Navajo Reservoir	0	0	0	0	10	10	20
Total (kaf)	13	56	61	31	10	10	181

Agency - USBR Provo
Presenter - Gary Henrie

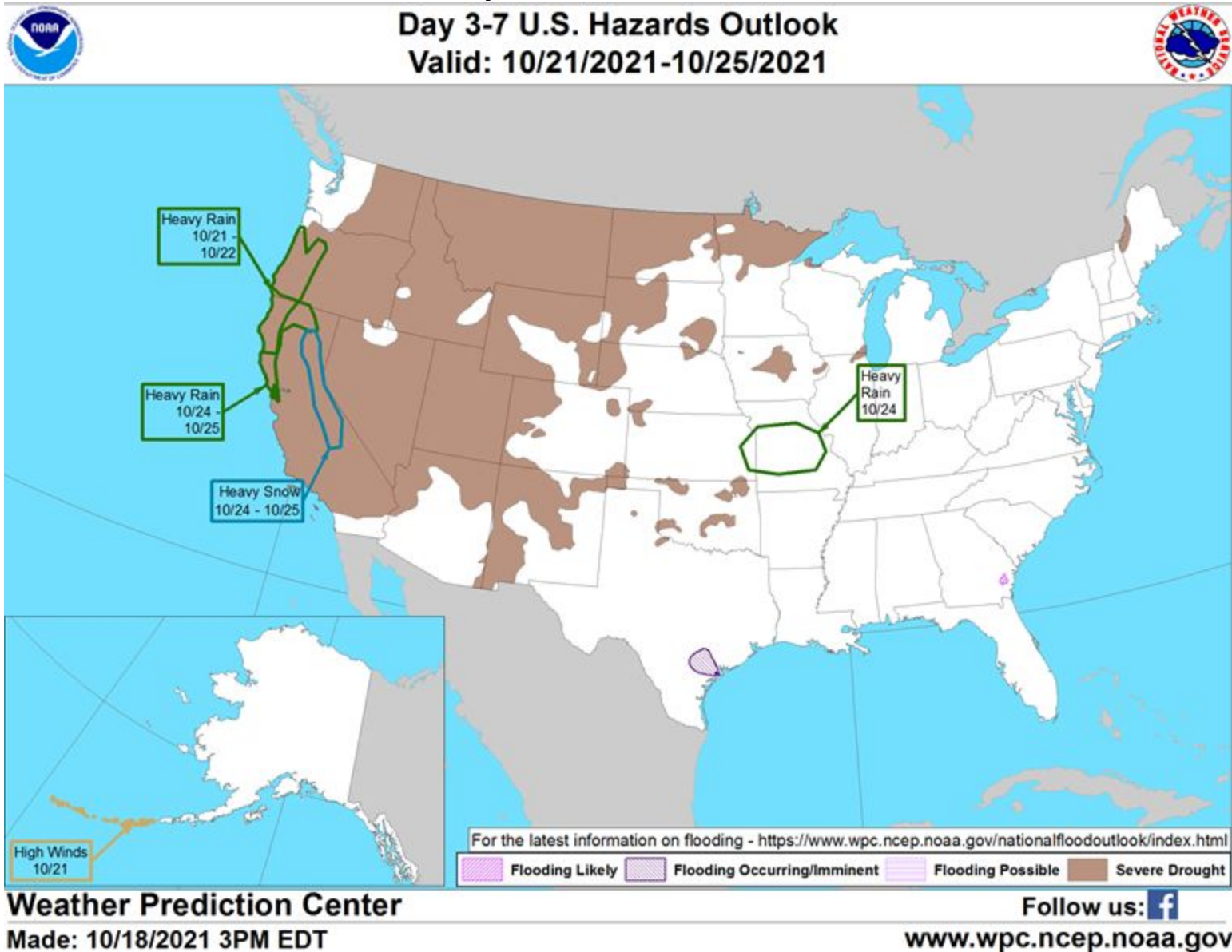


Weather Forecast Office Utah Day 1-7 Outlook

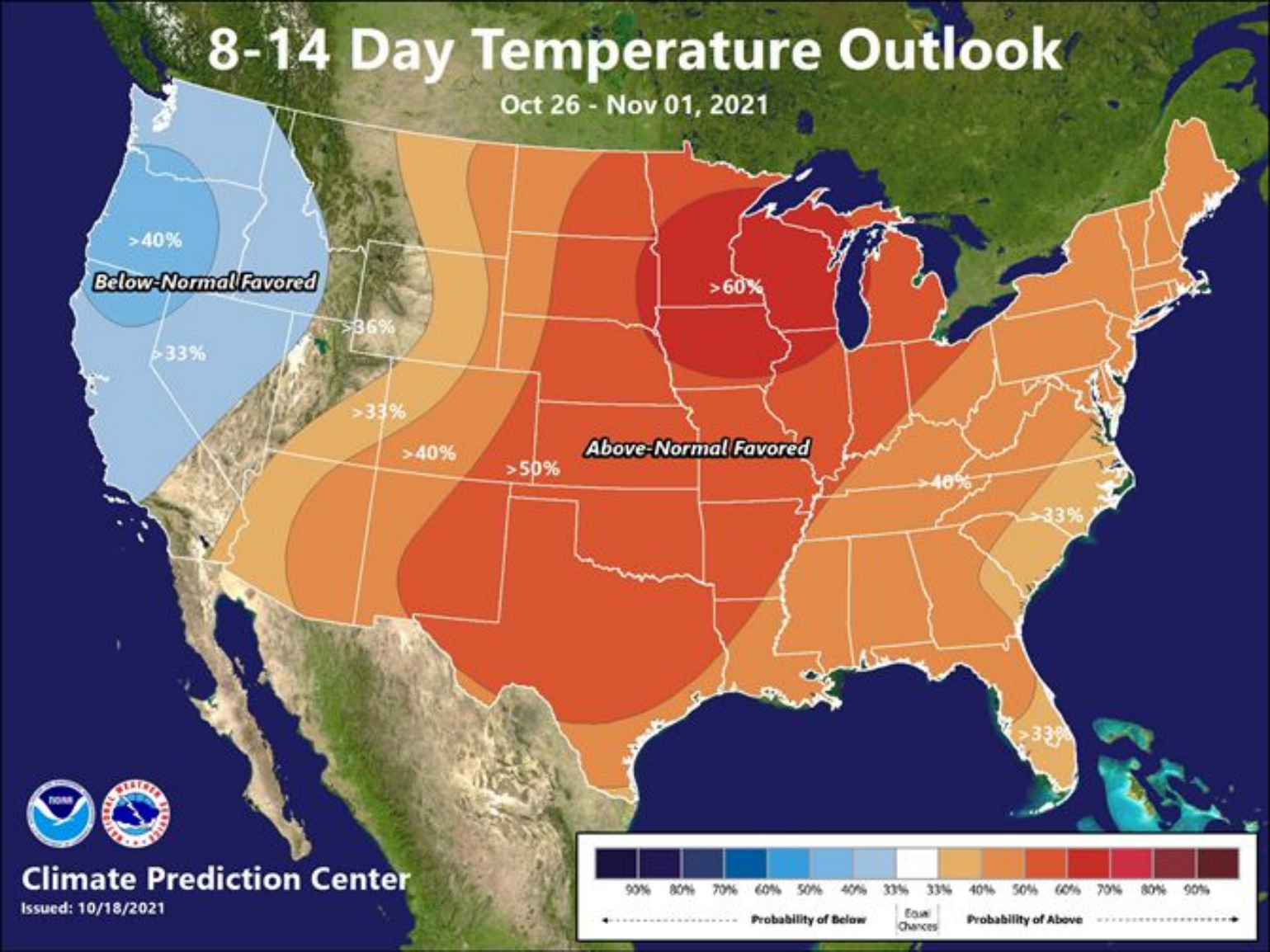
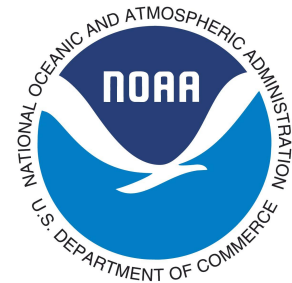


- Drying and warming conditions through late week.
- Becoming increasingly unsettled this weekend.
- Increasing potential for an inland penetrating atmospheric river early next week.

