



# Utah Water Assessment & Conditions Monitoring (Drought Webinar)

The meeting will begin shortly



Thank you to our contributors

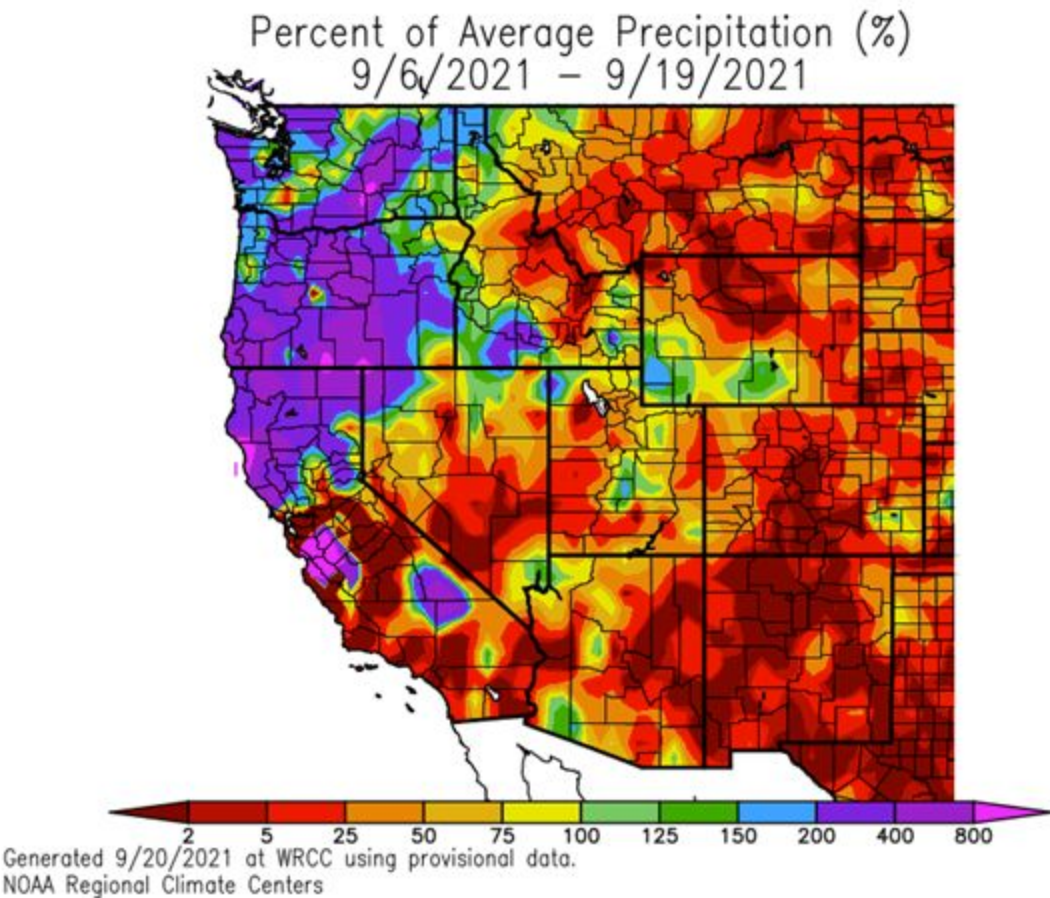
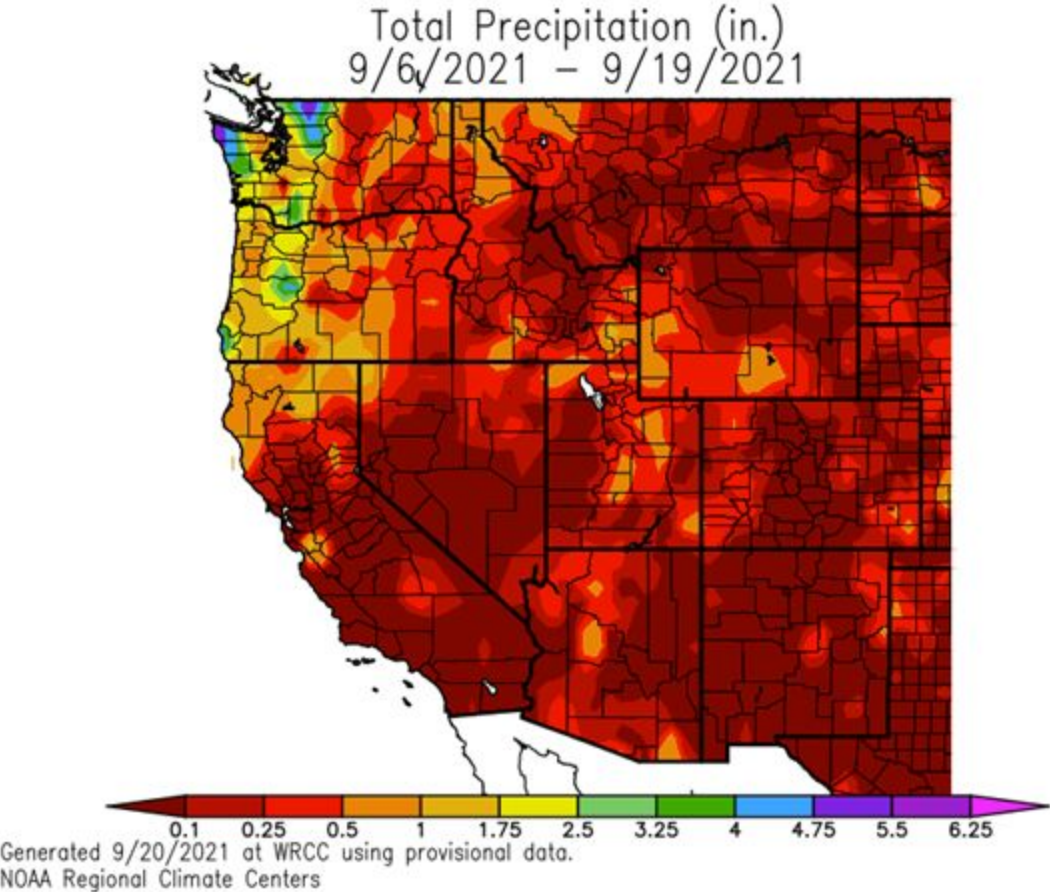




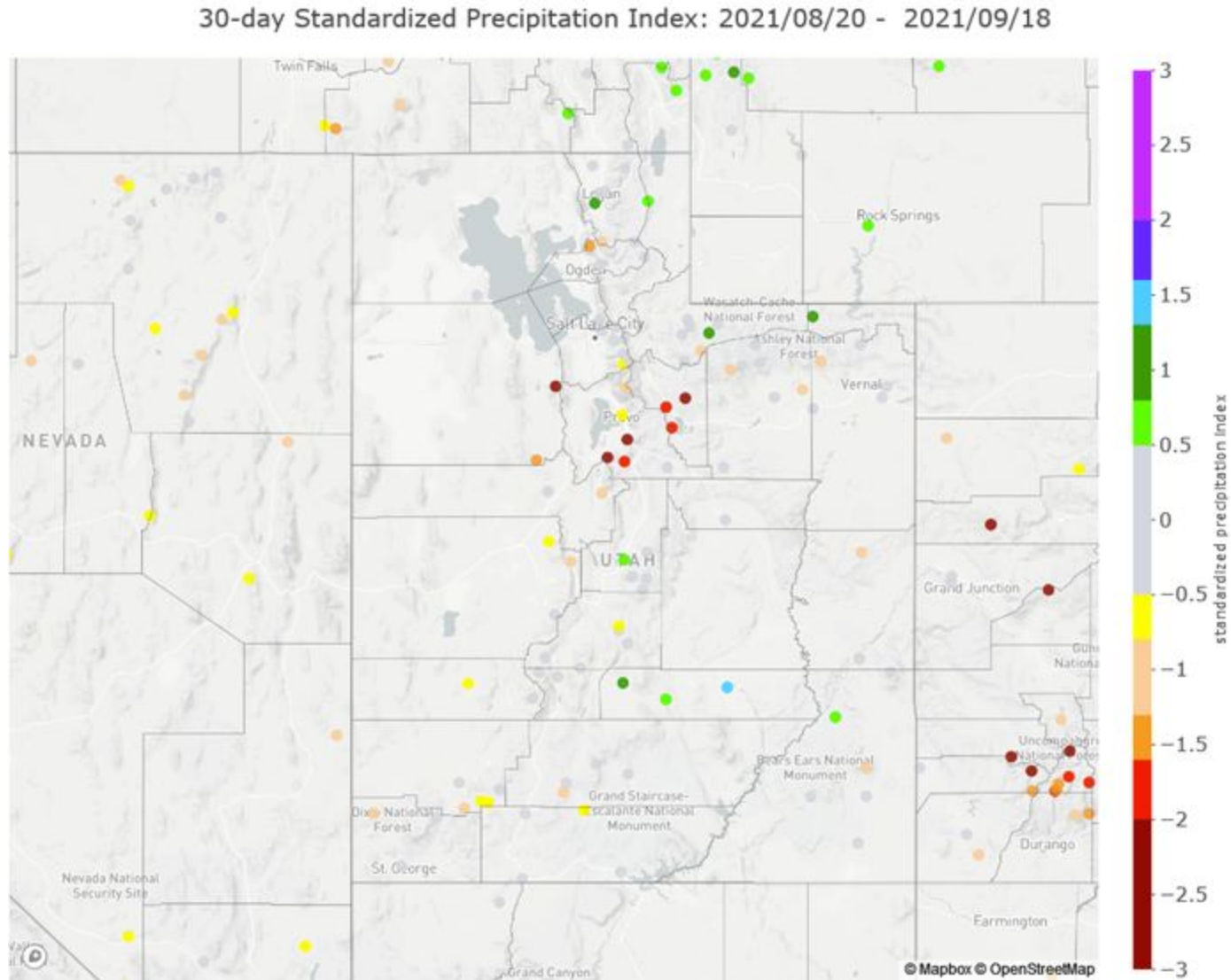
# **Utah Water Assessment & Conditions Monitoring Webinar**

**September 20, 2021**

# Precipitation 14 day history

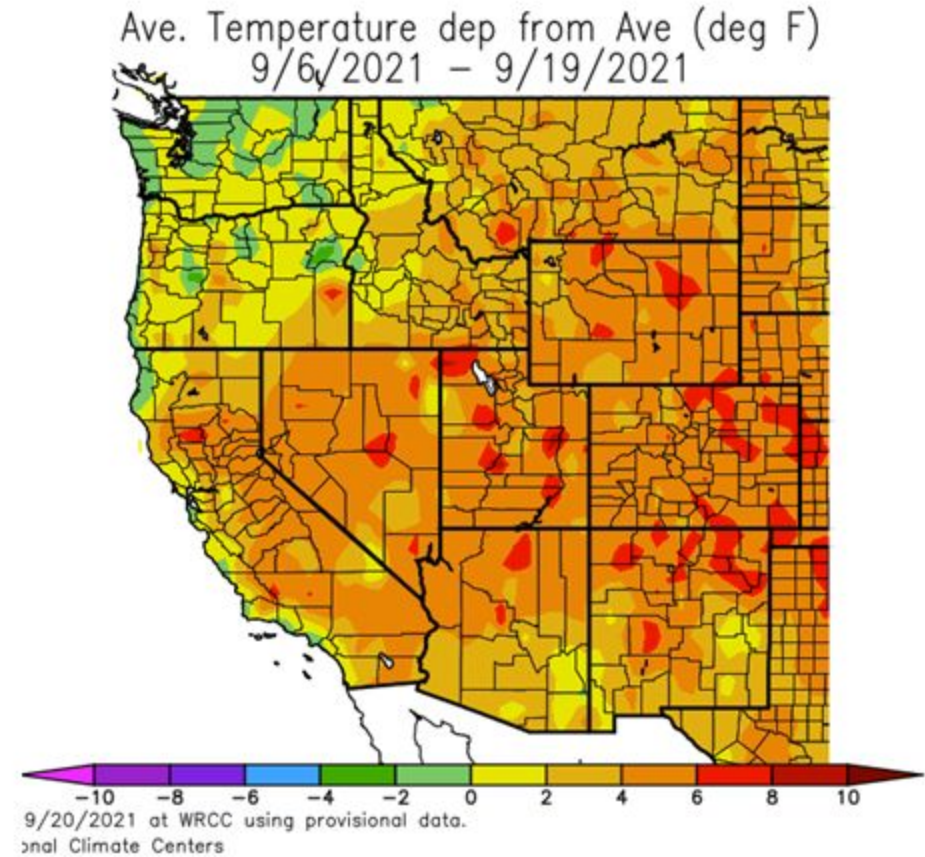
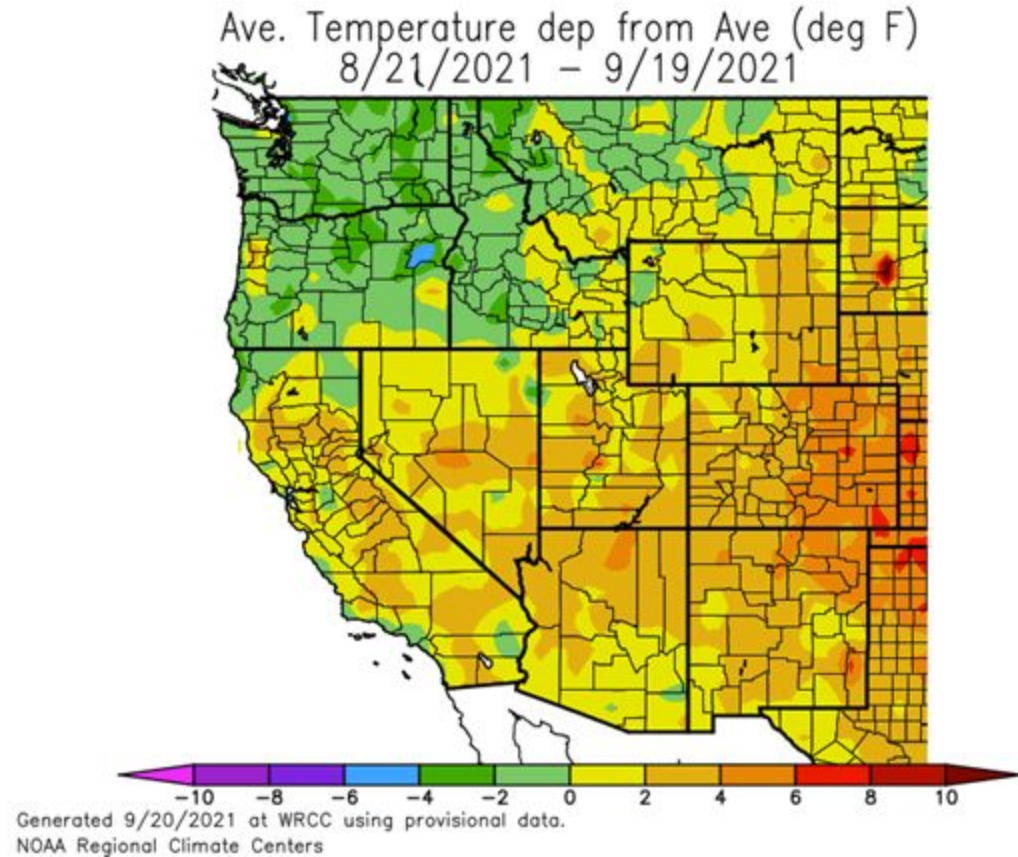


