

# Wyoming State Engineer's Office

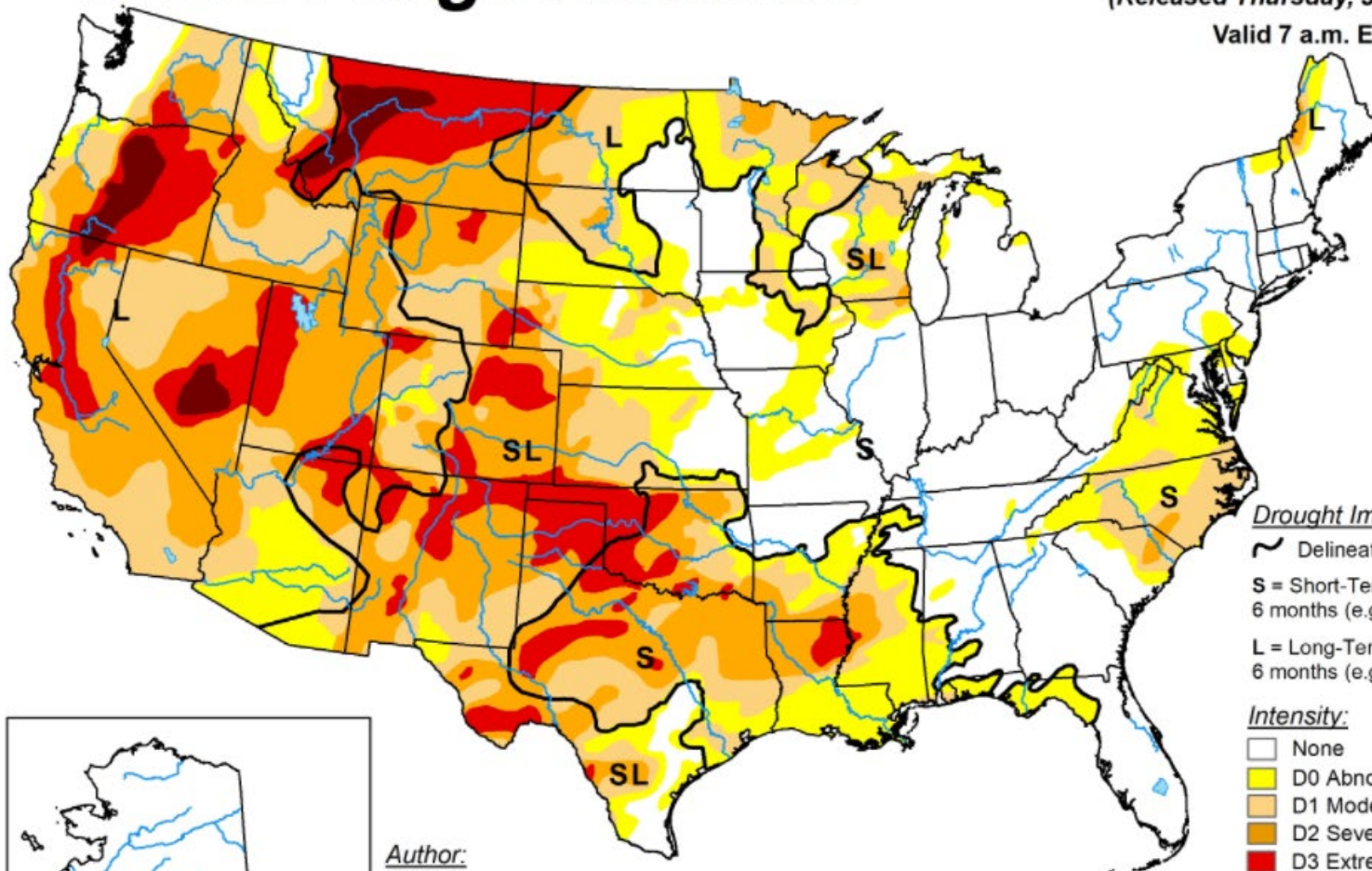
Jeff Cowley

Administrator, Interstate Streams

# U.S. Drought Monitor

January 4, 2022  
(Released Thursday, Jan. 6, 2022)

Valid 7 a.m. EST

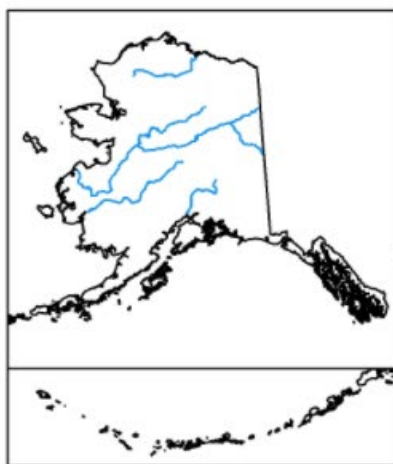


### Drought Impact Types:

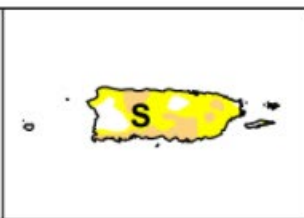
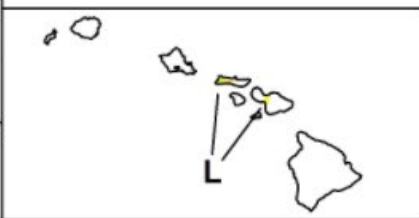
- Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

### Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



Author:  
Richard Tinker  
CPC/NOAA/NWS/NCEP



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>

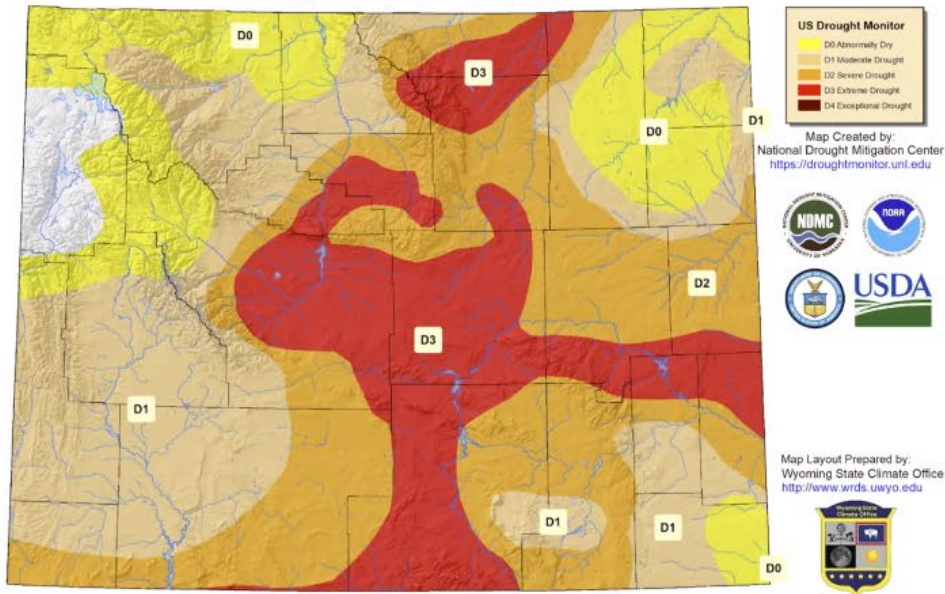


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



# Drought at Start and End of Water Year 2021

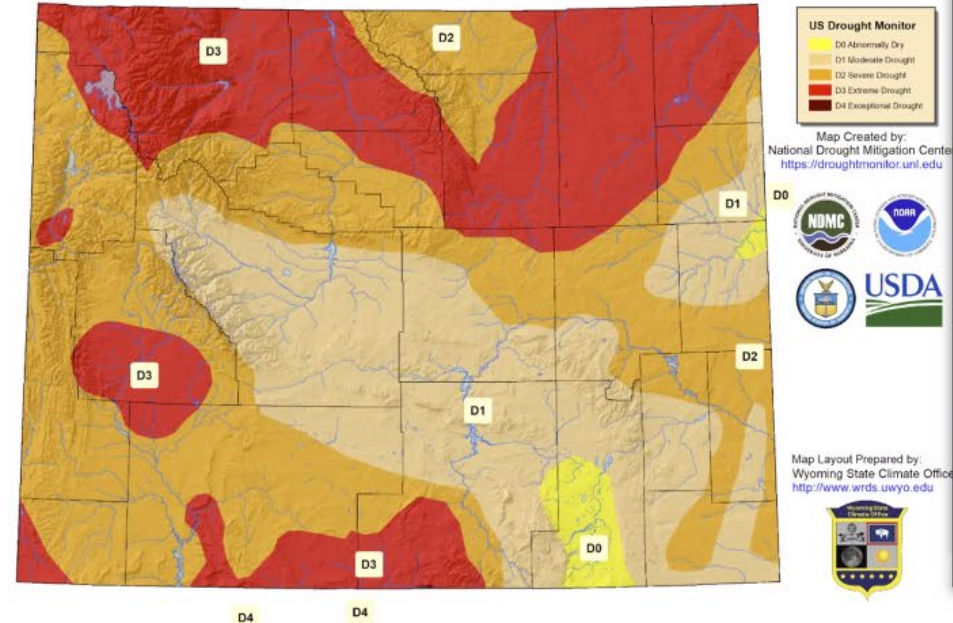
US Drought Monitor as of 29 Sep 2020



The U.S. Drought Monitor is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. <http://droughtmonitor.unl.edu>

D4

US Drought Monitor as of 28 September 2021



The U.S. Drought Monitor is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. <http://droughtmonitor.unl.edu>