Weather Prediction Center U.S. Day 3-7 Hazards Outlook

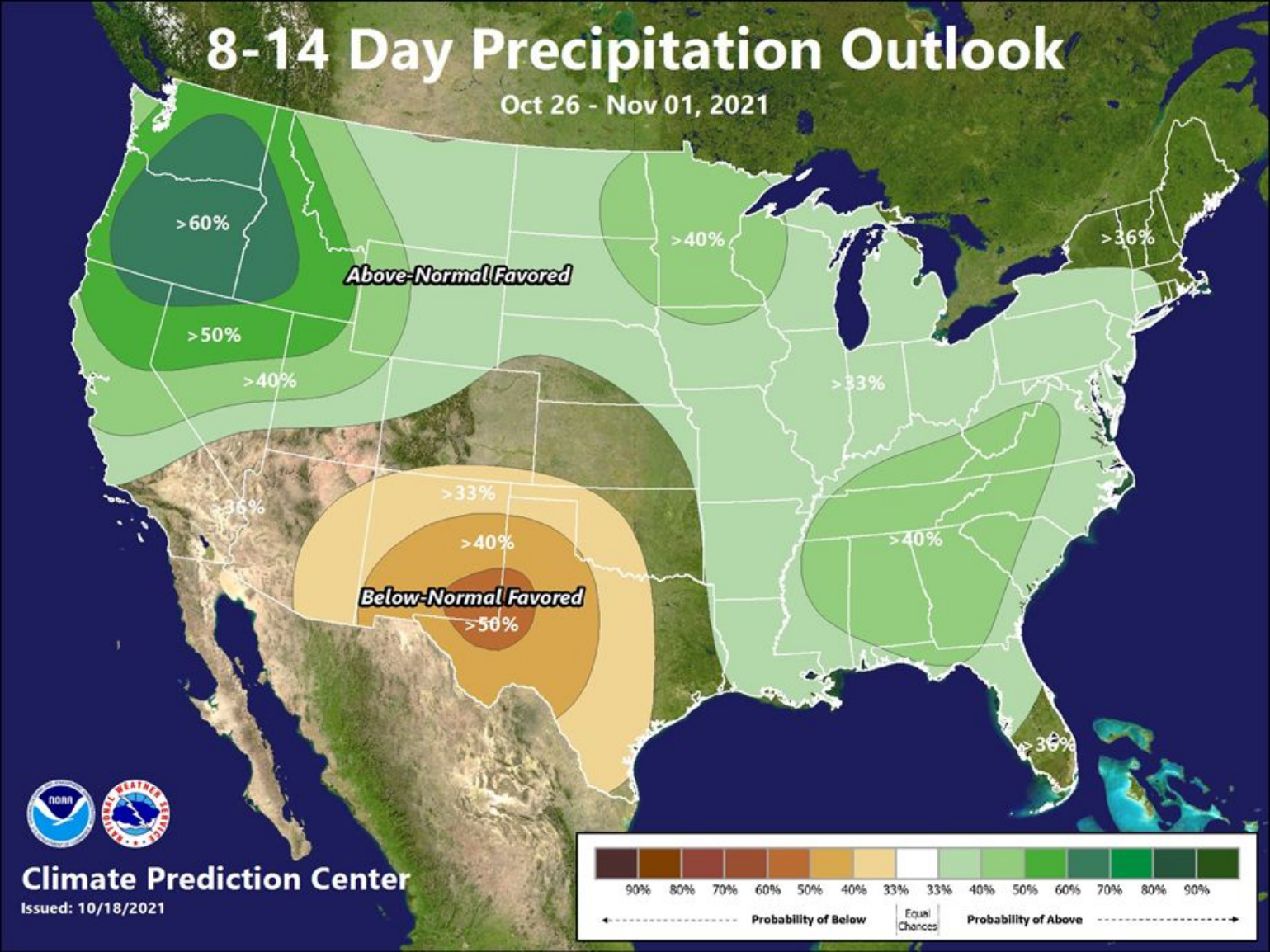
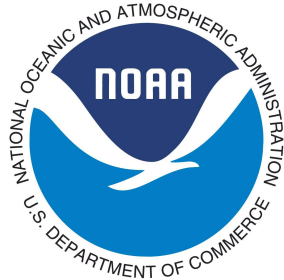