# 30-day Standardized Precipitation Index (SPI)





# 30-day & 14-day Temperature departure from average



# Evaporative conditions

## U.S. Vegetation and Drought

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

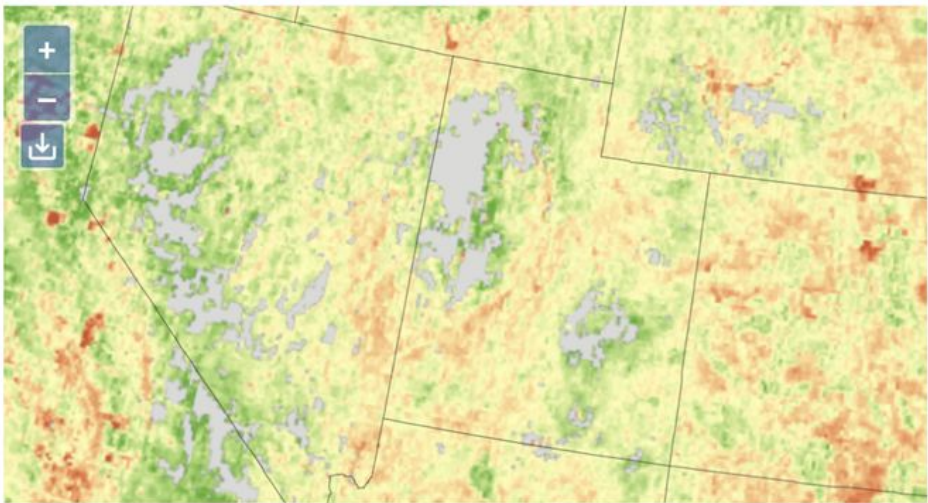
The Evaporative Stress Index (ESI) describes temporal anomalies in evapotranspiration (ET), highlighting areas with anomalously high or low rates of water use across the land surface. The ESI also demonstrates capability for capturing early signals of "flash drought," brought on by extended periods of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

### Standardized ET/PET Anomalies



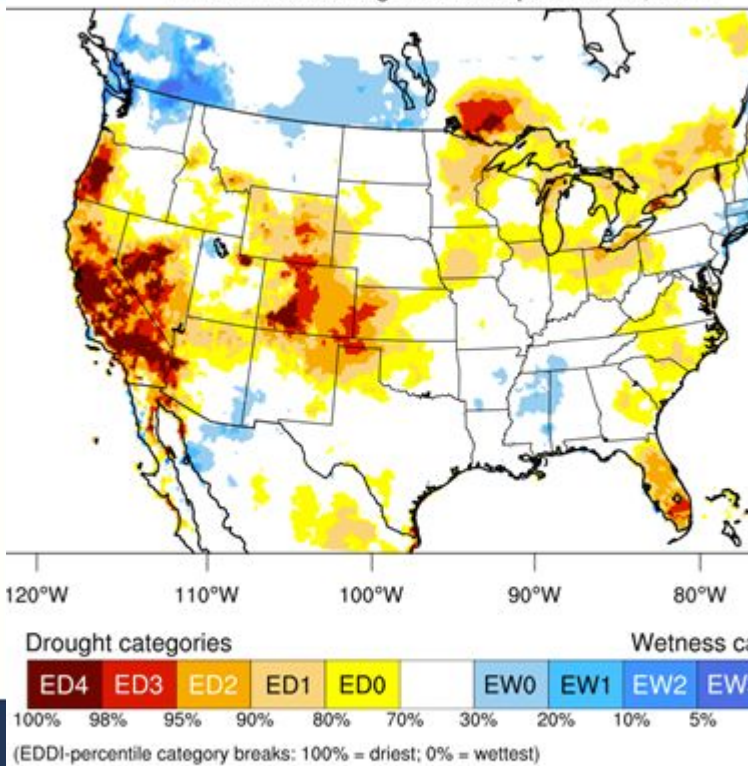
\*Currently, data are only available for the contiguous U.S.

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



Last Updated - 09/21/21

1-month EDDI categories for September 15, 2021

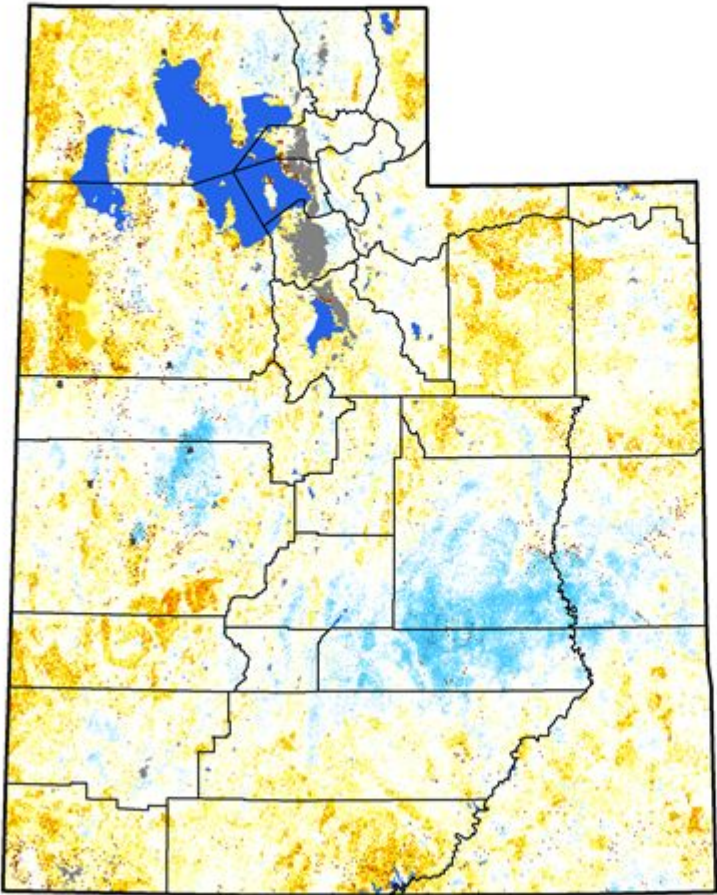




# Quick Drought Response Index (QuickDRI)

## Quick Drought Response Index Utah

September 19, 2021  
(Week 38)

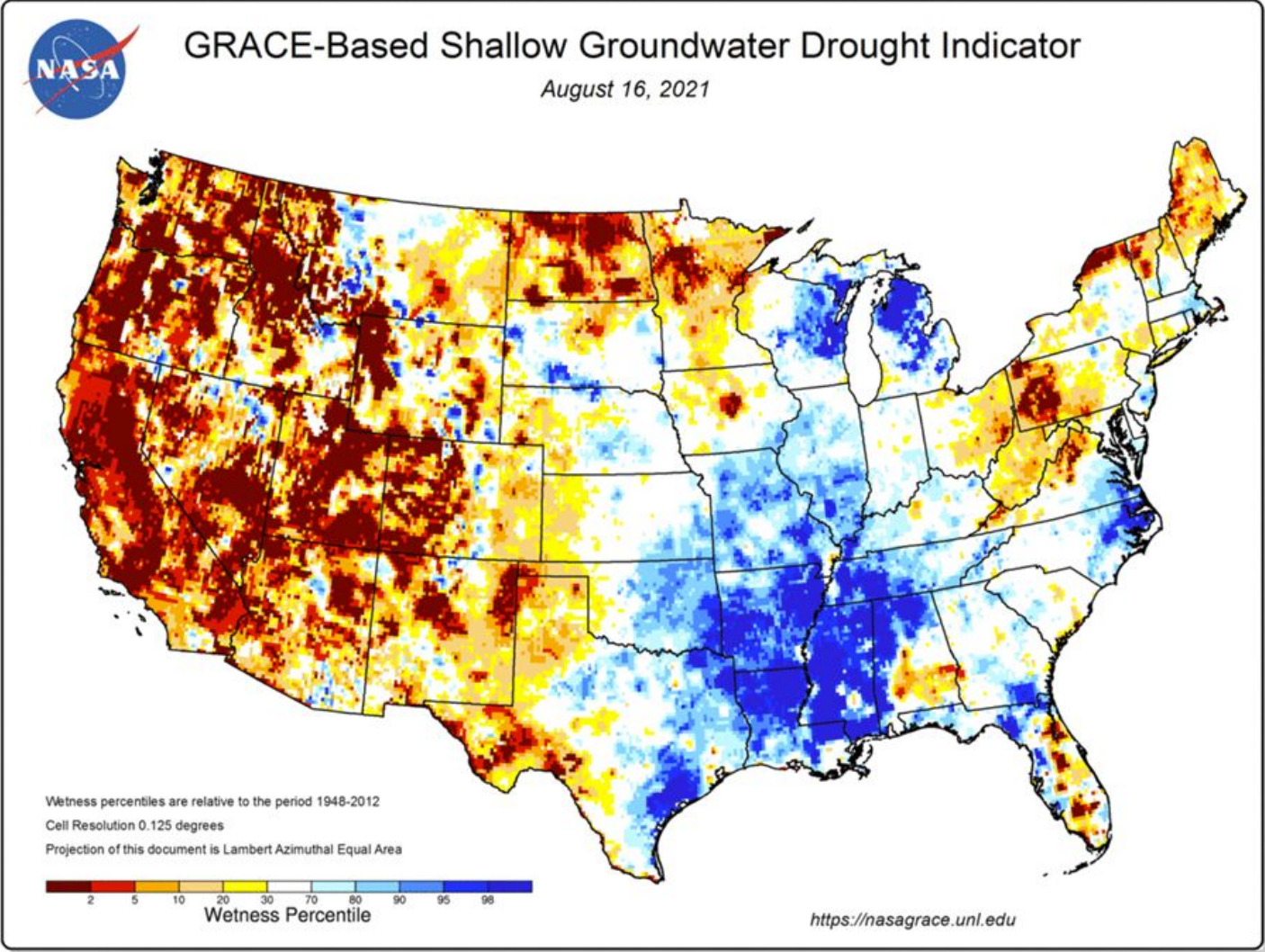


Conditions Relative to  
4-Week Historical Average

- Wetter
- Near Average
- Drier
- Out of Season
- Urban
- No Data
- Water



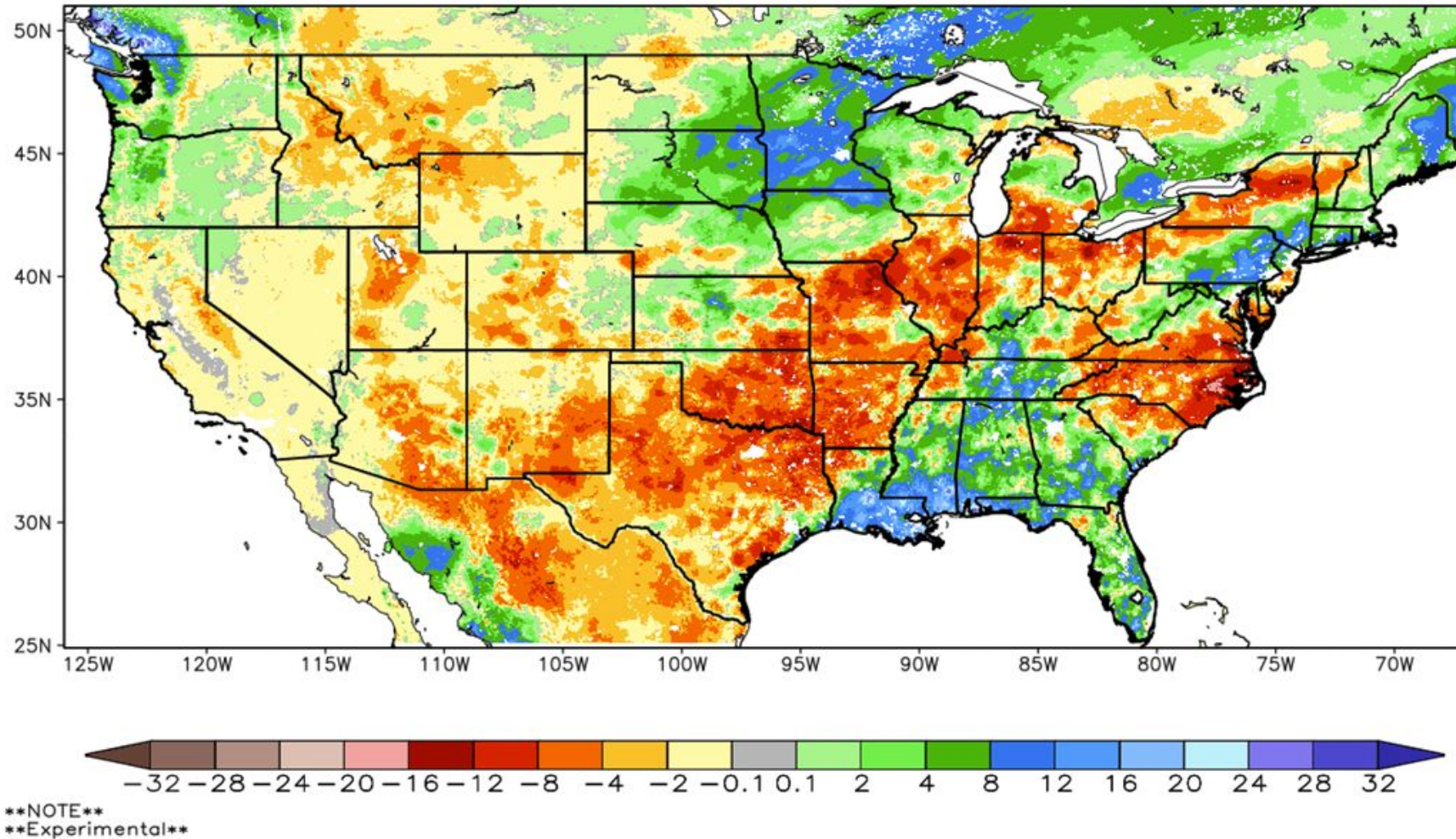
# 1-Month GRACE Soil moisture comparison





# NASA Modeled Soil Moisture changes

1-Month Difference in Column Relative Soil Moisture (%) valid 12z 21 Sep 2021



Agency - Utah Climate Center

Presenter - Jon Meyer

# Vegetation Drought Response Index (VegDRI)

## U.S. Vegetation and Drought

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

The Vegetation Drought Response Index (VegDRI) is a weekly depiction of drought's effects on vegetation stress across the contiguous United States, produced by the National Drought Mitigation Center, the U.S. Geological Survey's National Center for Earth Resources Observation and Science, and the High Plains Regional Climate Center. [Learn more.](#)

