



Utah Water Conditions Monitoring (Drought Webinar)

The meeting will begin shortly



Thank you to our contributors



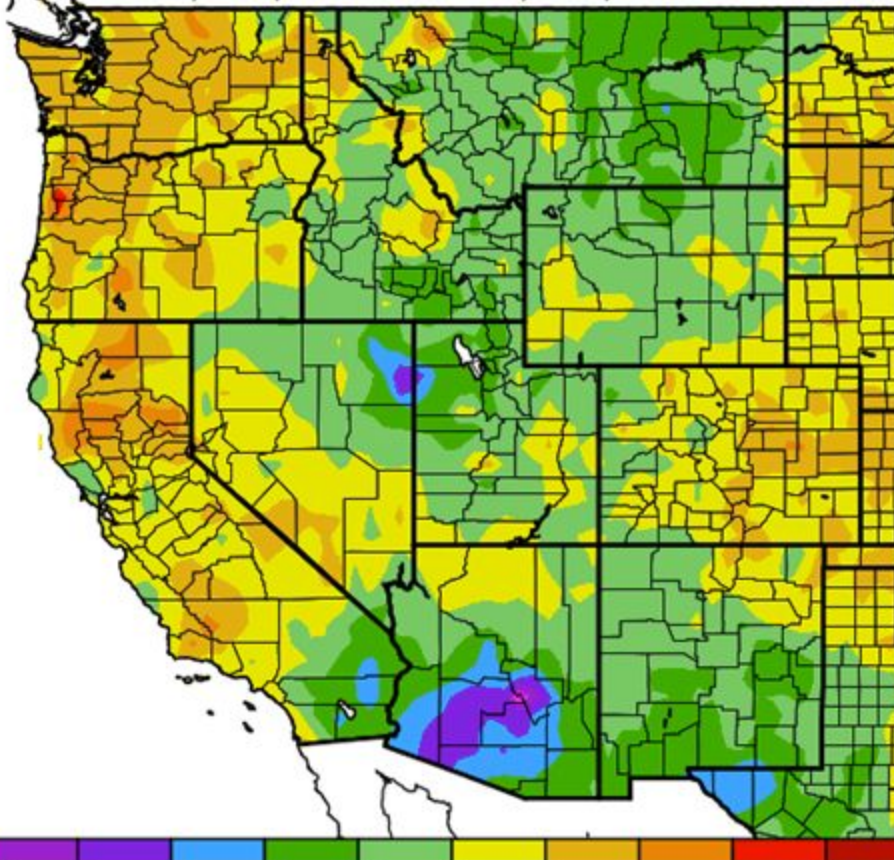


Utah Drought Monitor Webinar

August 24, 2021

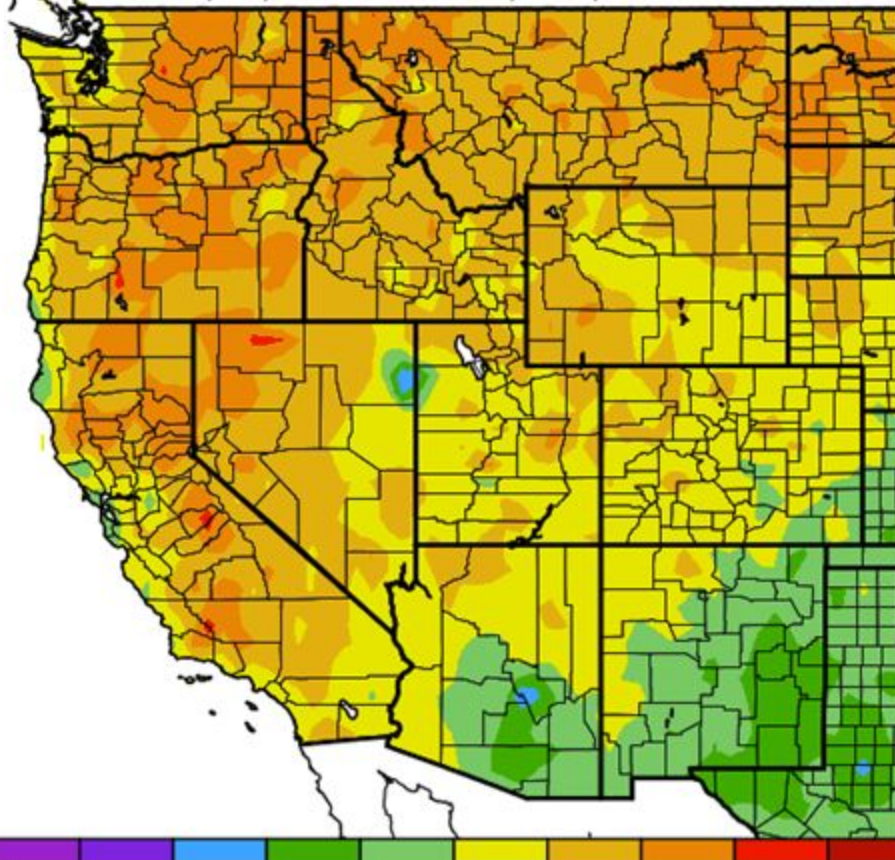
Temperatures (left: 2-week; right: since July 1)

Ave. Temperature dep from Ave (deg F)
8/10/2021 – 8/23/2021



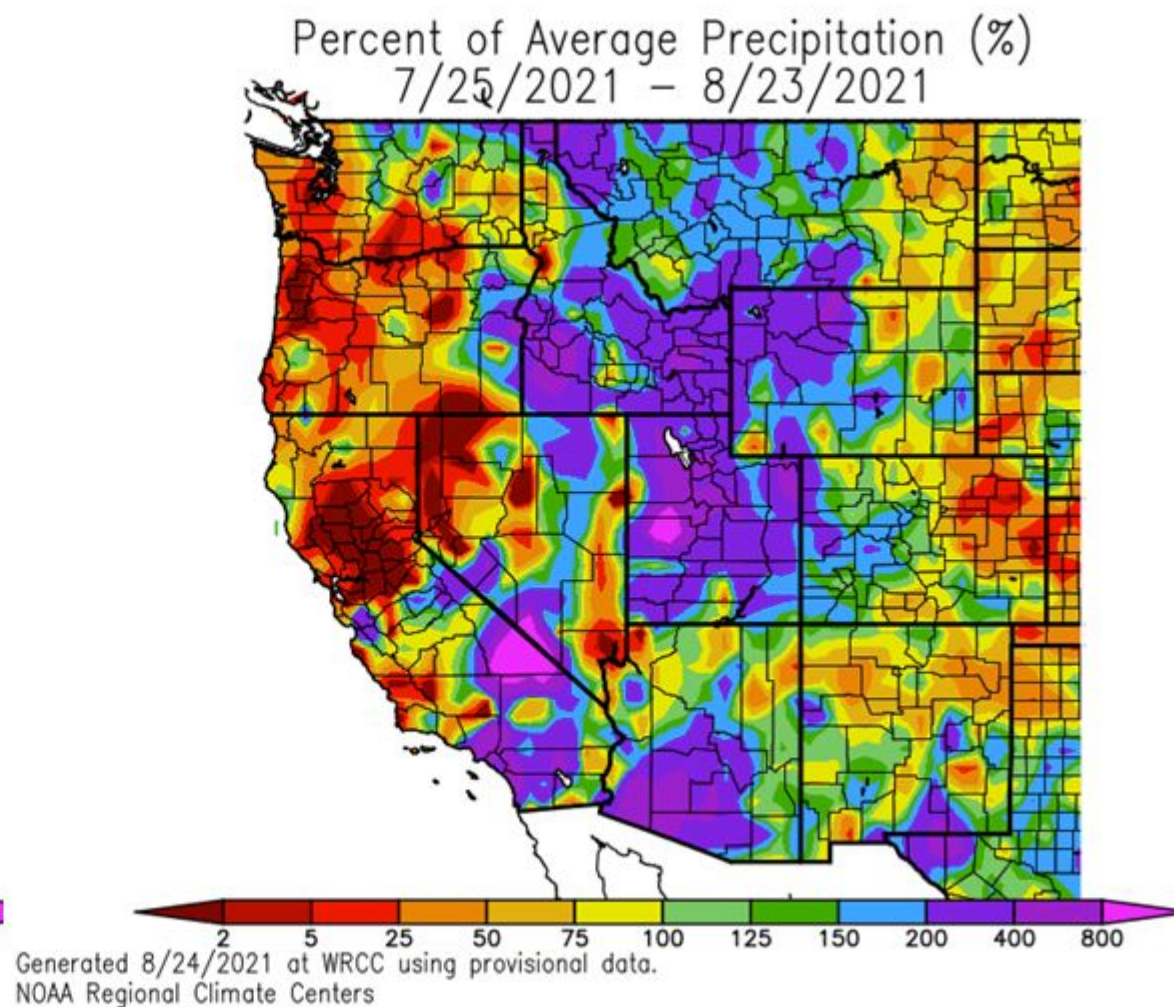
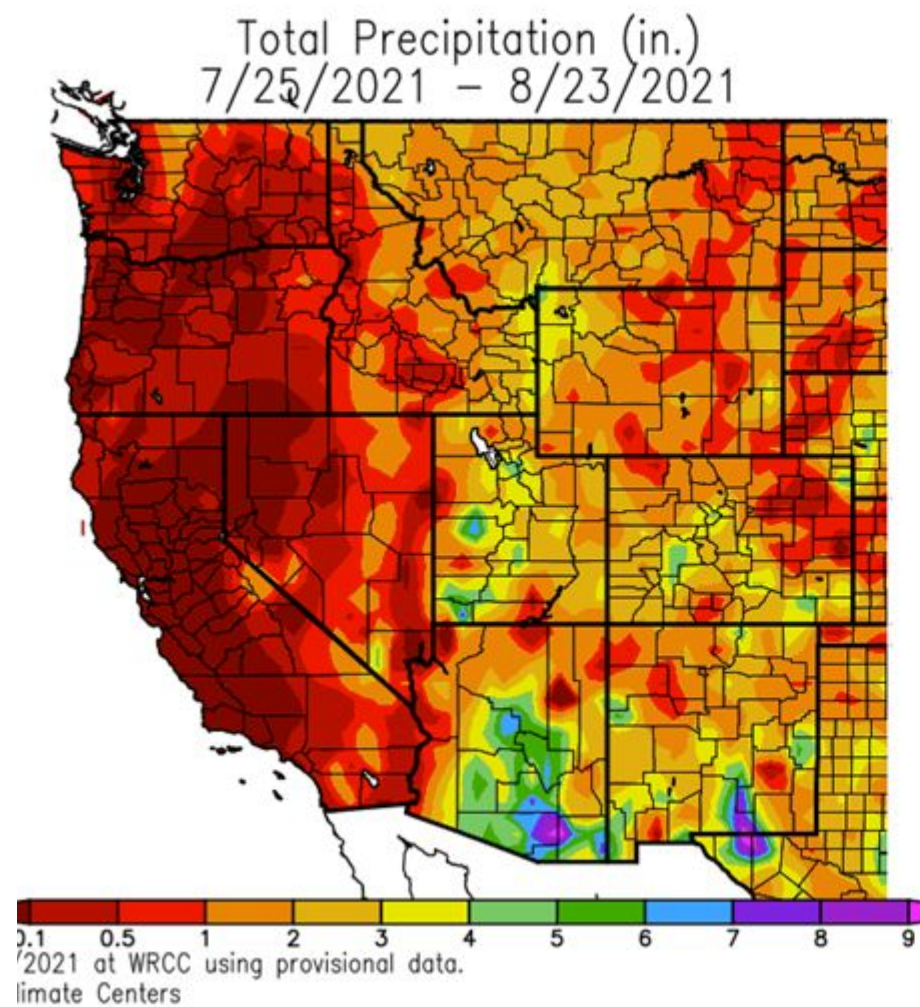
Generated 8/24/2021 at WRCC using provisional data.
NOAA Regional Climate Centers