# Current Drought in Wyoming

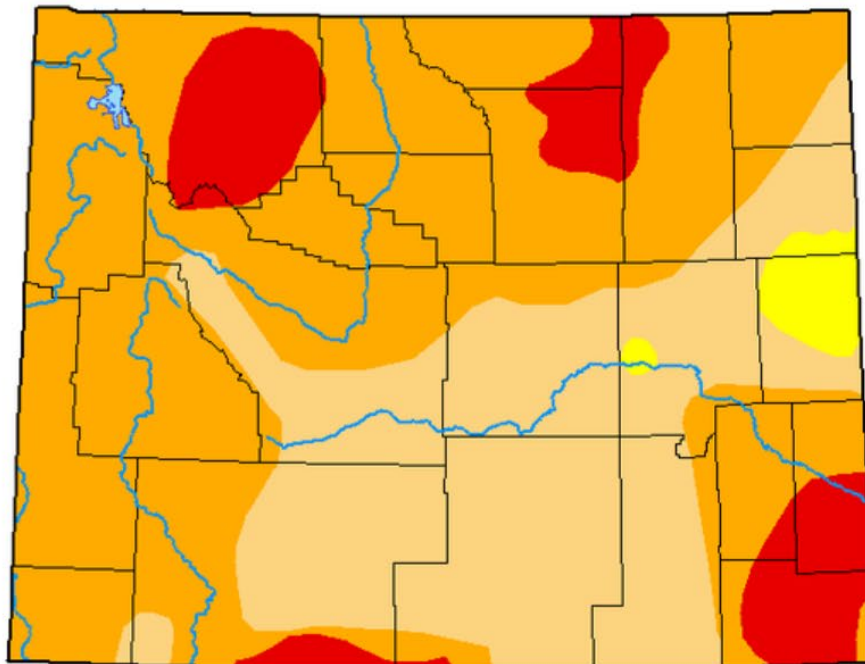
## Wyoming

(Released Thursday, Jan. 6, 2022)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

|   | None | D0-D4  | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|------|--------|-------|-------|-------|------|
| <b>Current</b>                              | 0.00 | 100.00 | 97.93 | 65.27 | 10.98 | 0.00 |
| <b>Last Week</b><br>12-28-2021              | 0.00 | 100.00 | 96.71 | 61.30 | 14.20 | 0.00 |
| <b>3 Months Ago</b><br>10-05-2021           | 0.00 | 100.00 | 97.90 | 70.36 | 32.99 | 0.00 |
| <b>Start of Calendar Year</b><br>01-04-2022 | 0.00 | 100.00 | 97.93 | 65.27 | 10.98 | 0.00 |
| <b>Start of Water Year</b><br>09-28-2021    | 0.00 | 100.00 | 97.89 | 70.36 | 29.29 | 0.02 |
| <b>One Year Ago</b><br>01-05-2021           | 4.26 | 95.74  | 87.47 | 54.22 | 25.78 | 0.36 |



Intensity:

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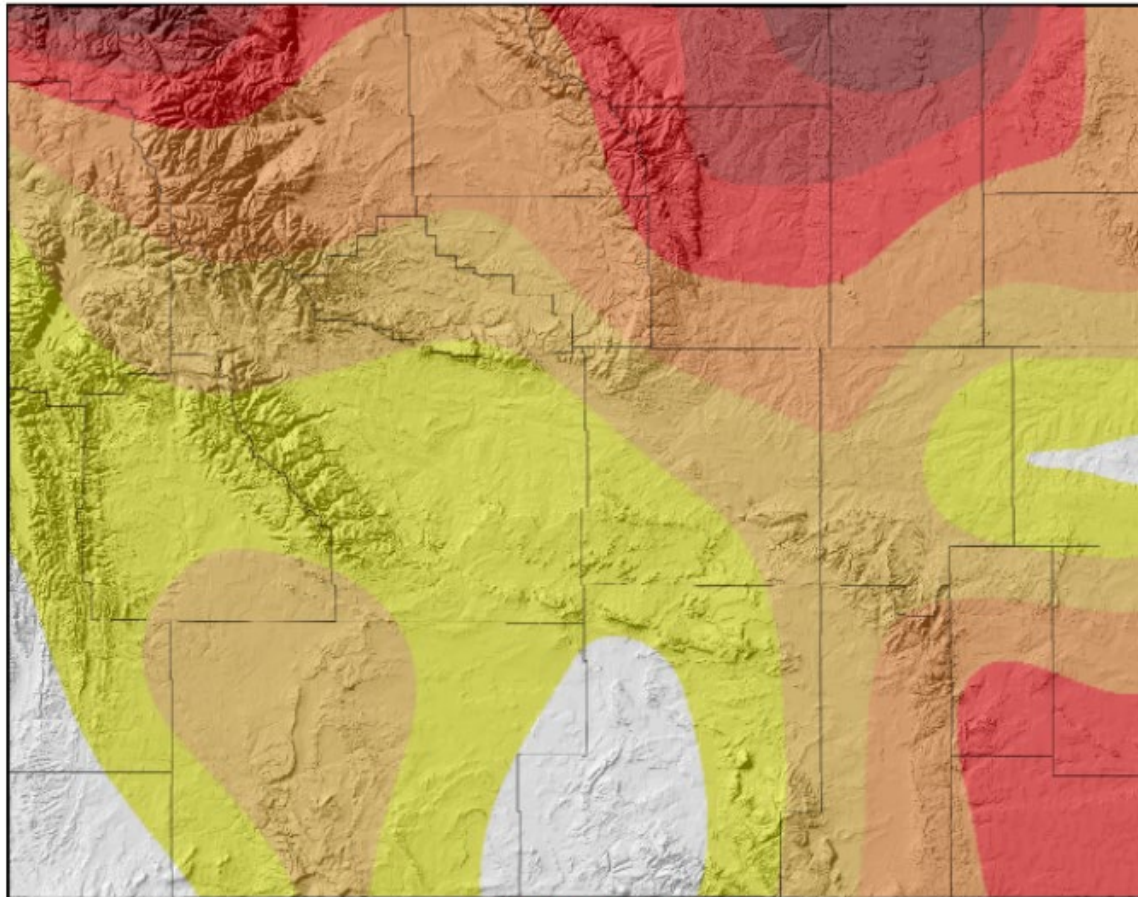
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Author:

