

# Utah Water Update (Drought Webinar)

The meeting will begin shortly









Thank you to our contributors







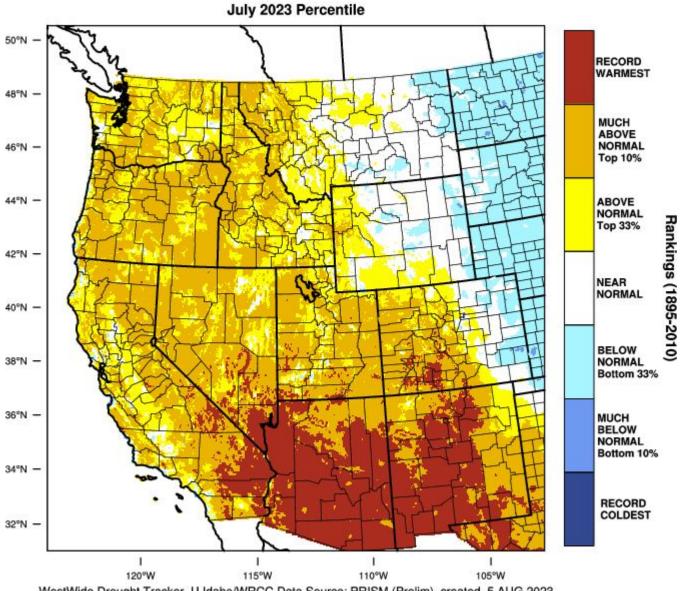


### **Utah Water Update**

August 8, 2023

#### July Temperatures

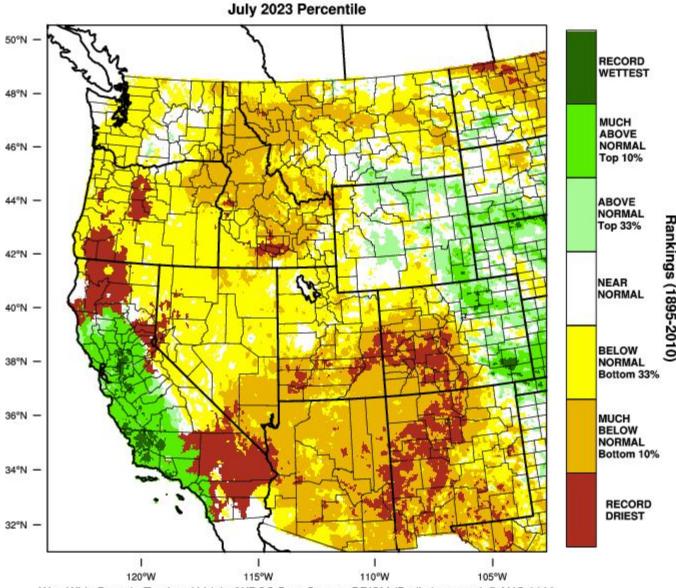
#### Western United States - Mean Temperature



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 AUG 2023

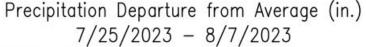
#### **July Precipitation**

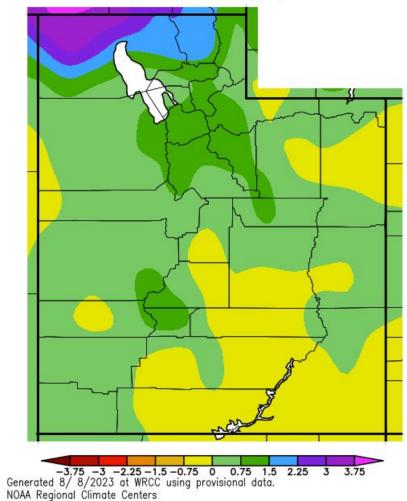
#### Western United States - Precipitation



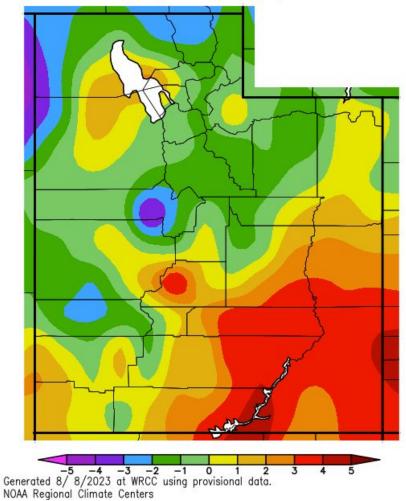
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 AUG 2023