Ave. Temperature dep from Ave (deg F)
7/1/2021 – 8/23/2021

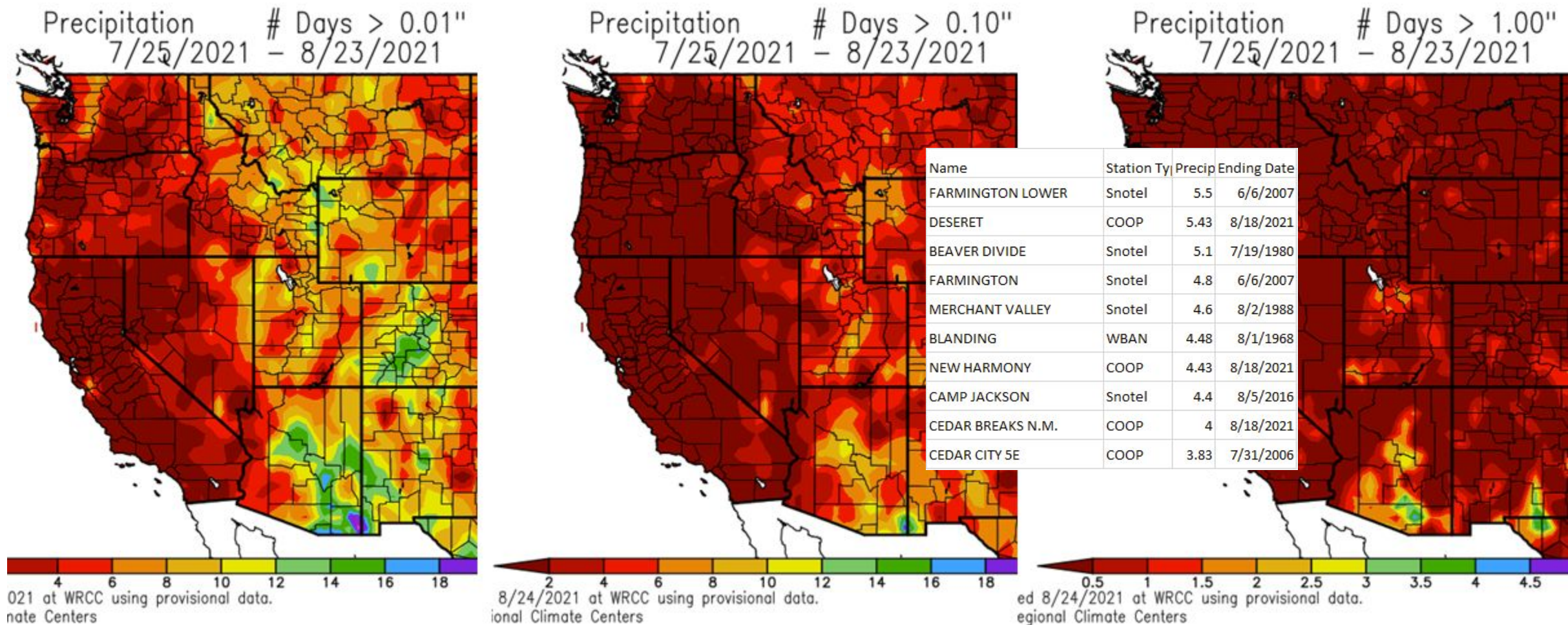


Generated 8/24/2021 at WRCC using provisional data.
NOAA Regional Climate Centers

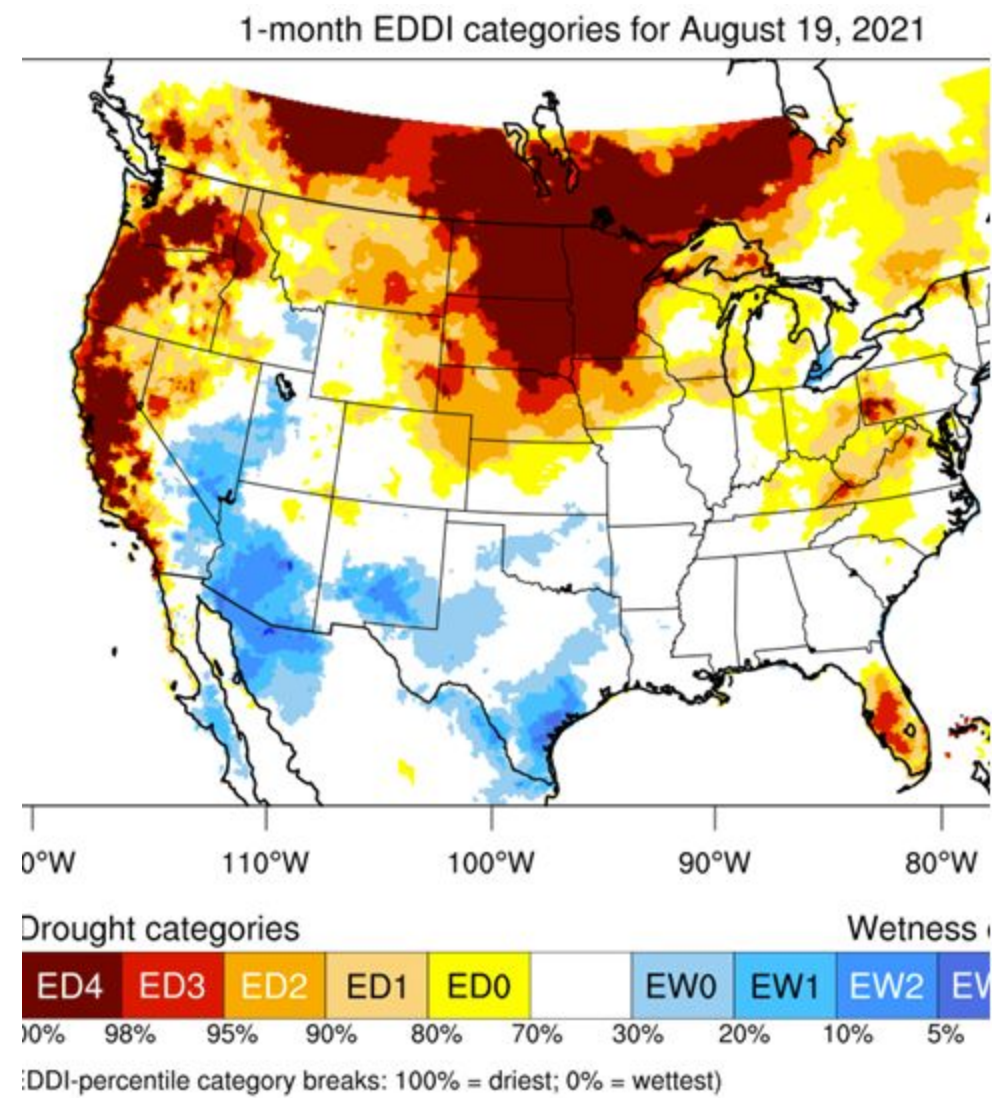
30-day precipitation



30-day Precipitation Intensity



Evaporative Demand and Stress

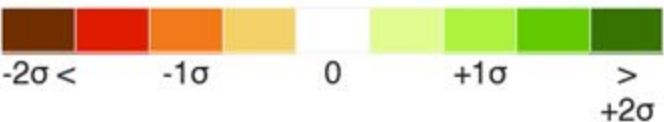


U.S. Vegetation and Drought

[Evaporative Stress Index](#) [VegDRI](#) [Vegetation Health Index](#)

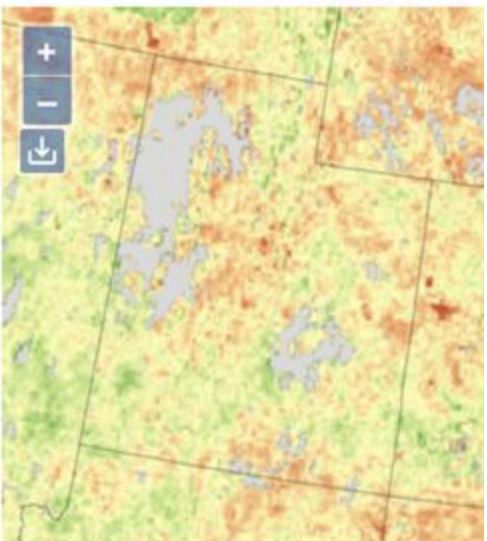
The Evaporative Stress Index (ESI) describes temporal anomalies in evapotranspiration (ET), highlighting areas with anomalously high or low rates of water use across the land surface. The ESI also demonstrates capability for capturing early signals of "flash drought," brought on by extended periods of hot, dry, and windy conditions leading to rapid soil moisture depletion. [Learn more.](#)

Standardized ET/PET Anomalies

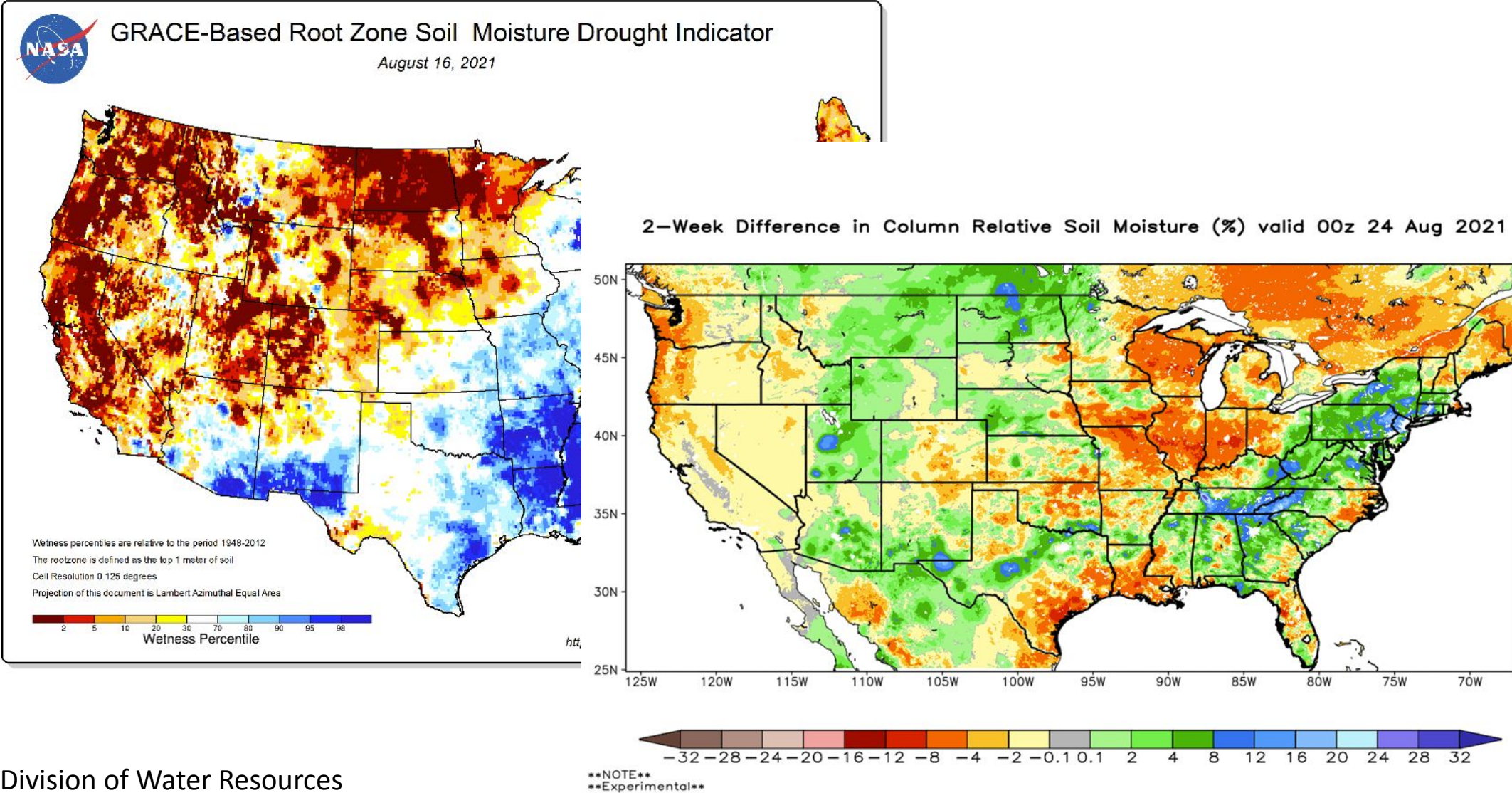


*Currently, data are only available for the contiguous U.S.

Source(s): [NASA SERVIR](#)

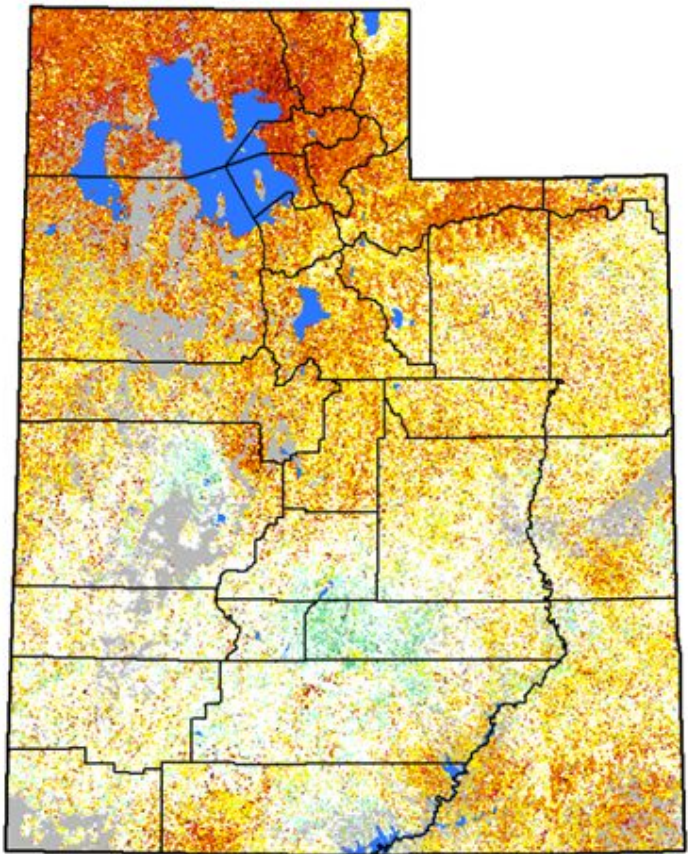


Soil Moisture Conditions



Vegetation Drought Metrics (VegDRI & VHI)

Map for August 22, 2021



Vegetation Condition

- Extreme Drought
- Severe Drought
- Moderate Drought
- Pre-drought stress
- Near Normal
- Unusually Moist
- Very Moist
- Extremely Moist
- Out of Season
- Water
- Other Landcover