Richard Tinker  
CPC/NOAA/NWS/NCEP

# Current Soil Moisture

Soil Moisture Percentile for 04 Jan 2022



Soil Moisture Percentile

- 0 to 2
- 2 to 5
- 5 to 10
- 10 to 20
- 20 to 30
- 30 to 40
- 40 to 60
- 60 to 70
- 70 to 80
- 80 to 90
- 90 to 95
- 95 to 98
- 98 to 100

Soil Moisture Percentile  
Climate Prediction Center



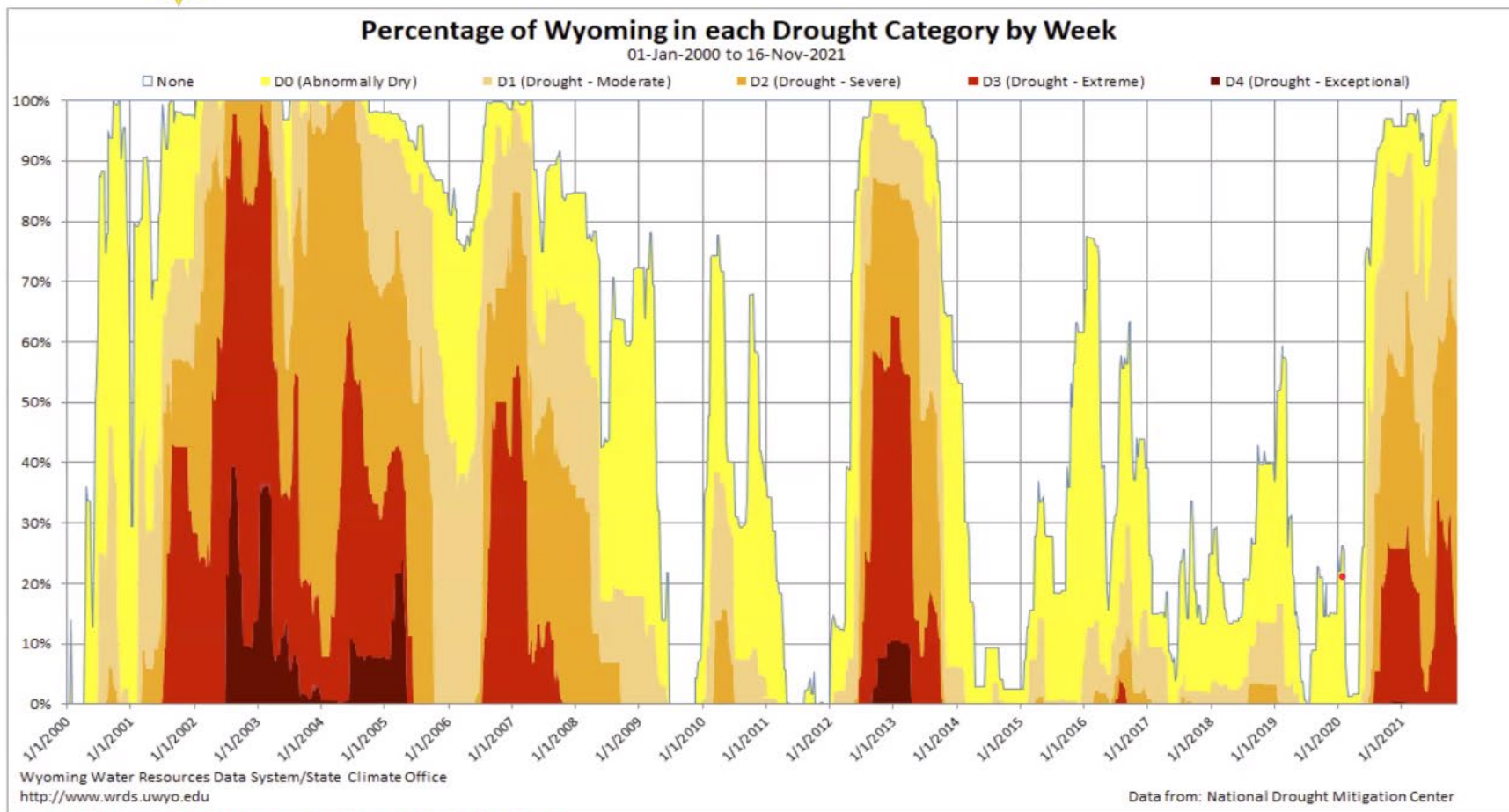
Map Prepared by:  
Wyoming State Climate Office  
<http://www.wrds.uwyo.edu>