Climate Prediction Center 8 to 14 Day Outlooks - Temperature



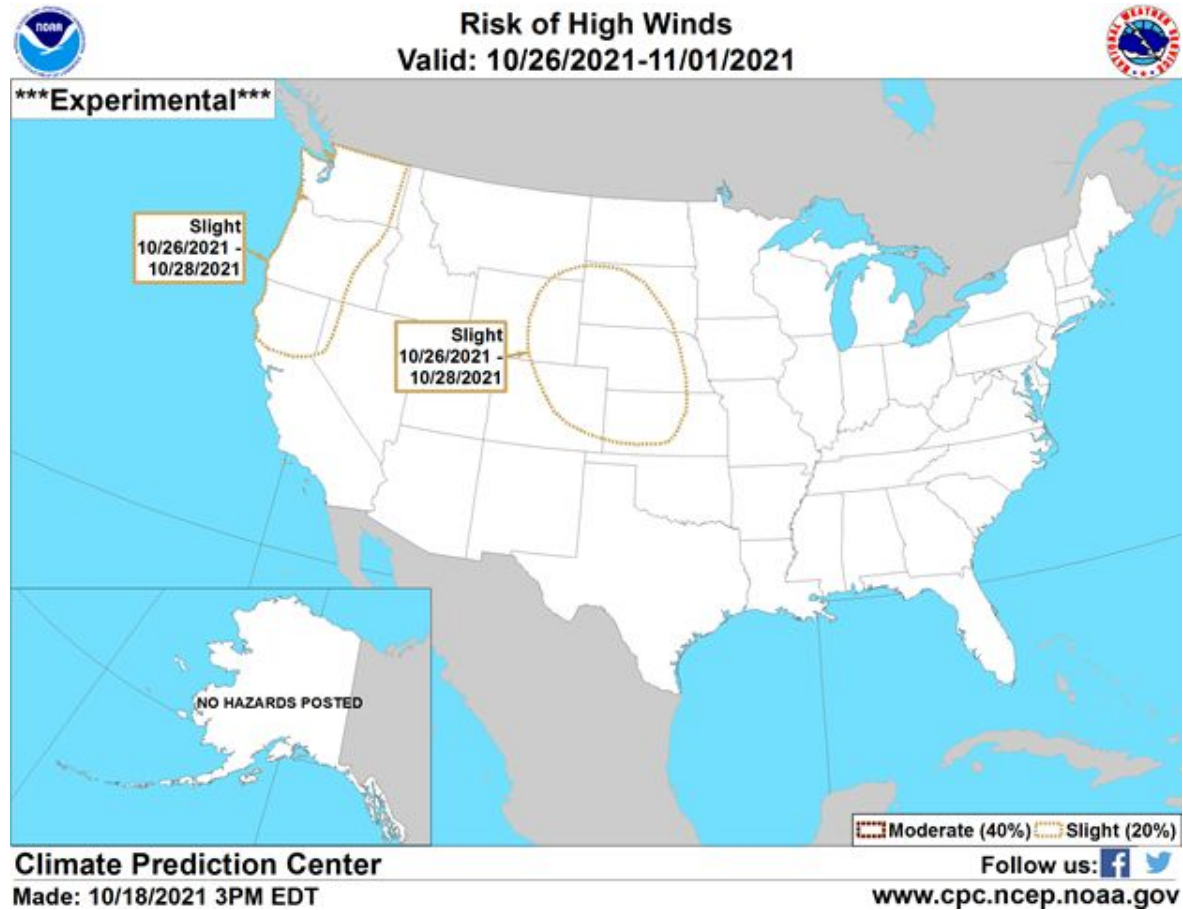
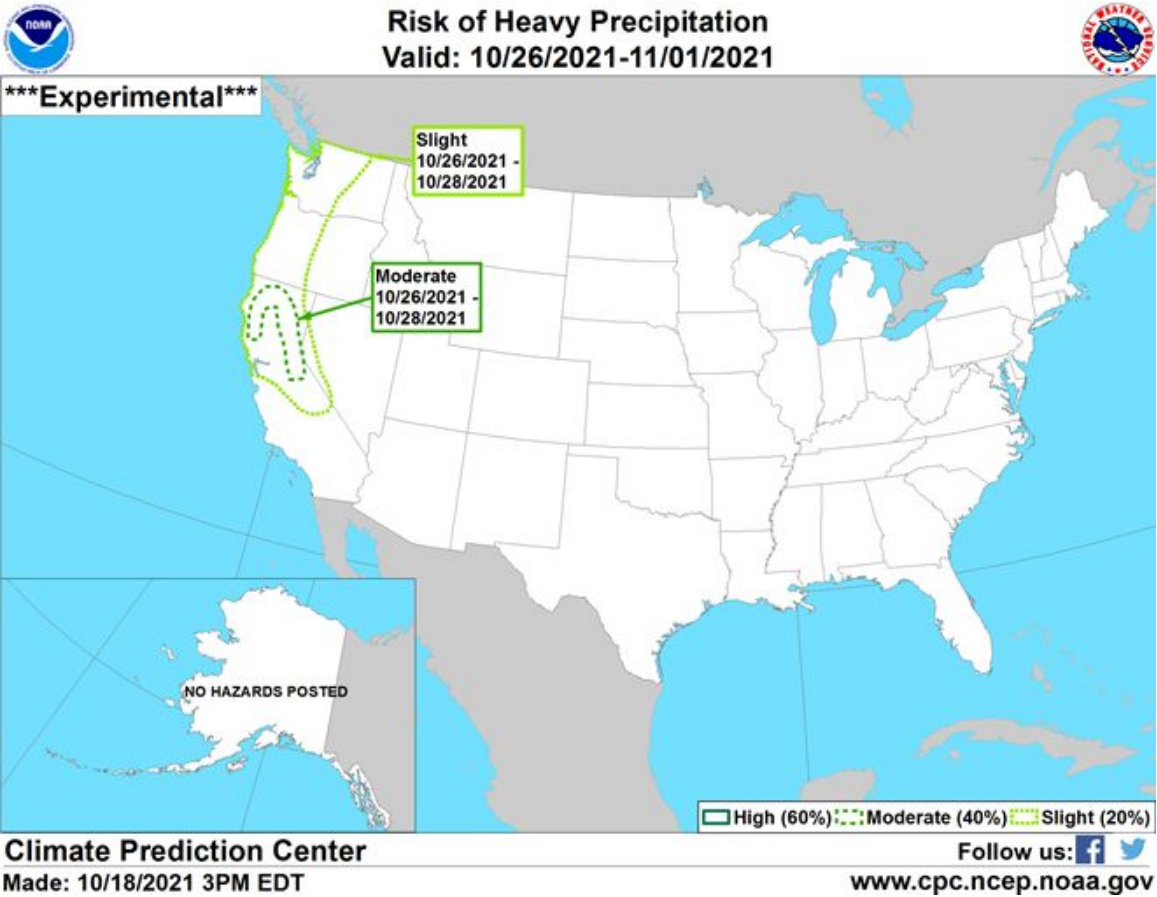
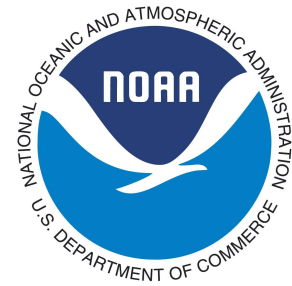
Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

Climate Prediction Center 8 to 14 Day Outlooks - Precipitation

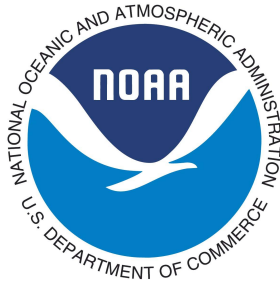


Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

Climate Prediction Center U.S. Week-2 Hazards Outlook



April through July Water Supply Forecasts Begins January 2022



Currently CBRFC has been involved in extensive upgrades to the model and new target climate averages for the period 1990-2021 which are incorporated into all WS forecast going forward into WY2022. We'll have a webinar in December most likely to discuss the whatever changes we've observed in precipitation and streamflows.