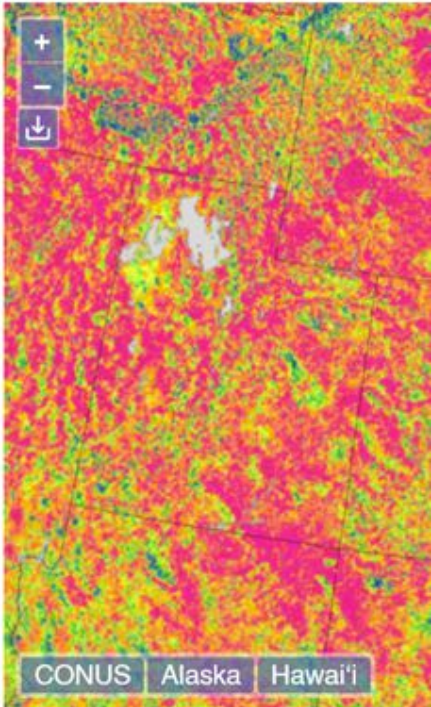
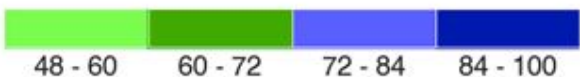
Evaporative Stress Index VegDRI Vegetation Health Index

NOAA's Center for Satellite Applications and Research produces satellite-based global vegetation health products, including the vegetation health index (VHI). VHI is a proxy characterizing vegetation health or a combined estimation of moisture and thermal conditions. Vegetation health is often used to estimate crop condition and anticipated yield. If the indices are below 40, indicating different levels of vegetation stress, losses of crop and pasture production might be expected; if the indices above 60 (favorable conditions), plentiful production might be expected. [Learn more.](#)

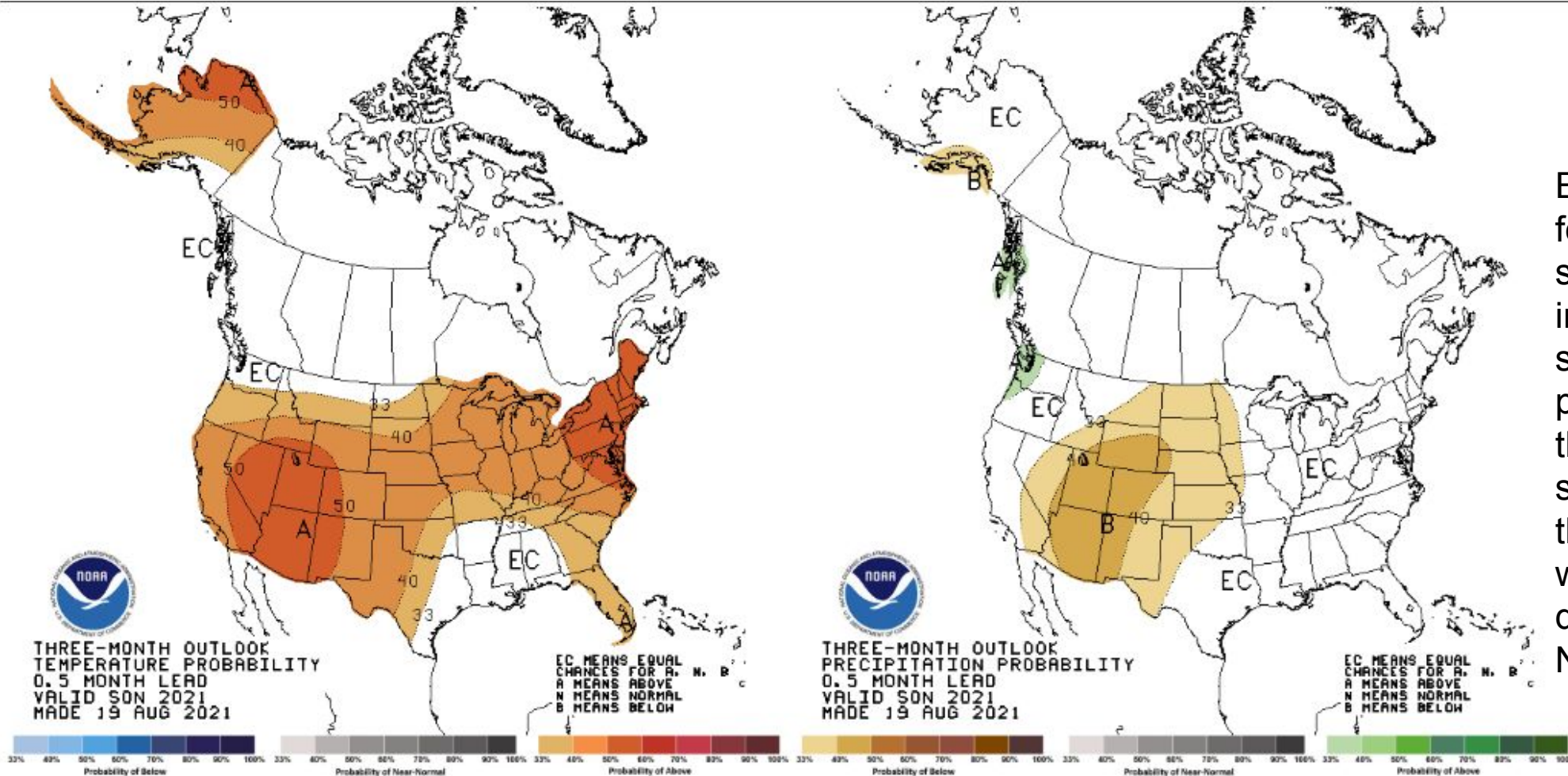
Unfavorable Conditions



Favorable Conditions

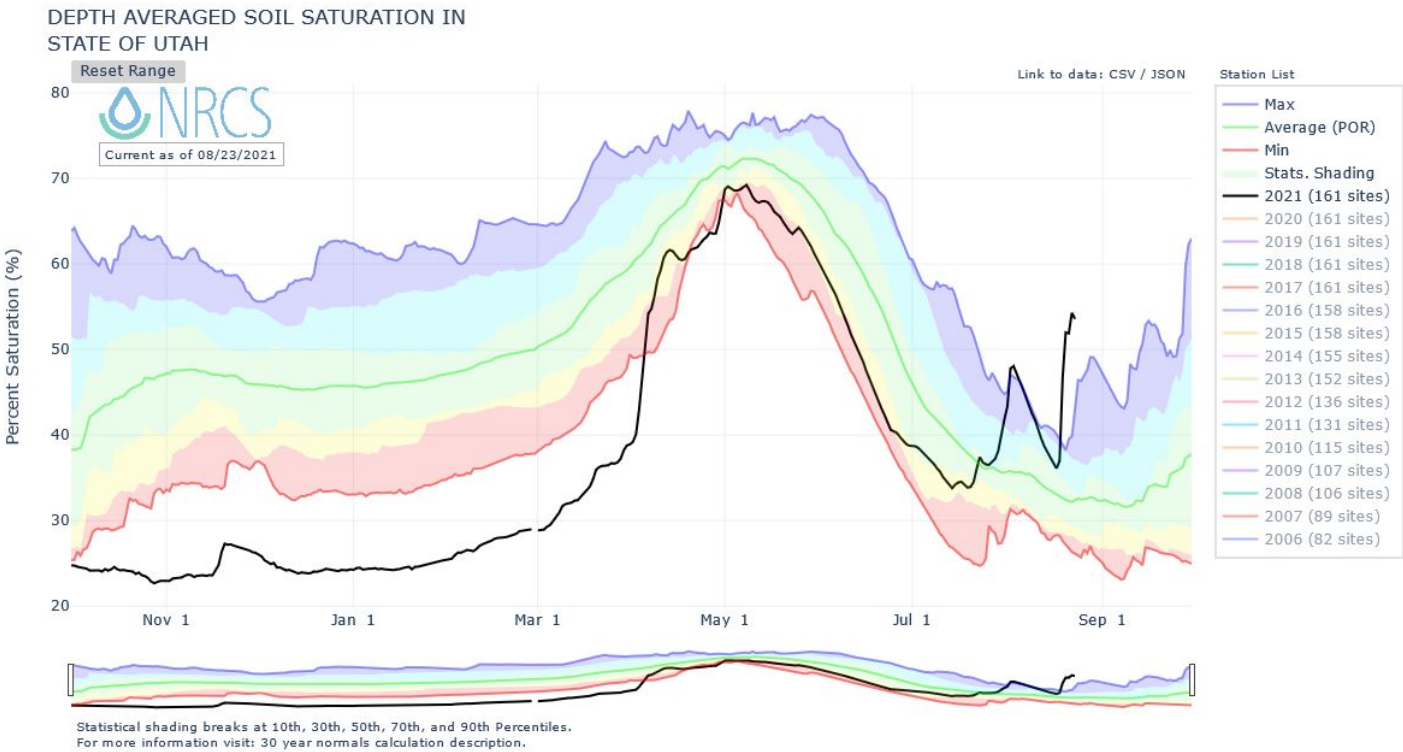


CPC 3-month Outlook



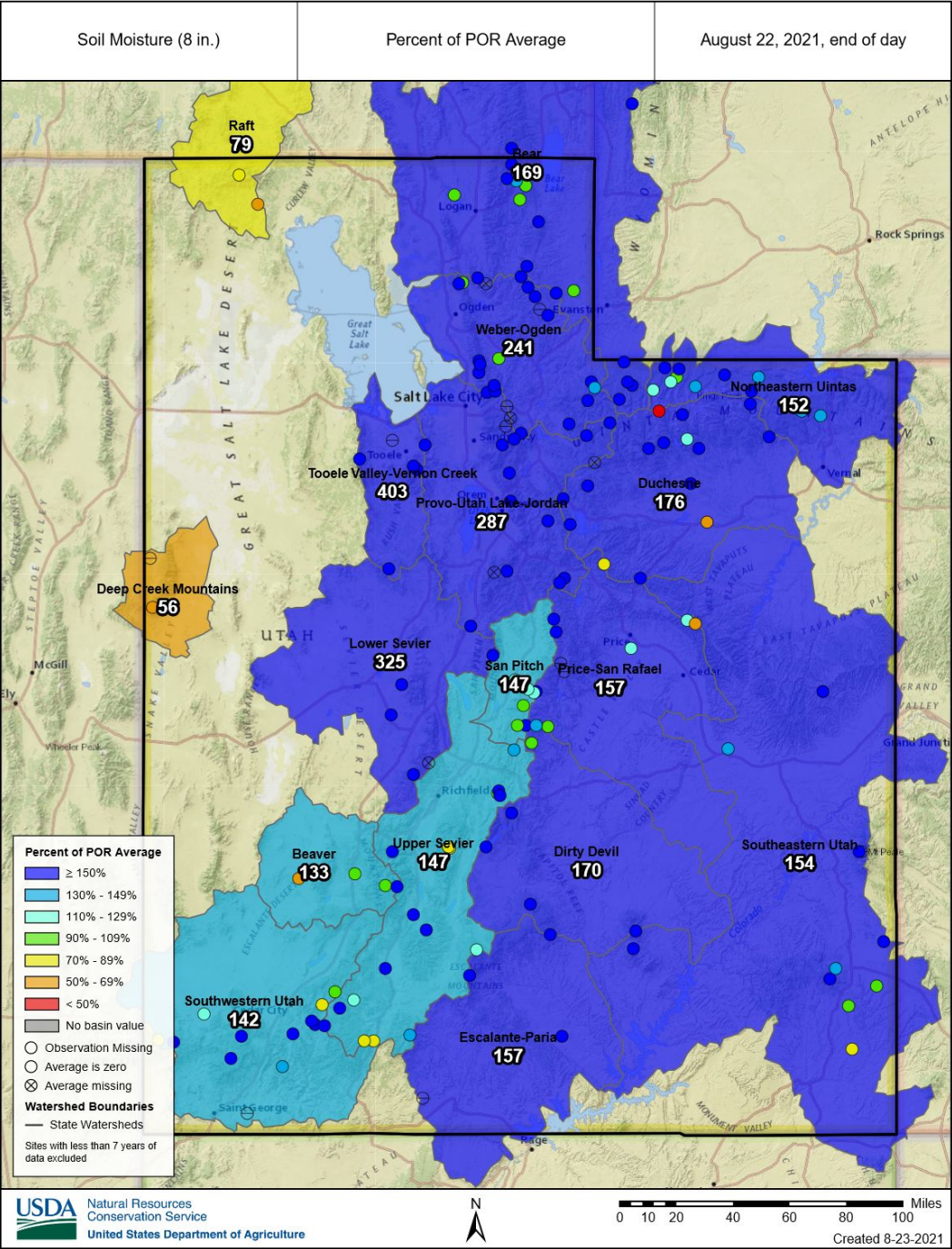
ENSO-neutral is favored for the remainder of summer (~60% chance in the July-September season), with La Niña possibly emerging during the August-October season and lasting through the 2021-22 winter (~70% chance during November-January).*