Provisional data, subject to revision

Modeled Soil Moisture Percentile [https://www.cpc.ncep.noaa.gov/products/GIS/GIS\\_DATA/USDM\\_Products/soil/soil\\_percentile.php](https://www.cpc.ncep.noaa.gov/products/GIS/GIS_DATA/USDM_Products/soil/soil_percentile.php)  
Map Created 05 Jan 2022 <http://www.wrds.uwyo.edu>

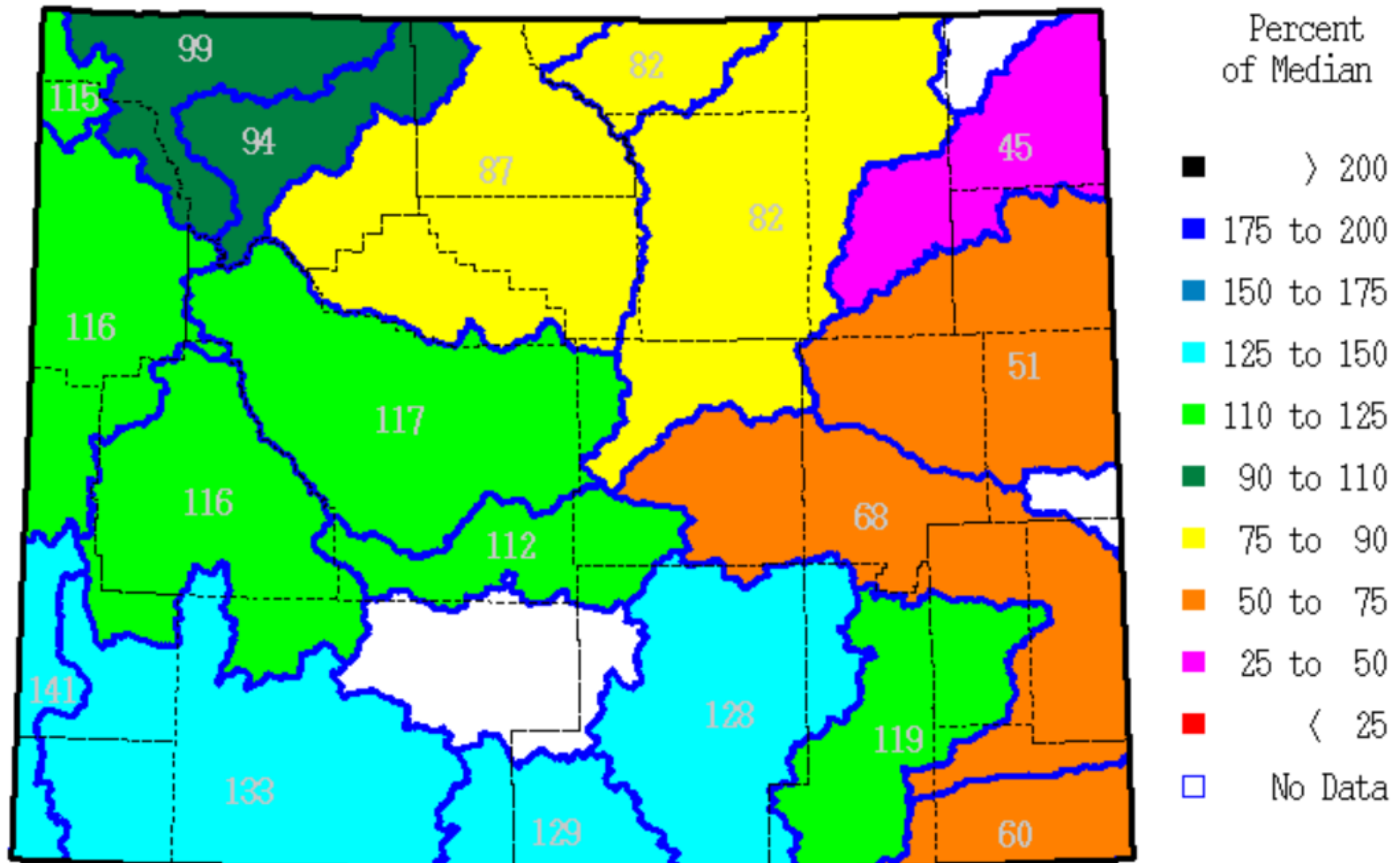
Wyoming Area Affected: 100% D0-D4 ; 92.07% D1-D4