### Drought Conditions



### Moist Conditions

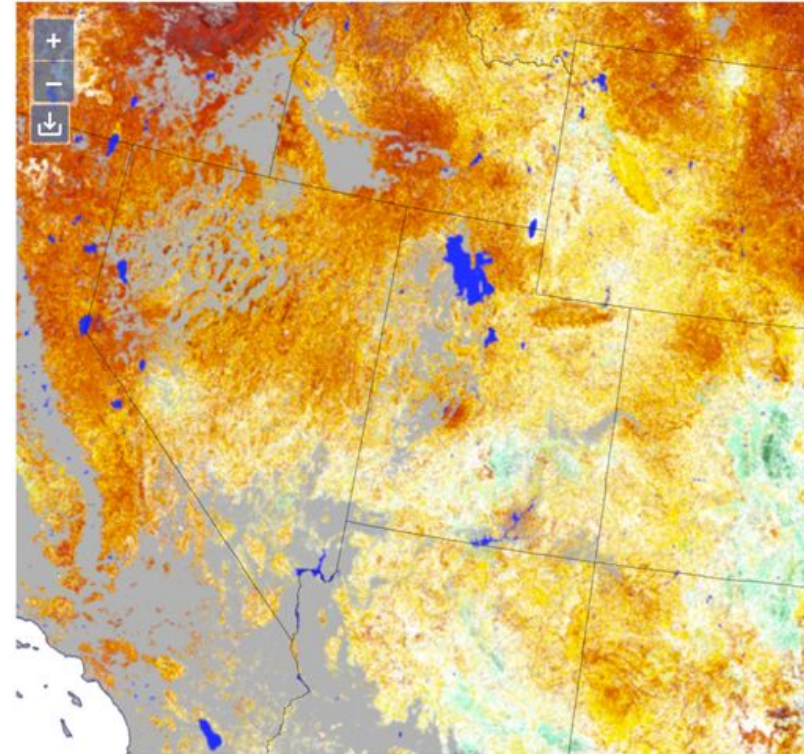


### Other Conditions



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

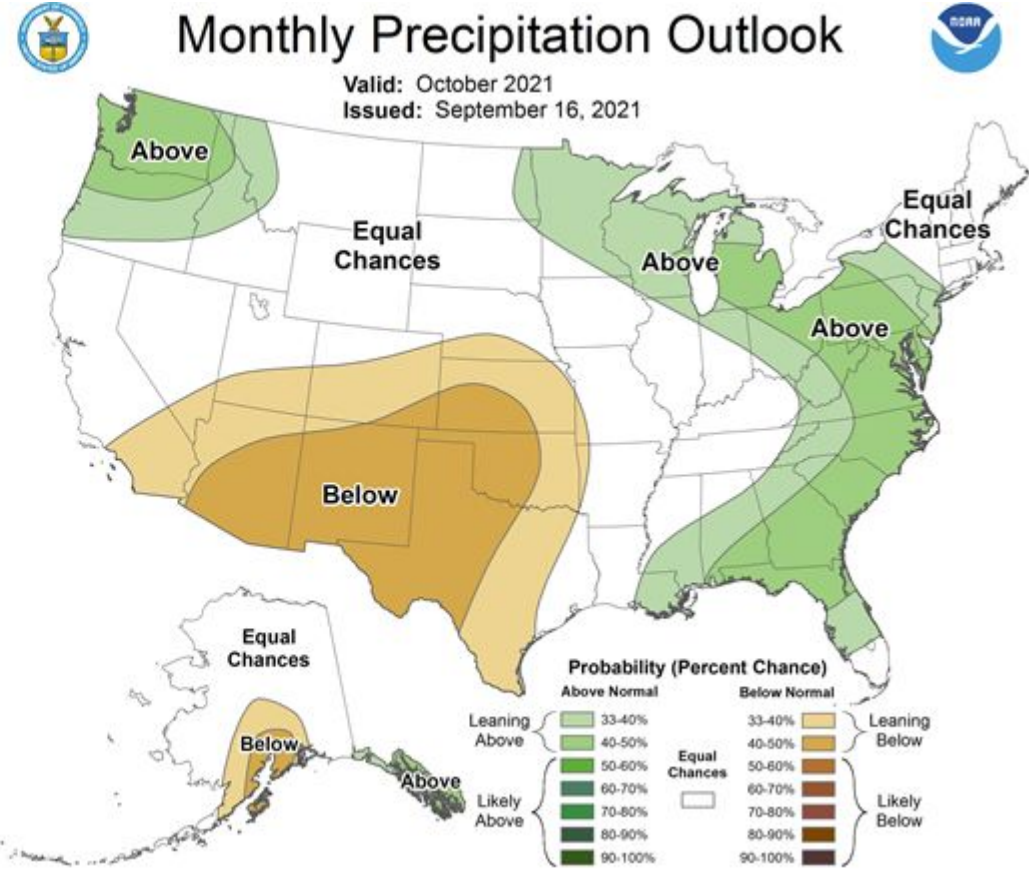
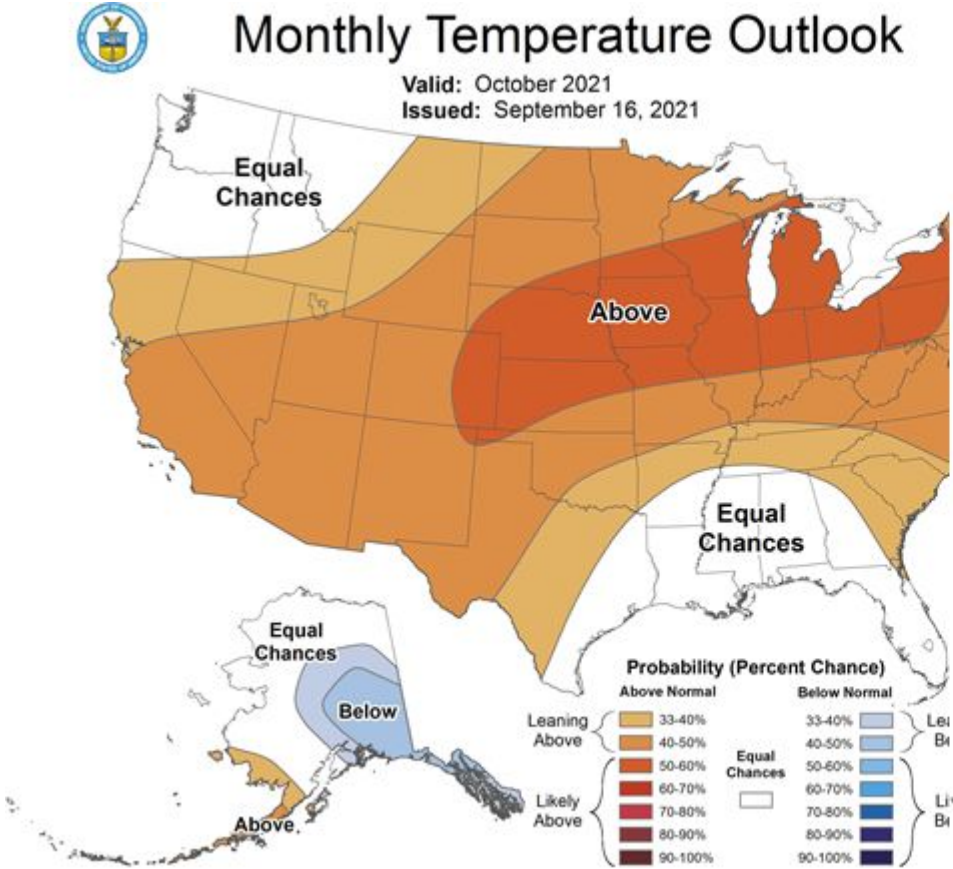
Source(s): [NDMC](#), [USGS](#), [HPRCC](#)



Updates Weekly - 09/21/21

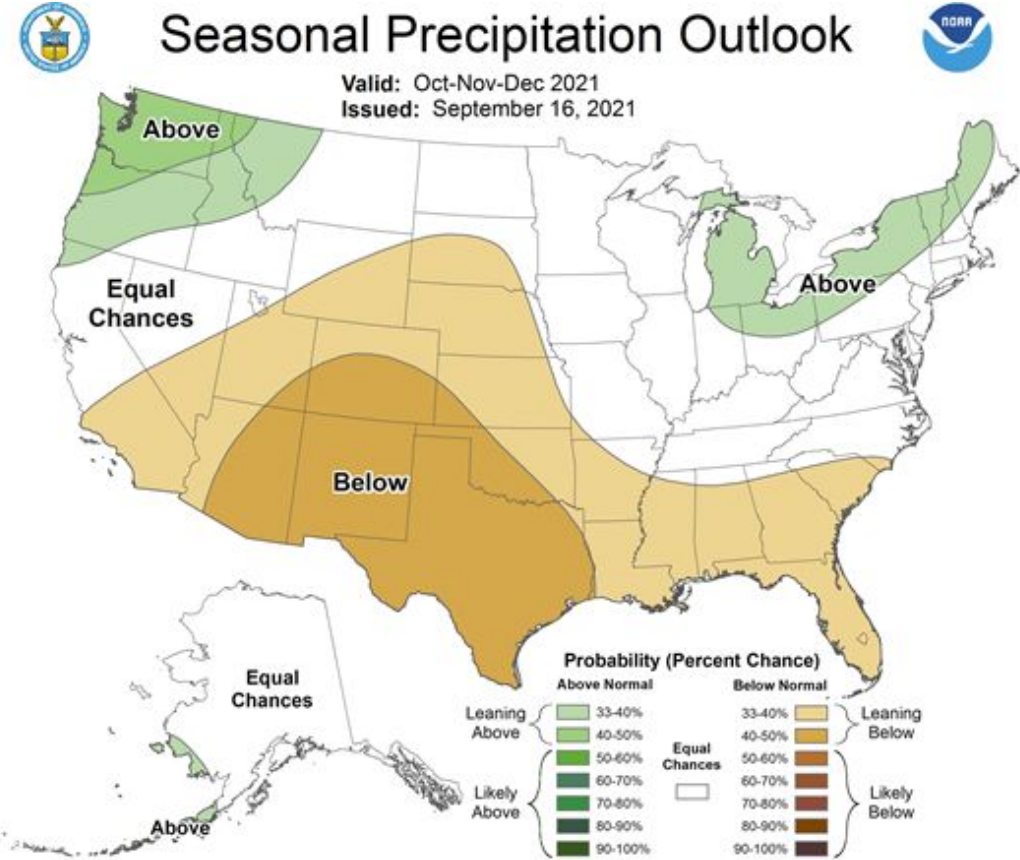
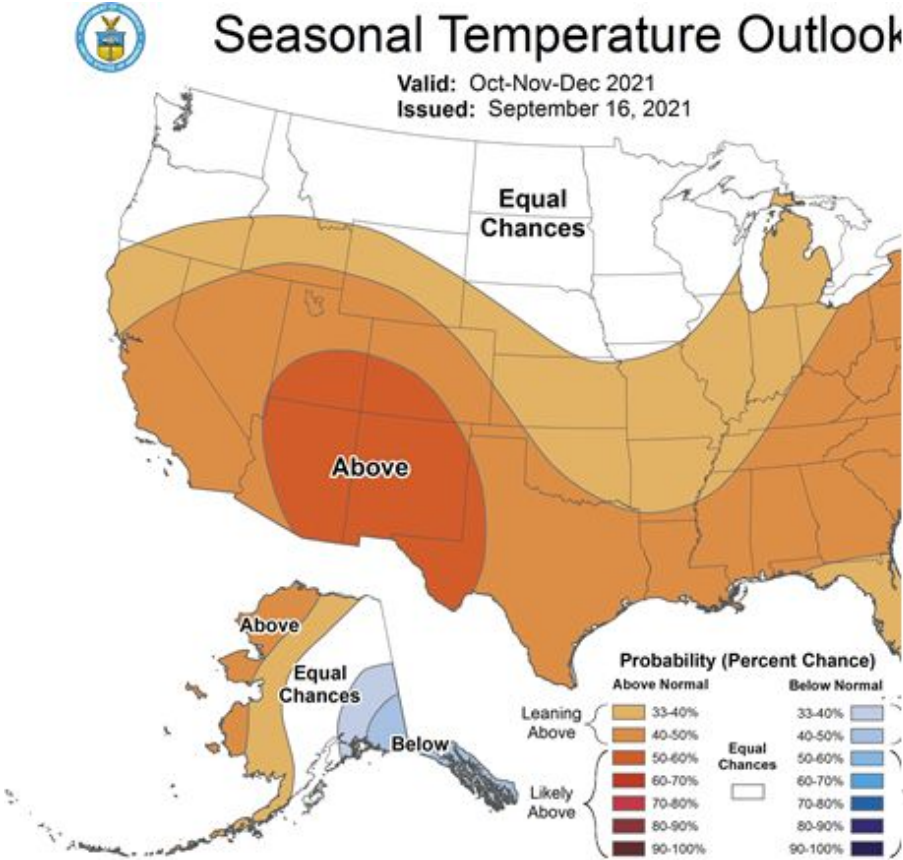