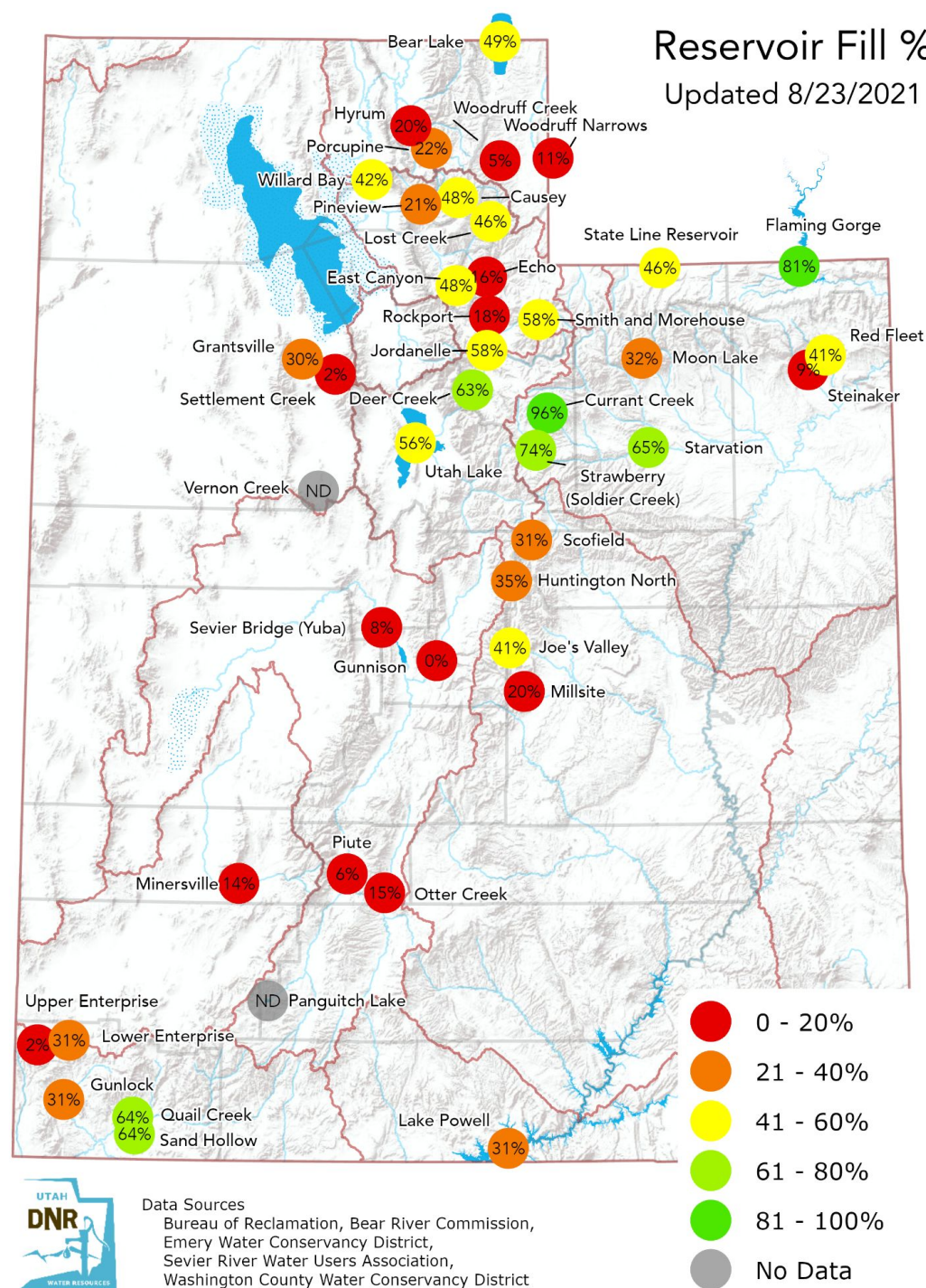
Soil Moisture



Nice response to recent monsoonal moisture!
(SNOTEL & SCAN sites, 8" sensor depth)

Agency - NRCS Snow Survey
Presenter - Jordan Clayton





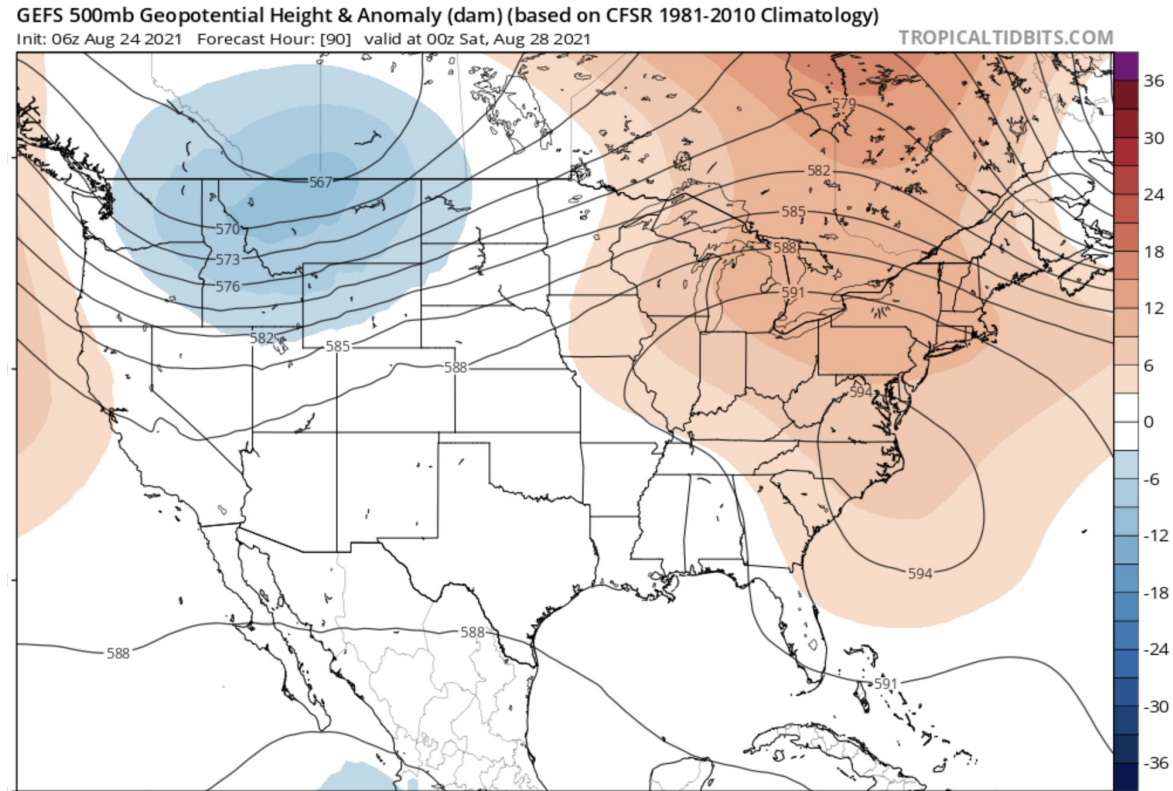
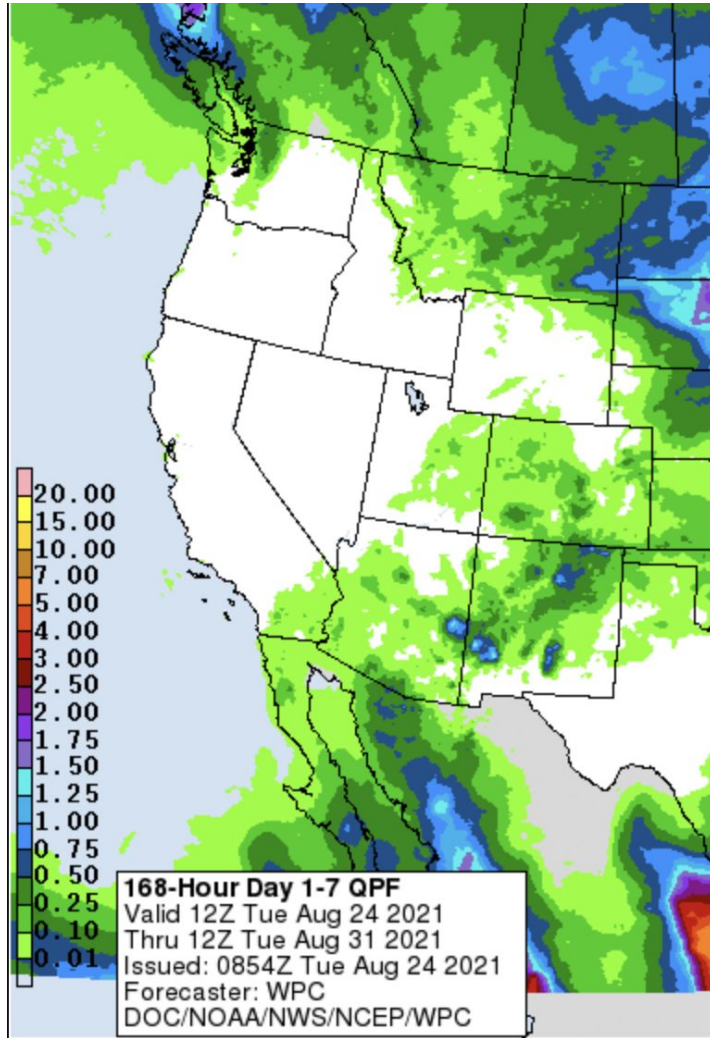
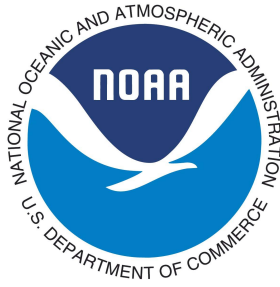
Statewide average of
42 large reservoirs **50.9%**

(excludes Lake Powell &
Flaming Gorge)