#### 2-week Precipitation and Max Temperature



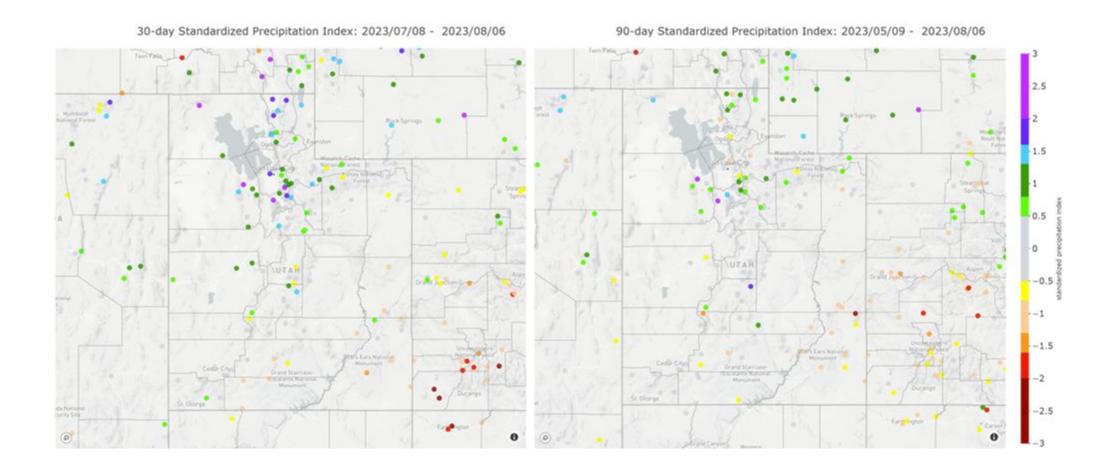


Av. Max. Temperature dep from Ave (deg F) 7/25/2023 - 8/7/2023



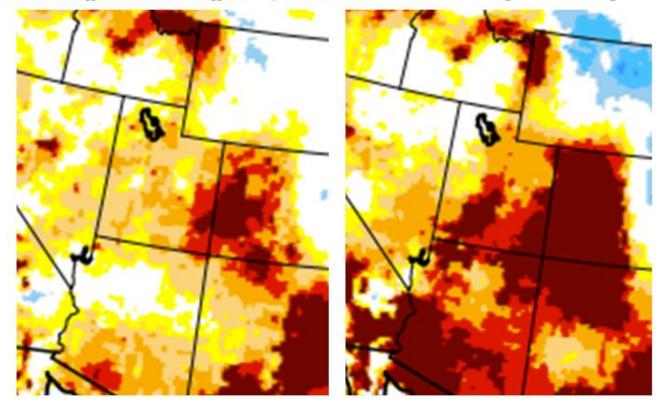
NOAA Regional Climate Centers

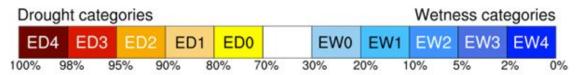
#### 30-day and 90-day Standardized Precipitation Index



#### 2-week and 1-month Evaporative Demand Drought Index

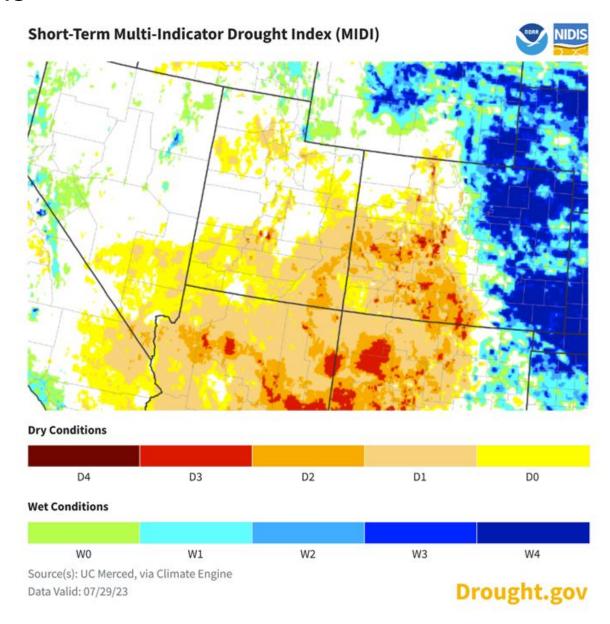
2-week EDDI categories for August 3, 2023 1-month EDDI categories for August 3, 2023



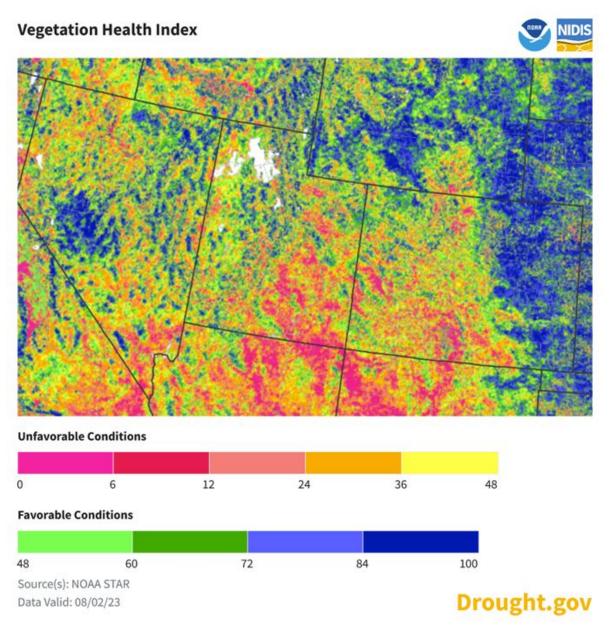


(EDDI-percentile category breaks: 100% = driest; 0% = wettest)