# CPC 1-month outlooks

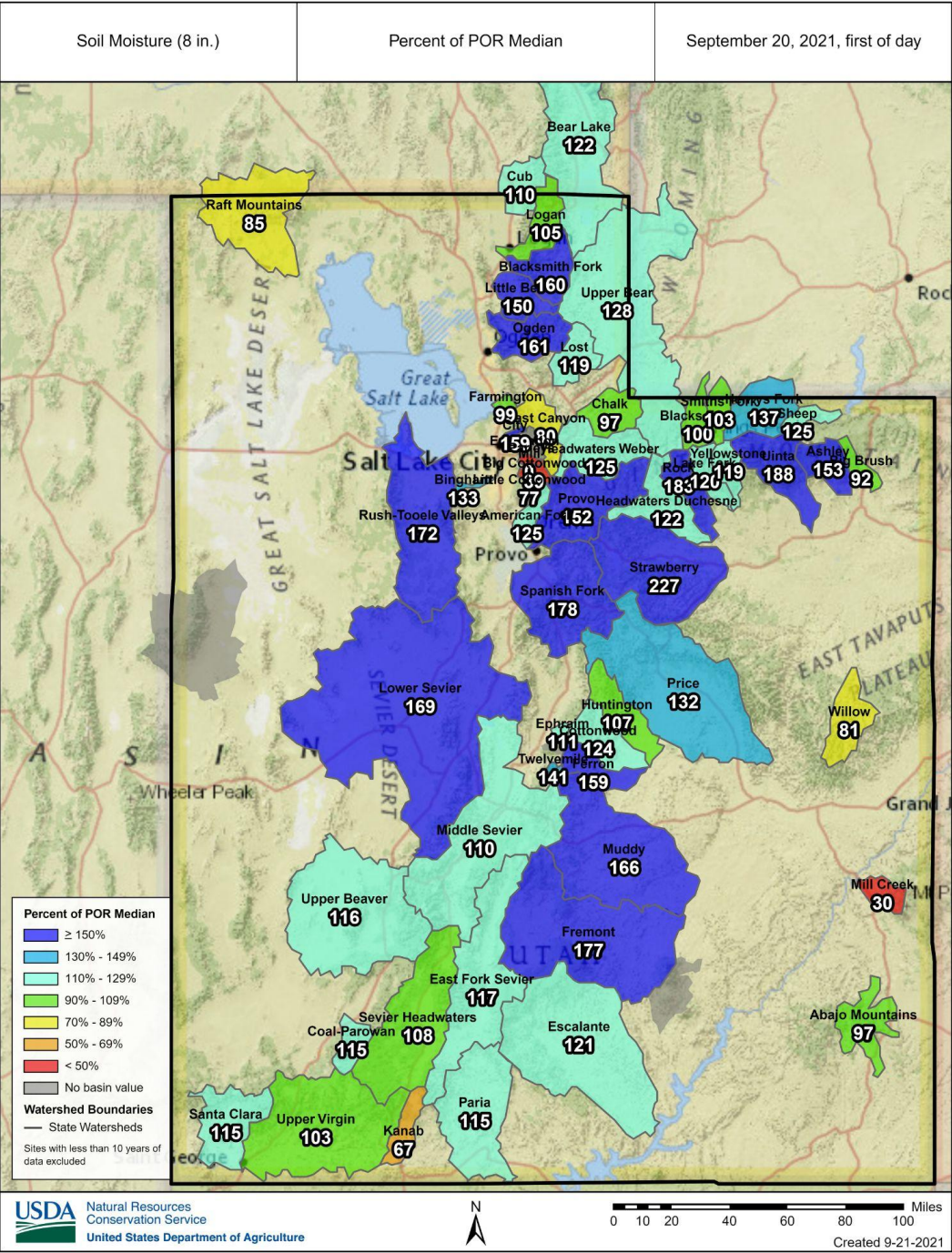




# CPC Oct-Dec Outlooks



# Soil Moisture



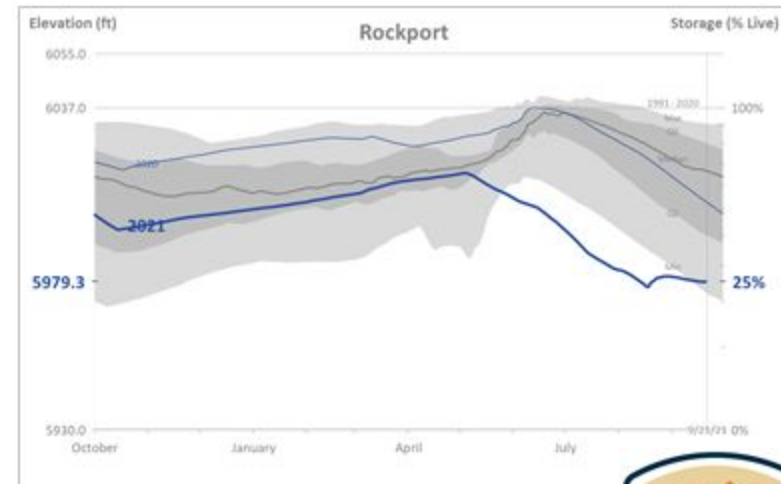
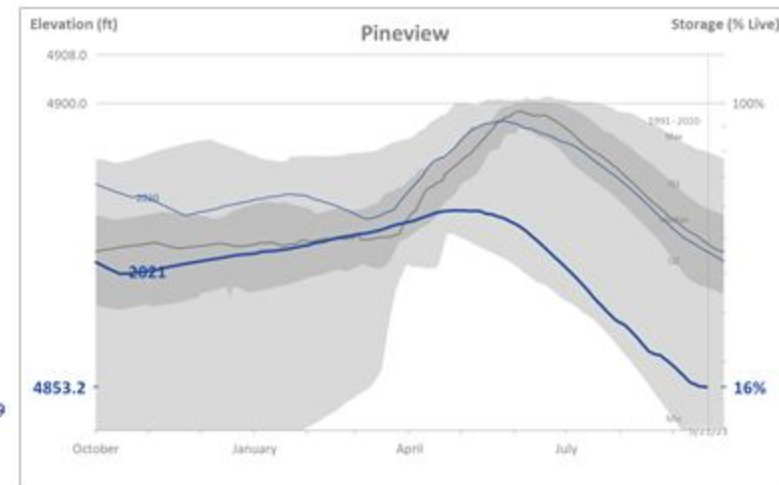
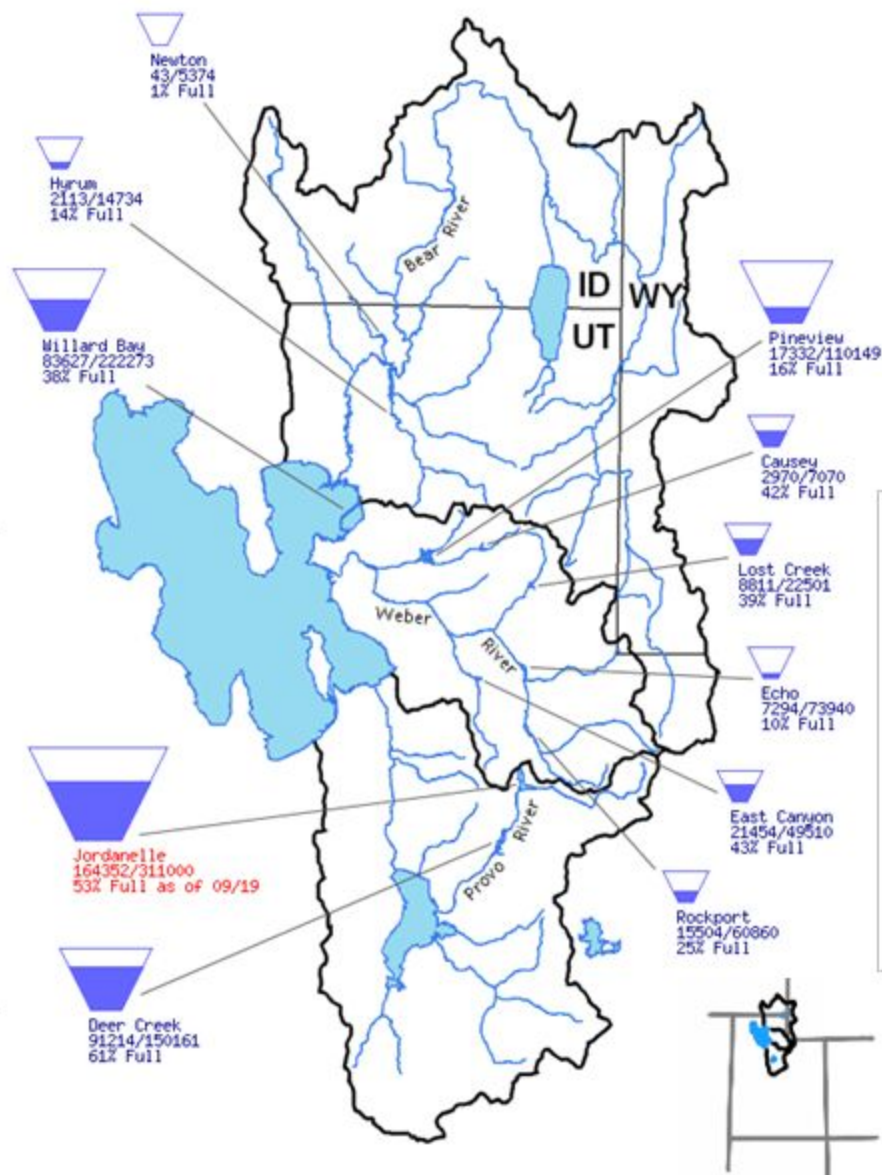
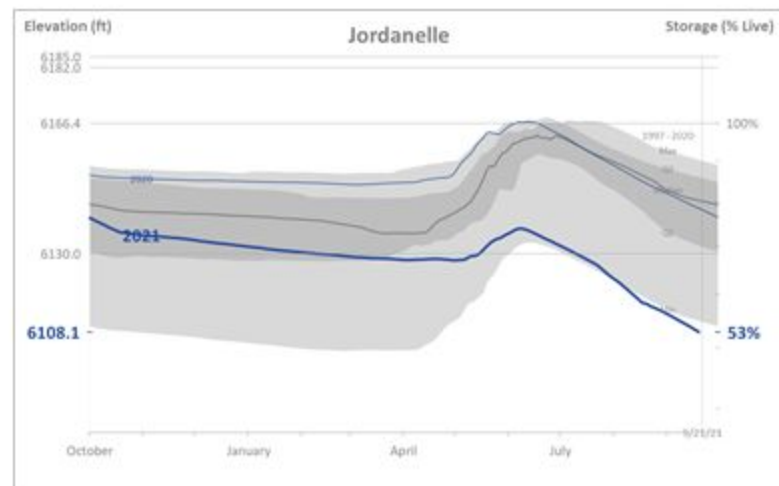
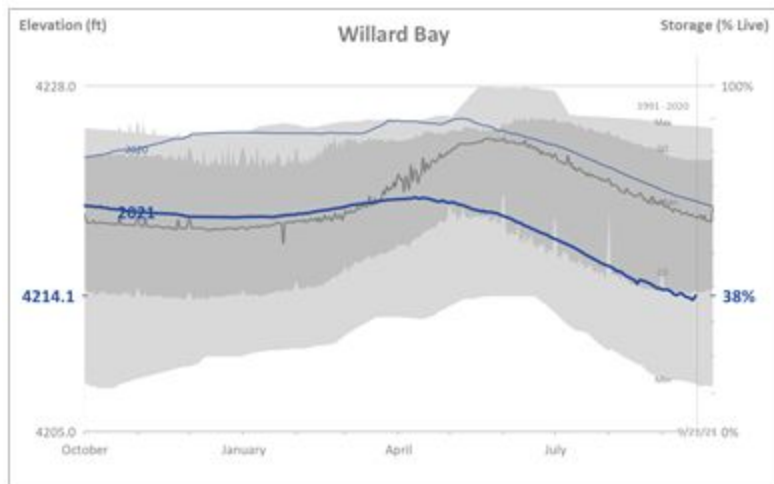
Agency - NRCS  
Presenter - DWRe for NRCS



# Reservoir Storage – Great Basin

Data Current as of:  
09/20/2021

## Bear, Weber, and Provo River Basins

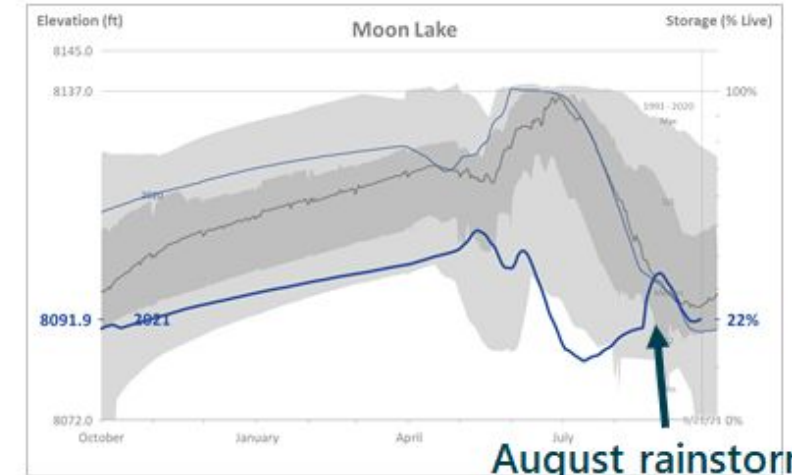
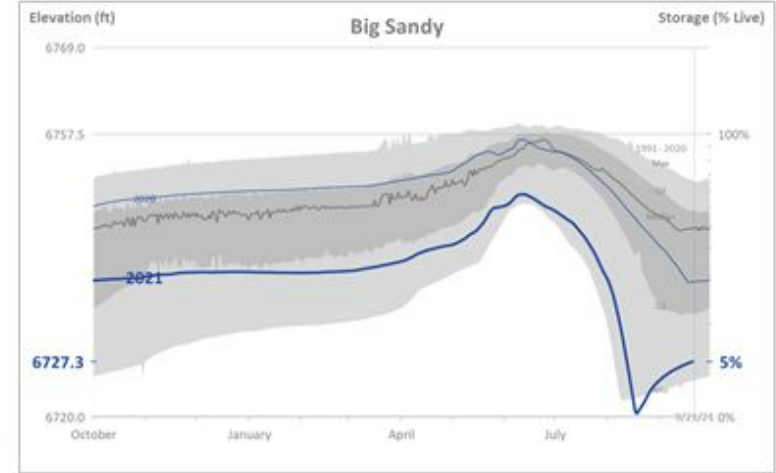
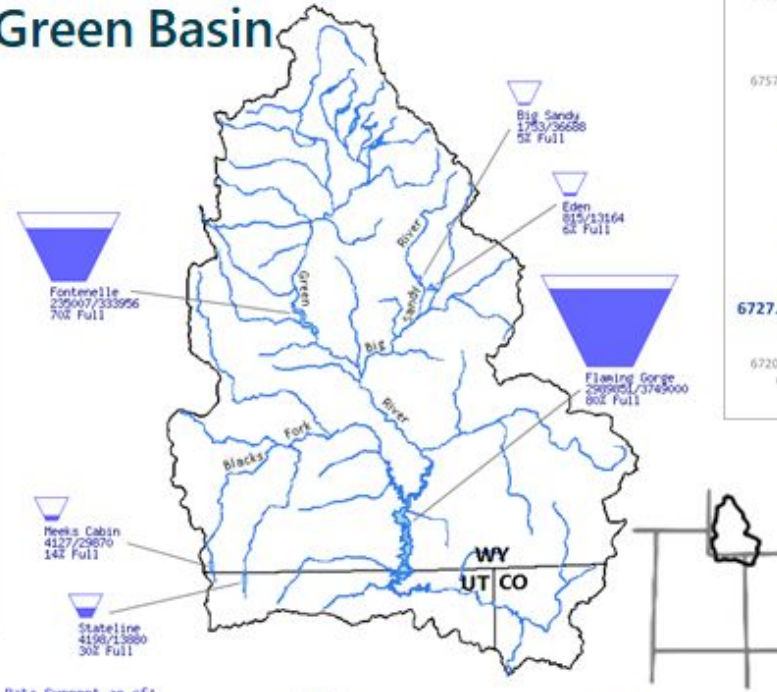