<http://www.wrds.uwyo.edu/drought/droughttimeline.html>

# Some Good News!!!

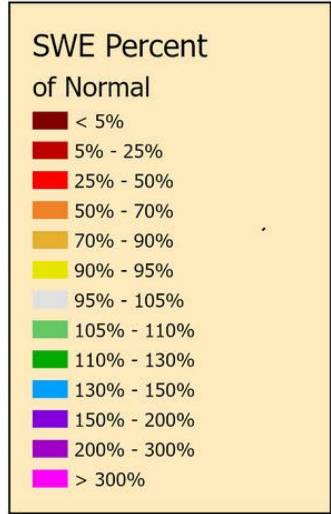
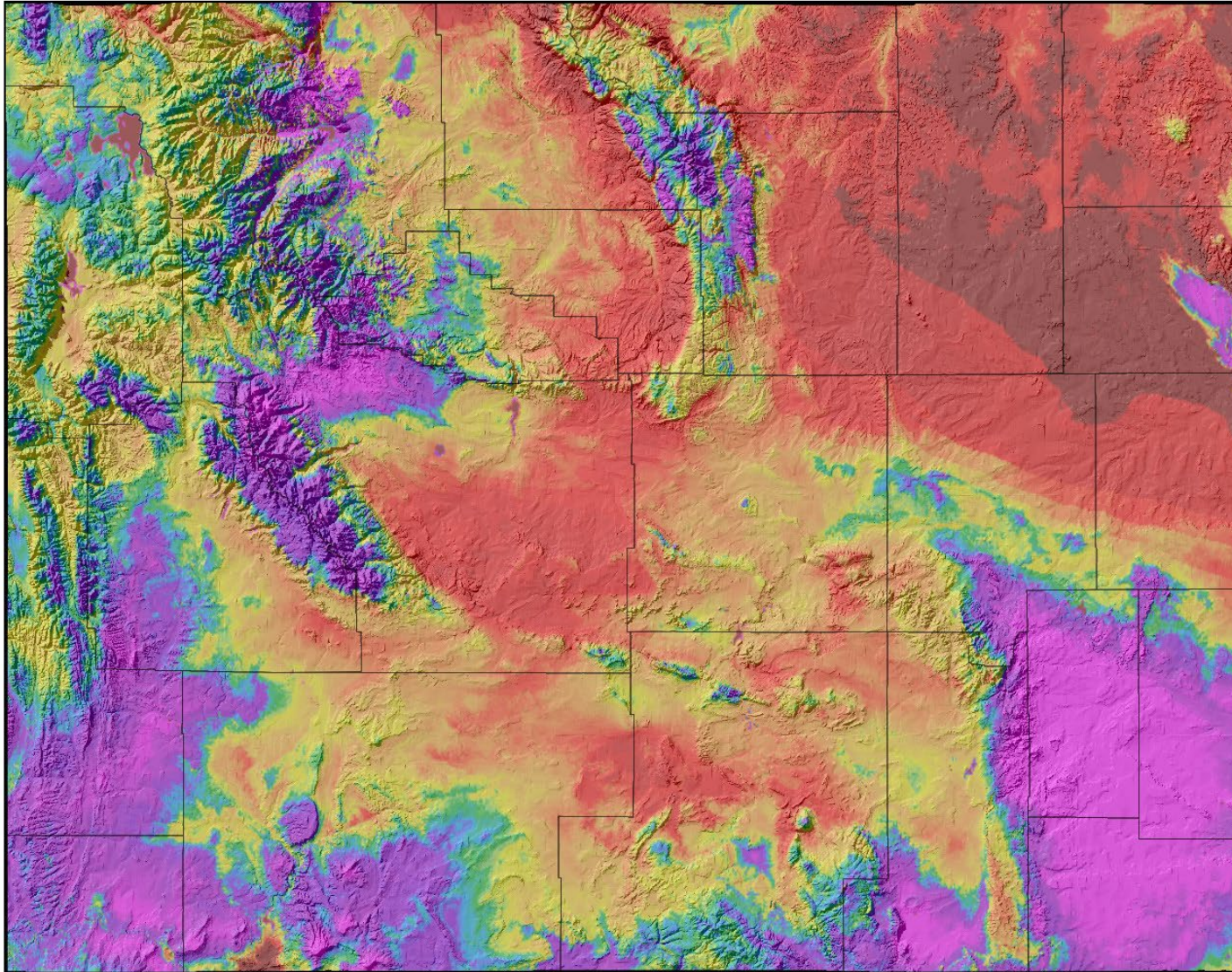
SWE % of Median as of Thursday, 06 January 2022