Agency - Division of Water Resources
w/NRCS data

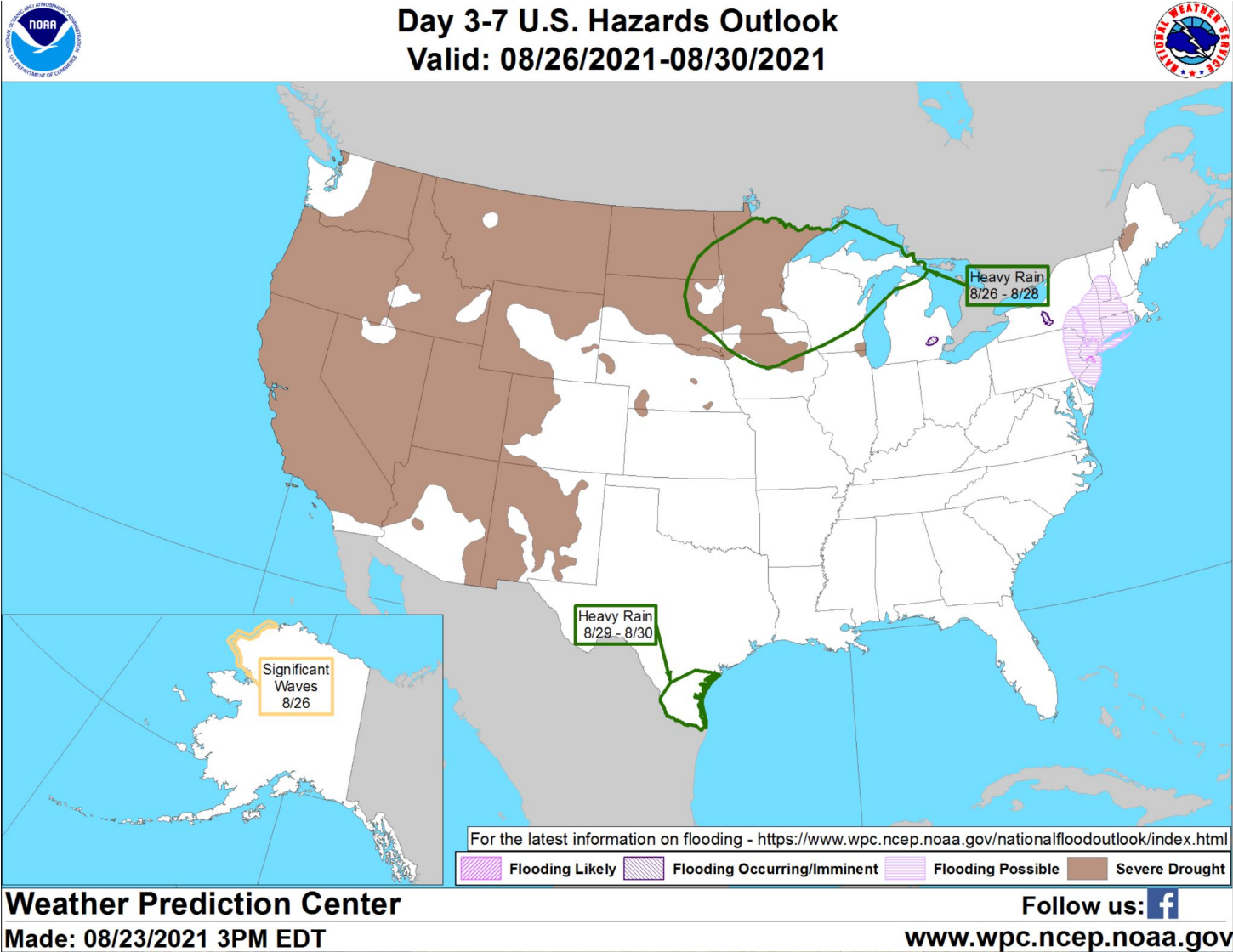
Presenter - Laura Haskell

Weather Forecast Office Utah Day 1-7 Outlook

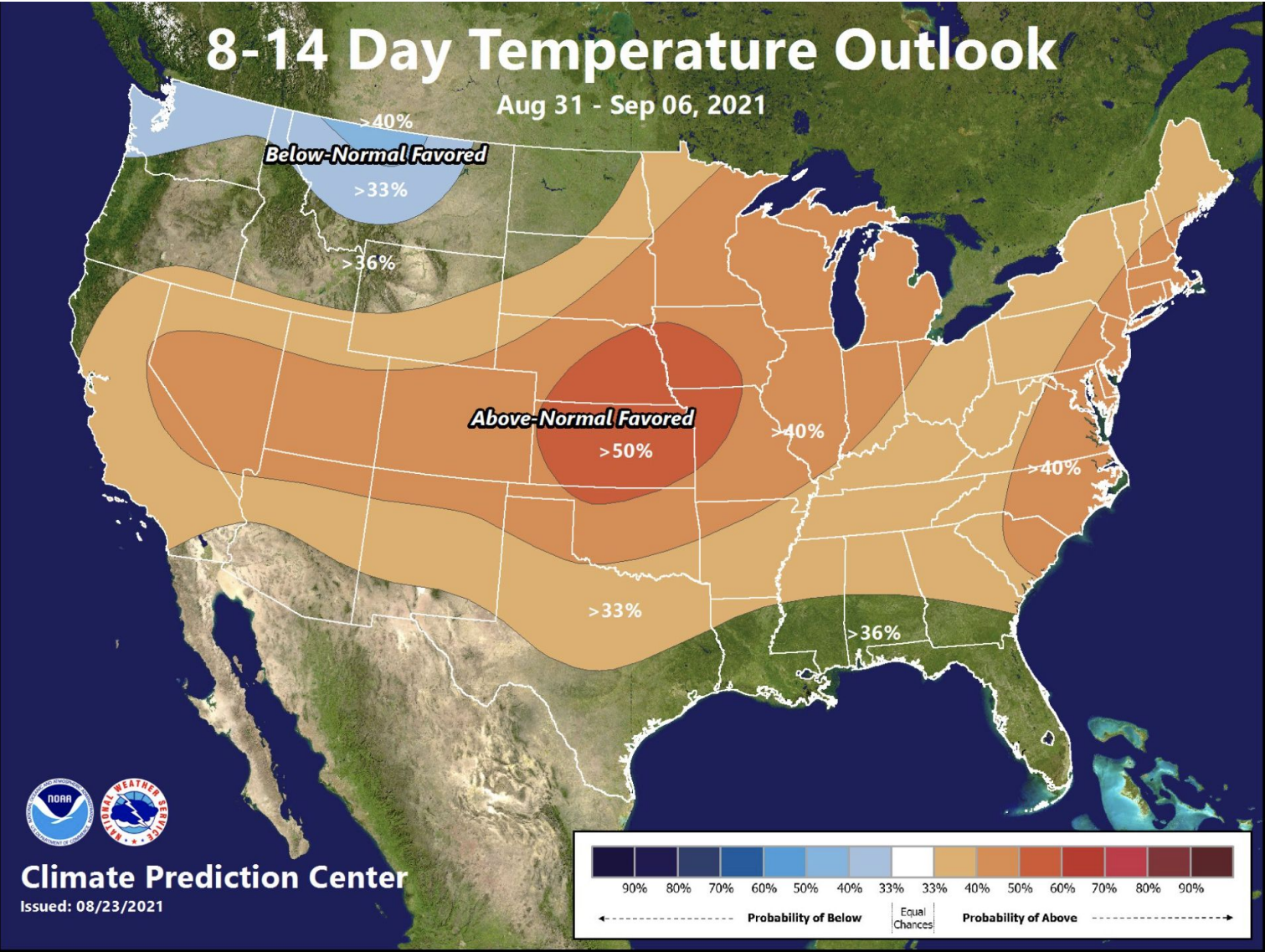


- Largely dry west-southwest flow aloft - September “ish” pattern.
- Min RH trends - teens% in the valleys, 20-30% mountains.
- Breezy southerly winds.
- Near to slightly above climo temperatures.

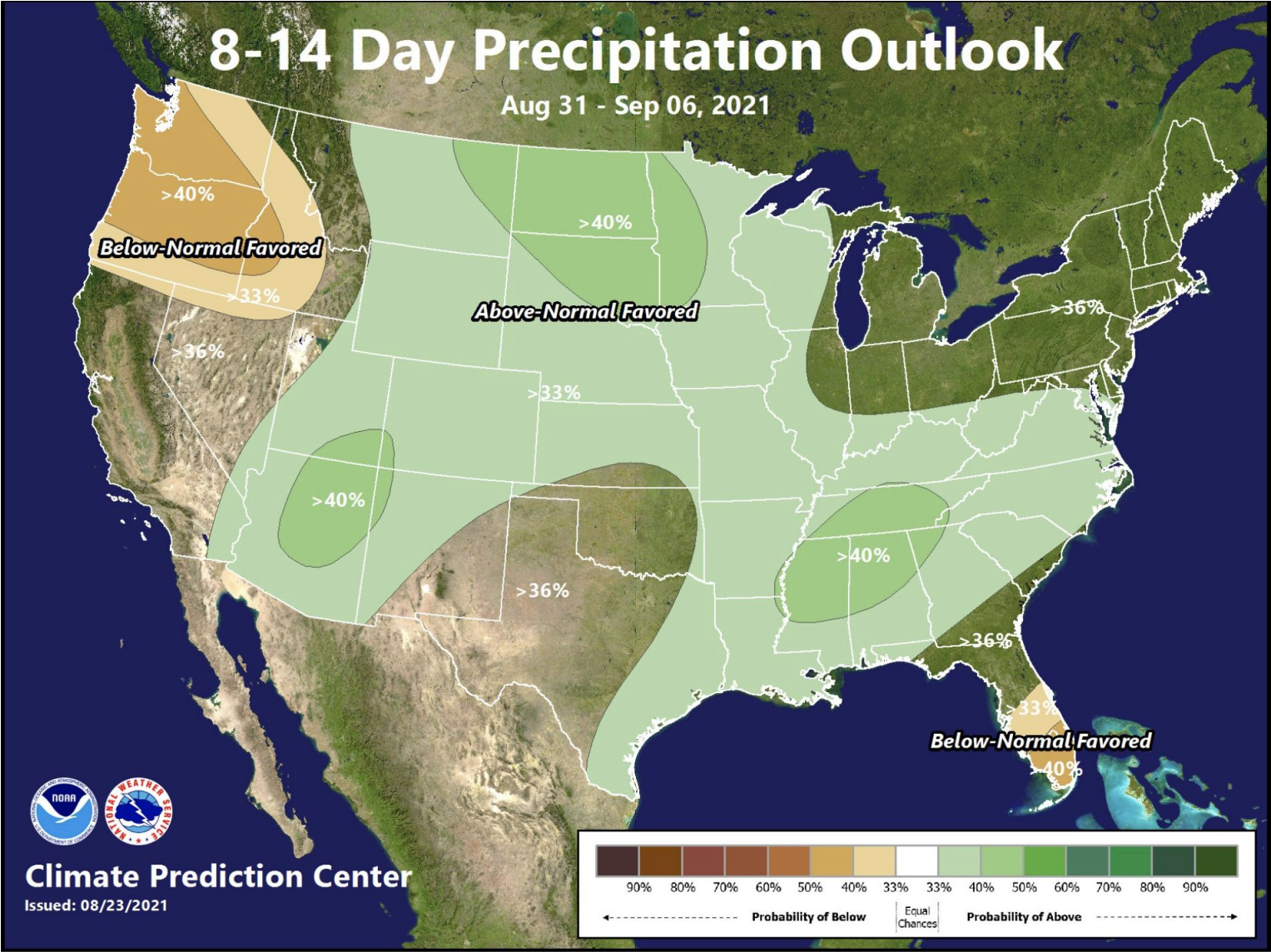
Weather Prediction Center U.S. Day 3-7 Hazards Outlook



Climate Prediction Center 8 to 14 Day Outlooks - Temperature



Climate Prediction Center 8 to 14 Day Outlooks - Precipitation

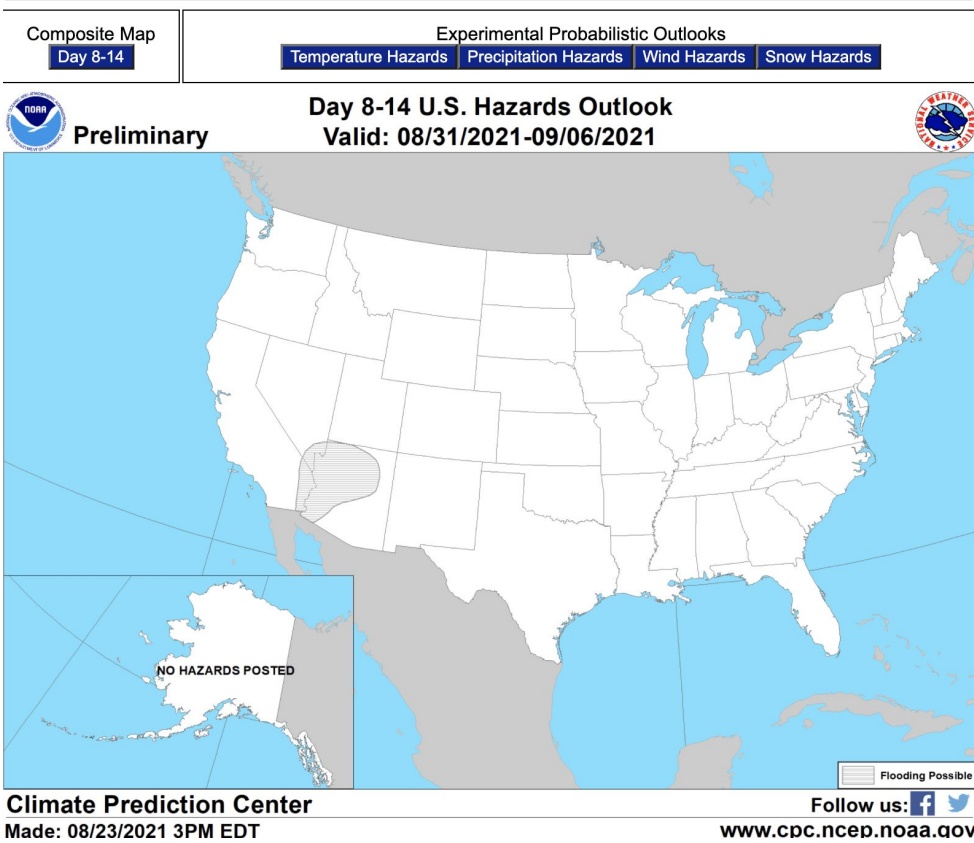


Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill

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



| | | | |
|---------------------------------------|---------------------------|----------------------------|----------------------------------|
| Much Above Normal Temperatures | Excessive Heat | Heavy Precipitation | Composite |
| <div></div> High Risk | <div></div> High Risk | <div></div> High Risk | <div></div> Flooding Possible |
| <div></div> Moderate Risk | <div></div> Moderate Risk | <div></div> Moderate Risk | <div></div> Frozen Precipitation |
| <div></div> Slight Risk | <div></div> Slight Risk | <div></div> Slight Risk | |
| Much Below Normal Temperatures | High Winds | Heavy Snow | |
| <div></div> High Risk | <div></div> Moderate Risk | <div></div> High Risk | |
| <div></div> Moderate Risk | <div></div> Slight Risk | <div></div> Moderate Risk | |
| <div></div> Slight Risk | | <div></div> Slight Risk | |