# Reservoir Storage – Green Basin

Data Current as of:  
09/28/2021

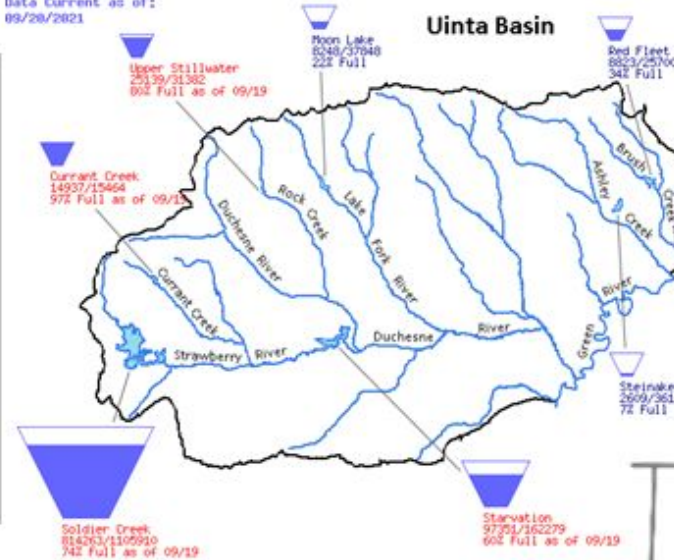
## Upper Green River Basin



**August rainstorm  
+ ~6,000 acre-feet  
(~16% of capacity)**

Data Current as of:  
09/28/2021

## Uinta Basin



Data Current as of:  
09/28/2021

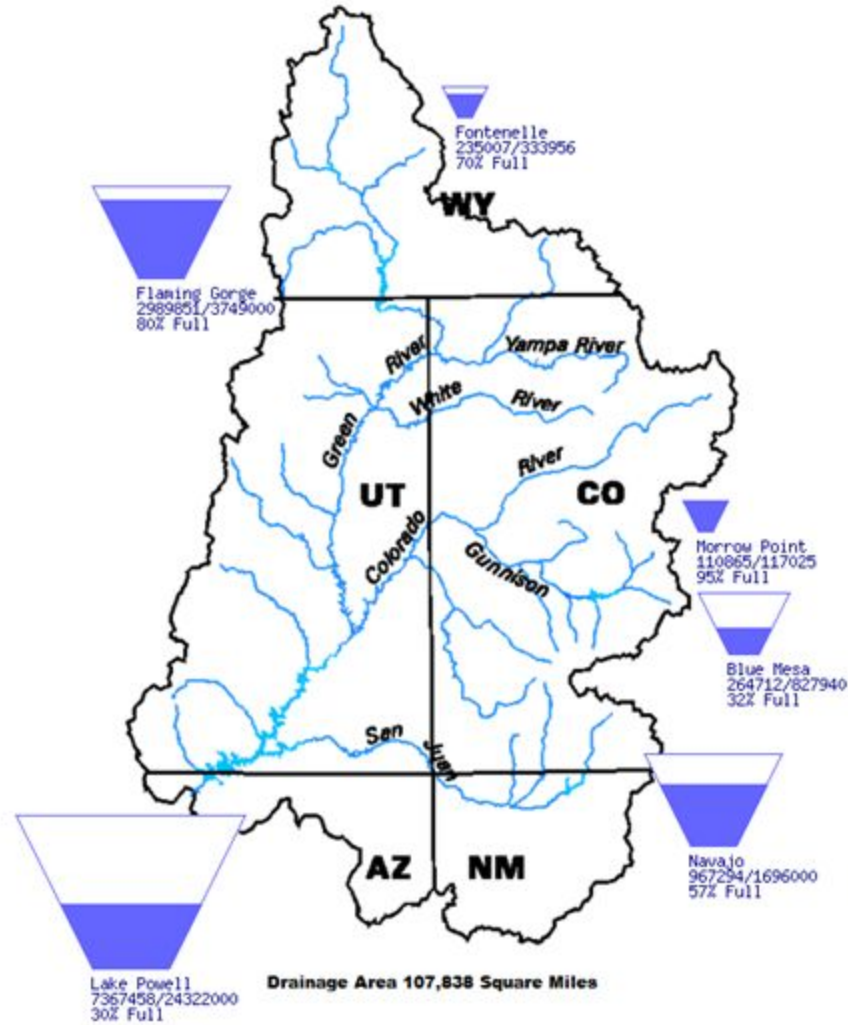
## Price and San Rafael River Basins



# Reservoir Storage – Lake Powell

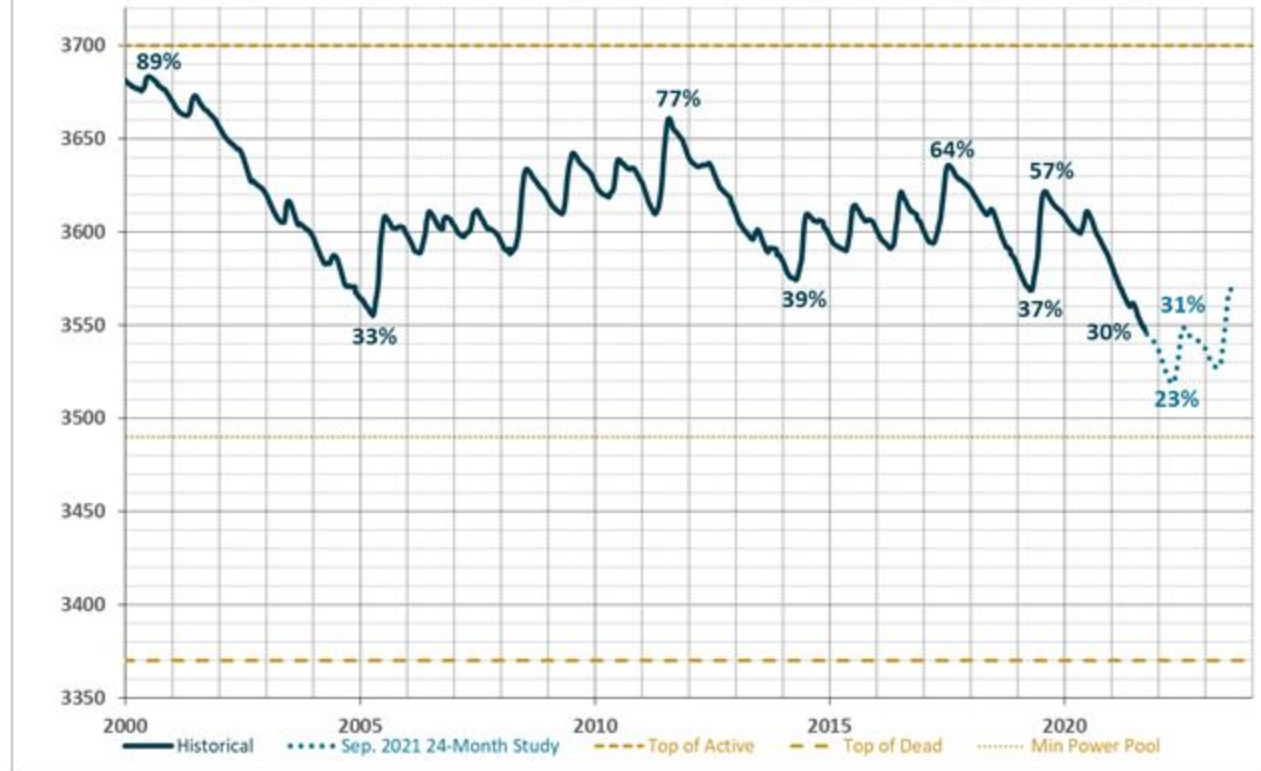
Data Current as of:  
09/20/2021

## 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 September 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 on the following schedule:

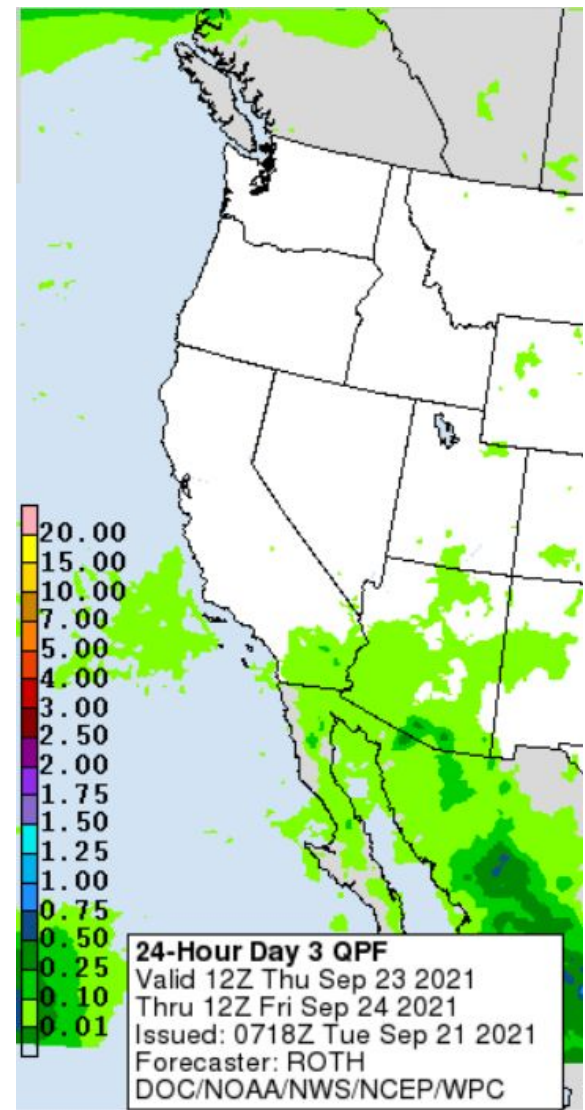
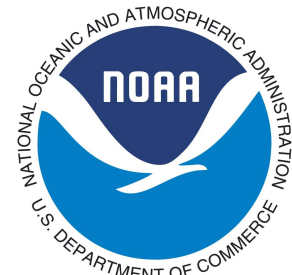
	Jul (kaf)	Aug (kaf)	Sep (kaf)	Oct (kaf)	Nov (kaf)	Dec (kaf)	Total (kaf)
Flaming Gorge Reservoir	13	42	43	27	0	0	125
Blue Mesa Reservoir	0	14	18	4	0	0	36
Navajo Reservoir	0	0	0	0	10	10	20
<b>Total (kaf)</b>	<b>13</b>	<b>56</b>	<b>61</b>	<b>31</b>	<b>10</b>	<b>10</b>	<b>181</b>

Agency - USBR Provo Area Office  
Presenter - Gary Henrie

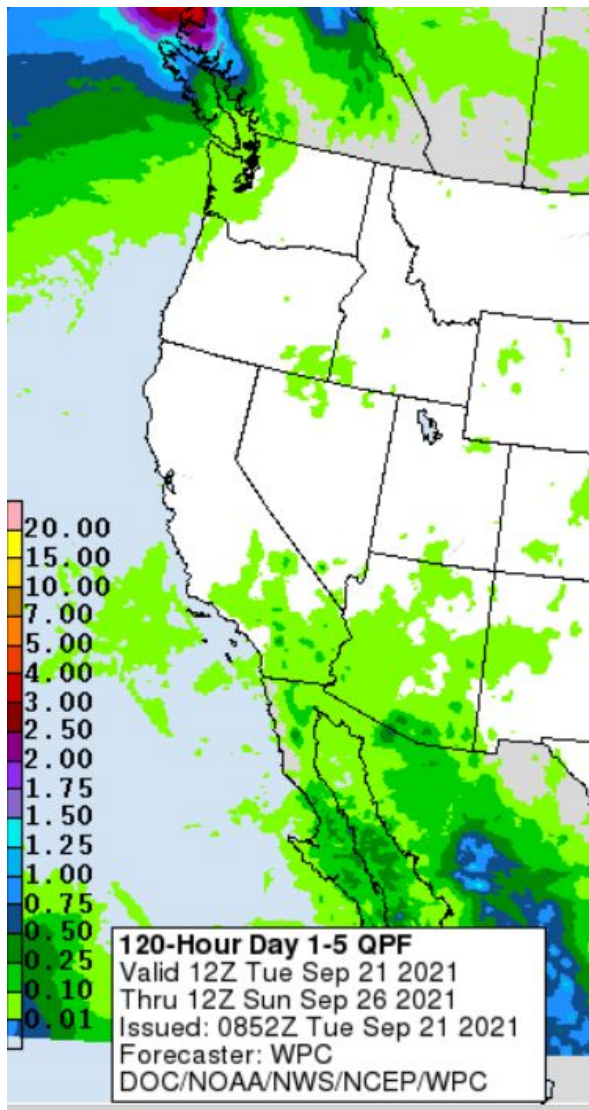




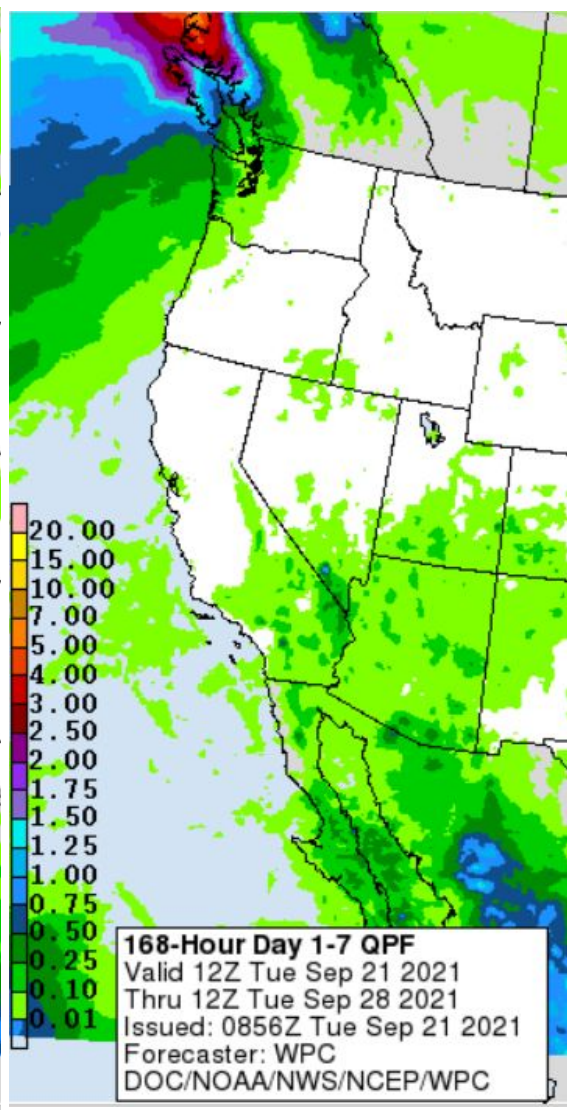
# Weather Forecast Office Utah Day 1-7 Outlook



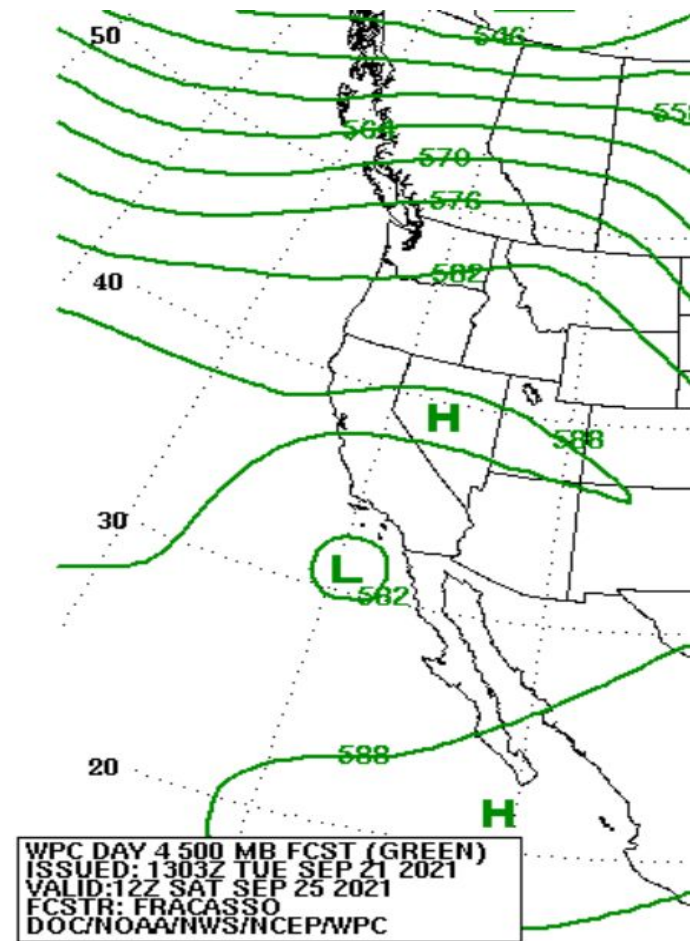
Thursday - Friday  
Agency - National Weather Service Weather Forecast Office  
Presenter - Aldis Strautins