Produced by the Wyoming Water Resources Data System: <http://www.wrds.uwyo.edu>

\* = Data may not provide a valid measure of conditions

# Snow Water Equivalent Percent of Average (2004-2020) for 06 Jan 2022



Snow Water Equivalent  
NOHRSC  
<https://doi.org/10.7265/N5TB14TC>



Map Prepared by:  
Wyoming State Climate Office  
<http://www.wrds.uwyo.edu>



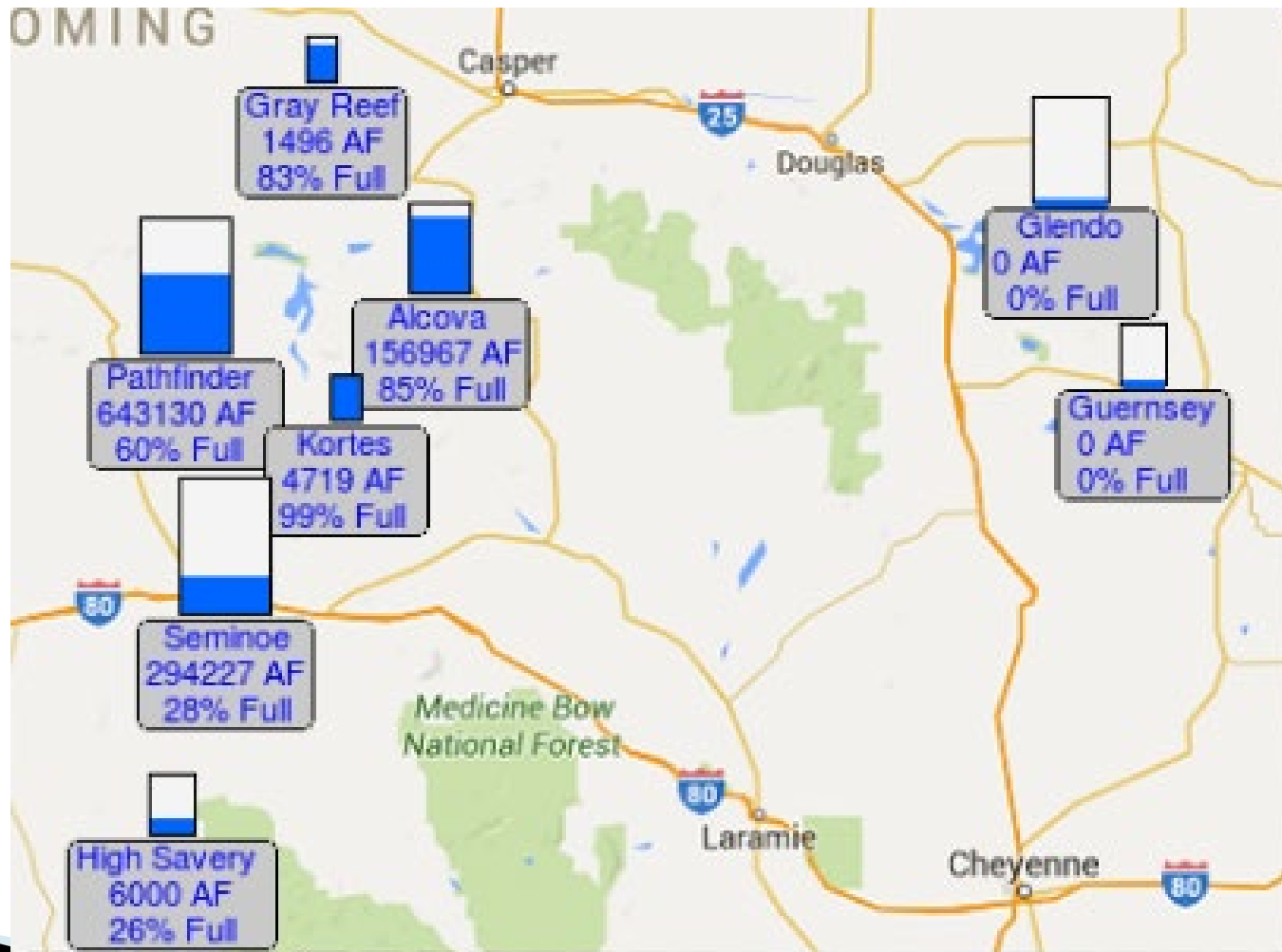
Provisional data, subject to revision

Modelled Snow Water Equivalent from National Operational Hydrologic Remote Sensing Center. 2004. Snow Data Assimilation System (SNODAS) Data Products at NSIDC, Version 1. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center.  
doi: <https://doi.org/10.7265/N5TB14TC>.  
Daily Percentiles and Percentages created by Wyoming State Climate Office  
Map created 06 Jan 2022