Agency - National Weather Service Weather Forecast Office
Presenter -

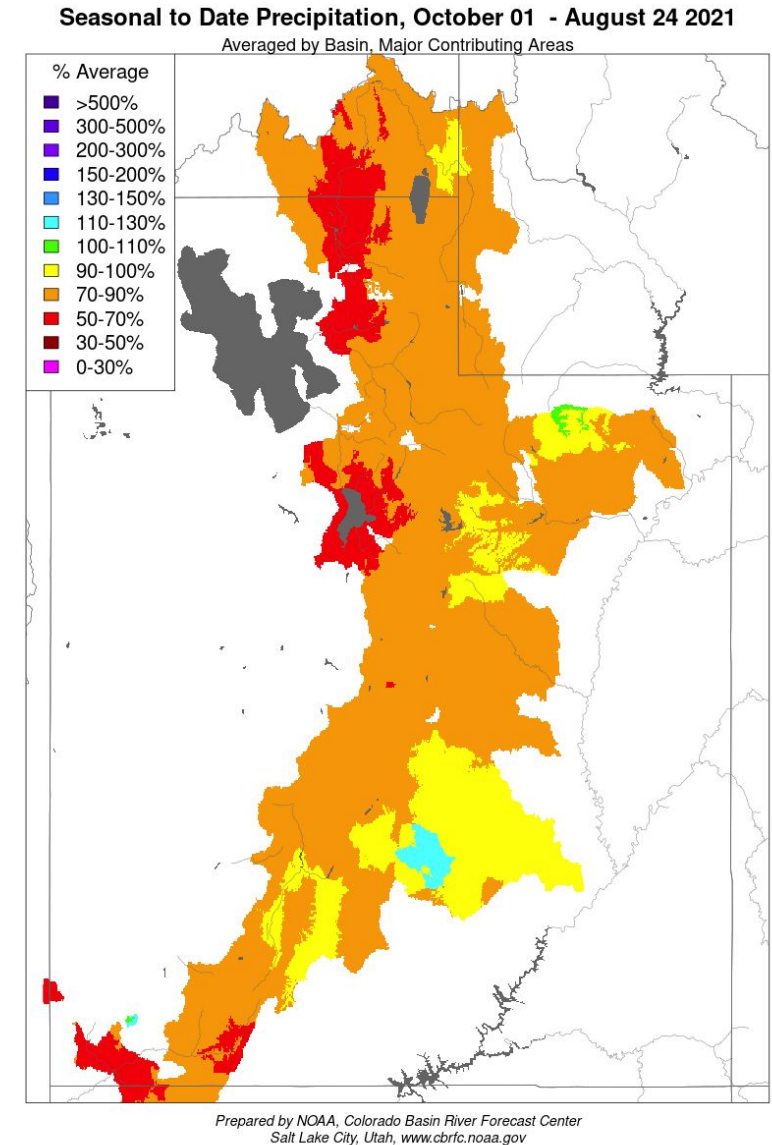
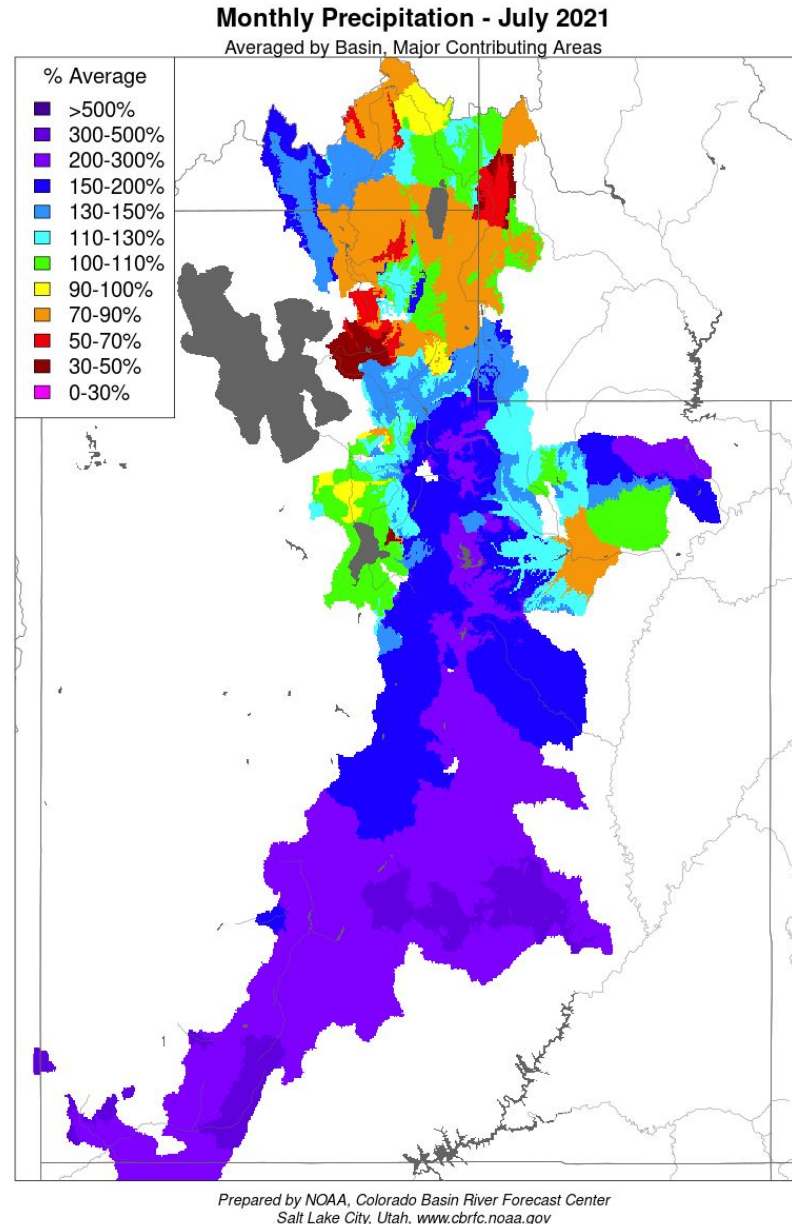
Water Supply Forecasts

Final Volumes 2021

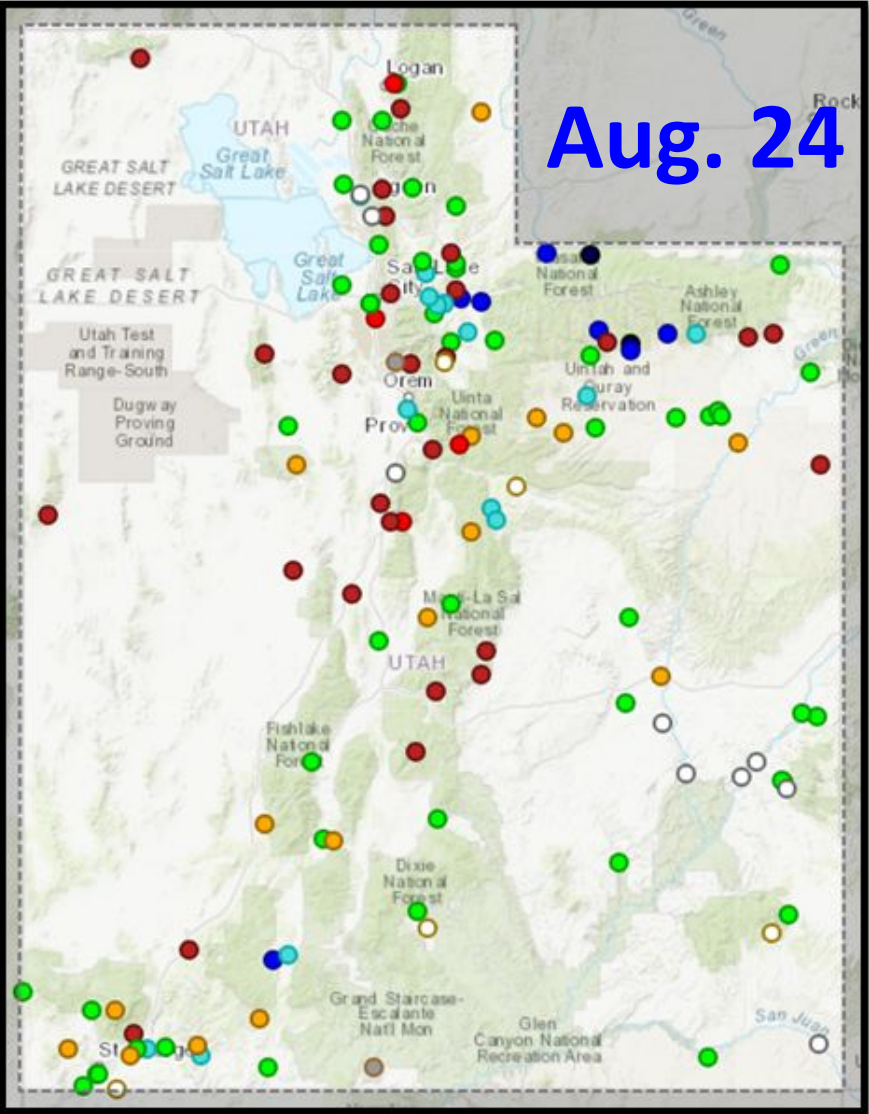
| | |
|----------------|-----|
| Weber Gateway | 18% |
| Bear UT/WY | 49% |
| Six Creeks LCC | 51% |
| Utah Lake | 35% |
| Sevier Hatch | 28% |
| Green River UT | 32% |
| San Juan Bluff | 45% |
| Lake Powell | 26% |

Agency - CBRFC

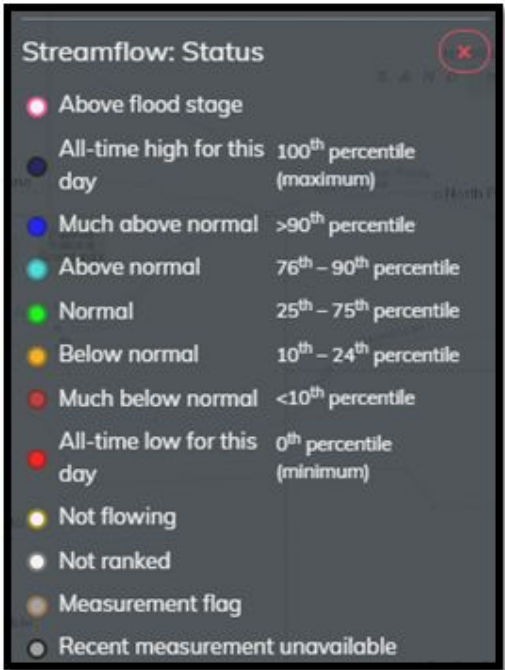
Presenter - Brent Bernard



Current Streamflow Conditions



Aug. 24

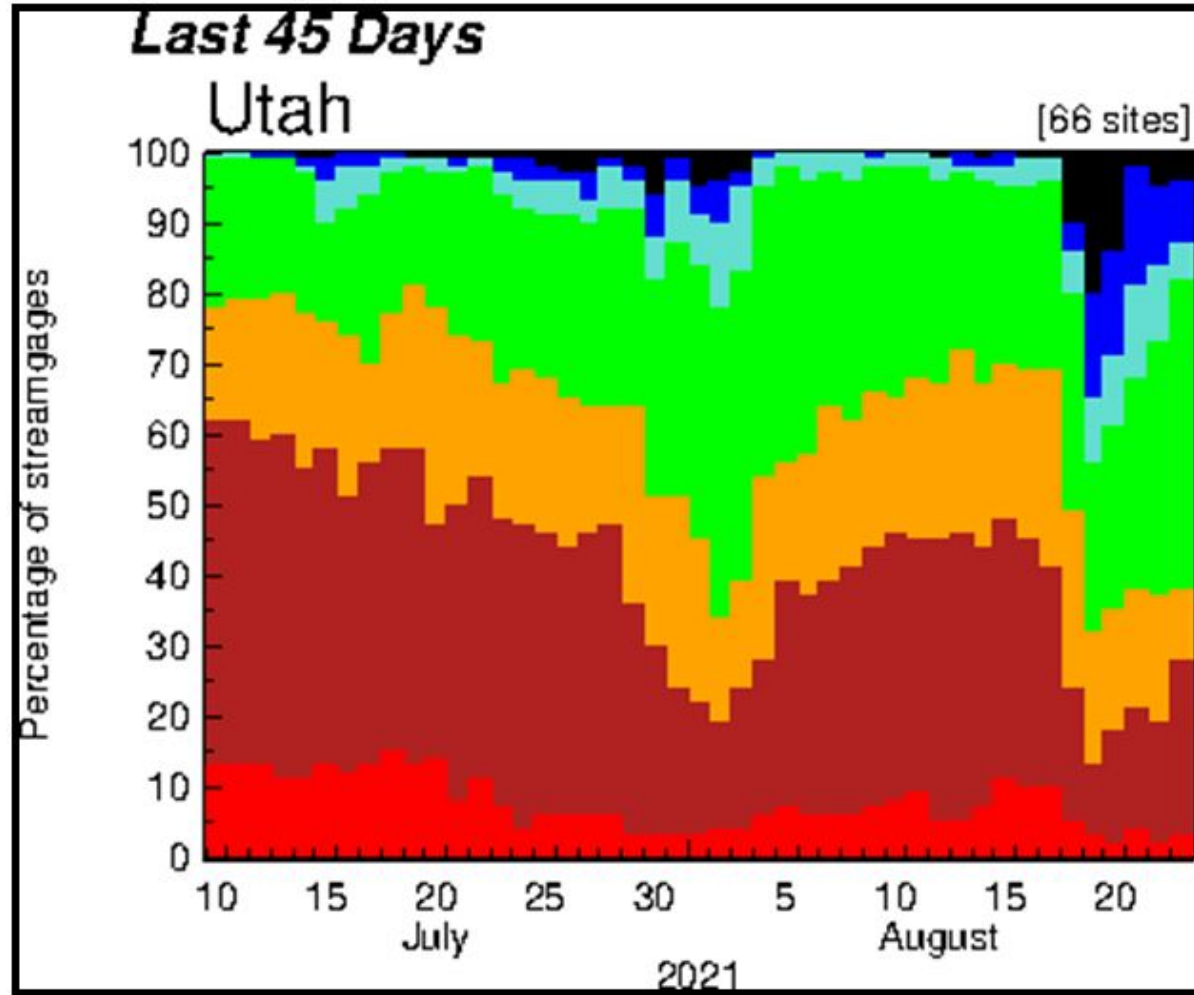


| Day-of-Year Status | # Gages | % Gages |
|--|---------|---------|
| All-time high for this day-of-year | 2 | 1.5% |
| Much above normal for this day-of-year | 7 | 5.1% █ |
| Above normal for this day-of-year | 14 | 10.3% █ |
| Normal for this day-of-year | 50 | 36.8% █ |
| Below normal for this day-of-year | 16 | 11.8% █ |
| Much below normal for this day-of-year | 27 | 19.9% █ |
| All-time low for this day-of-year | 4 | 2.9% █ |
| Not ranked - insufficient record | 10 | 7.4% █ |
| Not ranked - stream not flowing | 5 | 3.7% █ |
| Not ranked - no measurement | 1 | 0.7% |