#### **Short-Term Conditions**

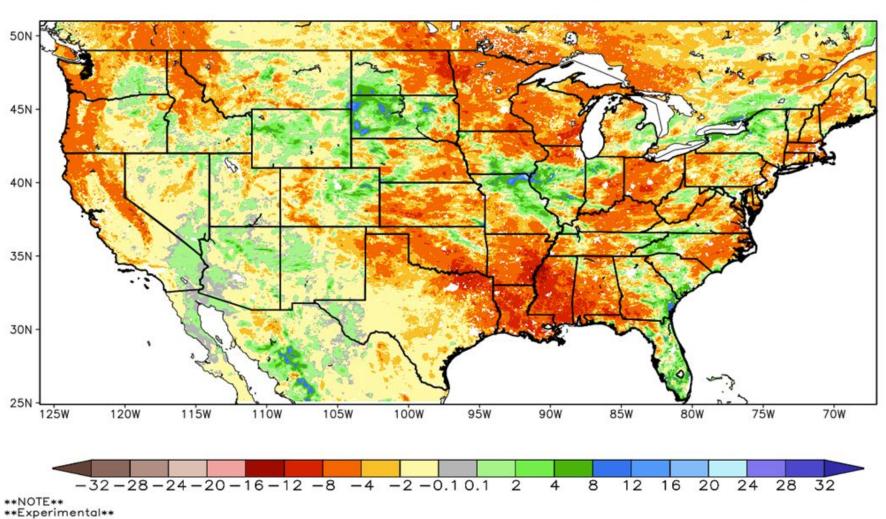


#### Vegetation Health Index



#### 2-week Soil Moisture Changes

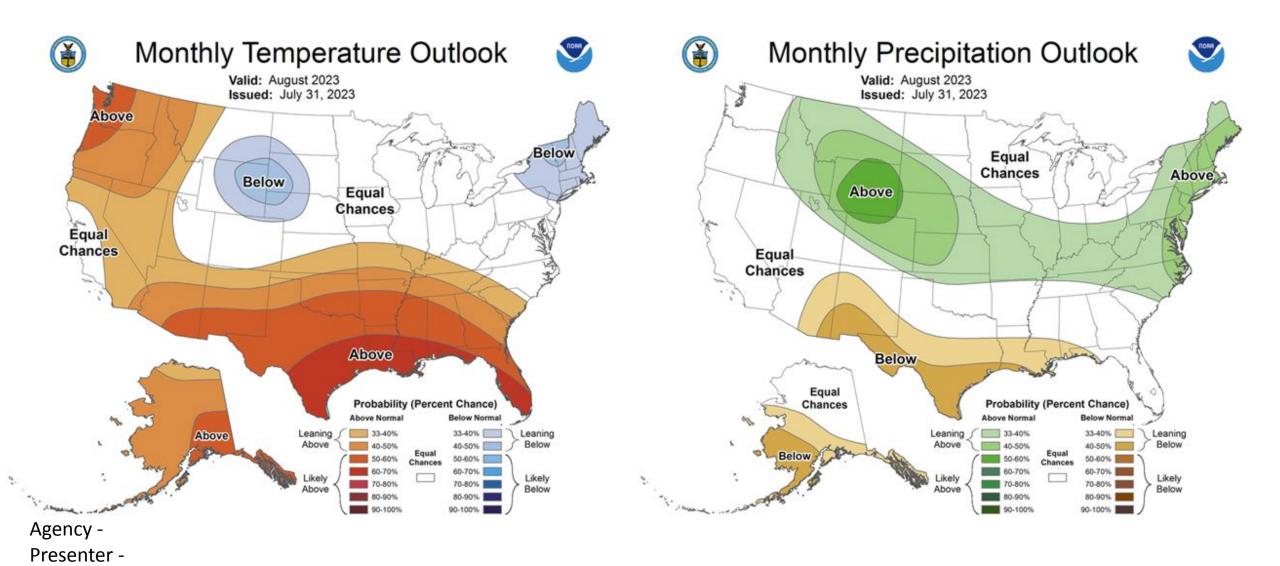




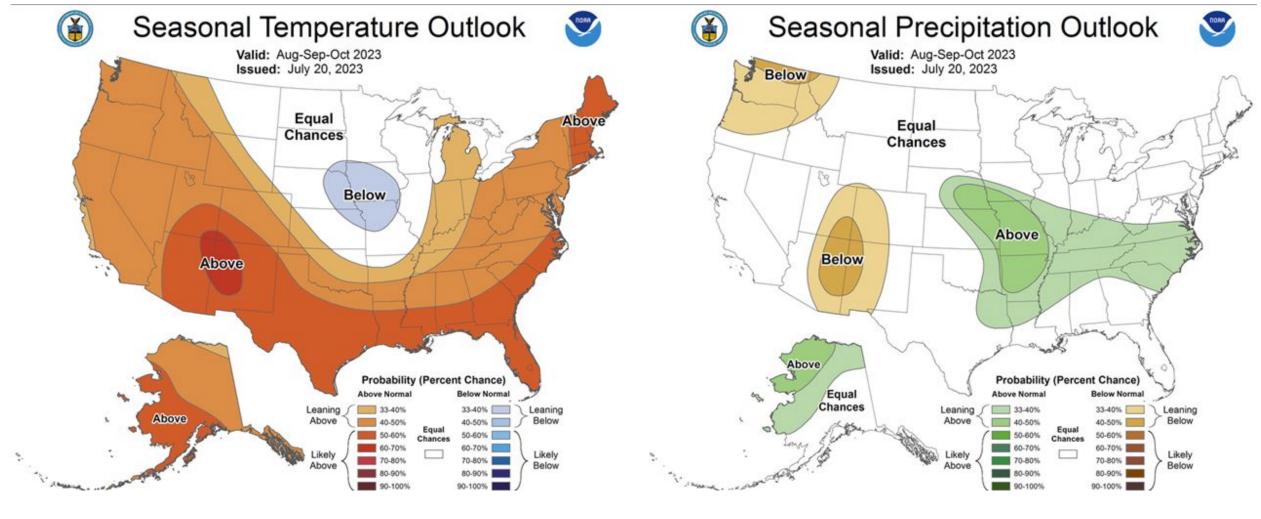
Agency - Utah Climate Center

Presenter - Jon Meyer

#### **CPC August Outlook**

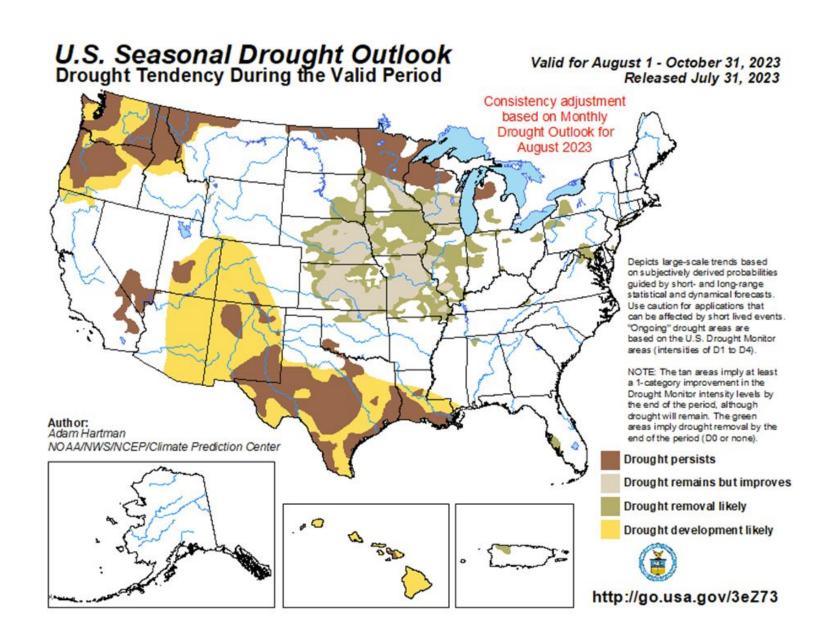


#### **CPC August-October Outlook**



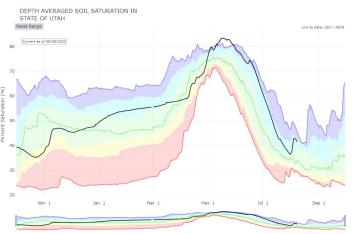
Agency -Presenter -

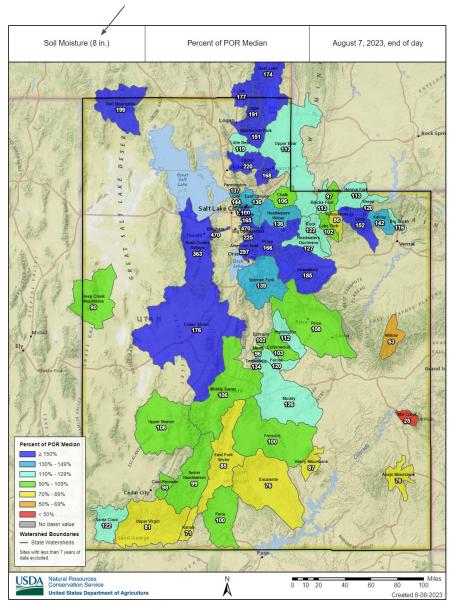
#### CPC August-October Drought Outlook

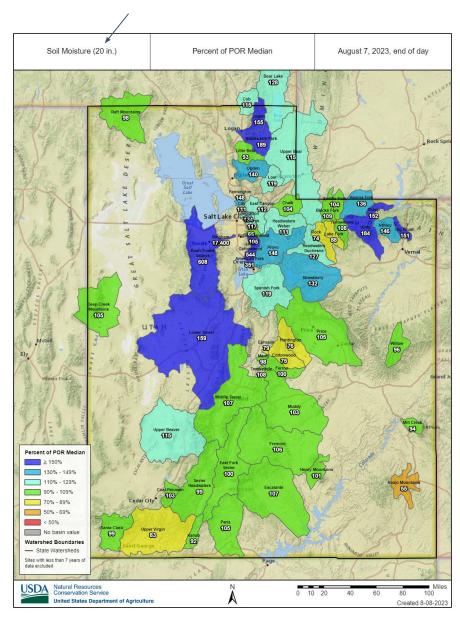


Agency -Presenter -

#### Soil Moisture







Agency - NRCS Snow Survey Presenter - Jordan Clayton

Yuba Lake had some work done on the spillway and needed to keep water levels low for that Lower Enterprise is at a typical level for this time of year

Statewide reservoirs are 17% above median for this time of year

Statewide reservoirs are 31% higher than this time last year

Updated 08/07/2023 Newton 68% Statewide Average:82%\* Hyrum 80% **Woodruff Narrows** Porcupine 81% Willard Bay 97% 56% 99% Woodruff Creek 93% Causey Pineview 92% 87% Lost Creek Stateline Flaming Gorge East Canyon 92%82% Echo 93%100%Smith And Morehouse Red Fleet Jordanelle 91% Rockport Grantsville 81% 74% 82% Moon Lake 93% **Currant Creek** 95% Steinaker Settlement Canyon Deer Creek 98% Big Sand Wash Utah Lake Strawberry Scofield 95% Miller Flat 88% 96% Cleveland Lake Joes Valley 94% 74% Huntington North Yuba Gunnison 74% Millsite Ken's Lake 110% Piute 72% Minersville Otter Creek **Upper Enterprise** Panguitch Lake 21-40% Lower Enterprise 41-60% 74% Quail Creek Lake Powell **Gunlock 94% Sand Hollow** 61-80% Data Sources: water.utah.gov/reservoirlevels UTAH 81-100% DNR \*State average excludes Lake Powell & Flaming Gorge to better represent the state's water supply. Total capacity including these is 51%