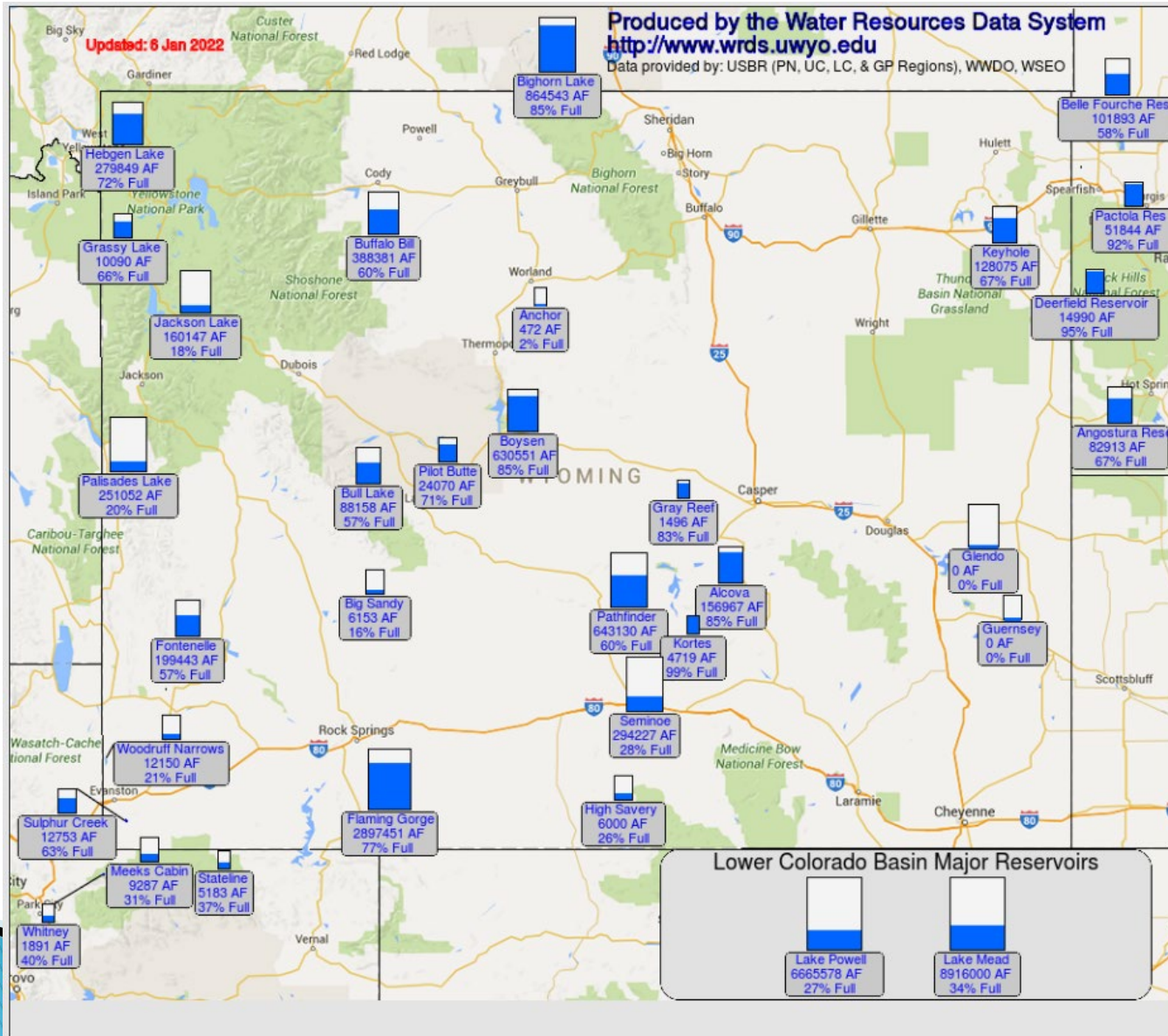
# North Platte River Flows

- ▶ 2021 Peak flows at Sinclair Gage
  - 3,310 CFS
  - Average Peak 7,625 CFS
  - 2021 = 43% of average
  - Only 7 years with a smaller peak since 1940
- ▶ 2021 Total Discharge at Sinclair Gage
  - 2020 = 760,644 Acre Feet
  - 2021 = 411,721 Acre Feet
- ▶ About half the flows leads to less storage
- ▶ Less storage leads to an Allocation Year??
  - We are not there yet, but we should be prepared.

# North Platte Basin Reservoir Storage



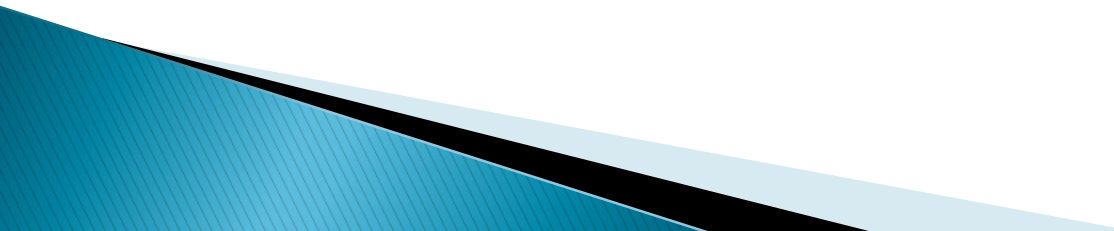
# State Wide Storage



# Colorado River Conditions

- ▶ Colorado River
  - 20+ years of drought in the basin
  - 1<sup>st</sup> Declared Shortage in Lower Basin
  - DROA Releases 181kAF (125 kAF Flaming Gorge)
  - Demand Management and Curtailment in WY
  - 2021 Flows into Flaming Gorge = 47% of average
  - 2021 Natural Flows in Upper Basin = 51% of average
- ▶ New subcommittees every week (30+)

# Colorado River Working Group

- ▶ **Governor's Charge**
    - State Engineer Lead
    - Working group to discuss important topics
    - Share information with stakeholders in the basin
    - Members from Agriculture, Municipal, Industry and Legislature
  
  - ▶ **Western Water Initiative**
    - Budget Exception Request for SEO/ISS
- 

# SEO Overall

- ▶ Budget and Staff Reductions
  - \$1.8 Million and 6 positions
  - Retirements, turn over, recruitment, and staff retention
- ▶ Aging Infrastructure and ARPA funds??
  - Who What When and Where??

# Thank You

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