Sites must have at least 10 years of streamflow record

Agency - USGS Utah Water Science Center
Presenter - Ryan Rowland

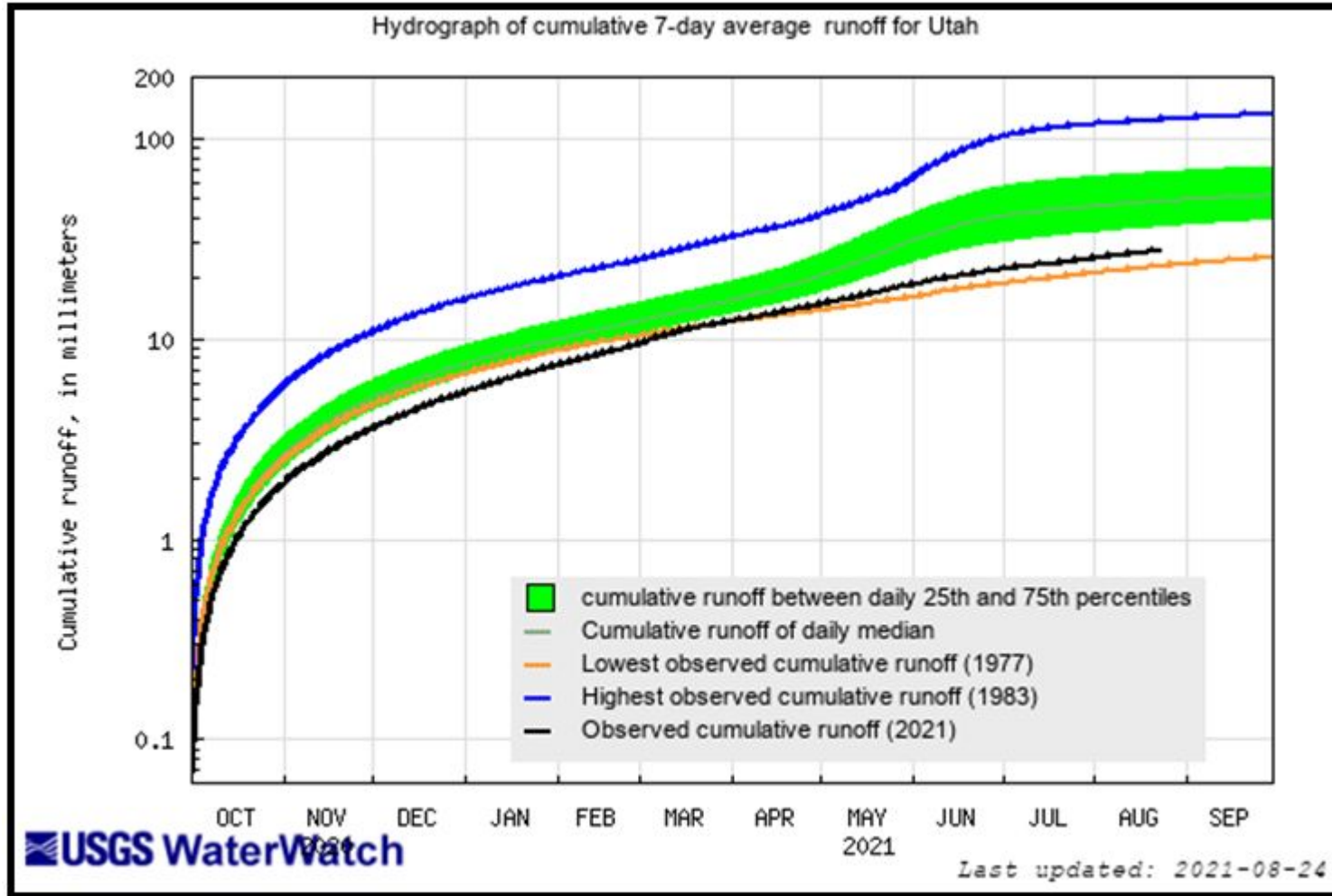
Current Streamflow Conditions



| 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 | | |

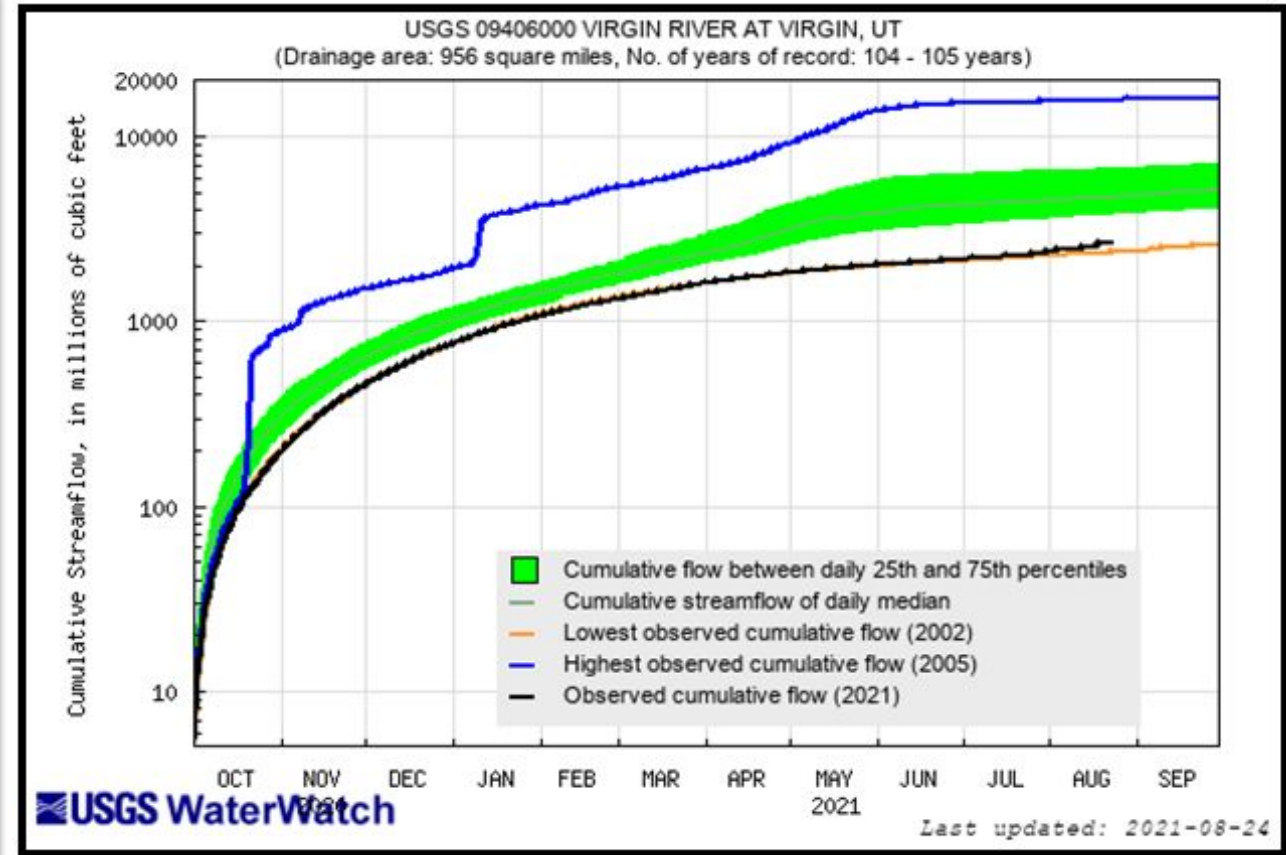
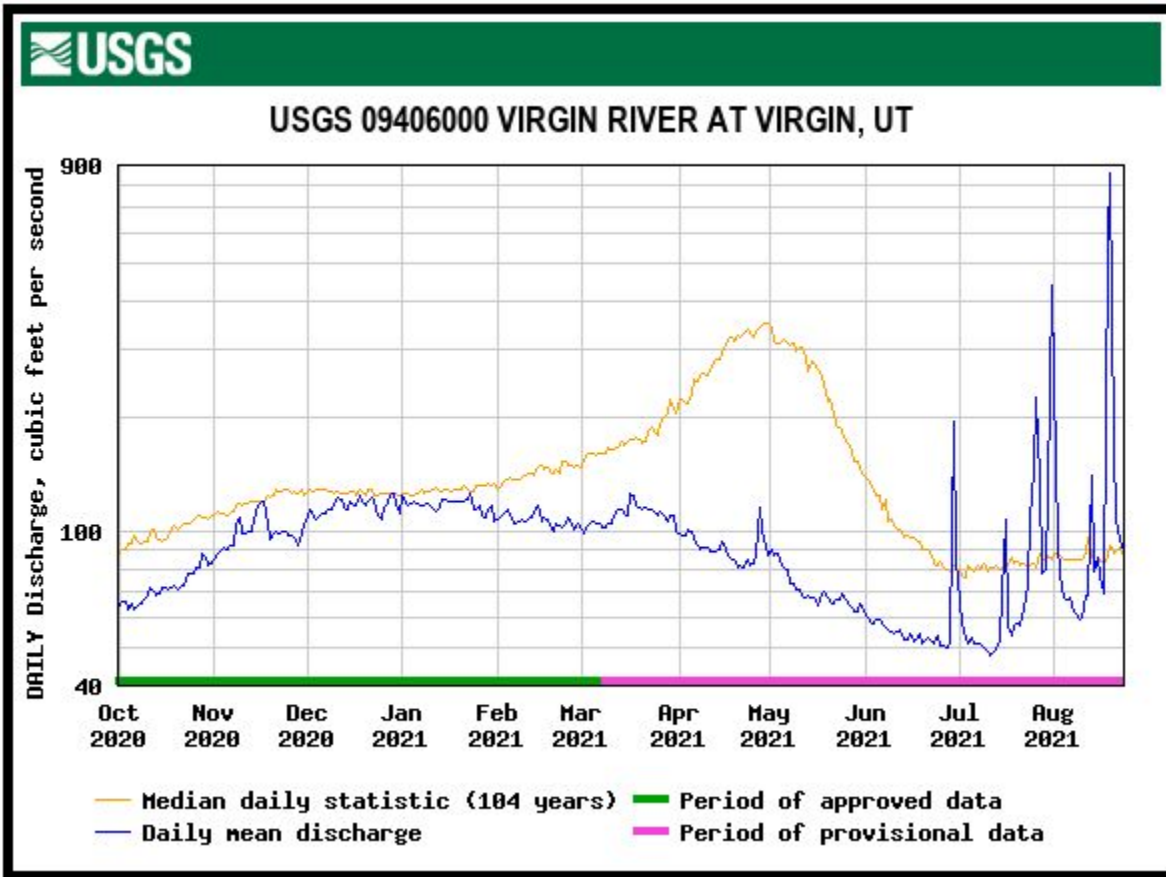
- ☐ Streamflow compared to historical streamflow for the day of the year
- ☐ Sites must have at least 30 years of record to be included in this graphic

Cumulative Streamflow

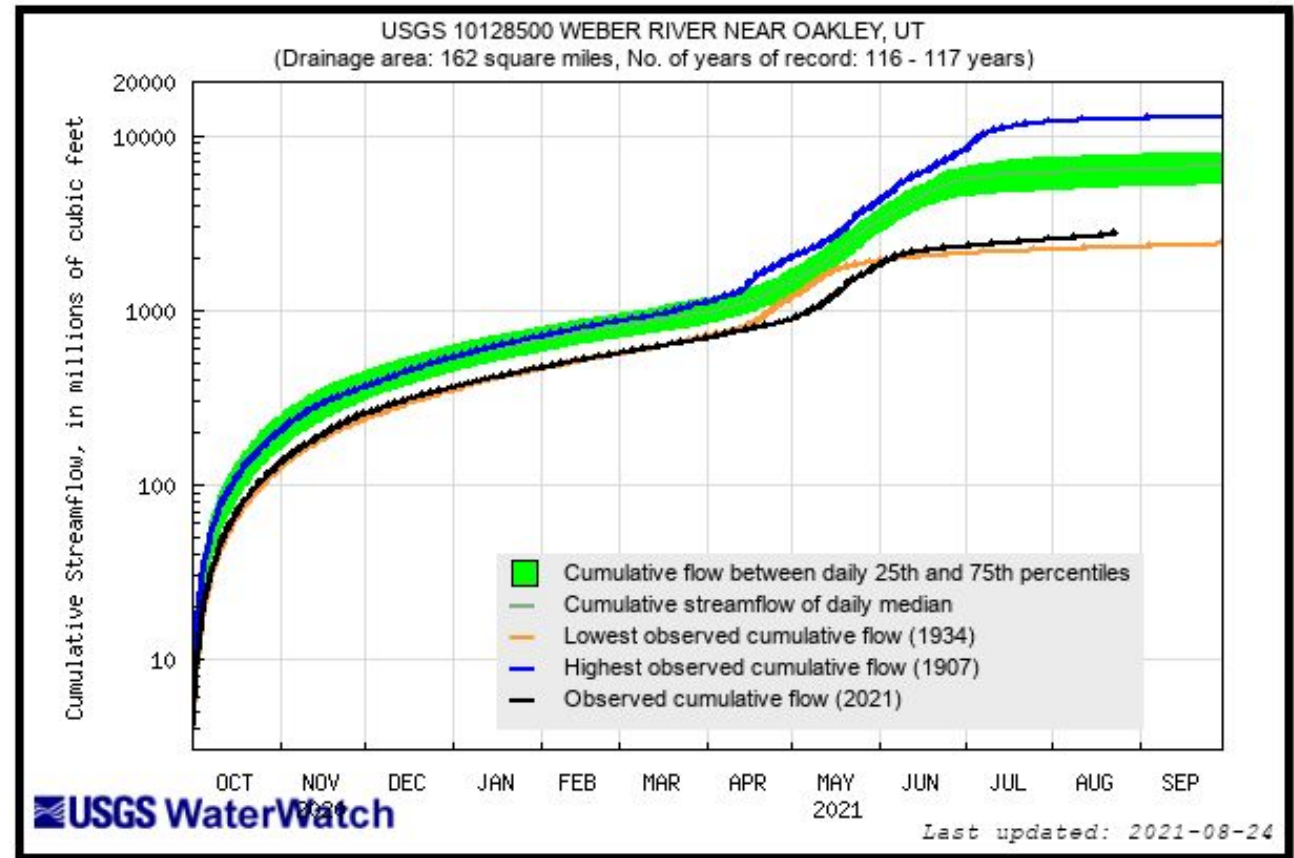
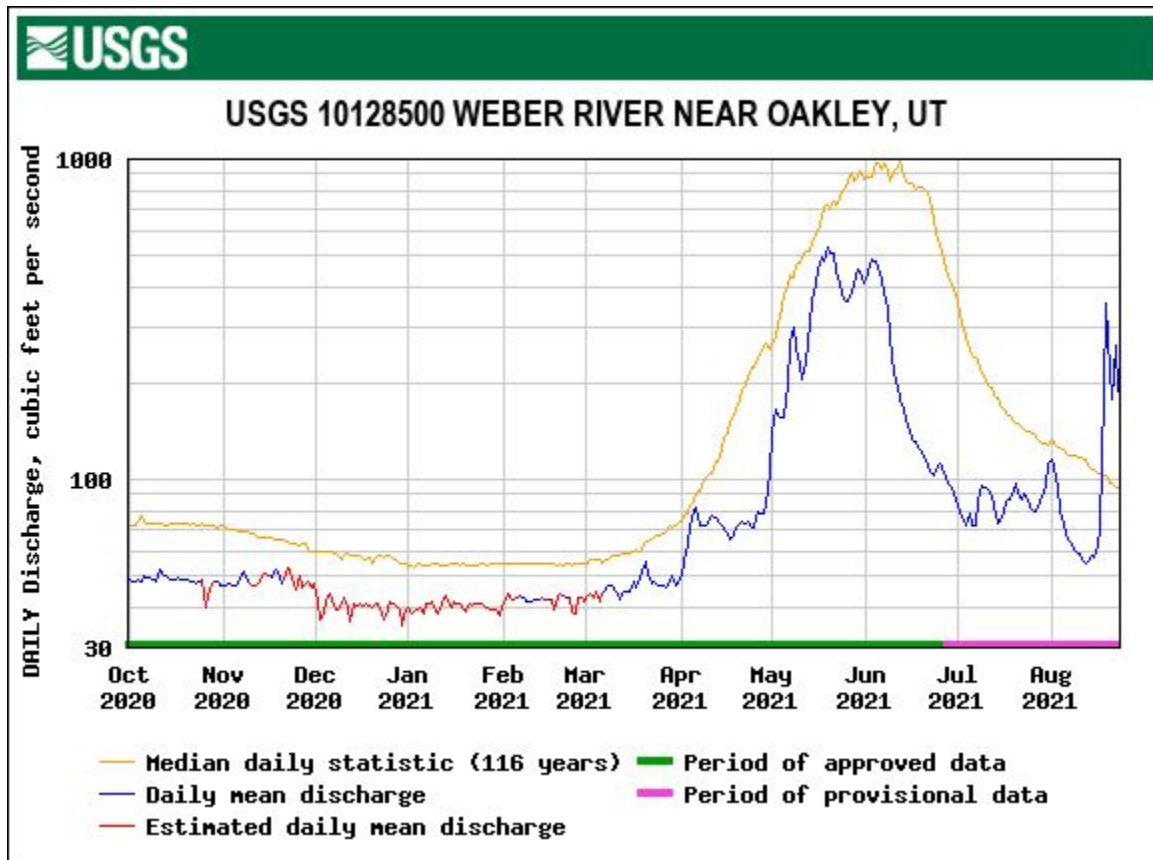