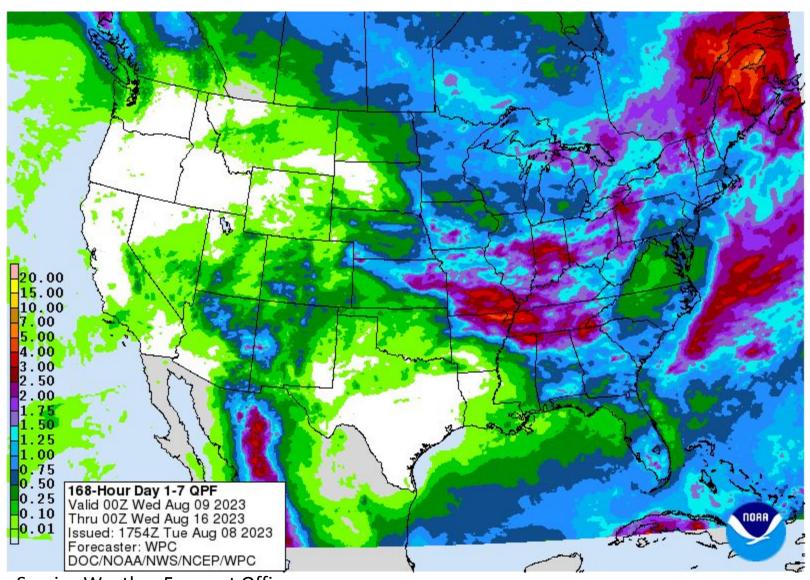
Bear Lake

Reservoir Fill %

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

#### Weather Forecast Office Utah Day 1-7 Outlook



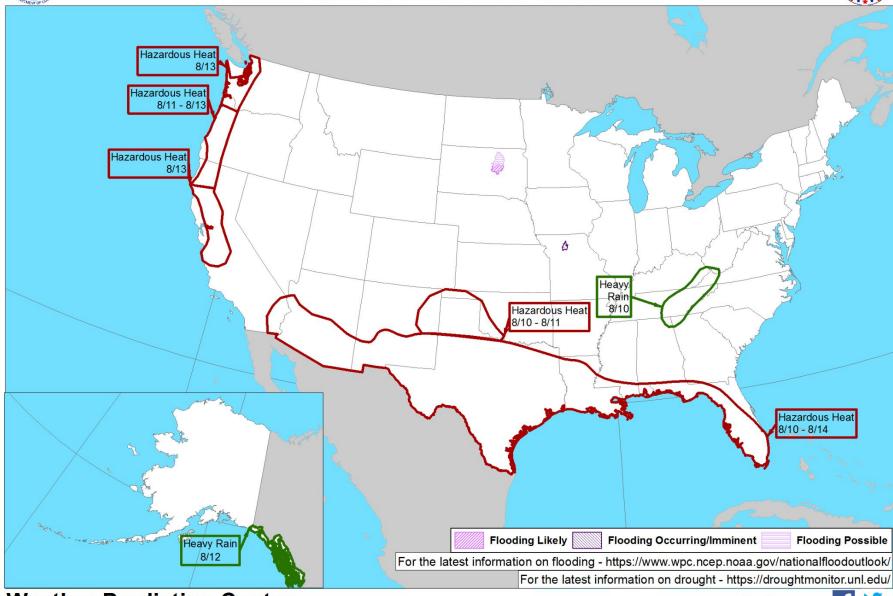


Agency - National Weather Service Weather Forecast Office Presenter -



Day 3-7 U.S. Hazards Outlook Valid: 08/10/2023-08/14/2023







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www.wpc.ncep.noaa.gov





### Day 8-14 U.S. Hazards Outlook Valid: 08/15/2023-08/21/2023





**Climate Prediction Center** 

SEE PROBABILISTIC MAPS

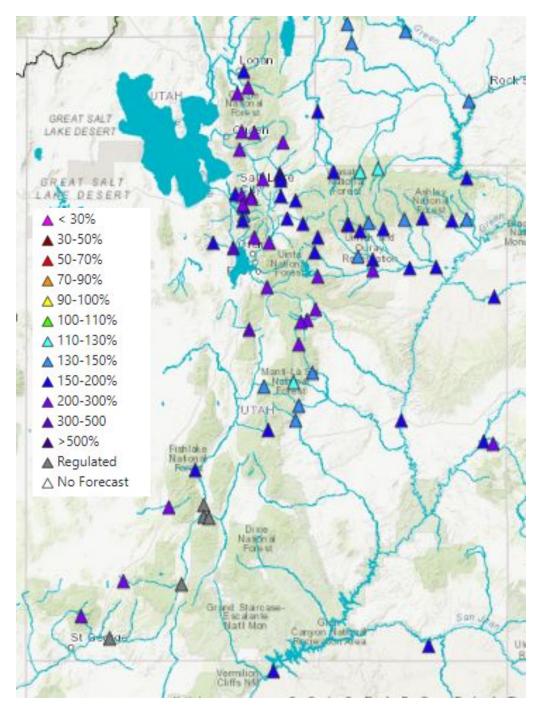
Made: 08/07/2023 3PM EDT

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Flooding Possible

Rapid Onset Drought Risk

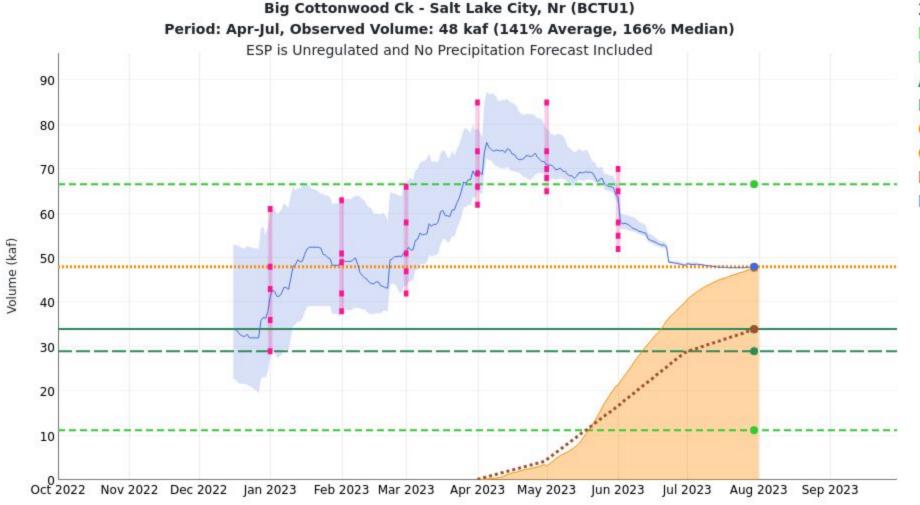






Provisional, observed water supply volumes are now available on our website. These values will become finalized as we collect finalized flow data from the USGS and other partners. Water supply volumes over Utah generally ranged from 110% to 230% of average conditions.

Overall, we did well forecasting this extreme years. In some areas, we struggled a bit more due to a slow, inefficient snowmelt, and lack of data from unmeasured depletions and some areas where high flows were not captured accurately.



2023/07/30:

Max 2011: 66.61

Min 1934: 11.21

Average: 34 Median: 29

Observed Accumulation.