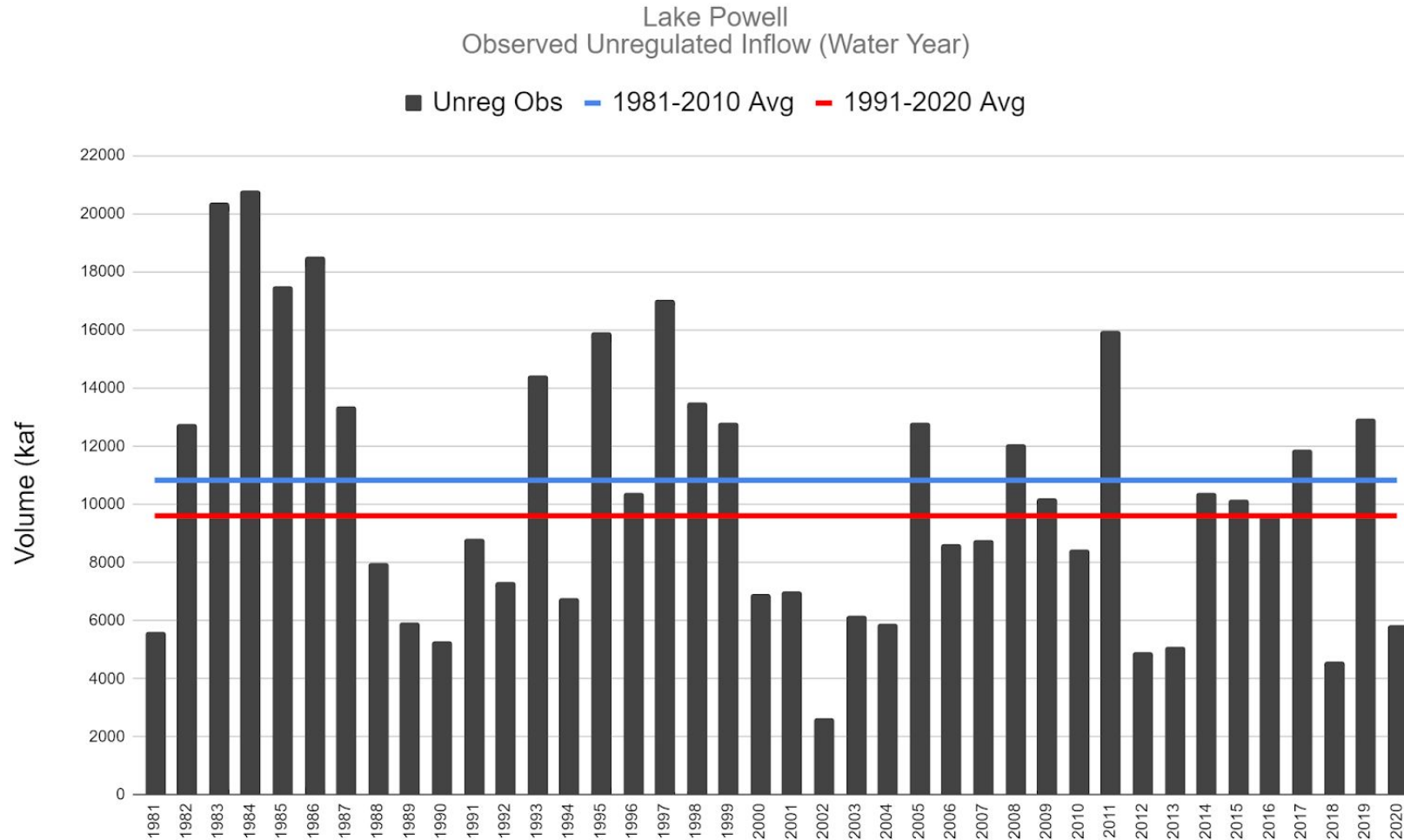
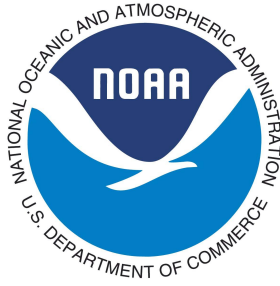
Our current focus is on preparing for the new Water Supply Season, Jan 1 - June 1.

Conditions for the first month of WY22 are showing good promise with a wet and cool pattern that looks to be persistent through the 28th. A wet fall soil moisture profile often leads to a higher potential for a good spring runoff if conditions are right post April, i.e. Spring is wet and we have average to above average April 1, 2022 SWE value. It's a lot to ask for but the set up this fall gives us pause to be hopeful.

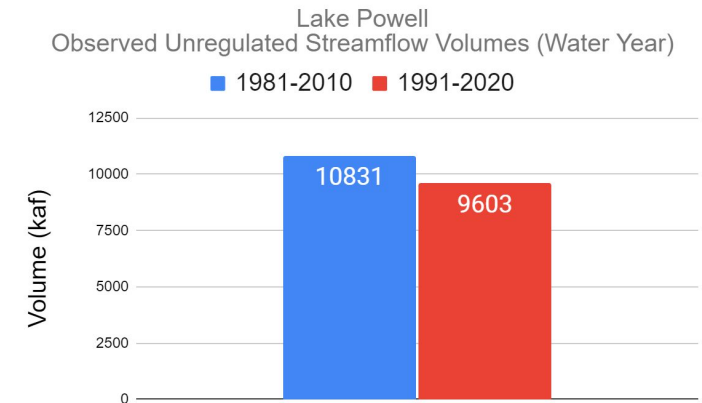
Agency - CBRFC

Presenter - Brent Bernard

New 1991 - 2020 Lake Powell A-J and WY Avg. Balance of Work Complete by 11/1/2021