☐ Cumulative 7-day average runoff for water year 2021 is near the lowest on record

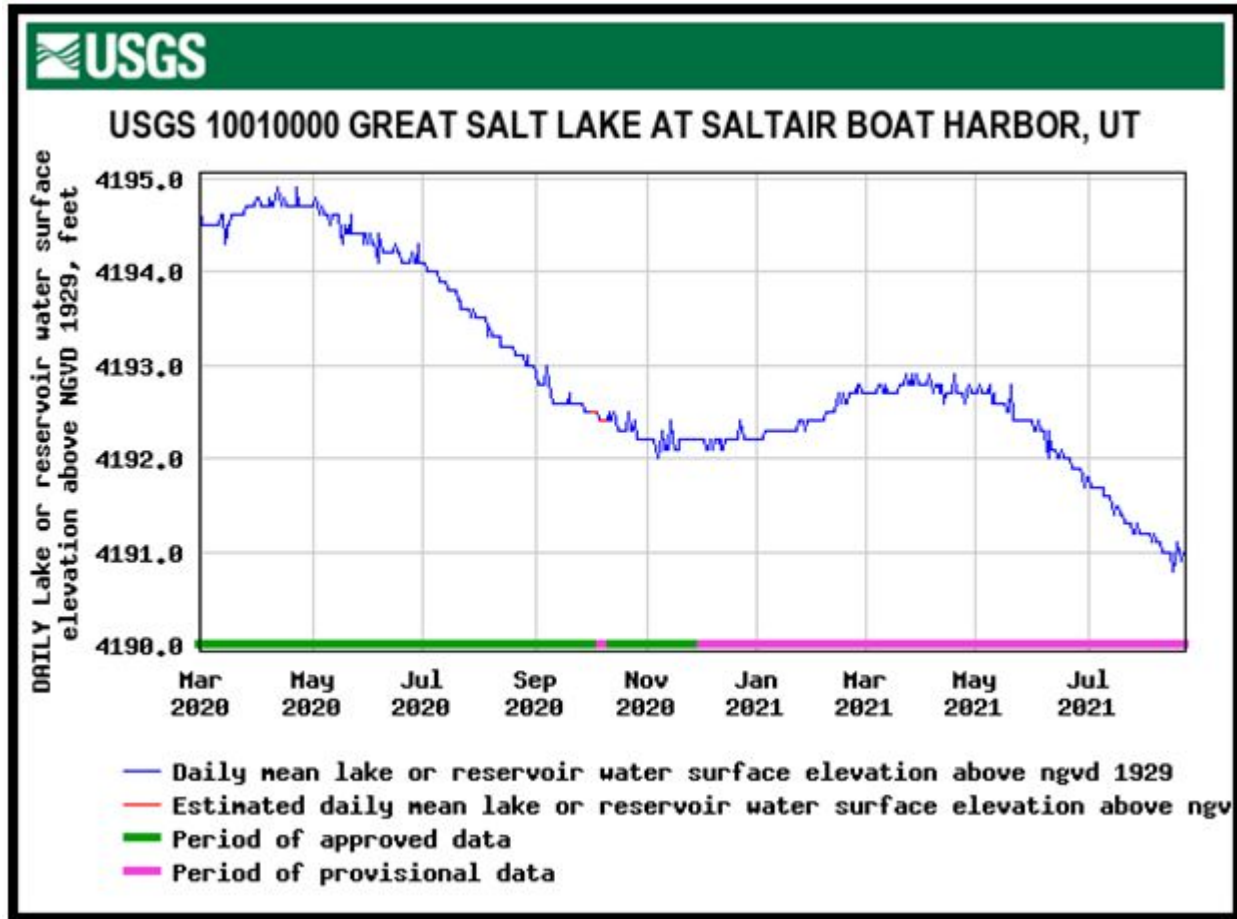
Daily vs Cumulative Streamflows



Daily vs Cumulative Streamflows

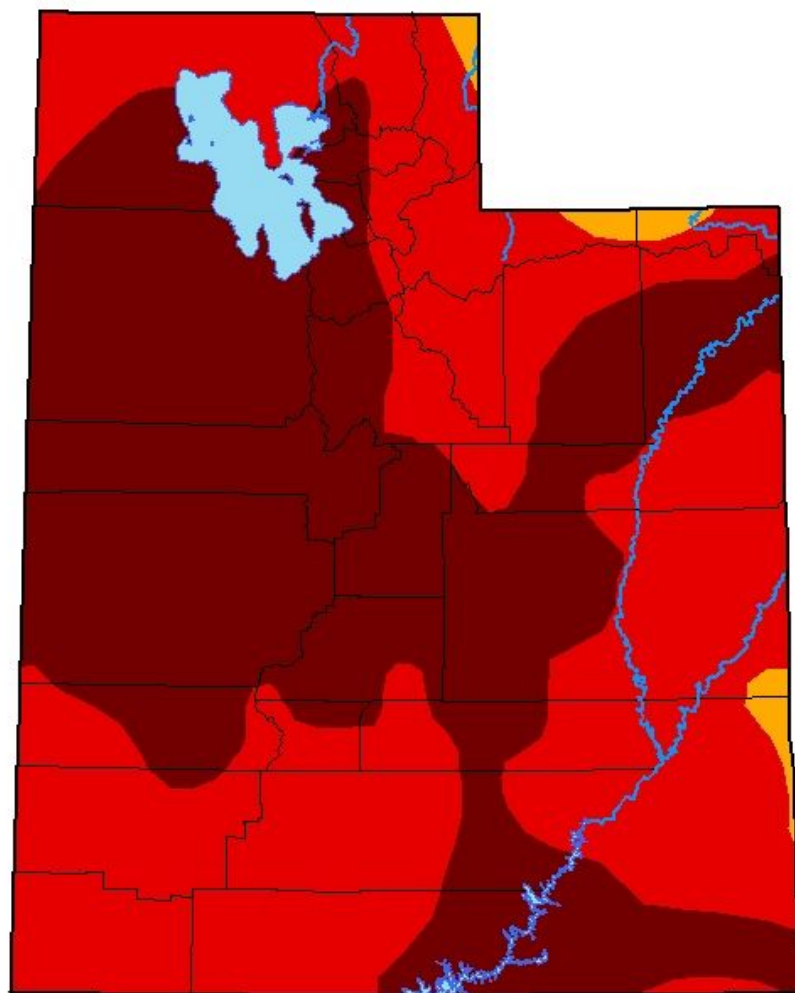


Great Salt Lake Water Surface Elevation



- ❑ Daily mean value yesterday 4,190.9'
- ❑ 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

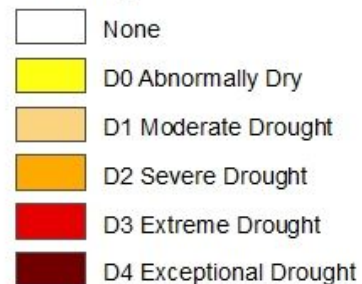


August 17, 2021

(Released Thursday, Aug. 19, 2021)

Valid 8 a.m. EDT

Intensity:



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:

Curtis Riganti
National Drought Mitigation Center

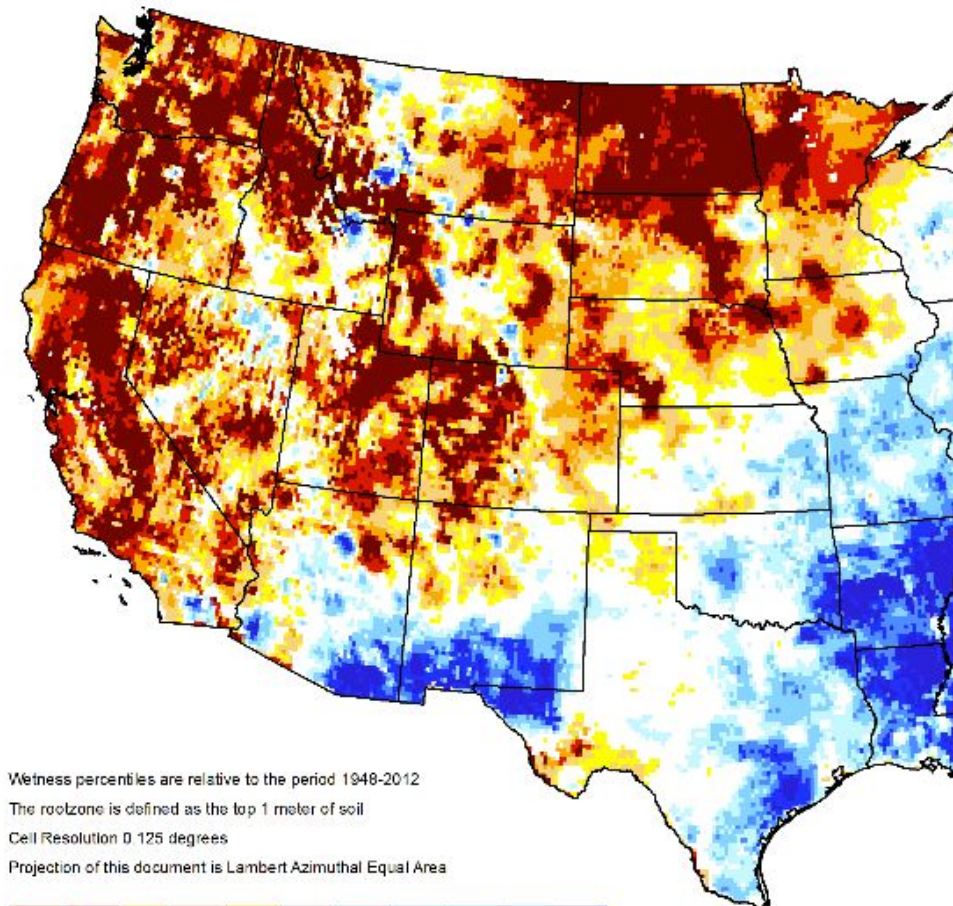


droughtmonitor.unl.edu



GRACE-Based Root Zone Soil Moisture

August 16, 2021



Wetness percentiles are relative to the period 1948-2012

The rootzone is defined as the top 1 meter of soil

Cell Resolution 0.125 degrees

Projection of this document is Lambert Azimuthal Equal Area