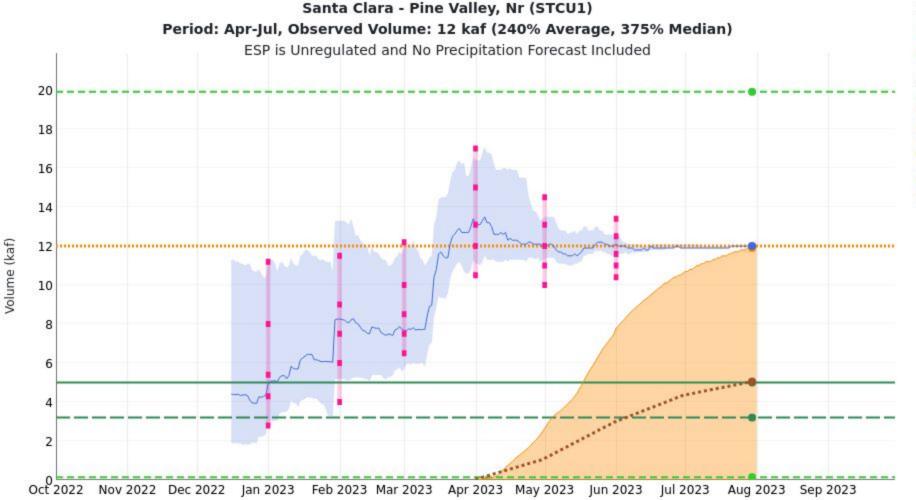
NOAA

**Observed Total: 48** 

Normal Accumulation: 33.9

**ESP**: 48

We struggled a bit with our forecast at Big Cottonwood (and Little Cottonwood to a lesser extent). High flows were difficult to measure here since flows were above the rating curves. We had to make significant changes to our snow states in June as we realized the water was not coming.



2023/07/30:

Max 2005: 19.91

Min 2002: 0.15

Average: 5 Median: 3.2

Median: 3.2

Observed Accumulation: 11.7

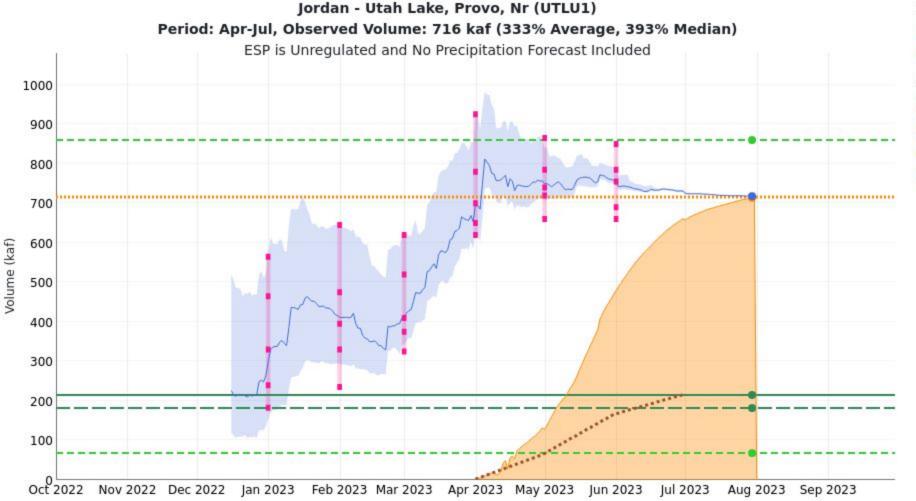
NOAA

**Observed Total: 12** 

Normal Accumulation: 5.05

**ESP**: 12

We did really well at Santa Clara. Initial thoughts are that warmer temperatures in the southern part of the state allowed for the snowmelt to come off efficiently.



2023/07/30:

Max 1984: 859.97

Min 1961: 68.03

Average: 215 Median: 182

Median: 182

Observed Accumulation. 714

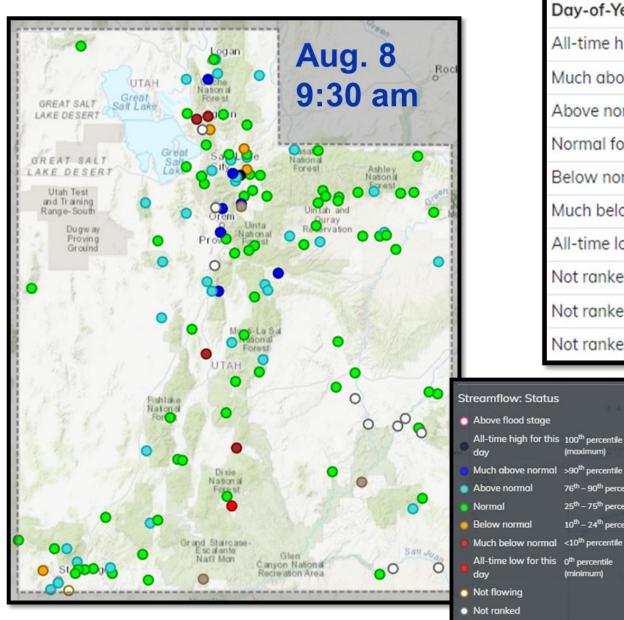
NOAA

**Observed Total: 716** 

**ESP: 718** 

We also did well over the Provo River Basin. There are lots of diversions and uses going on here (some of which we don't have the data for), so this one can be tricky to get right, but we did well here.