Tuesday - Sunday



Tuesday - Tuesday



Saturday Morning



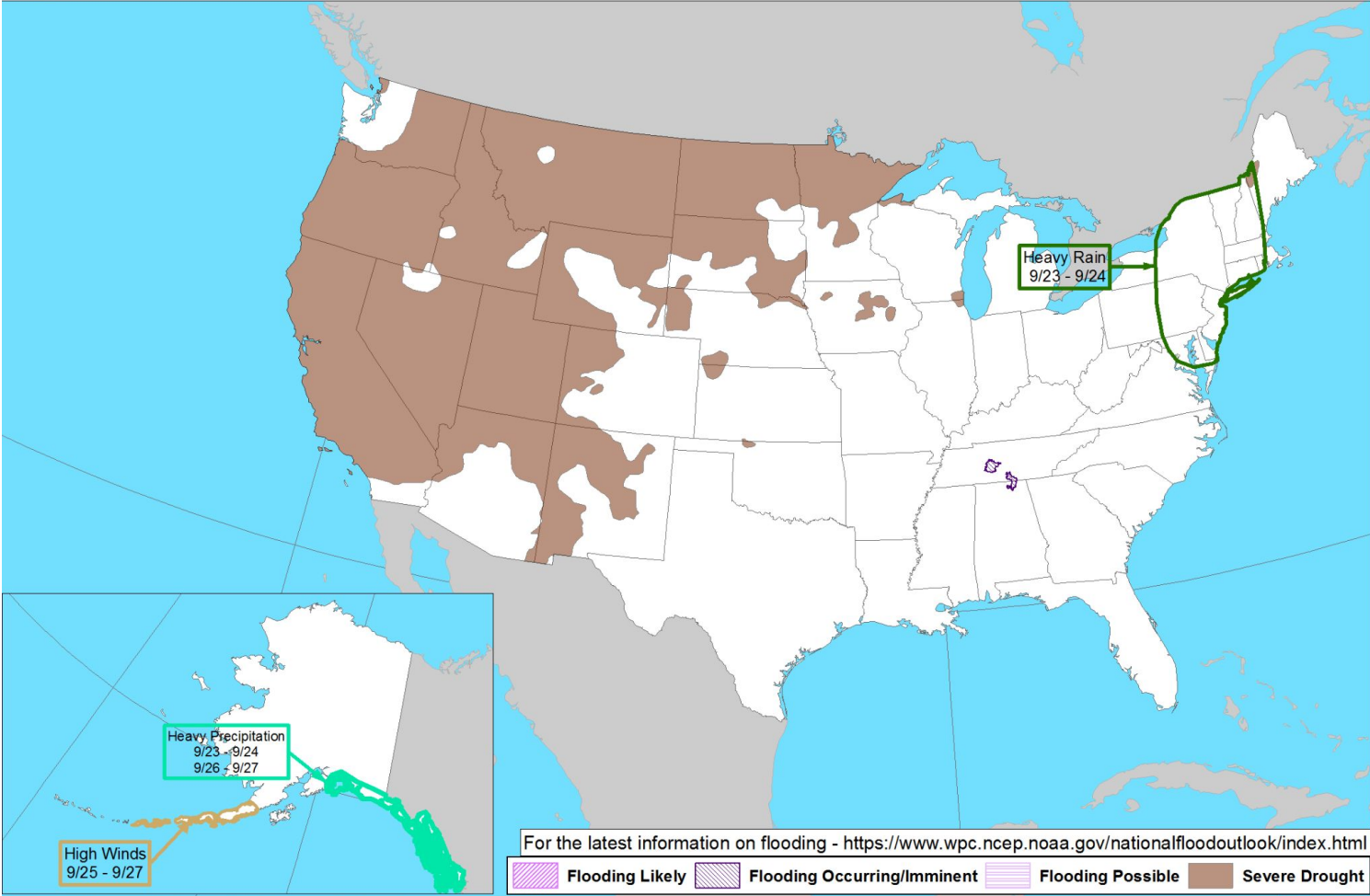
# Weather Prediction Center U.S. Day 3-7 Hazards Outlook



Day 3-7 U.S. Hazards Outlook  
Valid: 09/23/2021-09/27/2021



Drought conditions  
persist



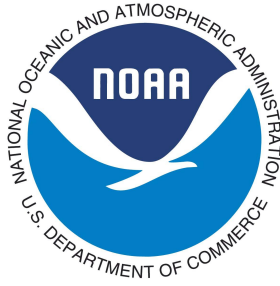
Weather Prediction Center

Made: 09/20/2021 3PM EDT

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[www.wpc.ncep.noaa.gov](https://www.wpc.ncep.noaa.gov)

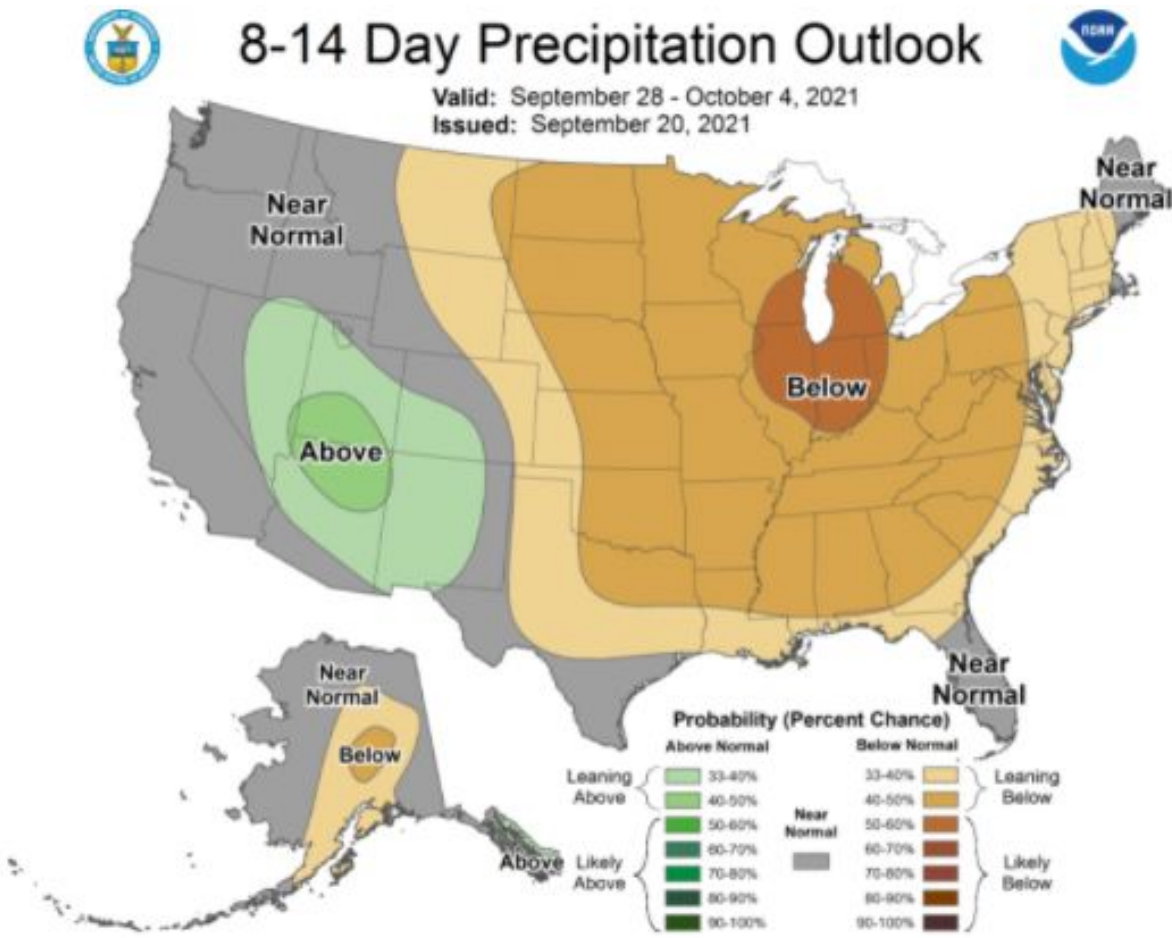
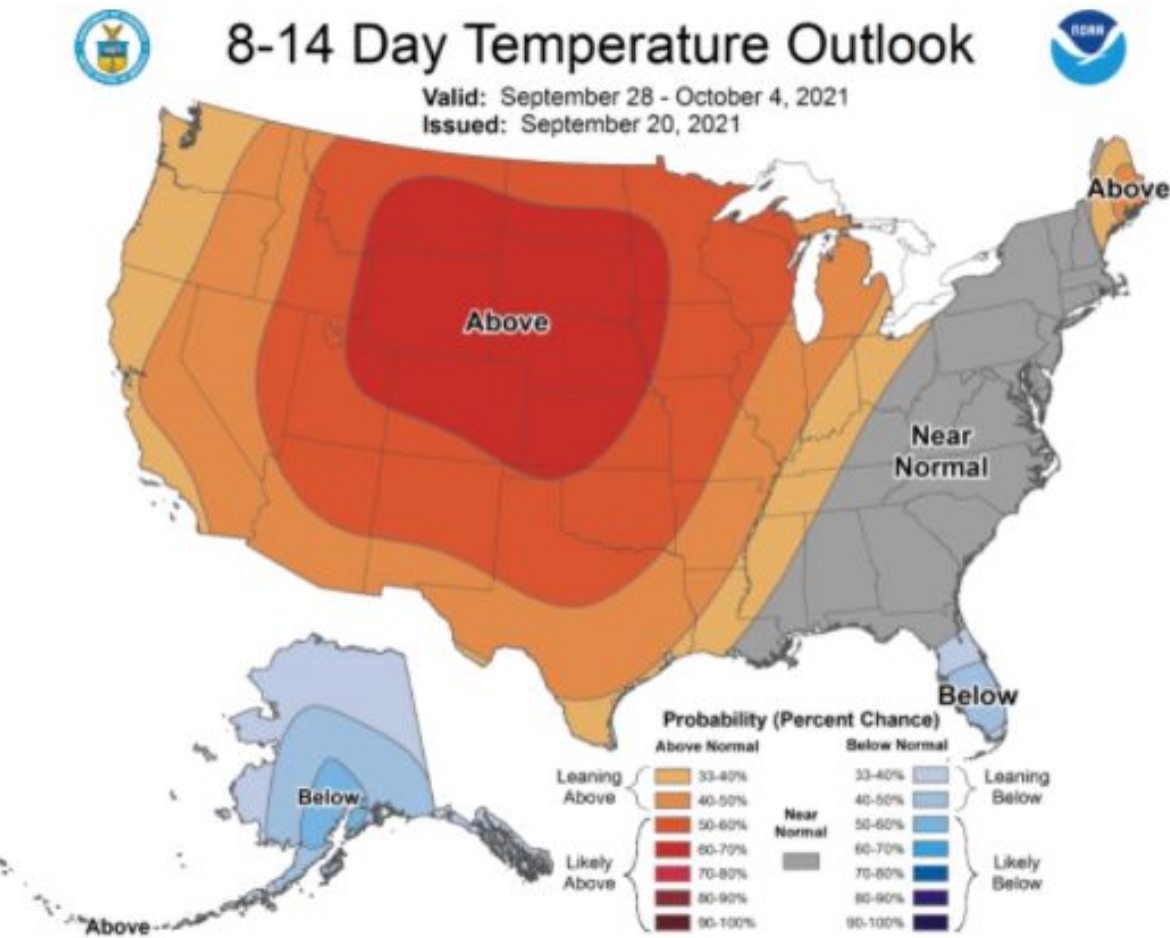
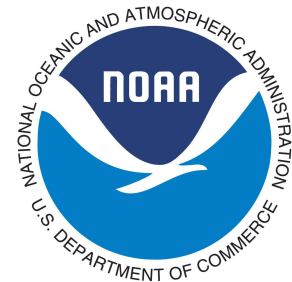
# Climate Prediction Center 8 to 14 Day Outlooks - Temperature



Agency - National Weather Service Weather Forecast Office

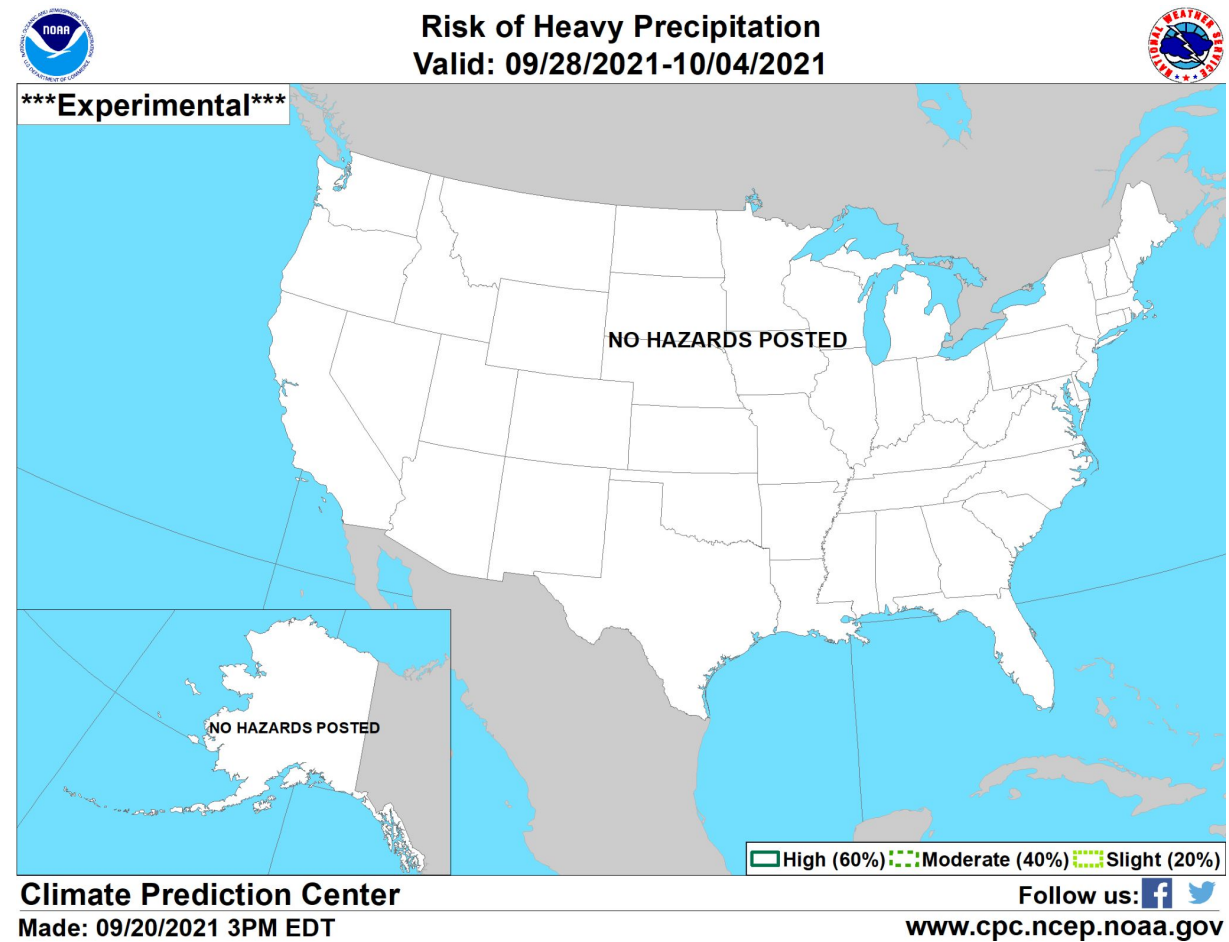
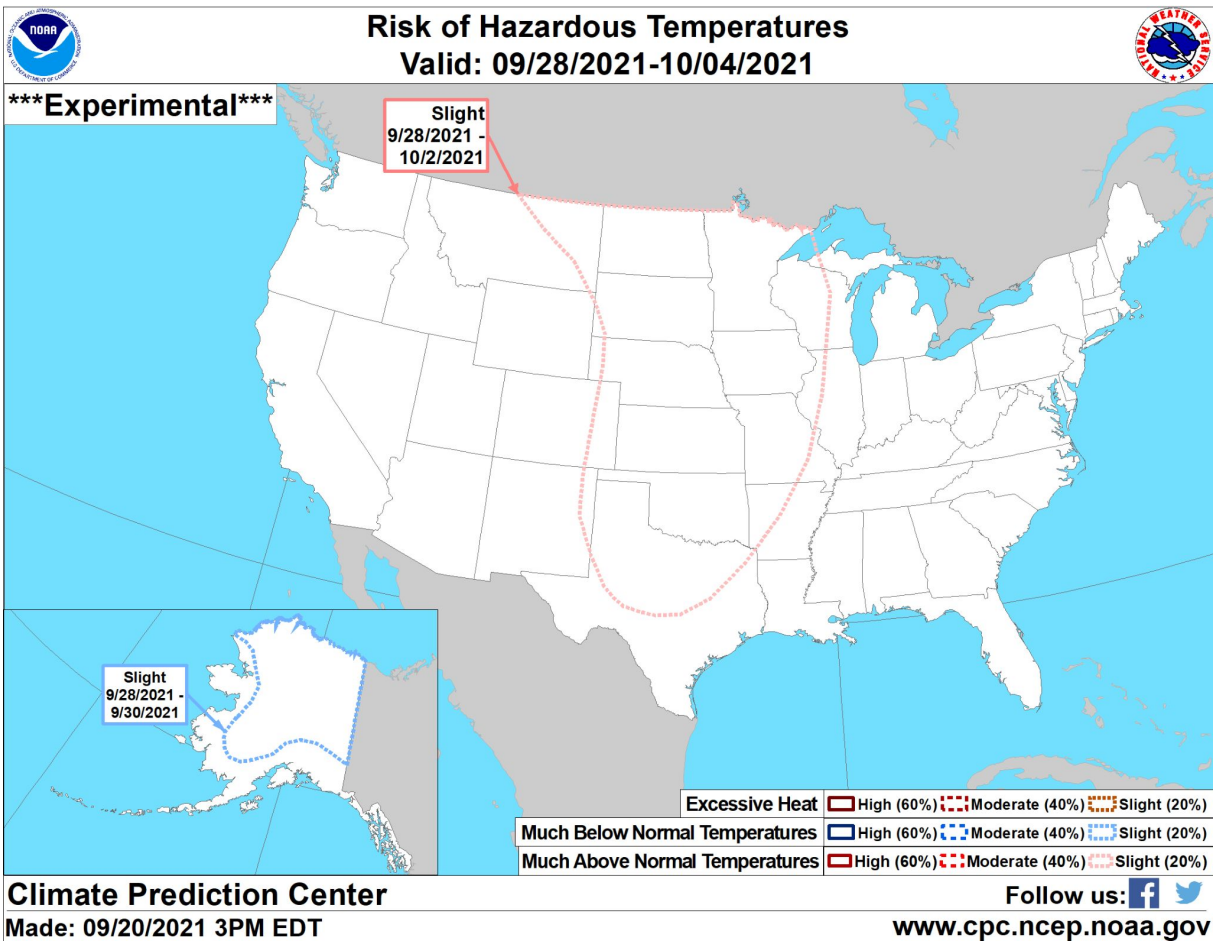
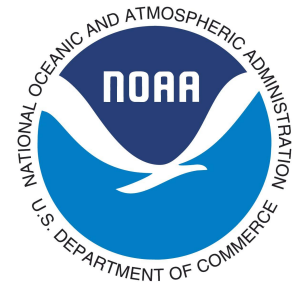
Presenter -