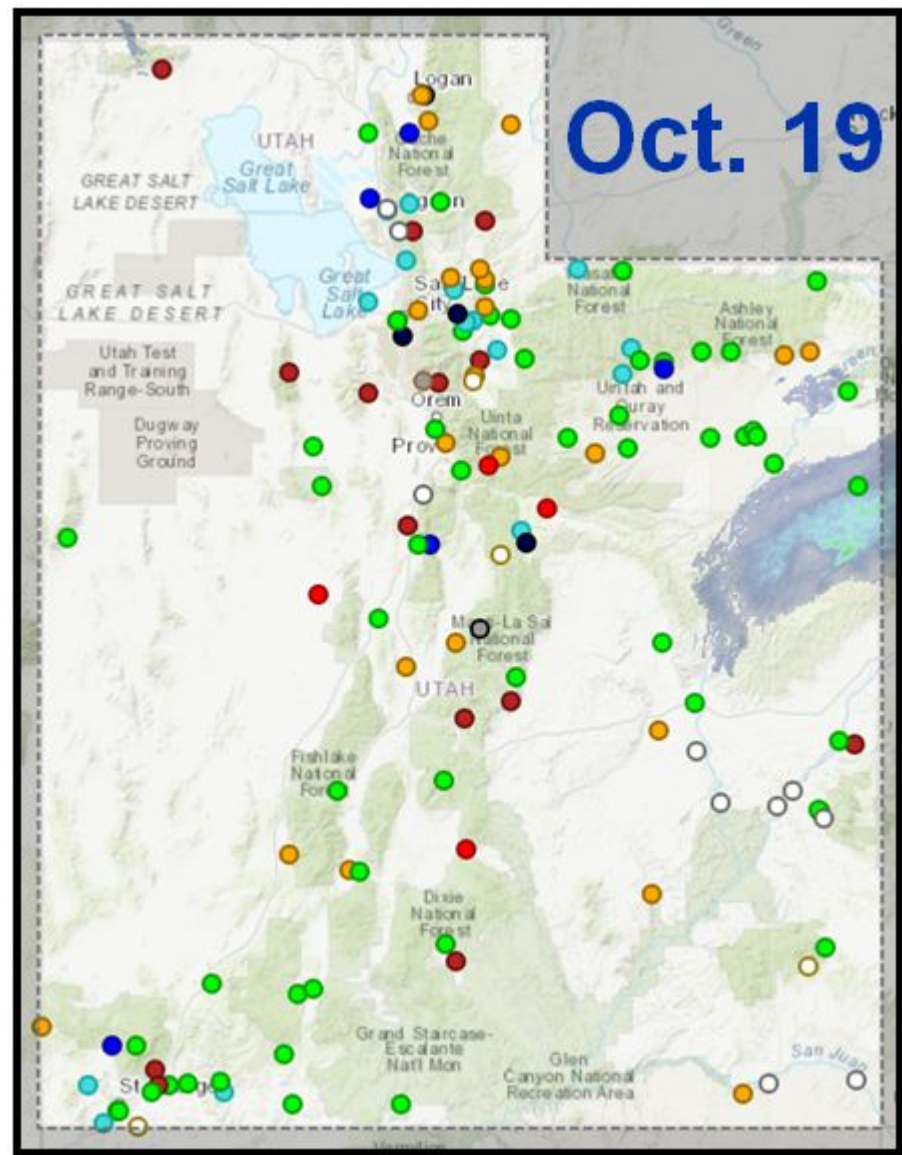


April - July: 10.7% decrease
Water Year: 11.3% decrease



Decadal Averages:
1981-1990: 12,827 kaf
2011-2020: 9,148 kaf
%Change: -28.7%

Current Streamflow Conditions



Day-of-Year Status		
All-time high for this day-of-year	3	2.2%
Much above normal for this day-of-year	5	3.6%
Above normal for this day-of-year	15	10.9%
Normal for this day-of-year	56	40.9%
Below normal for this day-of-year	22	16.1%
Much below normal for this day-of-year	14	10.2%
All-time low for this day-of-year	4	2.9%
Not ranked - insufficient record	11	8.0%
Not ranked - no recent measurement	3	2.2%
Not ranked - stream not flowing	3	2.2%

Streamflow: Status

Above flood stage

All-time high for this day

Much above normal

Above normal

Normal

Below normal

Much below normal

All-time low for this day

Not flowing

Not ranked

Measurement flag

Recent measurement unavailable

100th percentile (maximum)

