Utah Water Assessment & Conditions Monitoring Webinar

September 7, 2021
August’s Climate Summary

Agency - Utah Climate Center
Presenter - Jon Meyer
Summer Climate Summary (June-August)
4-week Evaporative Demand Drought Index

U.S. Vegetation and Drought

**Evaporative Stress Index (ESI)**

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**

-2σ < -1σ 0 +1σ > +2σ

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

Source(s): NASA SERVIR

2-week EDDI categories for August 30, 2021

Drought categories

- ED4
- ED3
- ED2
- ED1
- ED0

Wetness categories

- EW0
- EW1
- EW2
- EW3
- EW4

100% 98% 95% 90% 80% 70% 50% 30% 20% 10% 5% 2% 0%

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

Generated by NOAA/ESRL/Physical Sciences Laboratory
Quick Drought Response Index (QuickDRI)
Tabular weather station data

U.S. Vegetation and Drought

Evaporative Stress Index  VegDRI  Vegetation Health Index

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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

Pre-Drought Stress  Moderate Drought  Severe Drought  Extreme Drought

Moist Conditions

Unusually Moist  Very Moist  Extremely Moist

Other Conditions

Near Normal  Out of Season  Water  Other Landcover

*Currently, data are only available for the contiguous U.S.
Source(s): NDMC, USGS, HPRCC

Agency - Division of Water Resources
Presenter - Laura Haskell
Summer Monsoon rains have greatly improved the root-zone soil moisture conditions!
Despite an active monsoon, very little improvement to ground water conditions have been observed.
2-Week Difference in Column Relative Soil Moisture (%) valid 00z 07 Sep 2021

Agency - Utah Climate Center
Presenter - Jon Meyer
CPC 1-month (sept.) & 3-month (S-O-N) outlooks
Soil Moisture

DEPTH AVERAGED SOIL SATURATION IN
STATE OF UTAH

Agency - NRCS Snow Survey
Presenter - Jordan Clayton
Soil Moisture

20” sensor depth
SNOTEL & SCAN sites
Weather Forecast Office Utah Day 1-7 Outlook

- Well above normal temperatures through Thursday (8-13F above climo).
- Temperatures cool to near seasonal values for the weekend (in the north).
- Scattered showers and storms across the north Friday-Saturday.
- Isolated showers and storms possible Sunday-Tuesday.
Climate Prediction Center 8 to 14 Day Outlooks - Temperature

8-14 Day Temperature Outlook
Sep 13 - Sep 19, 2021

Above-Normal Favored

Below-Normal Favored

Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill
Climate Prediction Center 8 to 14 Day Outlooks - Precipitation

8-14 Day Precipitation Outlook
Sep 14 - Sep 20, 2021

Above-Normal Favored
>40%

Below-Normal Favored
>33%

Above-Normal Favored
>33%

Below-Normal Favored
>33%

Above-Normal Favored
>40%

Below-Normal Favored
>40%

Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill
Risk of Hazardous Temperatures
Valid: 09/14/2021-09/20/2021

Risk of Heavy Precipitation
Valid: 09/14/2021-09/20/2021

Agency - National Weather Service Weather Forecast Office
Presenter - Glen Merrill
Water Supply Forecasts - Reservoirs Inflows

Seasonal water supply forecasts have concluded for WY2021, however, adjusted flows and forecast for specific reservoirs illustrate the ongoing drought and low August flows with a couple of exceptions.

Lake Powell Unregulated Inflow 19% of Average

Fontenelle Unregulated Inflows 25% of Average

Flaming Gorge Unregulated Inflows 30% of Average

Deer Creek Reservoir Unregulated Inflows 55% of Average

Utah Lake Unregulated Inflows 113% of Average (Historic August Rains)

Agency - CBRFC
Presenter - Brent Bernard
Sites must have at least 10 years of record to be ranked on 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

Agency - USGS Utah Water Science Center
Presenter - Ryan Rowland
Cumulative Streamflow

- Cumulative 7-day average runoff for water year 2021 is near the lowest on record.
Great Salt Lake Water Surface Elevation

- Mean daily value yesterday 4,190.8’
- 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 31, 2021
(Released Thursday, Sep. 2, 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

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droughtmonitor.unl.edu