Utah Water Assessment & Conditions Monitoring (Drought Webinar)

The meeting will begin shortly

Thank you to our contributors
Utah Water Assessment & Conditions Monitoring Webinar

July 26, 2022
Temperature (2-month & 2-week)

Av. Max. Temperature dep from Ave (deg F)
5/27/2022 - 7/25/2022

Av. Max. Temperature dep from Ave (deg F)
7/12/2022 - 7/25/2022

Agency - Utah Climate Center
Presenter - Jon Meyer
Precipitation (30-day & 6-month SPI)

Agency - Utah Climate Center
Presenter - Jon Meyer
Evaporative Demand (30-day left; 7-day bottom; ESI top right)

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 - 07/26/22
Quick Drought Response Index
Utah

July 24, 2022
(Week 30)

Conditions Relative to 4-Week Historical Average
- Wetter
- Near Average
- Drier
- Out of Season
- Urban
- No Data
- Water

Agency - Utah Climate Center
Presenter - Jon Meyer
Modeled soil moisture change (2-week & 1-year)

Agency - Utah Climate Center
Presenter - Jon Meyer
CPC 1-month Outlook

Monthly Temperature Outlook

Valid: August 2022
Issued: July 21, 2022

Monthly Precipitation Outlook

Valid: August 2022
Issued: July 21, 2022
Forecast Soil Moisture changes (modeled)
Soil Moisture

depth-integrated (graph)
8" sensor depth (map)

Agency - NRCS Snow Survey
Presenter - slide prepared by Jordan Clayton
Reservoir Levels

Reservoir Fill %
Updated 07/26/2022
Statewide Average: 54%*

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

Data Sources: water.utah.gov/reservoirlevels
*State average excludes Lake Powell & Flaming Gorge to better represent the state’s water supply.

Total capacity including these is 43%
Weather Forecast Office Utah Day 1-7 Outlook

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

- Deepest moisture will remain over the southern 1/3rd of the state
- Some drying leading into the weekend as the ridge builds to our west
- Uncertainty in ridge position early next week…most likely it will be shifting east once again.
Climate Prediction Center 8 to 14 Day Outlooks - Precipitation

8-14 Day Precipitation Outlook

Valid: August 2 - 8, 2022
Issued: July 25, 2022

Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill
Climate Prediction Center U.S. Week-2 Hazards Outlook

Risk of Hazardous Temperatures
Valid: 08/02/2022-08/08/2022

Risk of Heavy Precipitation
Valid: 08/02/2022-08/08/2022

Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill
As we near the end of the April through July runoff period, seasonal runoff volumes are pretty much set; we’ll have some provisional observed values for next time. Regardless, dry, below average conditions are consistent throughout Utah.

Month to date precipitation has been very dry outside of the Six Creeks River Basin, which has been above average. This has very little impact to water supply conditions.

Pat Kormos - CBRFC
Current Streamflow Conditions

July 26

Day-of-Year Status

<table>
<thead>
<tr>
<th>% Gages</th>
<th>July 11</th>
<th>July 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-time high for this day-of-year</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Much above normal for this day-of-year</td>
<td>0.0%</td>
<td>0.7%</td>
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<tr>
<td>Above normal for this day-of-year</td>
<td>1.5%</td>
<td>4.4%</td>
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<tr>
<td>Normal for this day-of-year</td>
<td>43.1%</td>
<td>38.0%</td>
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<tr>
<td>Below normal for this day-of-year</td>
<td>27.7%</td>
<td>29.9%</td>
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<tr>
<td>Much below normal for this day-of-year</td>
<td>12.4%</td>
<td>10.2%</td>
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<tr>
<td>All-time low for this day-of-year</td>
<td>3.6%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Not ranked - insufficient record</td>
<td>7.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Not ranked - stream not flowing</td>
<td>3.6%</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Agency - USGS Utah WSC
Presenter - Ryan Rowland
Area Based Cumulative Runoff for Utah

- Area based runoff computed from mixed regulated and unregulated streamflows
Streamflow at Selected Gages

USGS 10011500 BEAR RIVER NEAR UTAH-WYOMING STATE LINE
(Drainage area: 172 square miles, length of record: 79 - 80 years)

Daily average discharge, in cubic feet per second

Explanation - Percentile classes
- Lowest 10th percentile
- 10-24
- 25-75
- 76-90
- 95
- 90th percentile - highest
- Much below Normal
- Below normal
- Normal
- Above normal
- Much above normal

Agency - USGS Utah WSC; Presenter - Ryan Rowland
Streamflow at Selected Gages

USGS 10128500 WEBER RIVER NEAR OAKLEY, UT
(Drainage area: 162 square miles, length of record: 117 - 118 years)

Daily average discharge, in cubic feet per second

Last updated: 2022-07-26

Agency - USGS Utah WSC; Presenter - Ryan Rowland
Streamflow at Selected Gages

USGS 10154200 PROVO RIVER NEAR WOODLAND, UT
(Drainage area: 162 square miles, length of record: 58 - 59 years)

Daily average discharge, in cubic feet per second

Explanation - Percentile classes

<table>
<thead>
<tr>
<th>Percentile Class</th>
<th>Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th percentile</td>
<td>5</td>
</tr>
<tr>
<td>25th percentile</td>
<td>10-24</td>
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<tr>
<td>75th percentile</td>
<td>25-75</td>
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<tr>
<td>90th percentile</td>
<td>76-90</td>
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<tr>
<td>95th percentile</td>
<td>95-99</td>
</tr>
<tr>
<td>Highest</td>
<td>Above normal</td>
</tr>
</tbody>
</table>

Agency - USGS Utah WSC; Presenter - Ryan Rowland
Streamflow at Selected Gages
Streamflow at Selected Gages
Great Salt Lake Water Surface Elevation

- Mean daily value 7/25/2022 = 4,189.8’ (record low)
- Mean daily value 7/11/2022 = 4,190.1’
Current Drought Map

Current U.S. Drought Monitor Conditions for Utah: Current

U.S. Drought Monitor for UT

(D0) Abnormally Dry: 100.0%
(D1) Moderate Drought: 100.0%
(D2) Severe Drought: 99.7%
(D3) Extreme Drought: 83.6%
(D4) Exceptional Drought: 7.8%

Source(s): NDMC, NOAA, USDA
Updates Weekly - 07/19/22