>90th percentile

76th – 90th percentile

25th – 75th percentile

10th – 24th percentile

<10th percentile

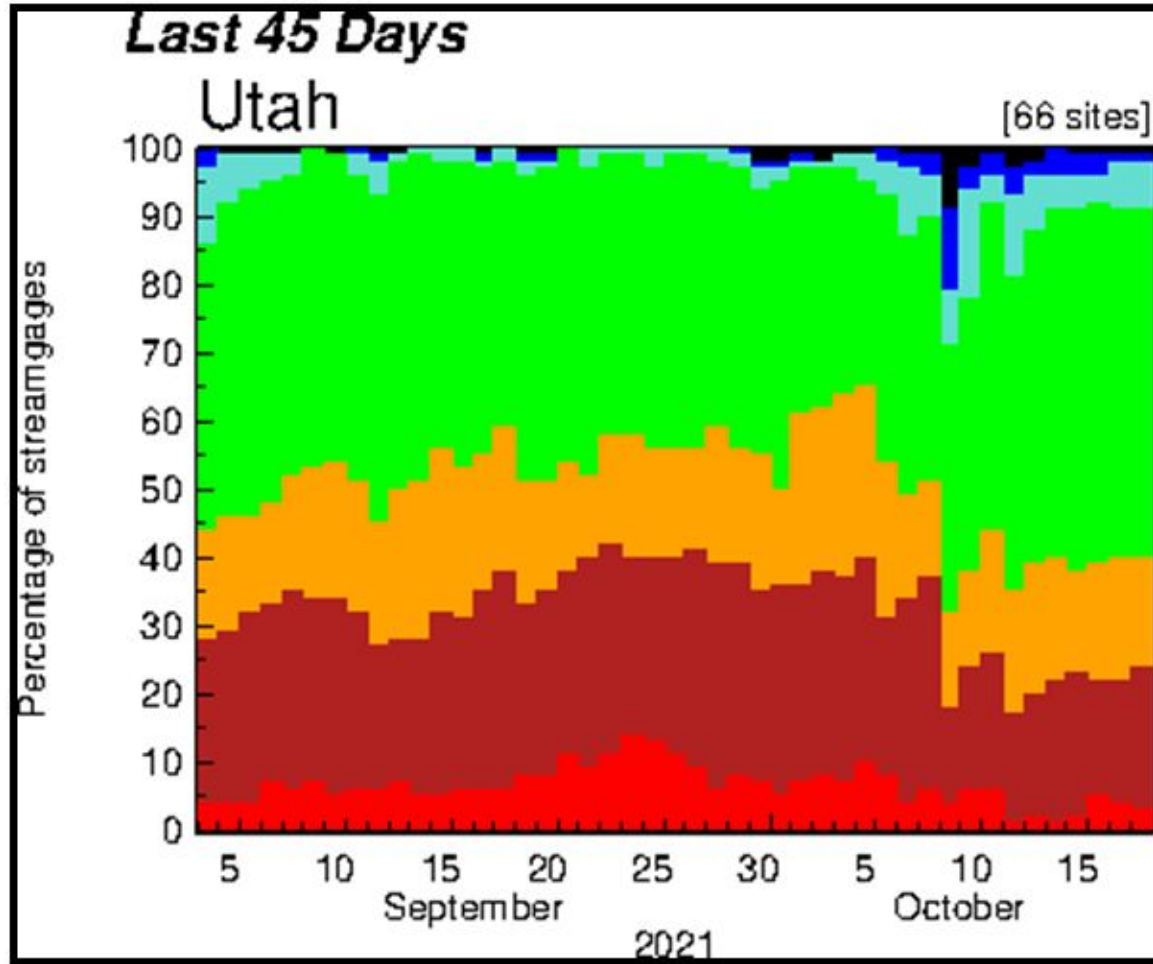
0th percentile (minimum)