#### **Current Streamflow Conditions**



*Sites must have at least 10 ye	ears of streamflow record to
be ranked on this graphic	

**Jul. 10** Aug. 8 Day-of-Year Status % Gages % Gages All-time high for this day-of-year 0.7% 0.7% 9.5% Much above normal for this day-of-year 5.1% Above normal for this day-of-year 36.5% 24.6% Normal for this day-of-year 38.7% 52.9% 2.2% Below normal for this day-of-year 2.9% Much below normal for this day-of-year 2.2% 2.9% All-time low for this day-of-year 0.7% 0.7% | Not ranked - insufficient record 7.3% 8.0% 1.5% | Not ranked - no measurement 1.4% Not ranked - stream not flowing 0.7% 0.7%

76<sup>th</sup> – 90<sup>th</sup> percentile 25th - 75th percentile 10<sup>th</sup> - 24<sup>th</sup> percentile

Measurement flag

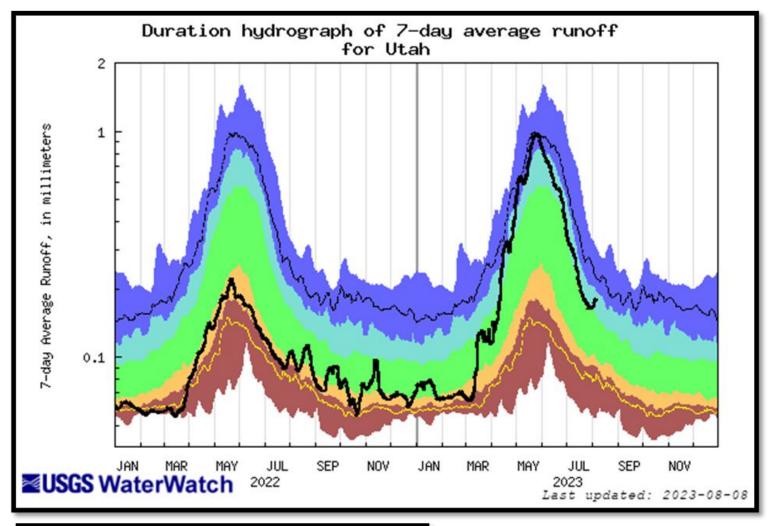
Recent measurement unavailable

Provisional data, subject to revision

Agency - USGS Utah WSC Presenter - Ryan Rowland



#### **Utah Area-Based Runoff Duration Hydrograph**



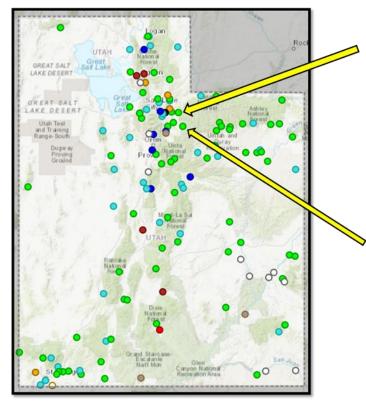
The Runoff Duration Hydrograph is a graphical presentation of area-based runoff (the black line) calculated as a weighted average of **HUC 8-runoff, plotted** over the long-term statistics of runoff for each day or month of the year for each area.

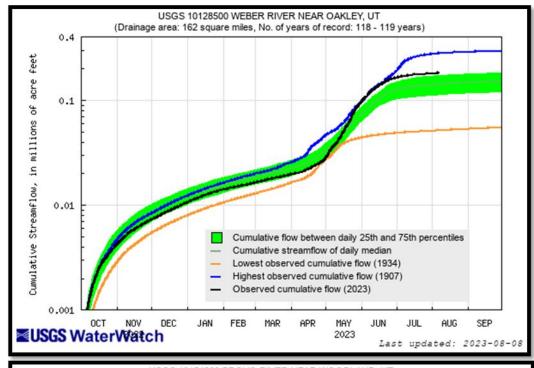
•	E	xplana	tion - Pe	ercentile	classes	\$	
							_
lowest- 10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Runoff
Much below Normal		Below normal	Normal	Above	Much above normal		

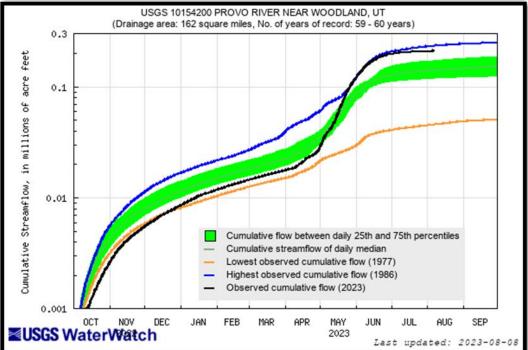




## **Cumulative Streamflow for Selected Gages**



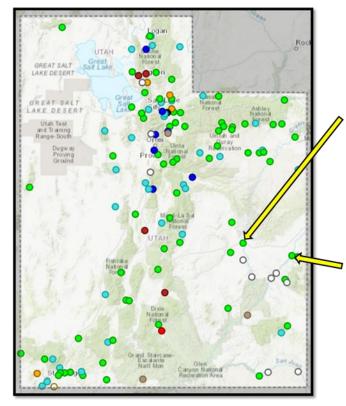


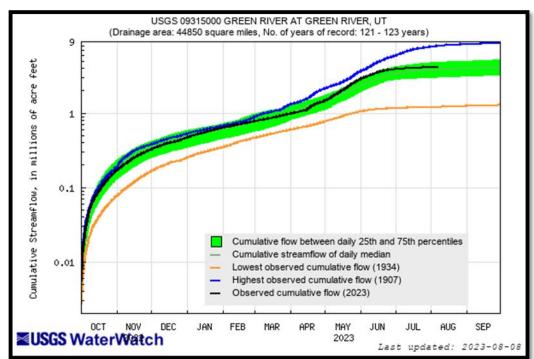


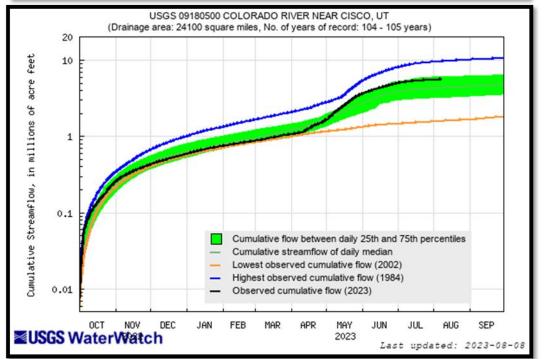




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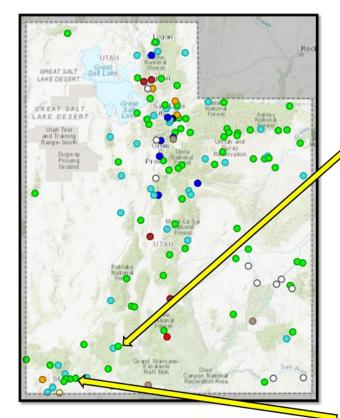


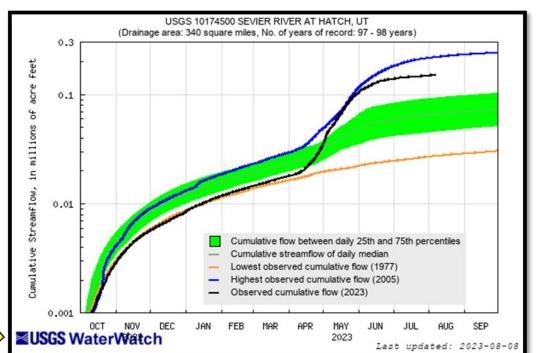


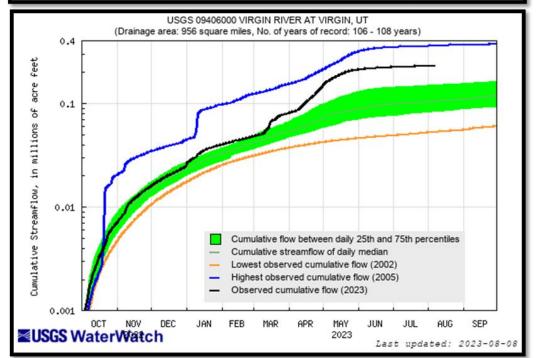




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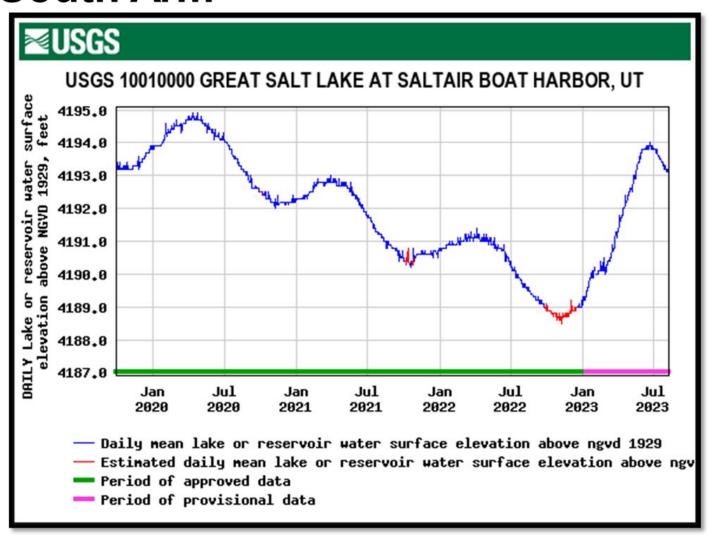








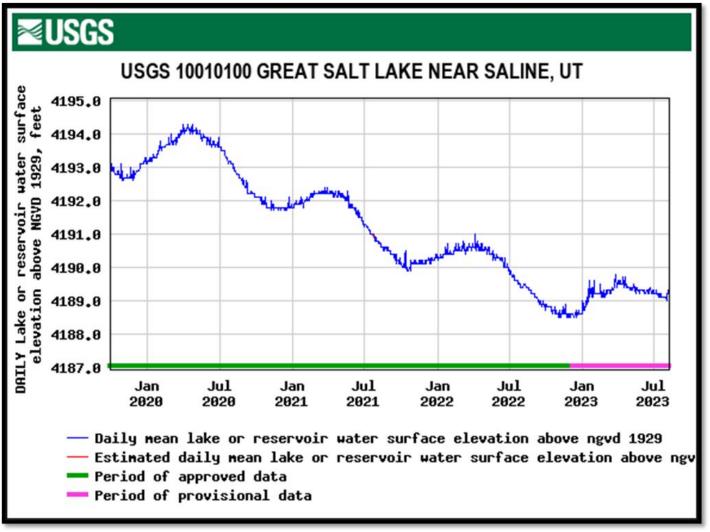
## Great Salt Lake Water Surface Elevation – South Arm



- □ Daily value 8/7/2023 = 4,193.1'
- □ Daily value 7/10/2023 = 4,193.6'
- □ Peaked at 4,194.0' on 6/19 and 6/20/2023
- □ Berm at causeway breach raised to 4,192' 2/9/2023



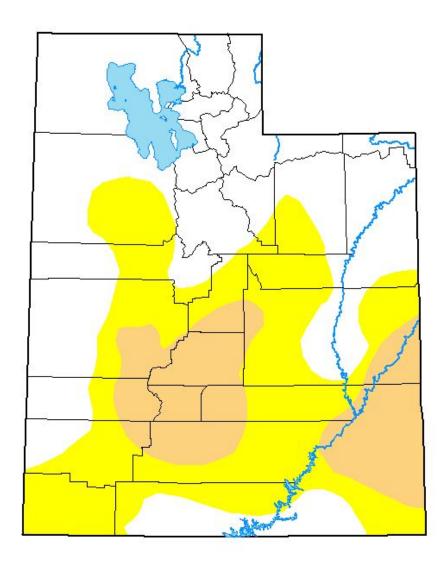
## Great Salt Lake Water Surface Elevation – North Arm



- □ Daily value 8/7/2023 = 4,189.2'
- □ Daily value 7/10/2023 = 4,189.1'
- □ Peaked at 4,189.8' on 3/24/2023



### U.S. Drought Monitor Utah



#### August 1, 2023

(Released Thursday, Aug. 3, 2023) Valid 8 a.m. EDT

#### intensity:

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:

Brian Fuchs National Drought Mitigation Center









droughtmonitor.unl.edu

To report on conditions between meetings:

Submit a report on CMOR drought website Email <u>Lhaskell@utah.gov</u> email <u>drought@utah.gov</u>