# Climate Prediction Center 8 to 14 Day Outlooks - Temperature and Precipitation

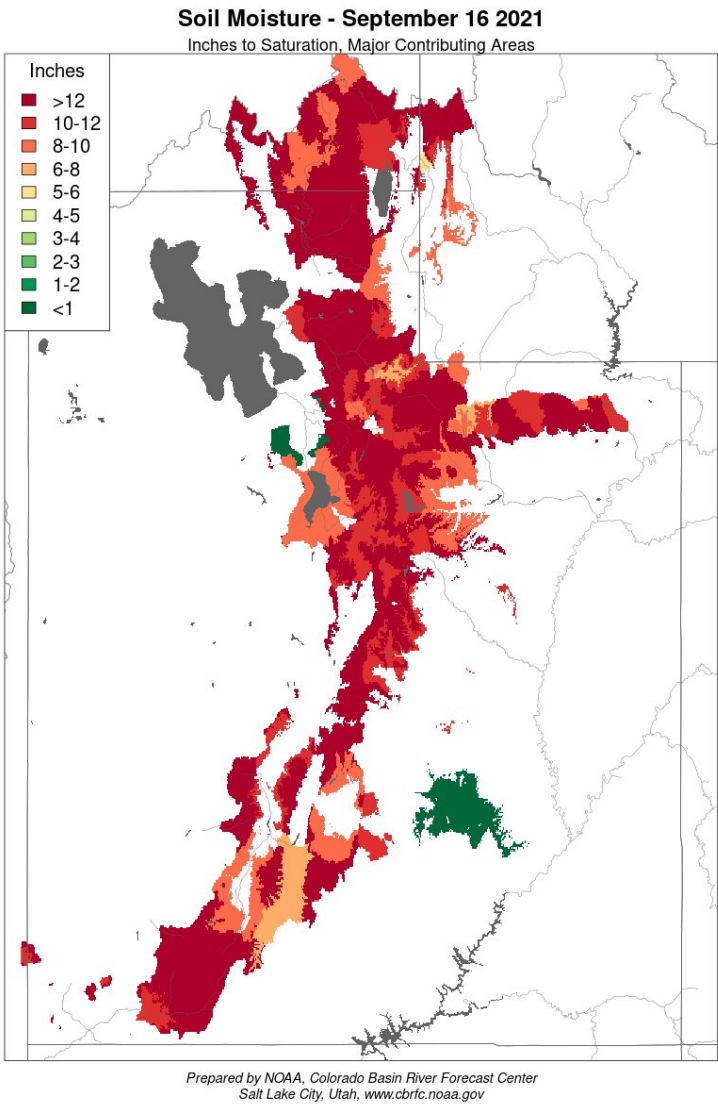




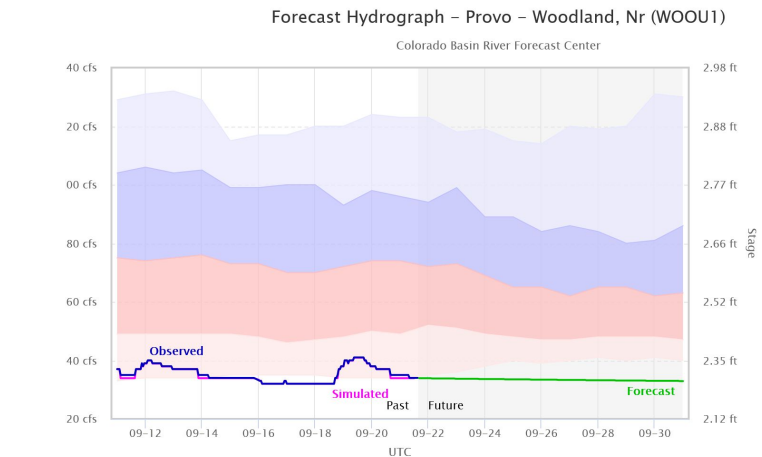
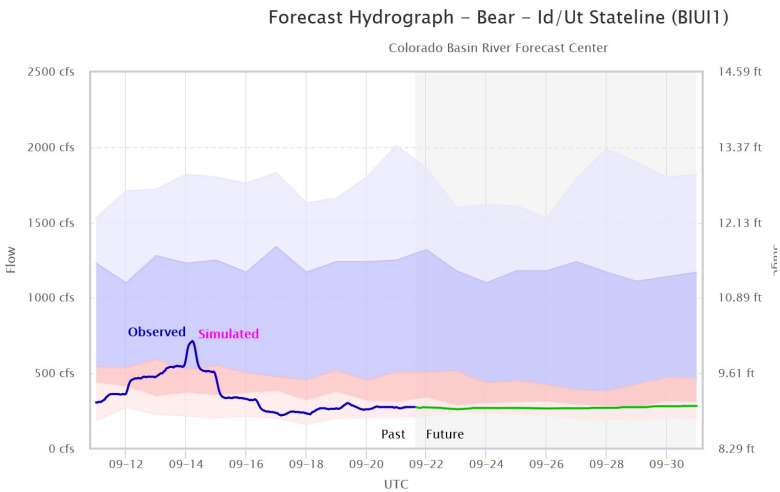
# Climate Prediction Center U.S. Week-2 Hazards Outlook



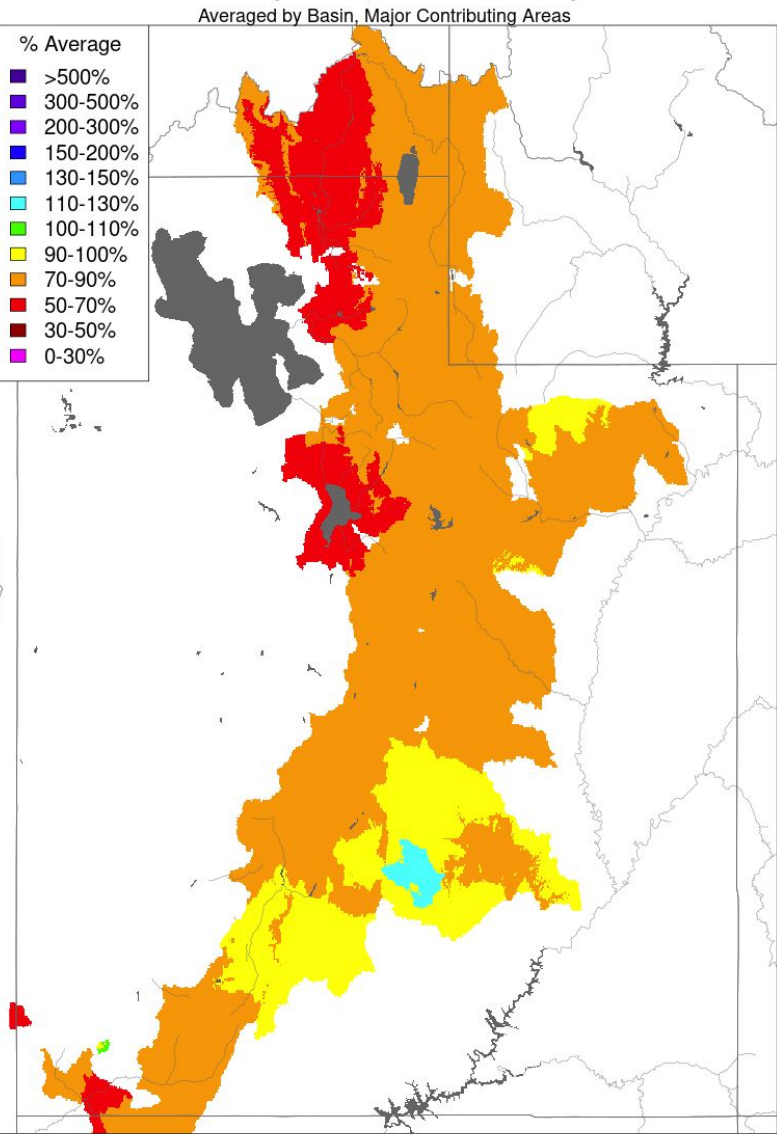
# Base Flow Conditions / Modeled Soil Moisture and YTD Precipitation



## Unregulated 90-75th Percentile flows Across Utah

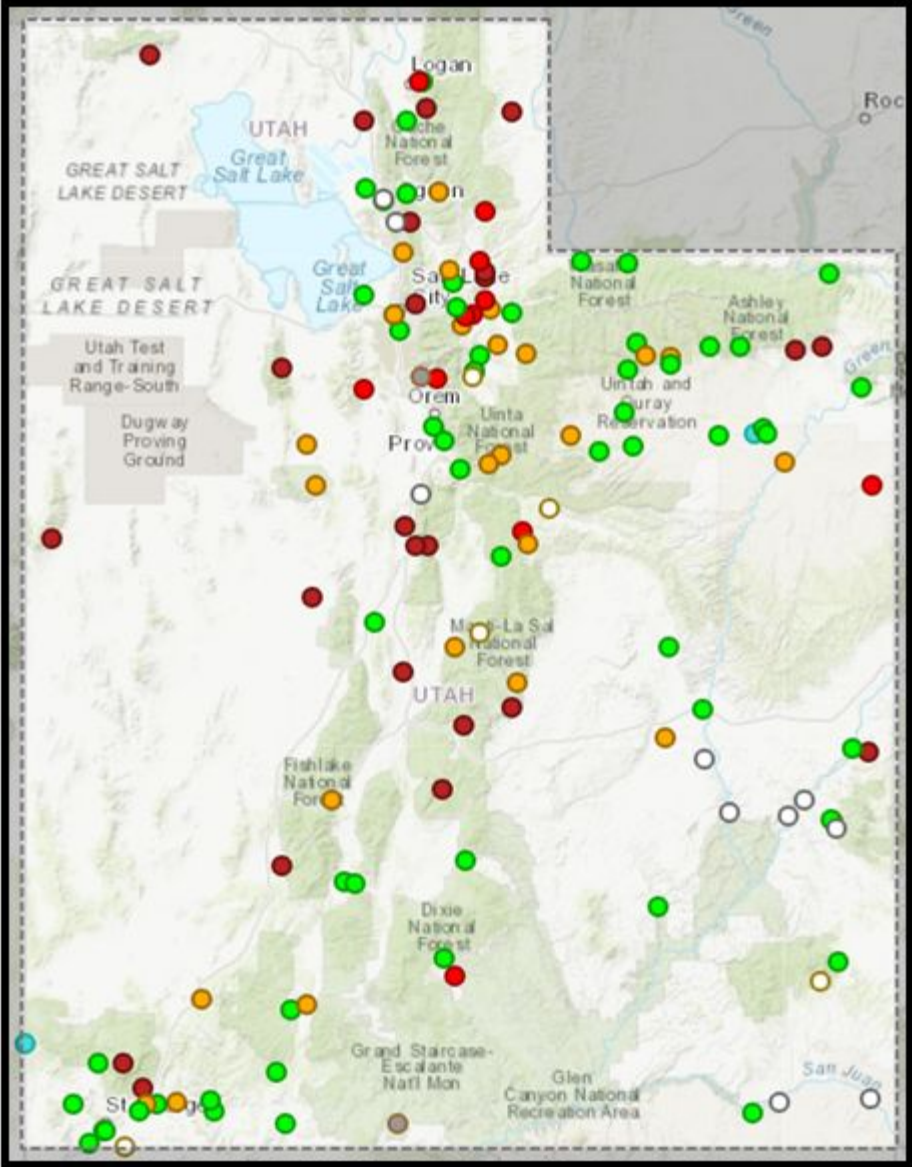


## Seasonal to Date Precipitation, October 01 - September 21 2021

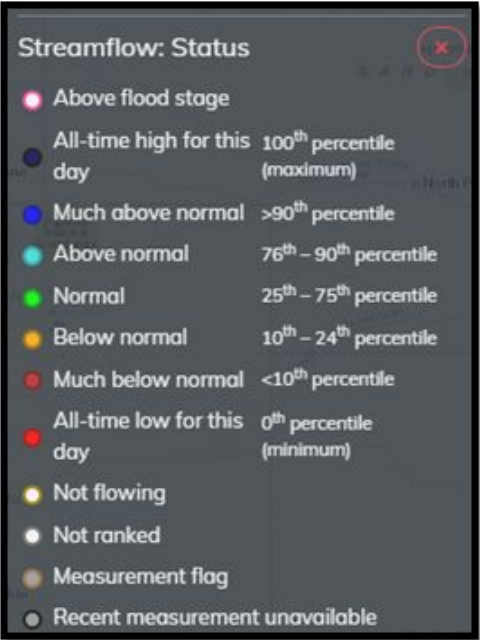




# Current Streamflow Conditions

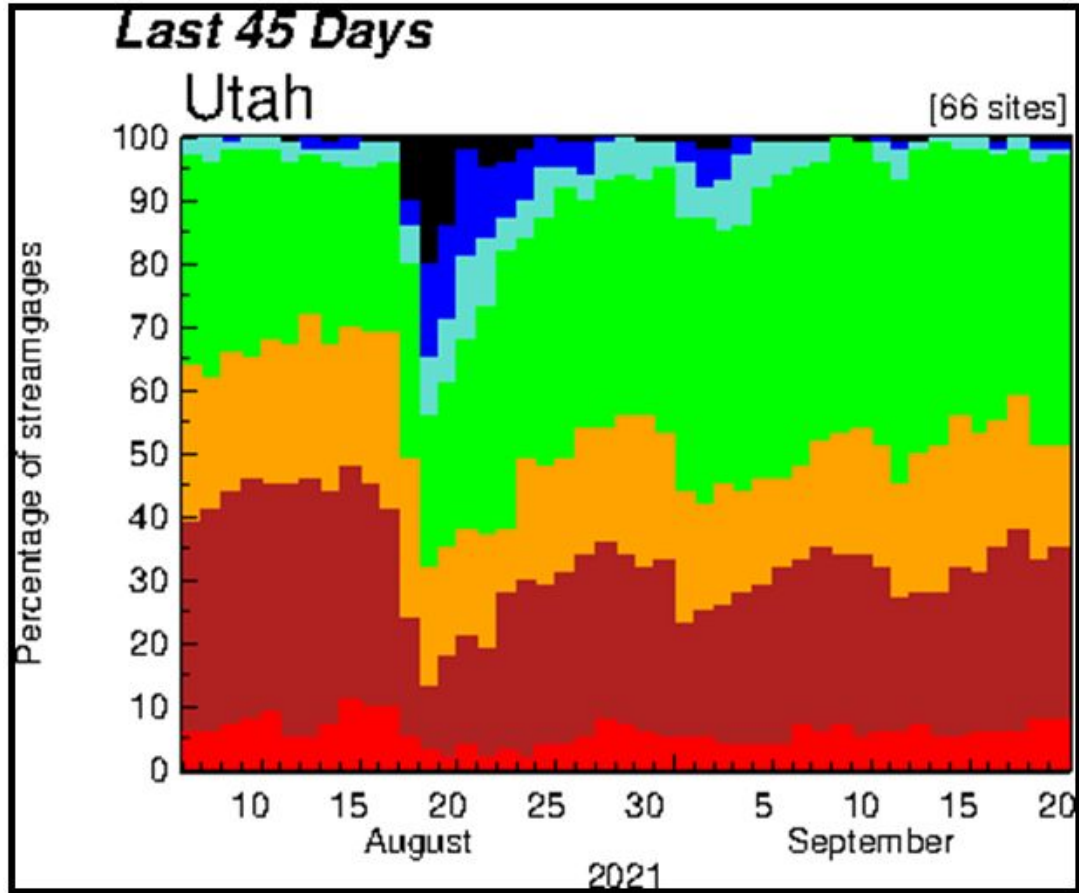


Day-of-Year Status	# Gages	% Gages
All-time high for this day-of-year	0	0.0%
Much above normal for this day-of-year	0	0.0%
Above normal for this day-of-year	2	1.5%
Normal for this day-of-year	57	41.6%
Below normal for this day-of-year	26	19.0%
Much below normal for this day-of-year	24	17.5%
All-time low for this day-of-year	11	8.0%
Not ranked - insufficient record	10	7.3%
Not ranked - stream not flowing	5	3.6%



Sites must have at least 10 years of record to be included in this graphic

# Current Streamflow Conditions

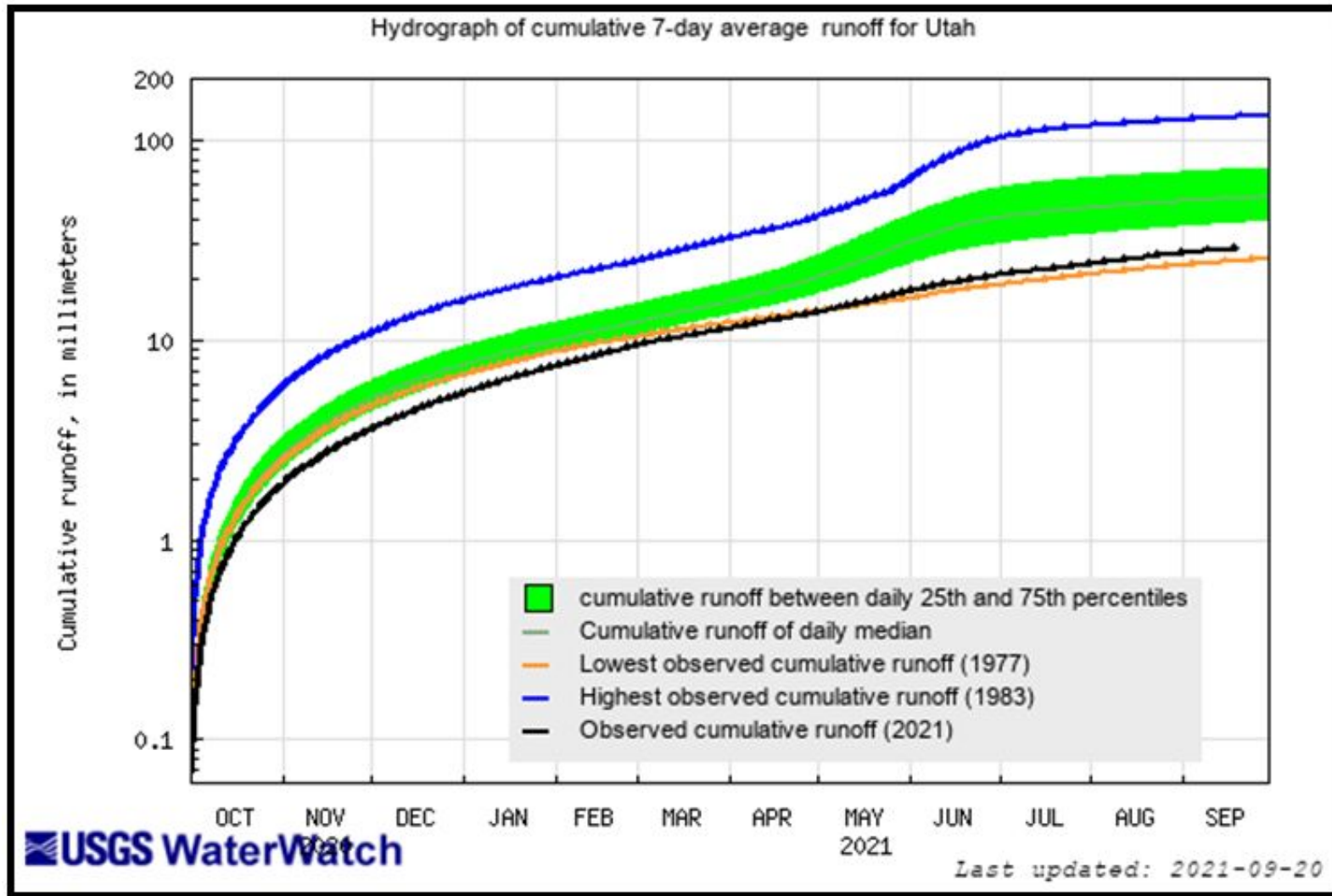


- ☐ Mean daily Streamflow compared to historical streamflow for the day of the year
- ☐ Sites must have at least 30 years of record to be included in this graphic

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		

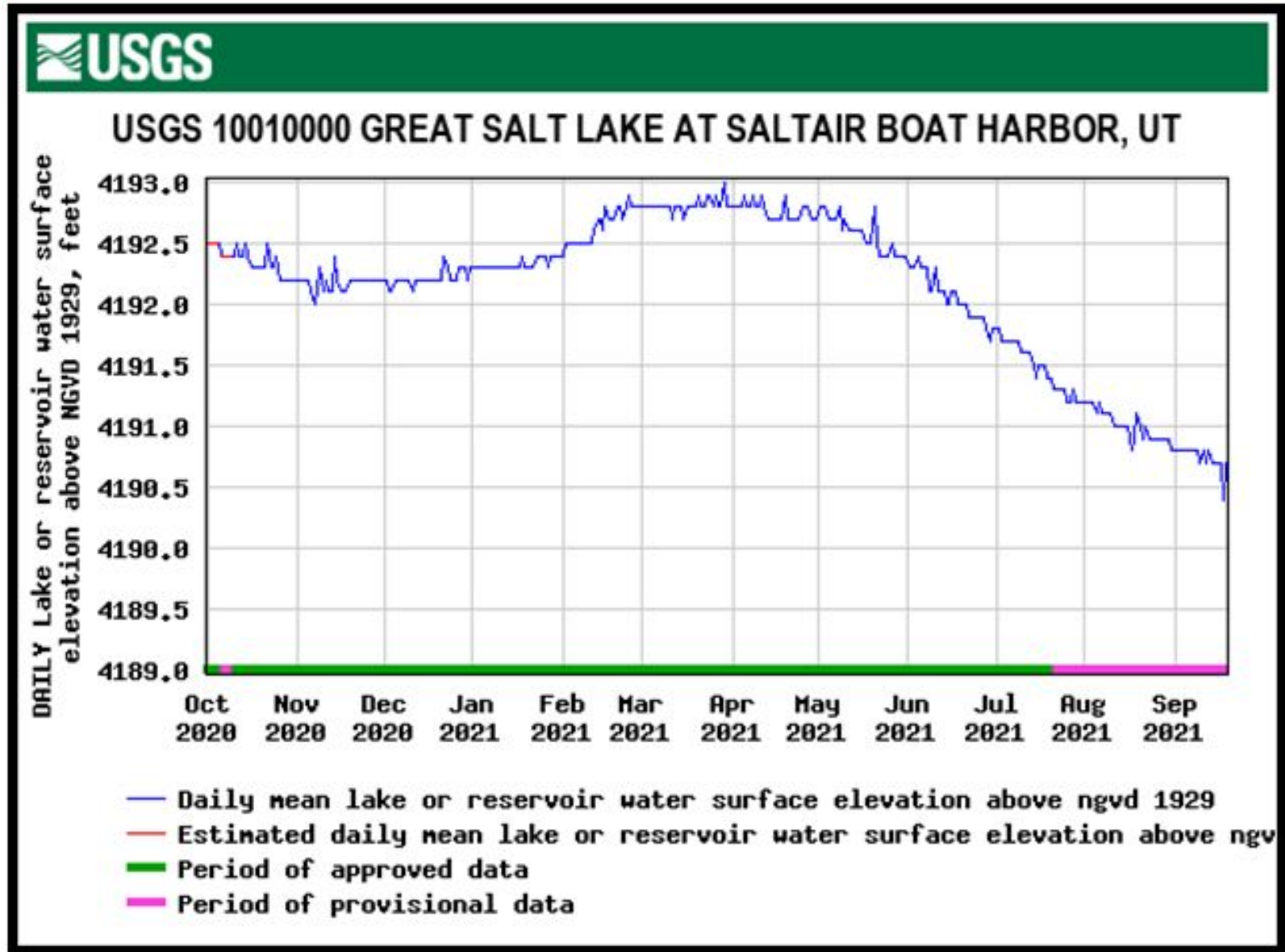


# Cumulative Streamflow



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

# Great Salt Lake Water Surface Elevation at Saltair

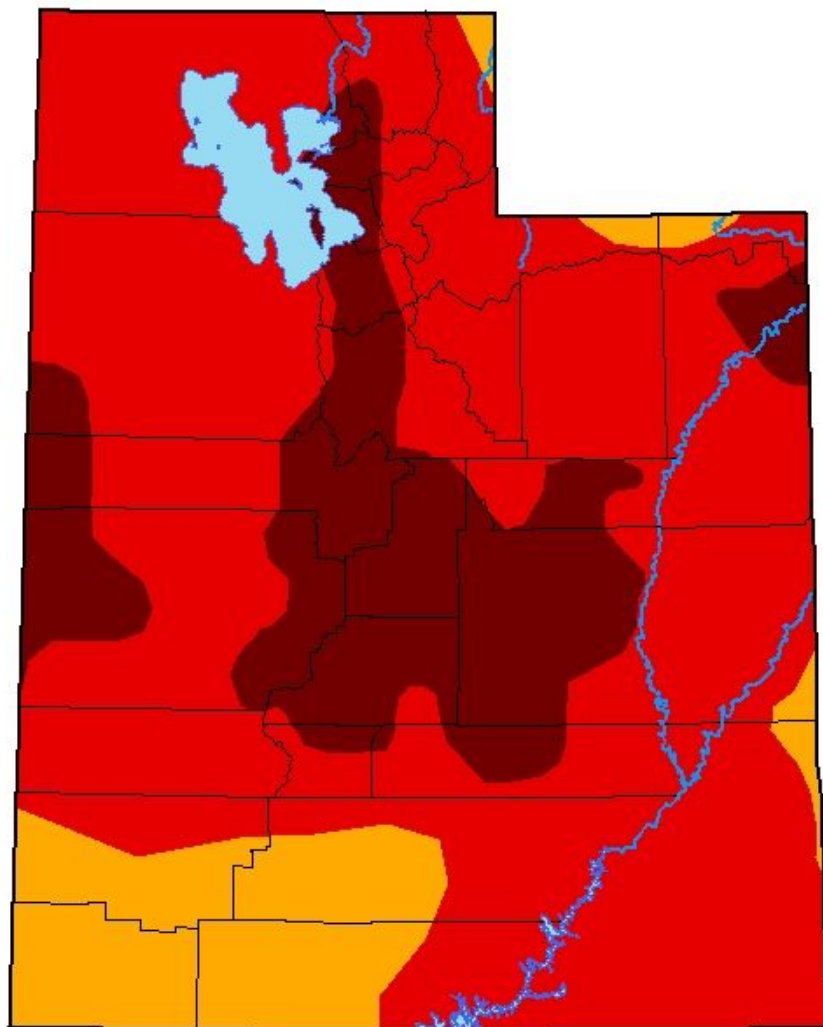


- ❑ Mean daily value 9/20/2021 = 4,190.7'
- ❑ Broke historic low record on 7/21/2021 when daily mean value = 4,191.3'
- ❑ Site has data record dating back to 1847

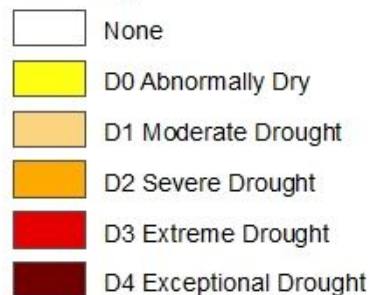
# U.S. Drought Monitor

## Utah

**September 14, 2021**  
(Released Thursday, Sep. 16, 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:

Brad Rippey  
U.S. Department of Agriculture



**droughtmonitor.unl.edu**