Sites must have at least 10 years of record to be ranked

Agency - USGS Utah
Water Science Center
Presenter - Ryan Rowland



Current Streamflow Conditions

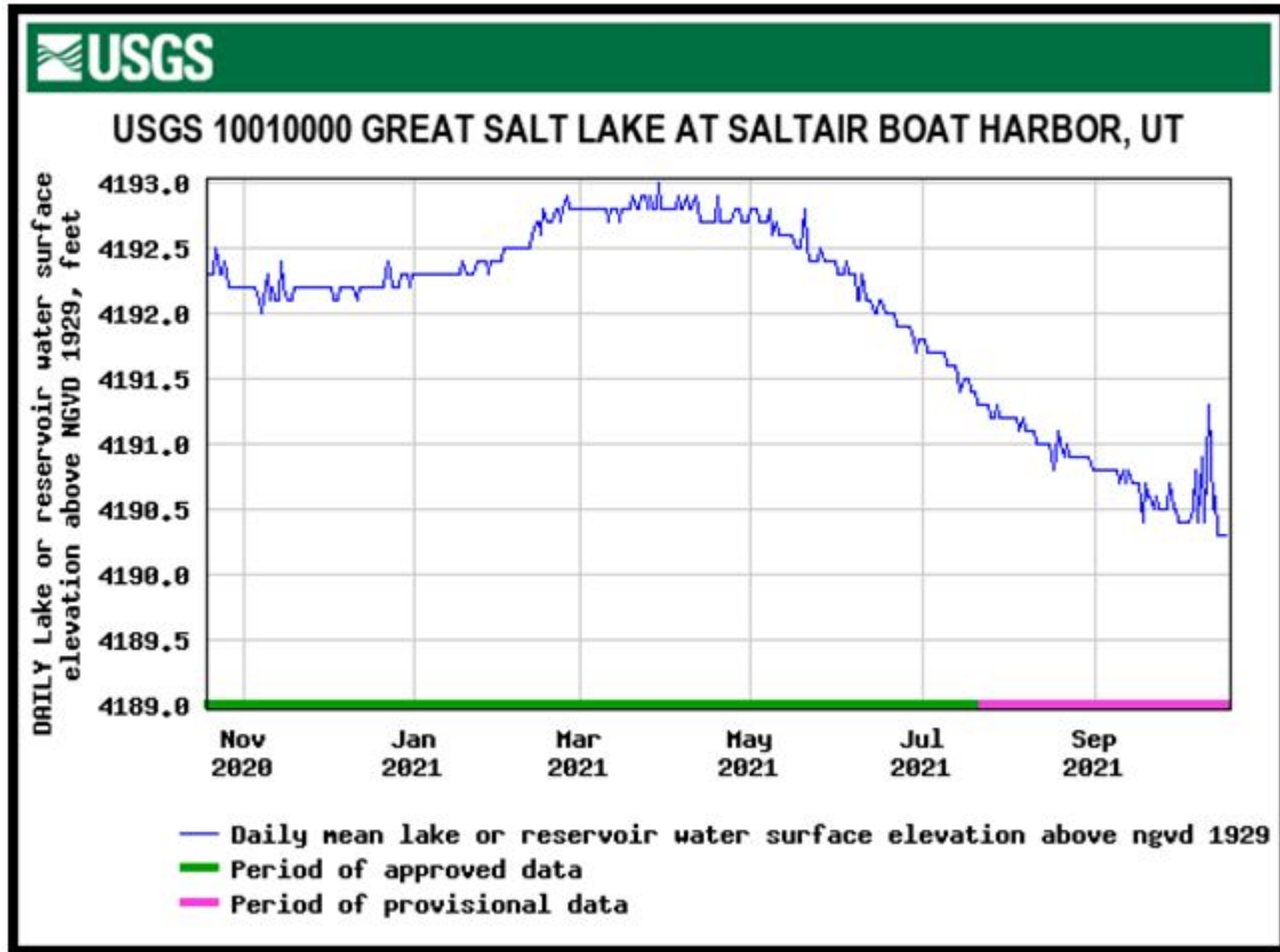


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

- ☐ Mean daily Streamflow compared to historical streamflow for the day of the year
- ☐ Sites must have at least 30 years of record to be included in this graphic

Agency - USGS Utah
Water Science Center
Presenter - Ryan Rowland

Great Salt Lake Water Surface Elevation (southern half)



❑ Mean daily value
10/18/2021 =
4,190.3'

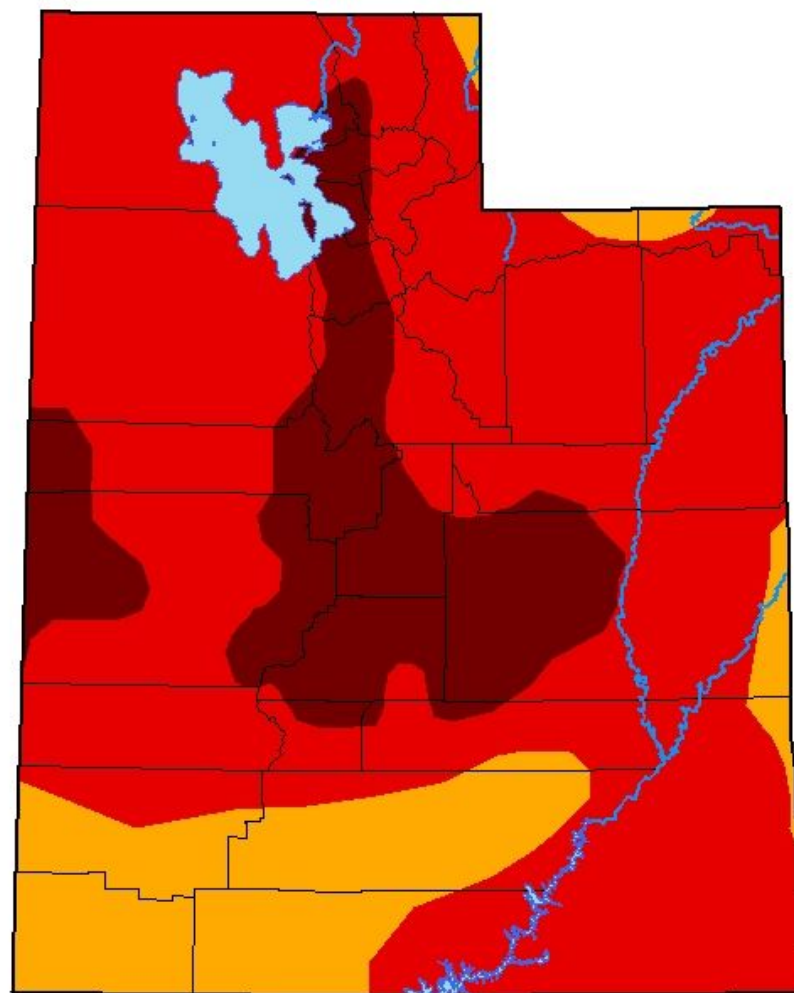
❑ Broke historic
low record on
7/21/2021 when
daily mean value
= 4,191.3'

❑ Site has data
record dating
back to 1847




U.S. Drought Monitor

Utah

October 12, 2021
(Released Thursday, Oct. 14, 2021)
Valid 8 a.m. EDT



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Adam Hartman
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu