



— BUREAU OF —
RECLAMATION



WY Conditions & Outlooks:

Precipitation, Temperatures, Drought, Floods, & Everything In-between

October 19, 2023



— BUREAU OF —
RECLAMATION



Presentation Outline

- **Current Conditions: Overview**
 - Drought, Temperature, Precipitation, Soils
 - Streamflow
 - Reservoir Supply
- **Outlooks:**
 - Temperature & Precipitation
- **Highlight of the Month**
 - National Integrated Drought Information System (NIDIS)
 - Opportunity: Tribal Drought Resilience Funding
 - Water Resources Data System (WRDS) & State Climate Office
 - Water & Climate Explorer
- **Questions**



— BUREAU OF —
RECLAMATION

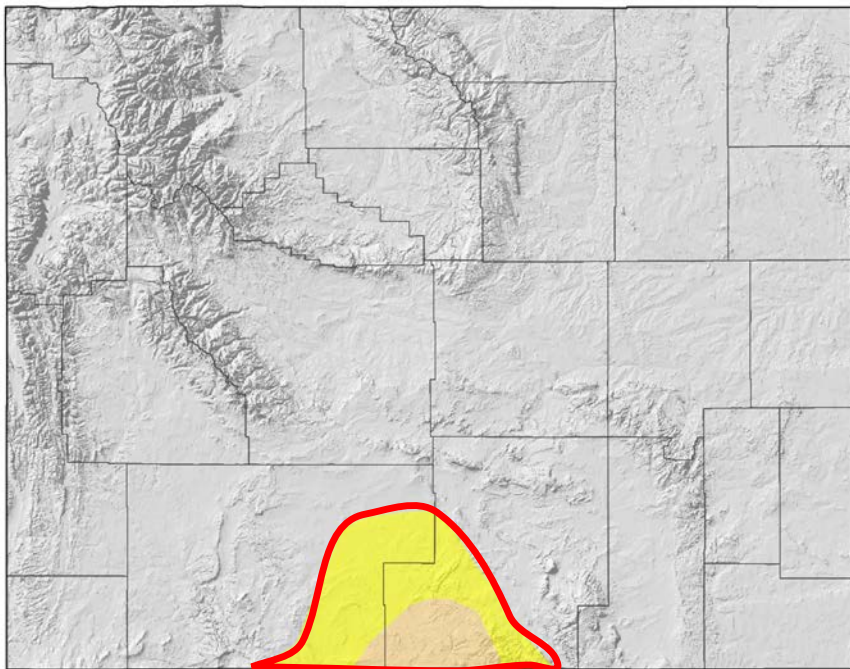


Current Conditions

US Drought Monitor for October 17, 2023

(Released Thursday, October 19, 2023)
Valid 8 a.m. EDT

US Drought Monitor for 17 Oct 2023



US Drought Monitor	
3.88%	D0 Abnormally Dry
1.37%	D1 Moderate Drought
0.00%	D2 Severe Drought
0.00%	D3 Extreme Drought
0.00%	D4 Exceptional Drought

Map Created by:
National Drought Mitigation Center
<https://droughtmonitor.unl.edu>



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



Drought Level	Percentile
None	>30
D0 (Abnormally Dry)	21 to 30
D1 (Moderate Drought)	11 to 20
D2 (Severe Drought)	6 to 10
D3 (Extreme Drought)	3 to 5
D4 (Exceptional Drought)	0 to 2

How are Drought categories assigned?
<https://youtu.be/45MQ1GB-uTc>

Degradations since the last webinar.
Last of the D0/D1 introduced in south-central Wyoming.

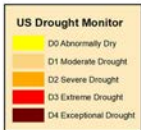
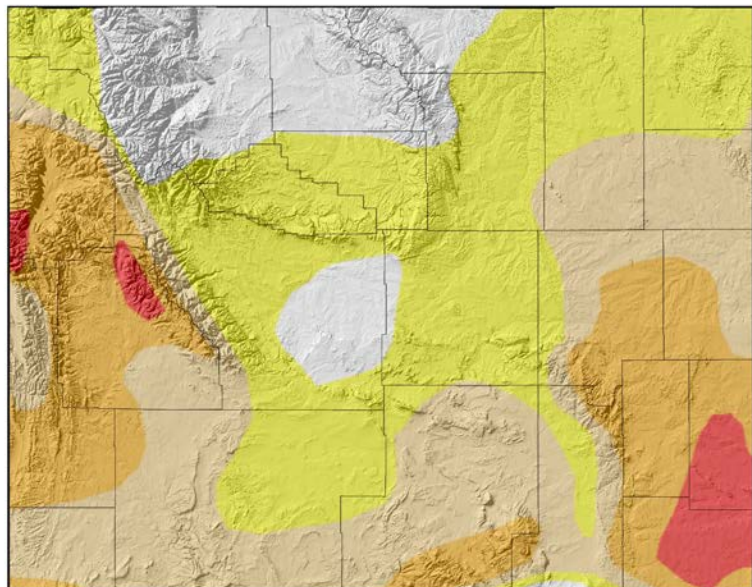
The U.S. Drought Monitor, is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted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

Map Layout Created 19 Oct 2023 <http://www.wrds.uwyo.edu>



One Year Ago

US Drought Monitor for 18 Oct 2022



Map Created by:
National Drought Mitigation Center
<https://droughtmonitor.unl.edu>



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

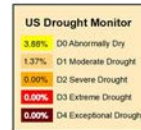
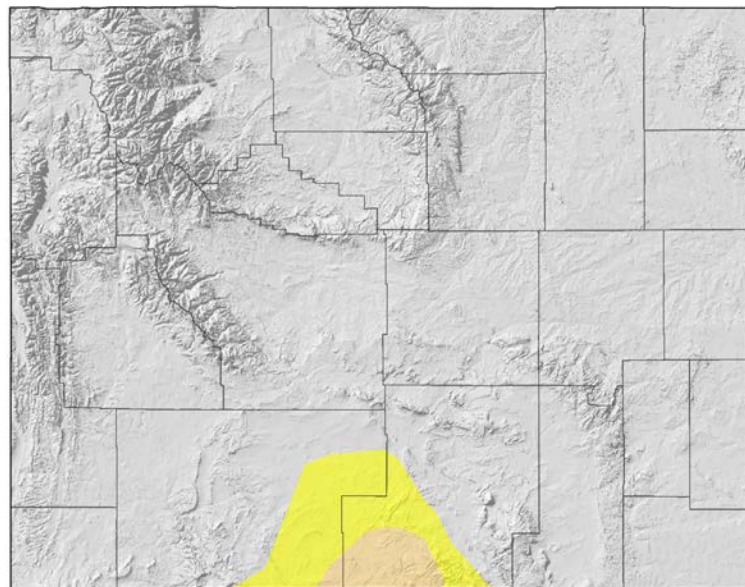


The U.S. Drought Monitor is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted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

Map Layout Created 10 Dec 2022 <http://www.wrds.uwyo.edu>

Today

US Drought Monitor for 17 Oct 2023



Map Created by:
National Drought Mitigation Center
<https://droughtmonitor.unl.edu>



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

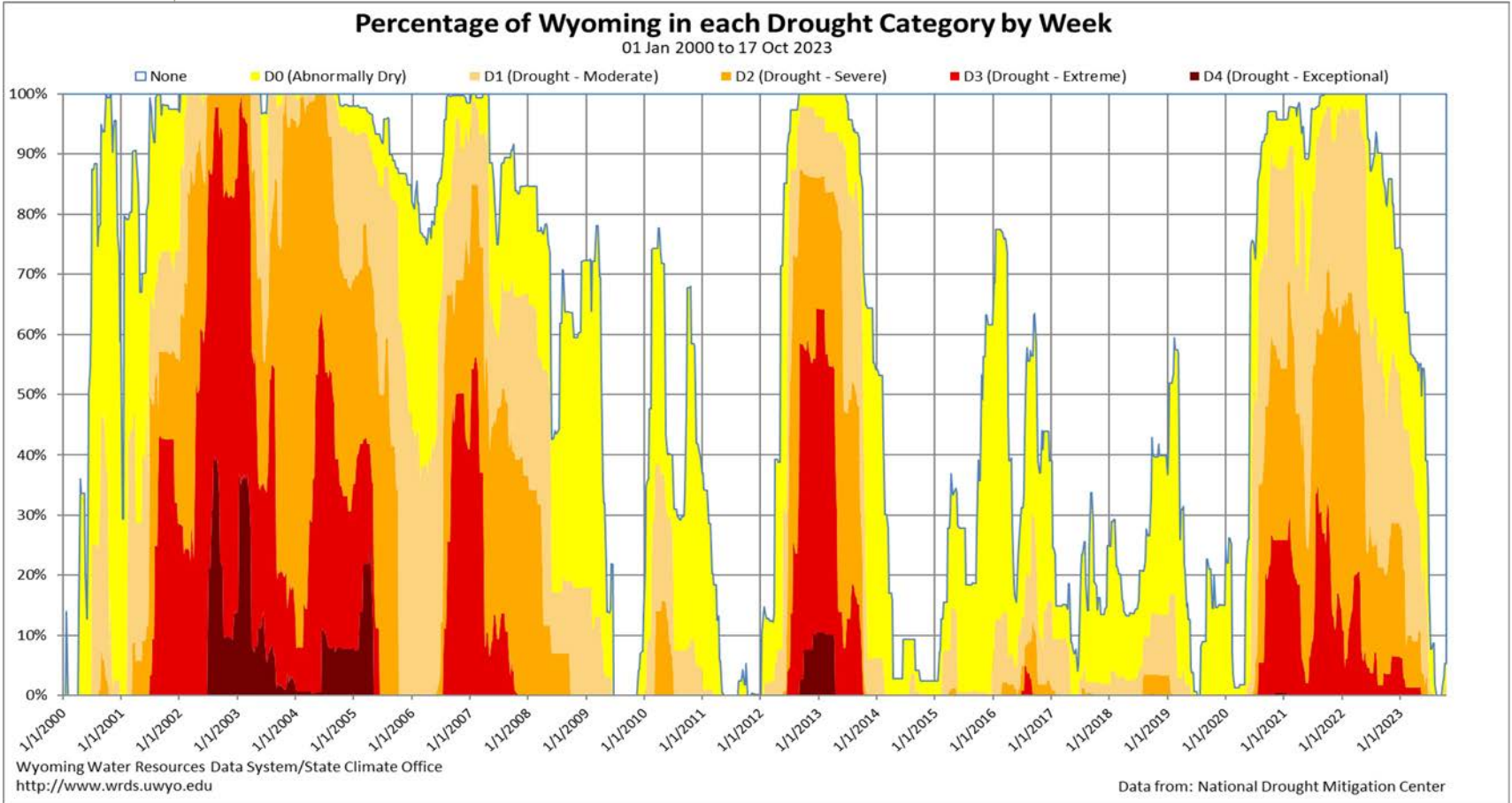


The U.S. Drought Monitor is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted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

Map Layout Created 19 Oct 2023 <http://www.wrds.uwyo.edu>



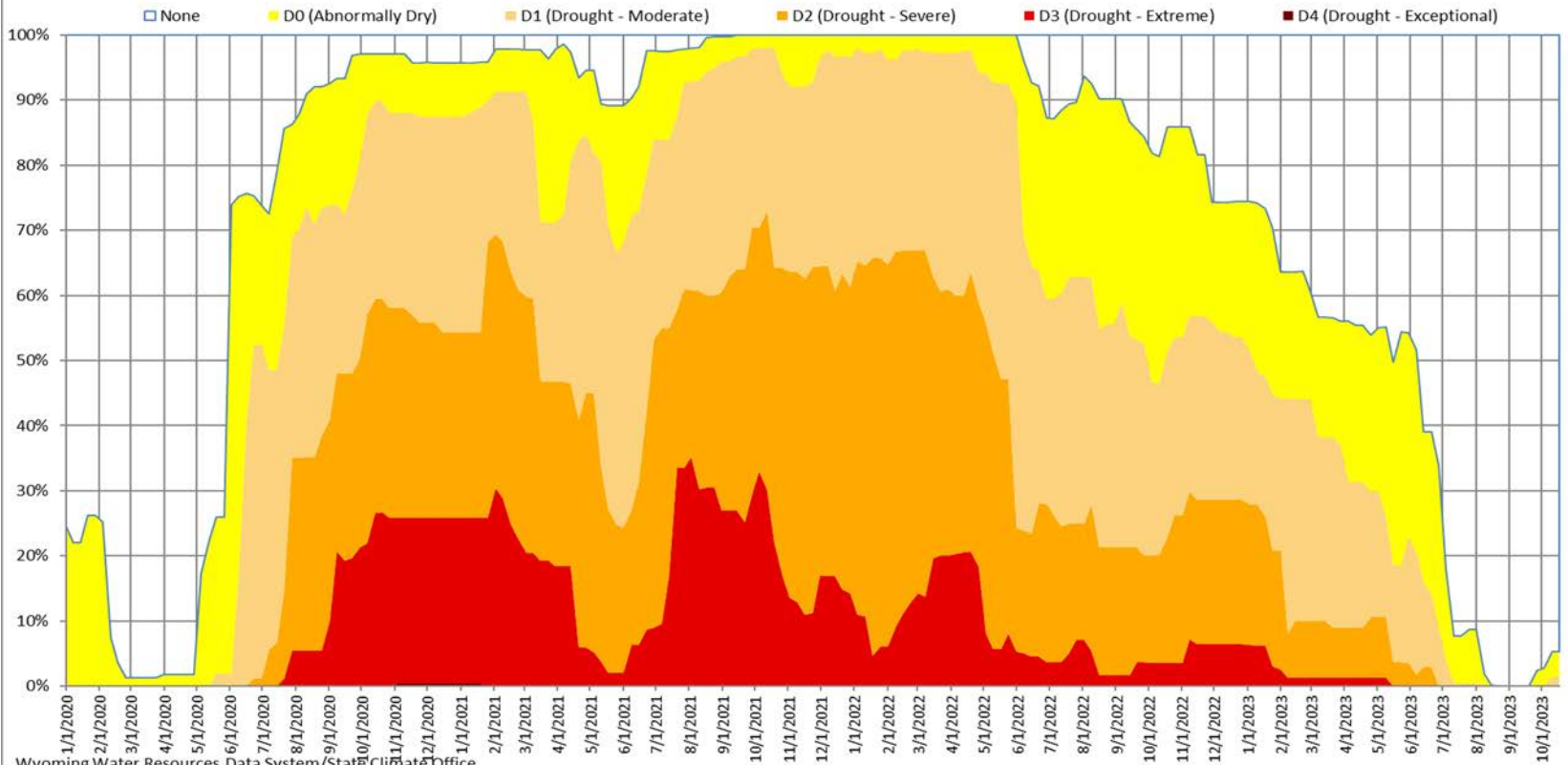
Wyoming Area Affected: 5.26% D0-D4 ; 1.37% D1-D4





Percentage of Wyoming in each Drought Category by Week

01 Jan 2020 to 17 Oct 2023



94.74%

1.37%

14-Day Precipitation Percentile (05 Oct 2023 to 18 Oct 2023)

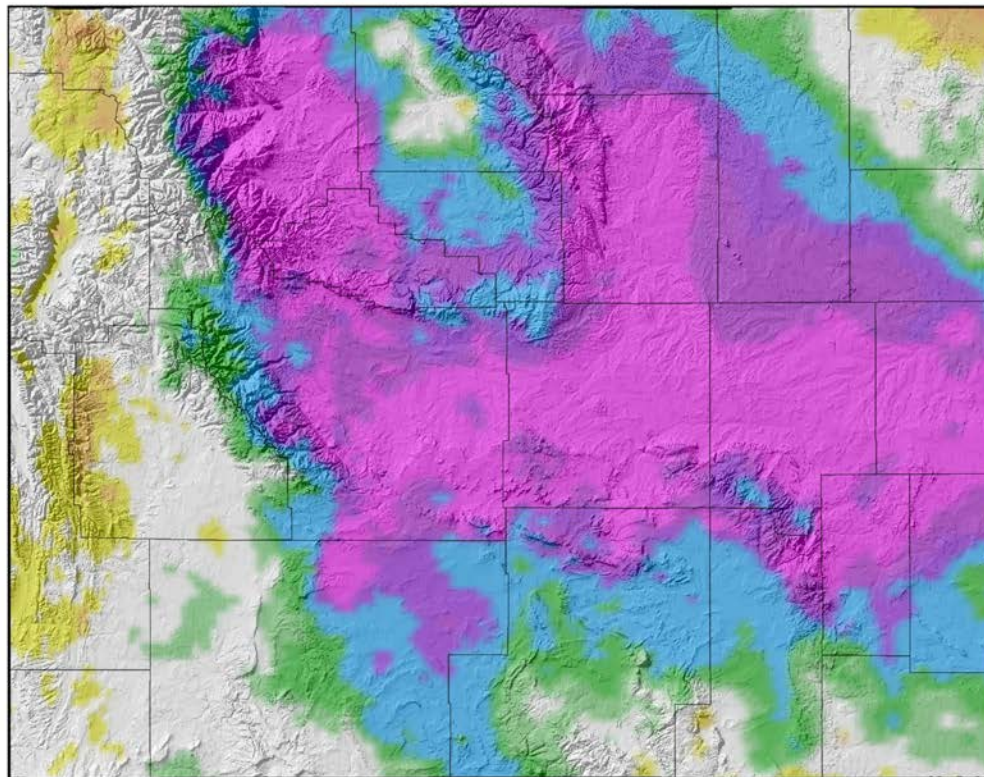
14-Day Precipitation (Percentile) for 05 Oct 2023 to 18 Oct 2023

Above Median:

- Most of Wyoming

Below Median (Areas of Concern):

- Northern Crook County
- Far western Wyoming



Precipitation Data
PRISM Climate Group
<http://prism.oregonstate.edu>



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



Provisional data, subject to revision

90-Day Precipitation Percentile (21 Jul 2023 to 18 Oct 2023)

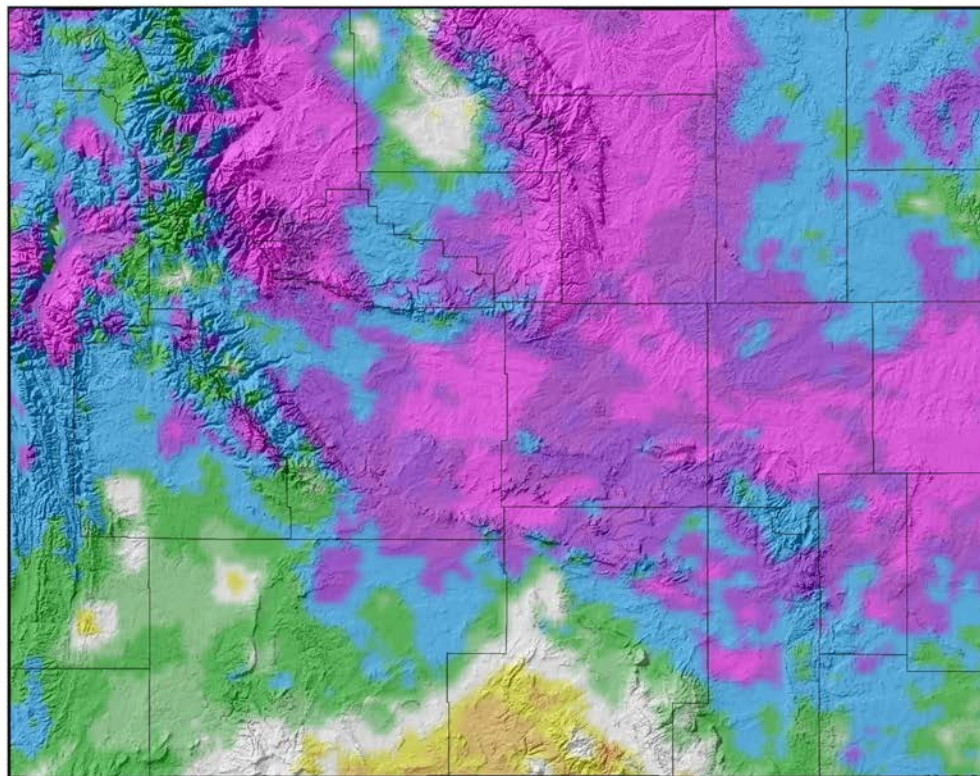
90-Day Precipitation (Percentile) for 21 Jul 2023 to 18 Oct 2023

Above Median:

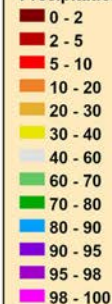
- Most of Wyoming

Below Median (Areas of Concern):

- Little Snake Basin (southern Carbon and southeastern Sweetwater Counties)



Precipitation Percentile



Precipitation Data
PRISM Climate Group
<http://prism.oregonstate.edu>



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



Provisional data, subject to revision

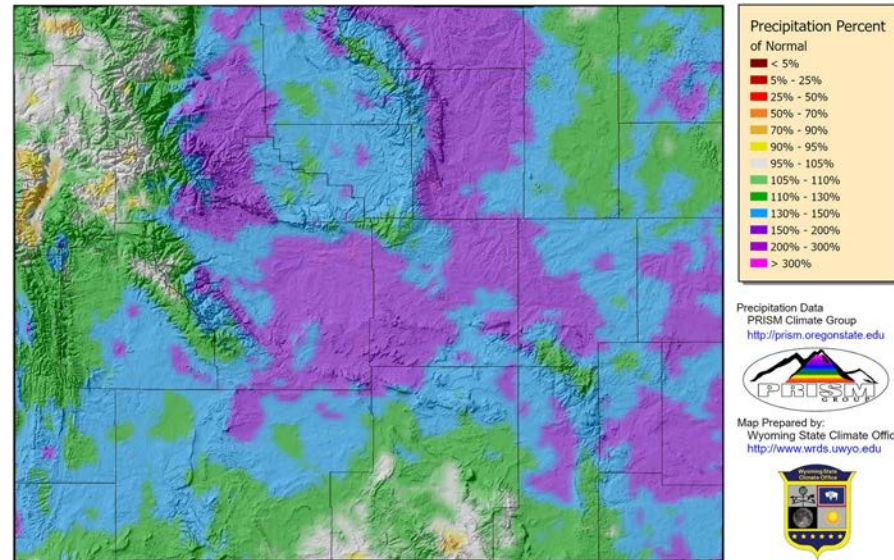
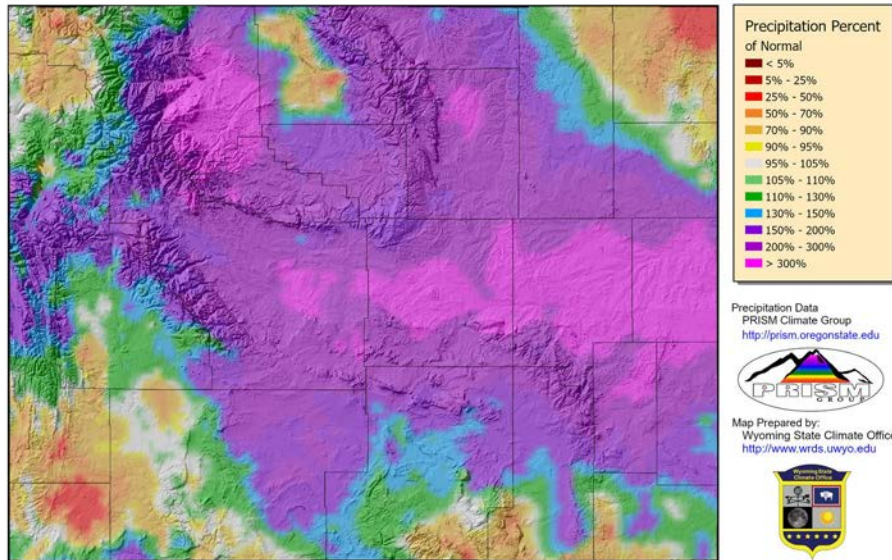
“Year”-to-Date Precipitation (Percent of Average)

Current Water Year

Current Calendar Year

Water-Year Precipitation (Percent of 1991-2020 Average) for 01 Oct 2023 to 18 Oct 2023

Calendar-Year Precipitation (Percent of 1991-2020 Average) for 01 Jan 2023 to 18 Oct 2023



Provisional data, subject to revision

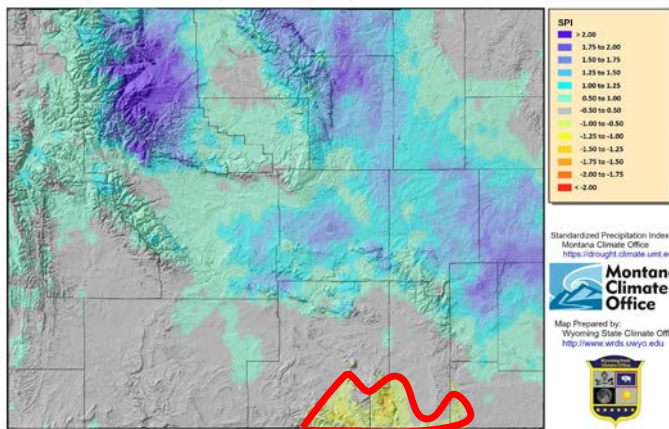
Provisional data, subject to revision

Monthly and Normal precipitation data from PRISM Climate Group, Copyright ©2021, PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>
Daily averages created from PRISM daily precipitation grids

Monthly and Normal precipitation data from PRISM Climate Group, Copyright ©2021, PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>
Daily averages created from PRISM daily precipitation grids

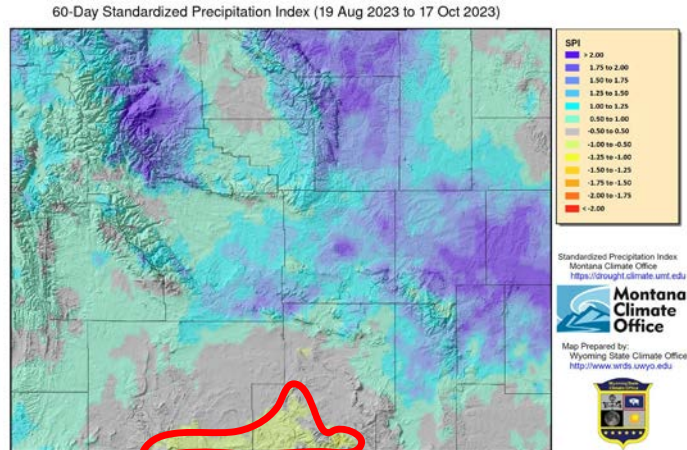
Note: a water year is October 1 through September 30 of the following year.

30-Day
→
Sep 18 - Oct 17



Standardized Precipitation Index Created by Montana Climate Office <https://drought.climate.umt.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>

60-Day
→
Aug 19 - Oct 17

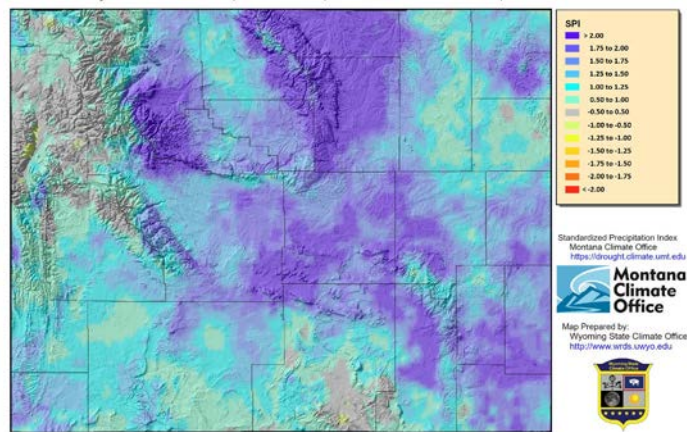


Standardized Precipitation Index Created by Montana Climate Office <https://drought.climate.umt.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>

Standardized Precipitation Index (SPI)

Short term: Southeast to South-central dry
Long term: Wet

1-Year
→

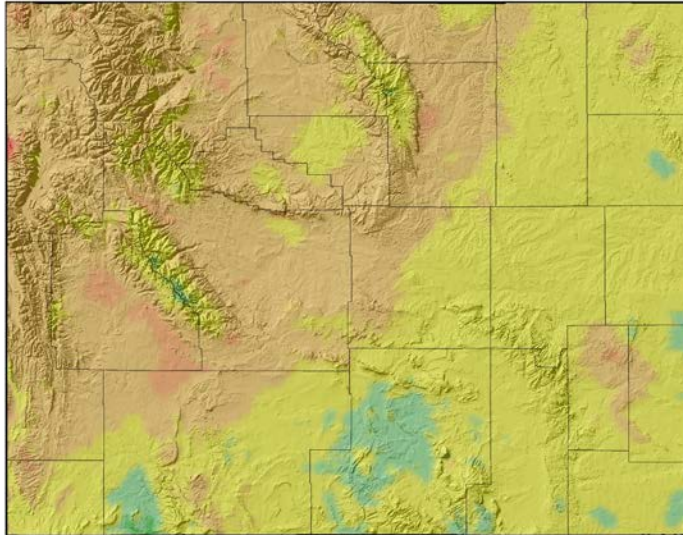


Standardized Precipitation Index Created by Montana Climate Office <https://drought.climate.umt.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>

14-Day Average Minimum Temperature (05 Oct to 18 Oct)

- Lower Elevations still seeing mins above freezing
- West of Divide mostly below freezing
- BH/Wind Basins, much of plains mid to upper 30s

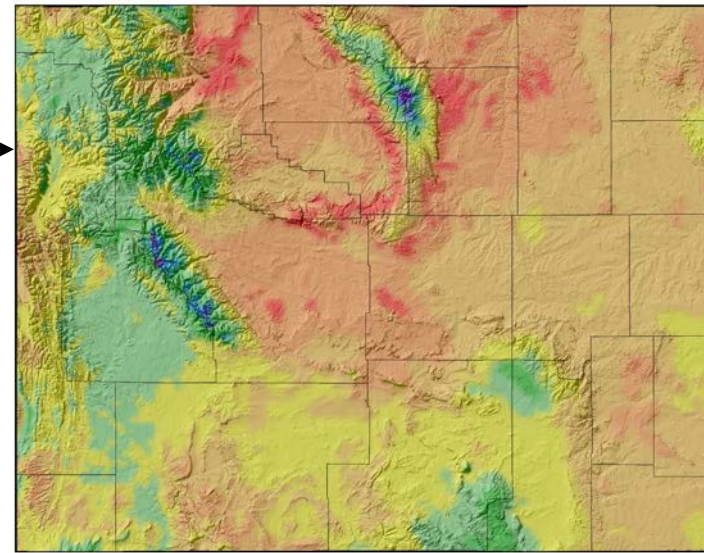
14-Day Average Minimum Temperature (Departure from 1991-2020 Average) for 05 Oct 2023 to 18 Oct 2023



Temperature Data
PRISM Climate Group
<http://prism.oregonstate.edu>

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

Provisional data, subject to revision



Temperature Data
PRISM Climate Group
<http://prism.oregonstate.edu>

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

Provisional data, subject to revision

Daily Temperature data from PRISM Climate Group, Copyright ©2021, PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>
Temperature averages created from PRISM daily tempWYerature grids

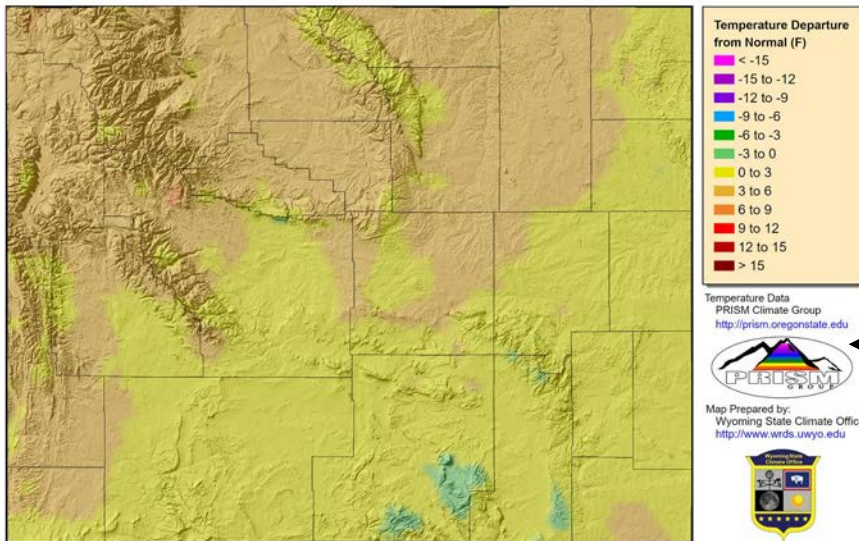
14-Day Average Minimum Temperature Departure from Normal

- 3-6F above average northwestern half
- 0-3F above average southeastern half
- 0-3F below average scattered areas southeastern half

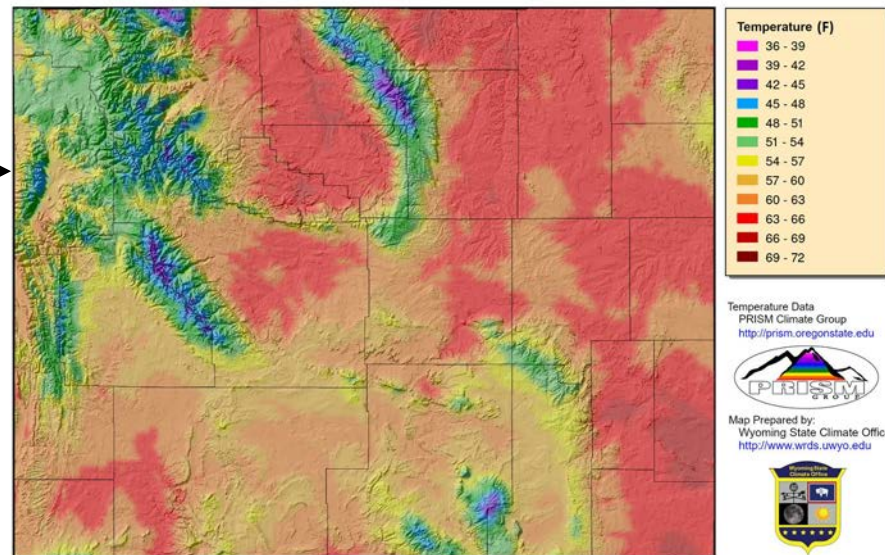
14-Day Average **Maximum** Temperature (05 Oct to 18 Oct)

- Highs still above freezing
- Mountainous regions 50s and below

14-Day Average Maximum Temperature (Departure from 1991-2020 Average) for 05 Oct 2023 to 18 Oct 2023



14-Day Average Maximum Temperature for 05 Oct 2023 to 18 Oct 2023



Daily Temperature data from PRISM Climate Group, Copyright ©2021, PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>
Map Created 19 Oct 2023 <http://www.wrds.uwyo.edu>
Temperature averages created from PRISM daily tempWYerature grids

14- Day *Departure from Normal* Average **Maximum** Temperature

- 3-6F above average northwestern half
- 0-3F above average southeastern half
- 0-3F below average scattered areas southeastern half

Soil Moisture Percentile

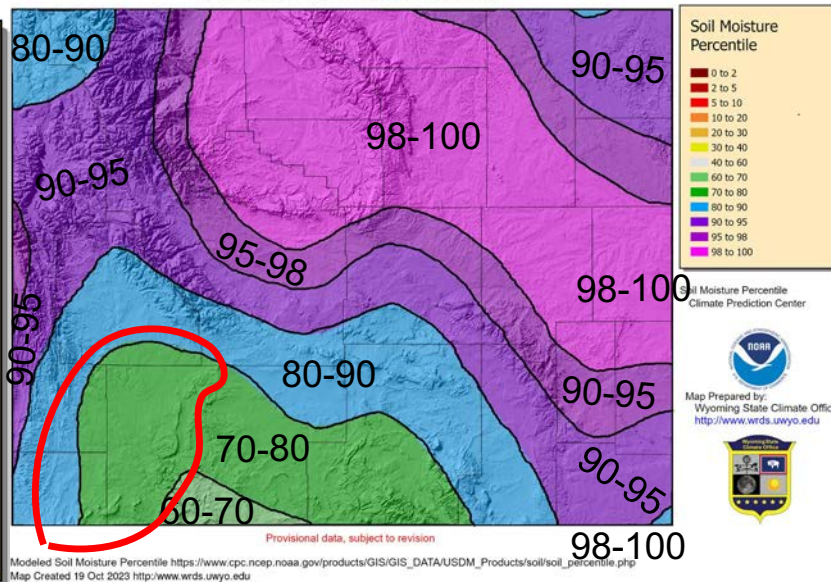
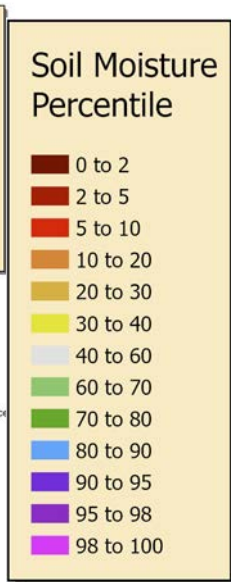
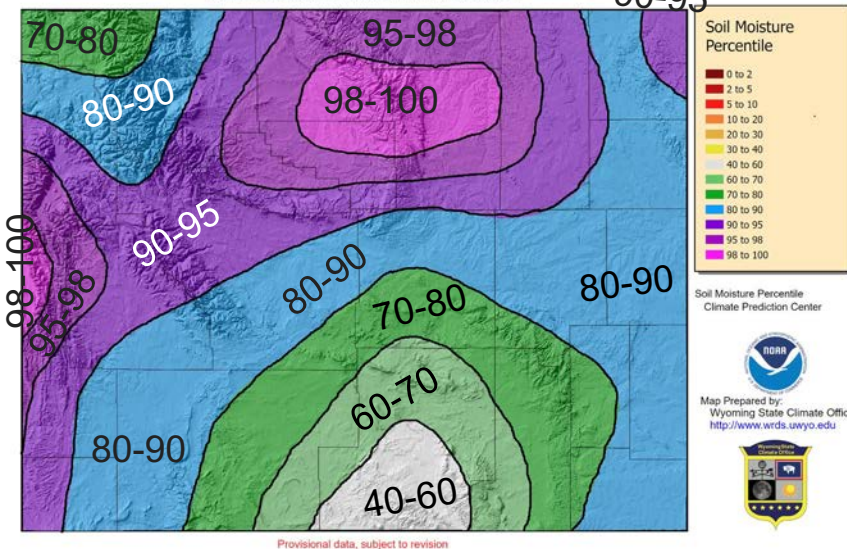
Two Weeks Ago

18 Oct 2023

Soil Moisture Percentile for 05 Oct 2023

90-95

Soil Moisture Percentile for 18 Oct 2023

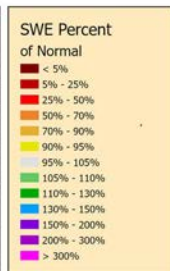
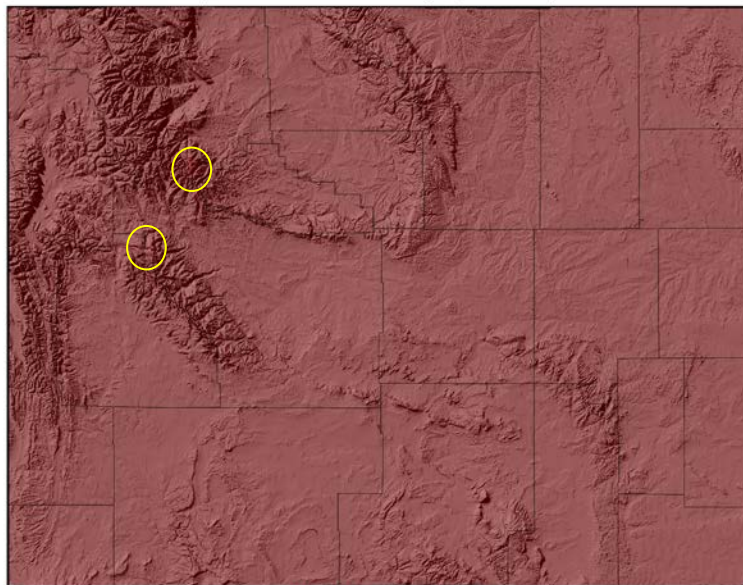


Improvements or Status Quo almost statewide except for some deterioration in the southwest.

Snow

19 Oct 2022 (One Year Ago)

Snow Water Equivalent Percent of Average (2004-2020) for 19 Oct 2022



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



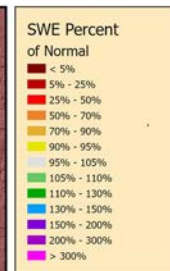
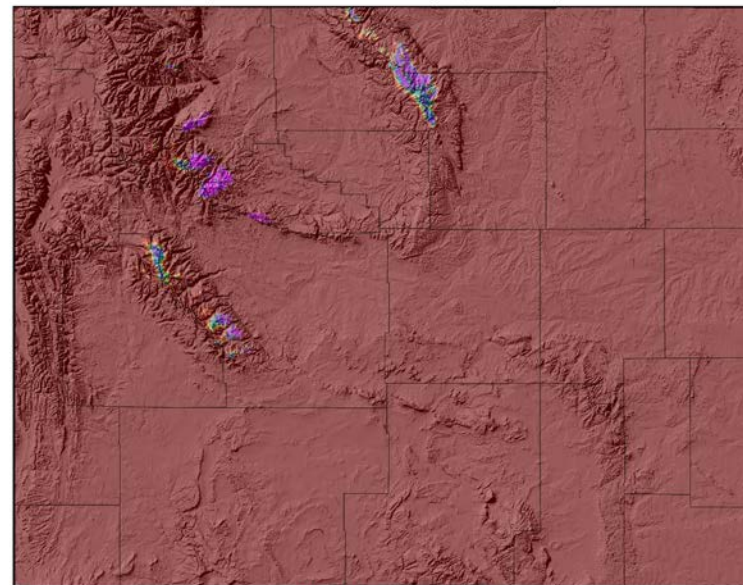
Map Prepared by:
Wyoming State Climate Office
<http://www.wrds.uwyo.edu>



Provisional data, subject to revision

19 Oct 2023

Snow Water Equivalent Percent of Average (2004-2020) for 19 Oct 2023



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

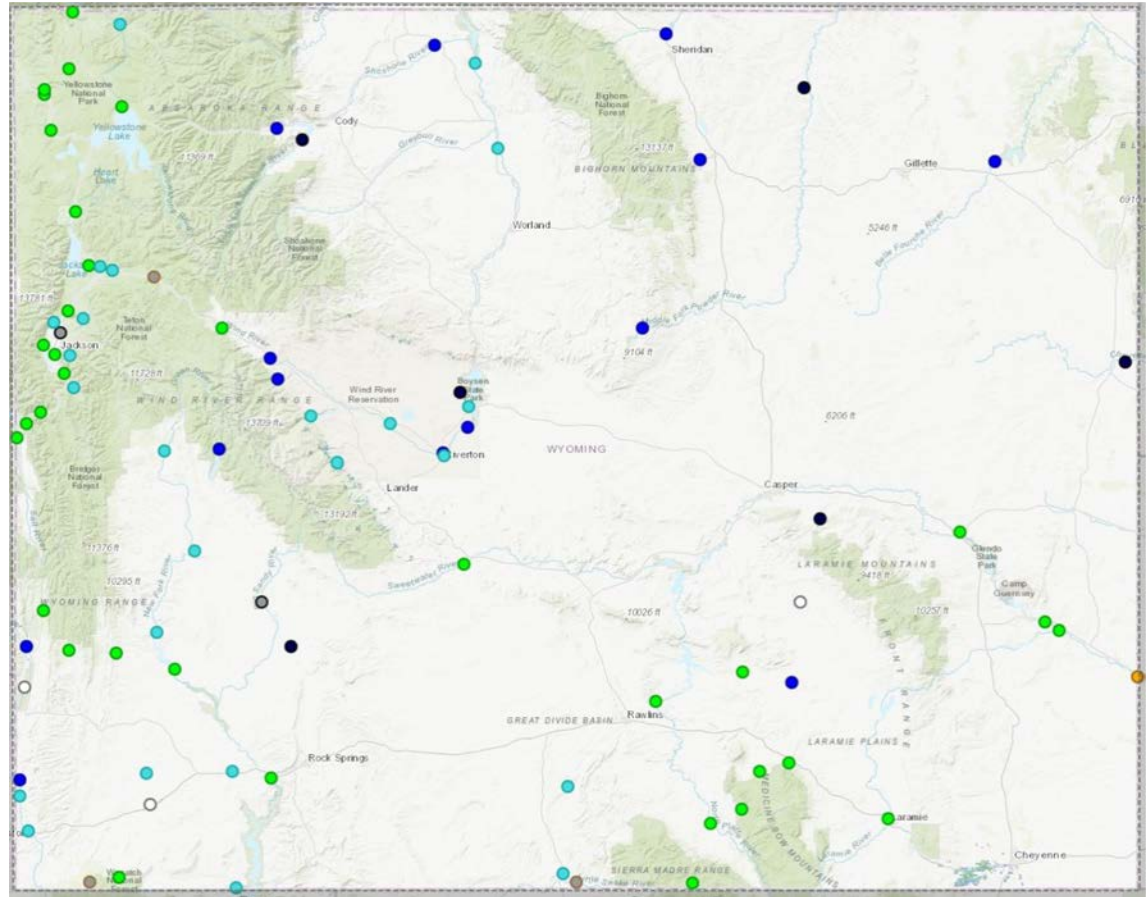
Modelled Snow Water Equivalent from National Operational Hydrologic Remote Sensing Center. 2004. Snow Data Assimilation System (SNODAS) Data Products at NSIDC, Version 1. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center. doi: <https://doi.org/10.7265/N5TB14TC>.
Daily Percentiles and Percentages created by Wyoming State Climate Office
Map created 19 Oct 2022

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 19 Oct 2023

Streamflow Status

Streamflow: Status

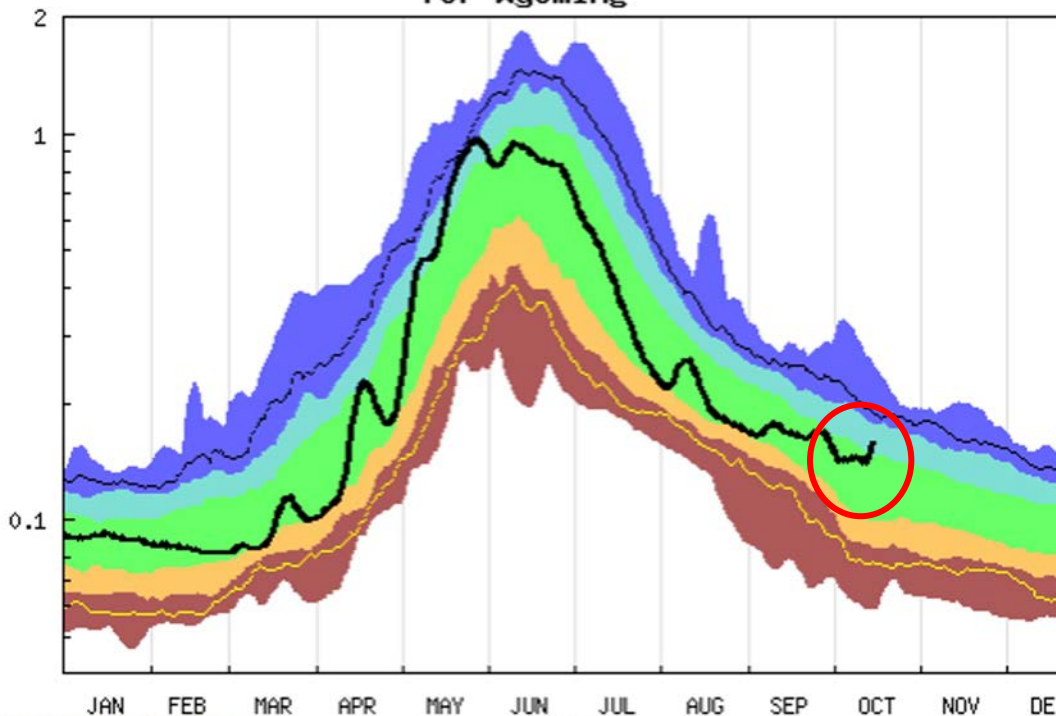
- Above flood stage
- All-time high for this day
- Much above normal
- Above normal
- Normal
- Below normal
- Much below normal
- All-time low for this day
- Not flowing
- Not ranked
- Measurement flag
- Recent measurement unavailable



WY Duration Hydrograph of 7-day runoff

Fall Streamflow

Duration hydrograph of 7-day average runoff for Wyoming



- Recent rains helping to sustain normal & above flow conditions
- On the upper side of Normal (25-75 percentile), and Above Normal recently.

Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Runoff

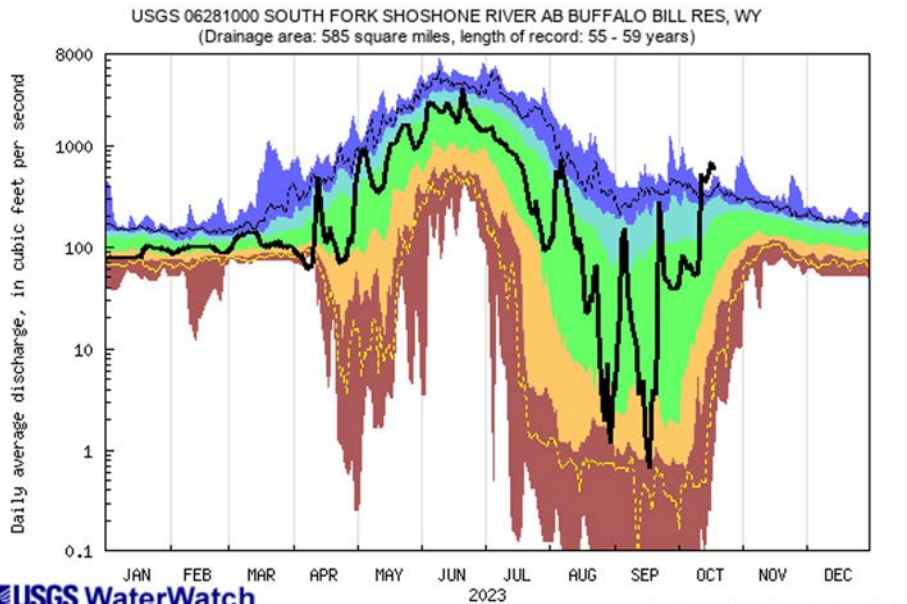
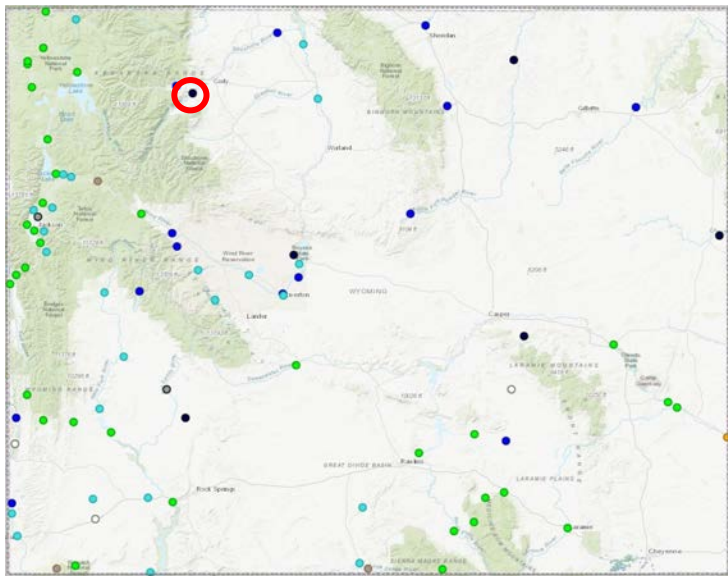
<https://dashboard.waterdata.usgs.gov/>

<https://waterdata.usgs.gov/>

South Fork Shoshone River ab Buffalo Bill Res, WY

Last updated October 19, 2023

Select WY Streamflows



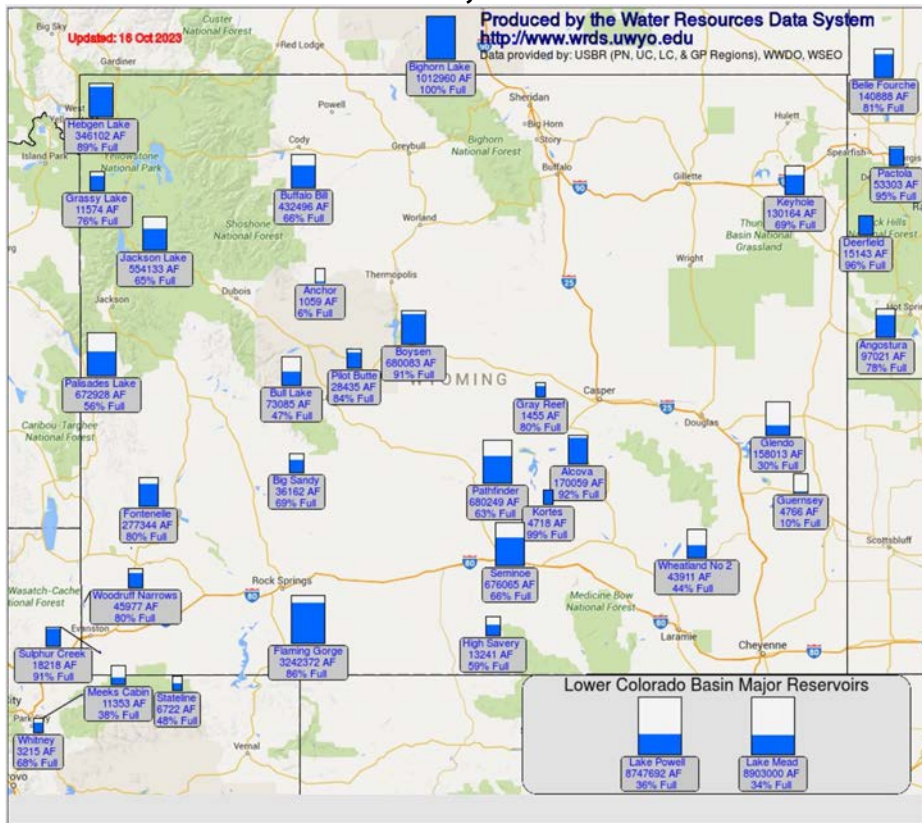
<https://dashboard.waterdata.usgs.gov/>

<https://waterdata.usgs.gov/>

Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

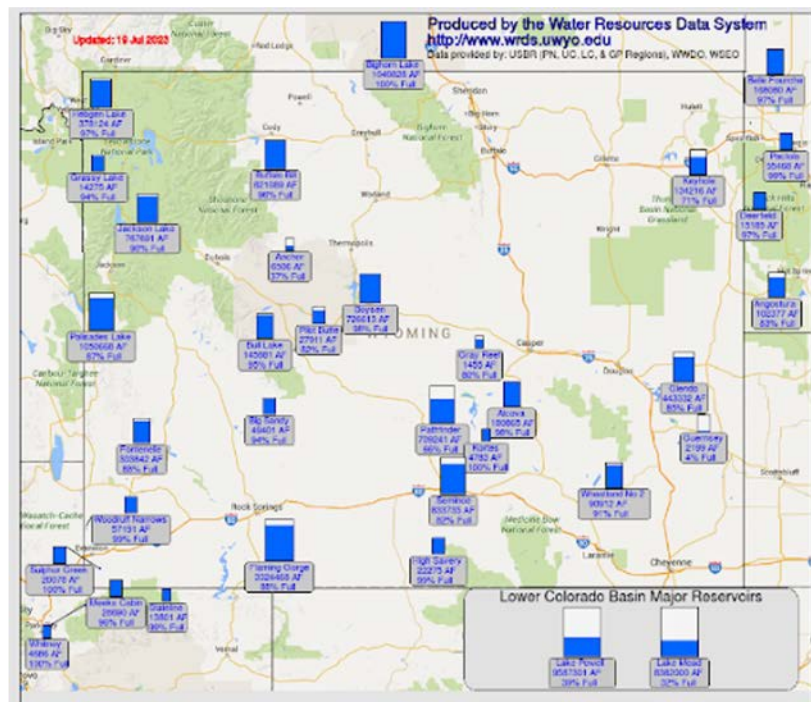
WY Reservoirs

October 16, 2023

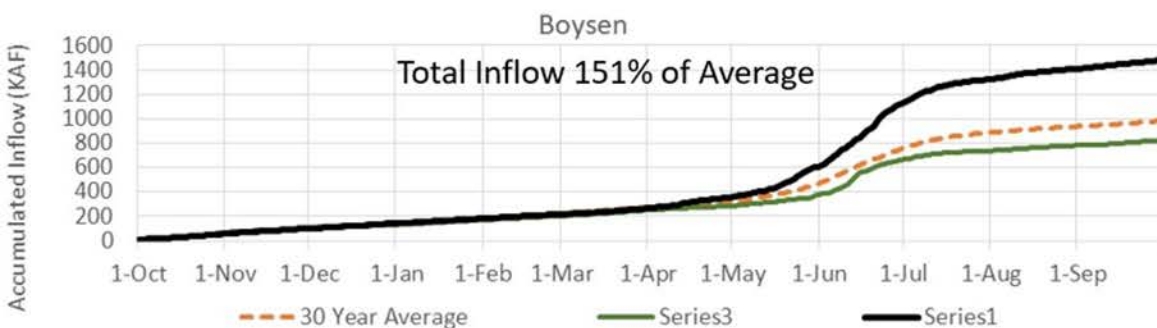
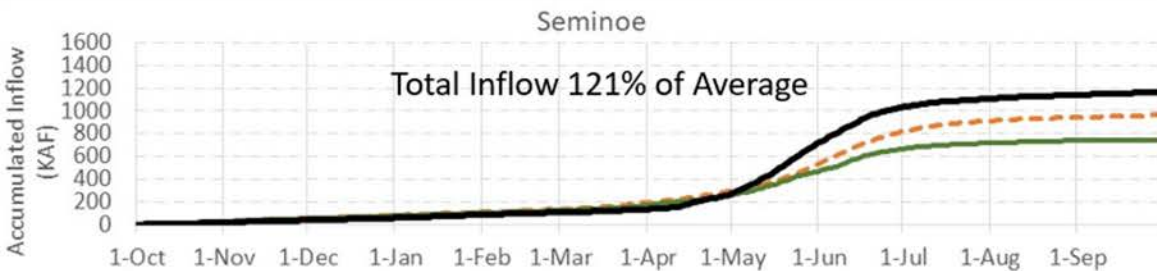


- Significant decreases in some reservoirs
- Most are in between 50-75% full

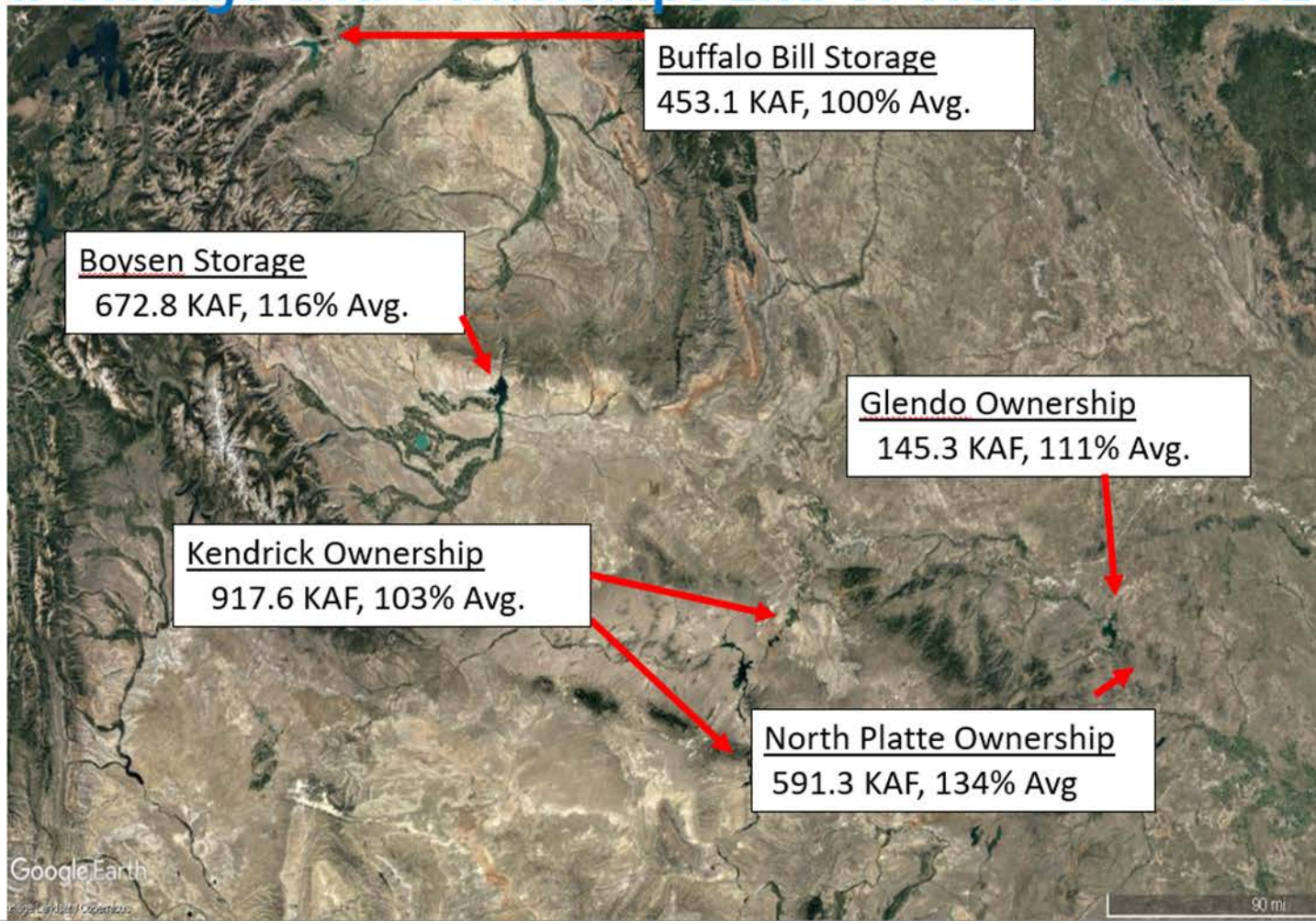
July 19, 2023



Water Year 2023 Inflow Conditions



Reservoir Storage and Ownerships End of Water Year 2023





BUREAU OF
RECLAMATION

Current Reservoir Outflows

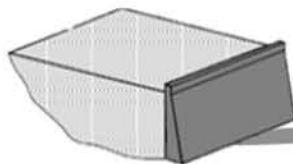


Boysen

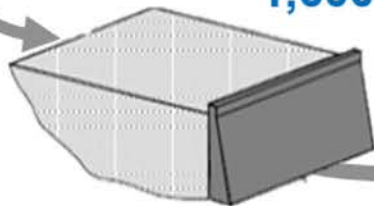
Bull Lake
245 cfs



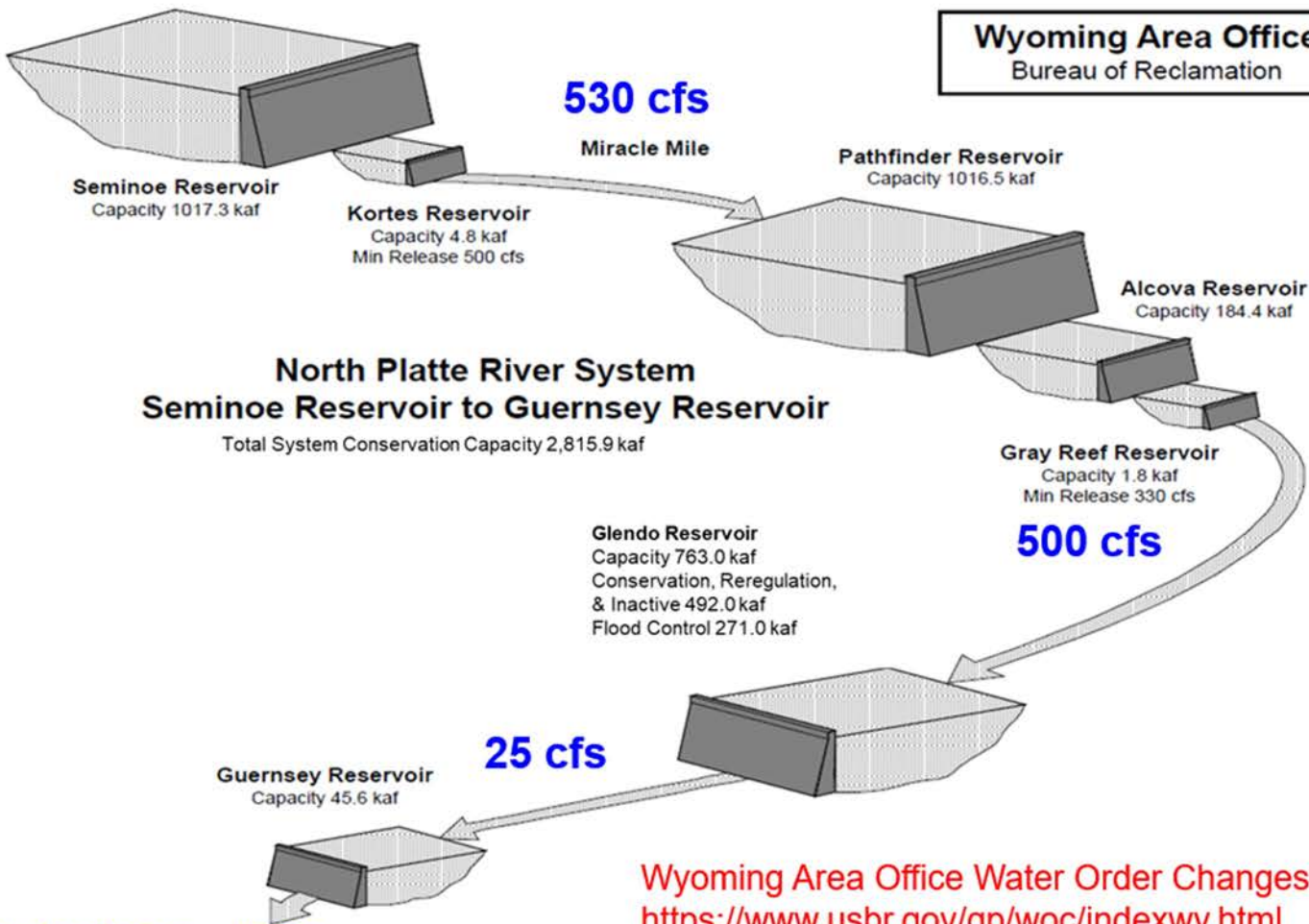
Buffalo Bill
260 cfs



Boysen
1,600 cfs



Wyoming Area Office Water Order Changes – <https://www.usbr.gov/gp/woc/indexwy.html>



**North Platte River System
Seminoe Reservoir to Guernsey Reservoir**

Total System Conservation Capacity 2,815.9 kaf

Gate leakage ~3cfs

Wyoming Area Office Water Order Changes –
<https://www.usbr.gov/gp/woc/indexwy.html>



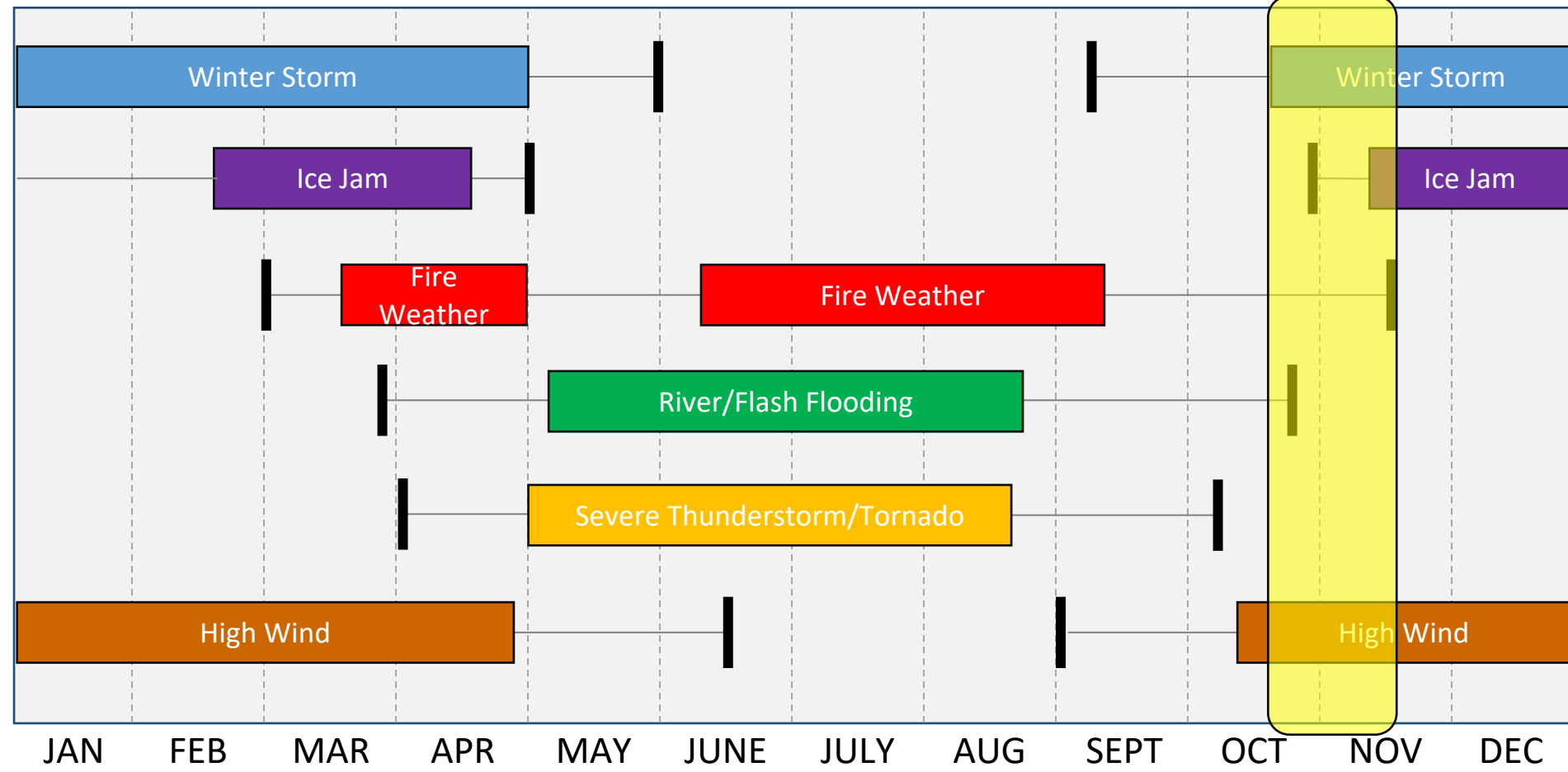
— BUREAU OF —
RECLAMATION



Weather Info & Forecasts



NWS Wyoming Typical Hazard Calendar



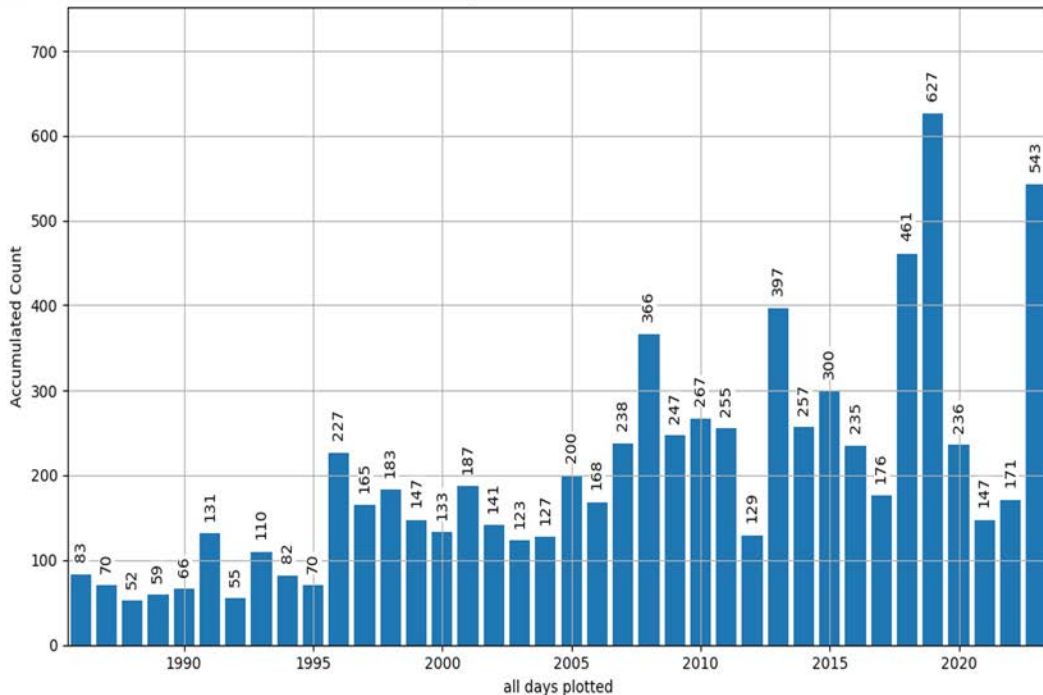


WY Severe Weather Season Stats

Through 10/19/23



NWS Issued for Counties in Wyoming
Severe Thunderstorm + Tornado Warning Count



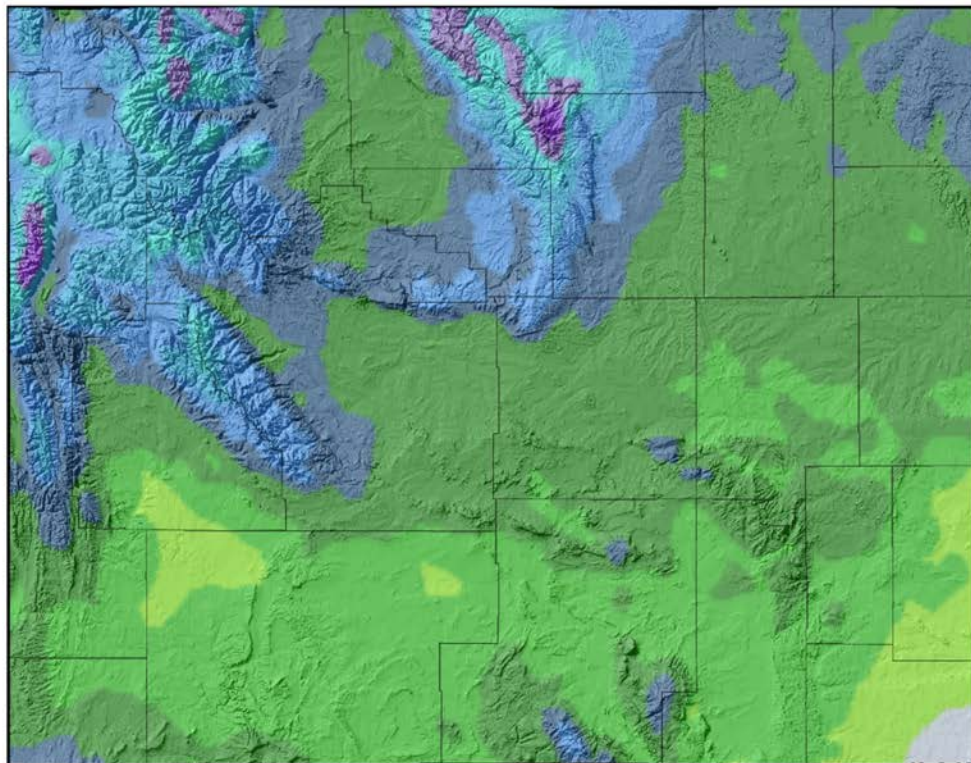
- Active spring, summer, and early autumn for hazardous Wyoming weather
- 2023: 2nd highest Severe Thunderstorm Warnings + Tornado Warnings in modern radar era
- Cheyenne set a record for combined Tornado/Severe T-Storm/Flash Flood



7-Day Total Precipitation Forecast

Through 10/26/23

7-Day Quantitative Precipitation Forecast 19 Oct 2023



Provisional data, subject to revision



Forecast:

Weather Prediction Center



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



- Unseasonably warm. Dry through Sunday night or Monday
- Chances of rain start on Sunday night in the West then move across the state through Tuesday
- Increased chances of rain in the east. Snow in the western high country



8-14 Day Outlooks (Oct 26 - Nov 1)

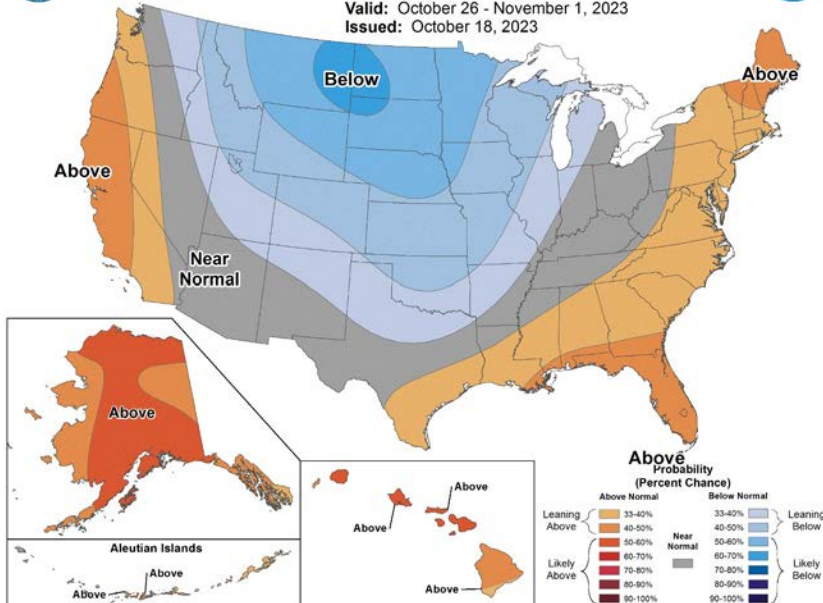
https://bit.ly/CPC8_14Day



8-14 Day Temperature Outlook



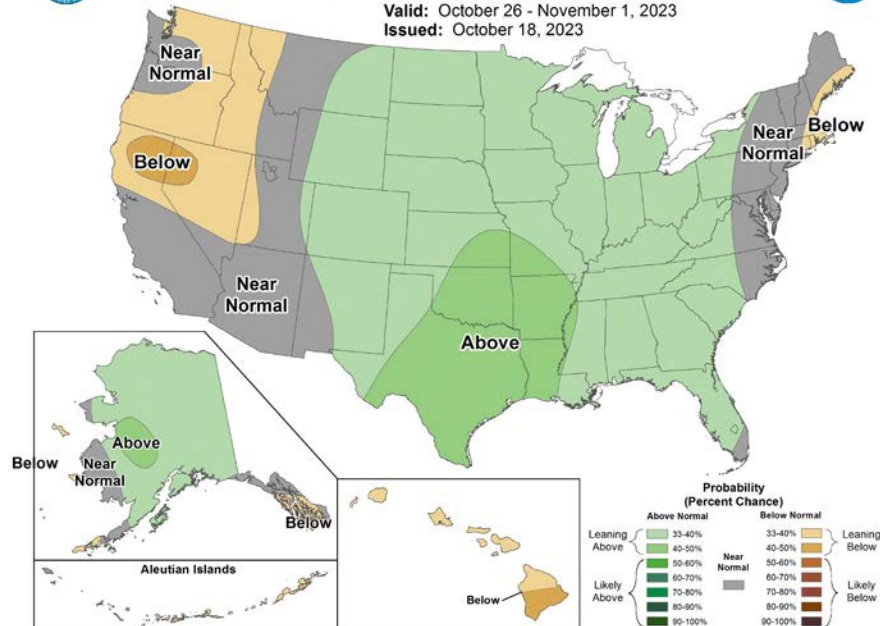
Valid: October 26 - November 1, 2023
Issued: October 18, 2023



8-14 Day Precipitation Outlook



Valid: October 26 - November 1, 2023
Issued: October 18, 2023



Moderate to strong signal for below-normal temperatures

Weak signal for above-normal precipitation



1-Month Outlooks (November)

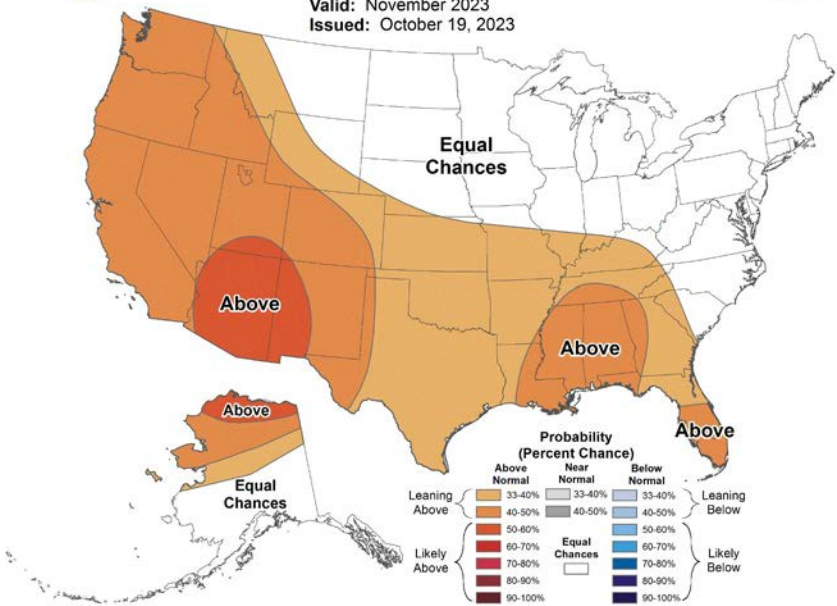
cpc.ncep.noaa.gov/products/predictions/30day/



Monthly Temperature Outlook



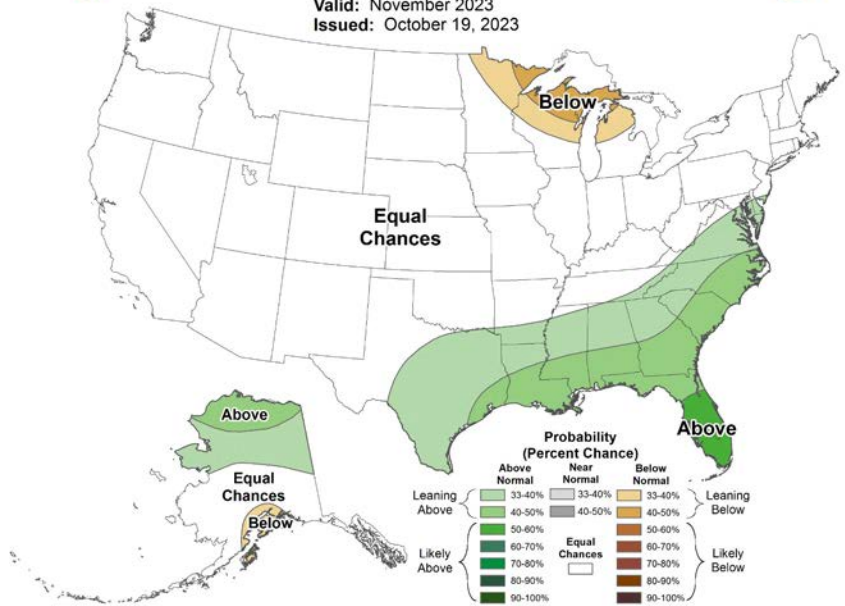
Valid: November 2023
Issued: October 19, 2023



Monthly Precipitation Outlook



Valid: November 2023
Issued: October 19, 2023



Moderate, above-normal signal in Southwest, weakening to no clear signal in the Northwest

No clear signal from the global weather pattern: Near climatology is best forecast



— BUREAU OF —
RECLAMATION



Highlight of the Month:

National Integrated Drought Information System (NIDIS)

Opportunity: Tribal Drought Resilience Funding

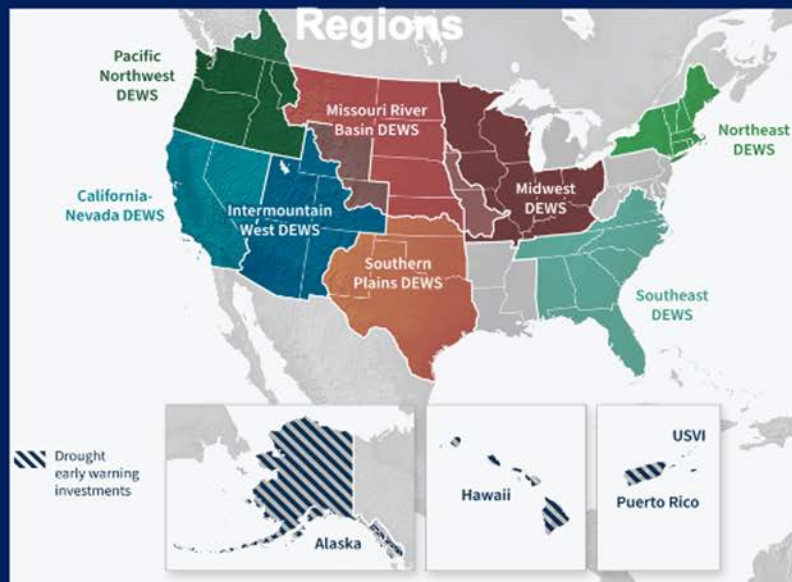
National Integrated Drought Information System (NIDIS)



Act of 2006 (P.L. 109-430) prescribed a comprehensive, interagency approach for drought monitoring, forecasting, and early warning planning and preparedness to help states and local communities cope with the impacts of drought



Drought Early Warning System



NIDIS fulfills this mandate by...

- Advancing Regional Drought Early Warning Systems (DEWS)
- Improving drought prediction and forecasting
- Supporting drought planning and preparedness
- Supporting drought impact assessments
- Strengthening collaboration
- Leading the U.S. Drought Portal: www.drought.gov

NIDIS in Action Across the U.S.



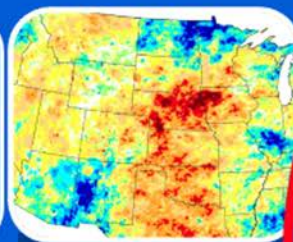
**Drought in
a
Changing
Climate**



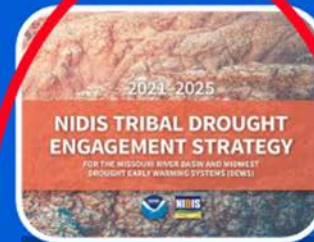
**Drought &
Wildfire**



**Climate
Adaptive
Drought
Planning**



**Drought
Indicators
& Triggers**



**Tribal
Drought
Resilience**

FY24 NIDIS Tribal Drought Resilience with Inflation Reduction Act Support

Britt Parker - NOAA/NIDIS (britt.parker@noaa.gov)



Funding Opportunity: NOAA-OAR-CPO-2024-2008188

Letter of Intent:

November 2, 2023 by 11:59p ET

Full Applications:

February 15, 2024 by 11:59p ET



Funding of up to \$700,000 per project to be disseminated in year 1 and expended over 3 years in the form of Cooperative Agreements.

Additional Information:

- Applications should be developed by or in **full partnership with tribal nations**.
 - At least one full investigator
 - Funds to tribal partners
- **Eligible applicants:** federally recognized tribal governments, institutions of higher education, nonprofits, commercial organizations, international organizations, and state and local governments.
- A total of 3-5 projects may be funded depending on project budget requested.
- No cost sharing or match requirements.

This opportunity is intended to provide support for tribal nations to implement activities that address current and future drought risk on tribal lands across the West in the context of a changing climate.

Projects could include, but are not limited to the following types of activities:

- Identifying primary drought impacts
- Identifying optimal drought indicators and/or triggers
- Developing a drought communication/information dissemination plan
- Improving/enhancing drought monitoring
- Developing an online dashboard with relevant drought tools and information
- Conducting a drought vulnerability assessment
- Developing a drought plan
- Convening workshops with key partners, within the tribe and/or external to the tribe, to increase communication and sharing of drought information
- Demonstrating the application of drought data and information to enhance decision-making

Additional Information:

- Applications should be developed by or in **full partnership with tribal nations**.
 - At least one full investigator
 - Funds to tribal partners
- **Eligible applicants:** federally recognized tribal governments, institutions of higher education, nonprofits, commercial organizations, international organizations, and state and local governments.
- A total of 3-5 projects may be funded depending on project budget requested.
- No cost sharing or match requirements.

Two informational webinars:

- **Informational Webinar #1: Competition Overview**
October 4, 2023
Recording available
- **Informational Webinar #2: Letter of Intent Feedback & Application Requirements**
December 6, 2023
12pm MT
- **More information:** www.grants.gov
<https://cpo.noaa.gov/funding-opportunities/>

Thank You!

Gretel Follingstad, PhD
gretel.follingstad@noaa.gov



www.drought.gov



@DroughtGov



@DroughtGov



National Integrated Drought
Information System






— BUREAU OF —
RECLAMATION



Highlight of the Month:

Water Resources Data System and State Climate Office

Water and Climate Explorer

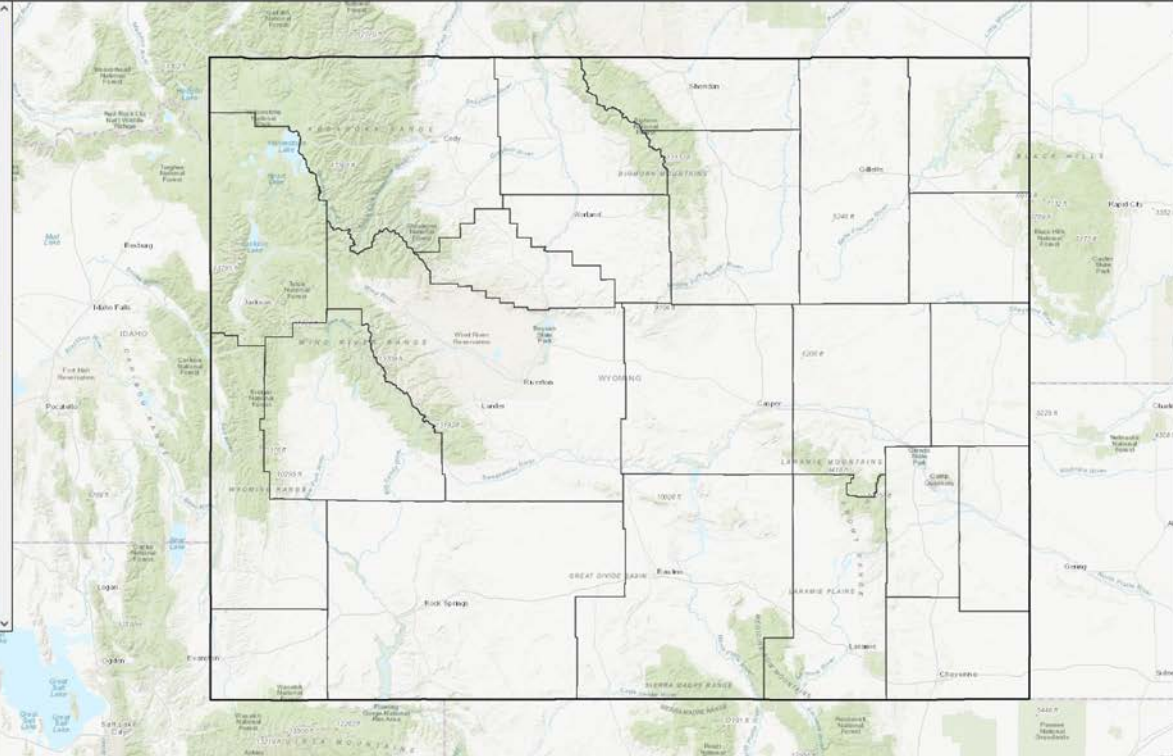


Water Resources Data System & State Climate Office

Home Data & Products Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

Click the Legend Symbol in the layer list to display the layer's legend



Map Controls

- Instructions
- Selection Method**
 - Data Point
 - Grid
 - Zoom In
 - Zoom Out
- Zoom to Location
- Layers**
 - Drought
 - Wyoming Water Development Office
 - Vegetation
 - Hydrological Data
 - Weather and Climate Data
 - Geology
 - Administrative and Legal
 - Base Layers

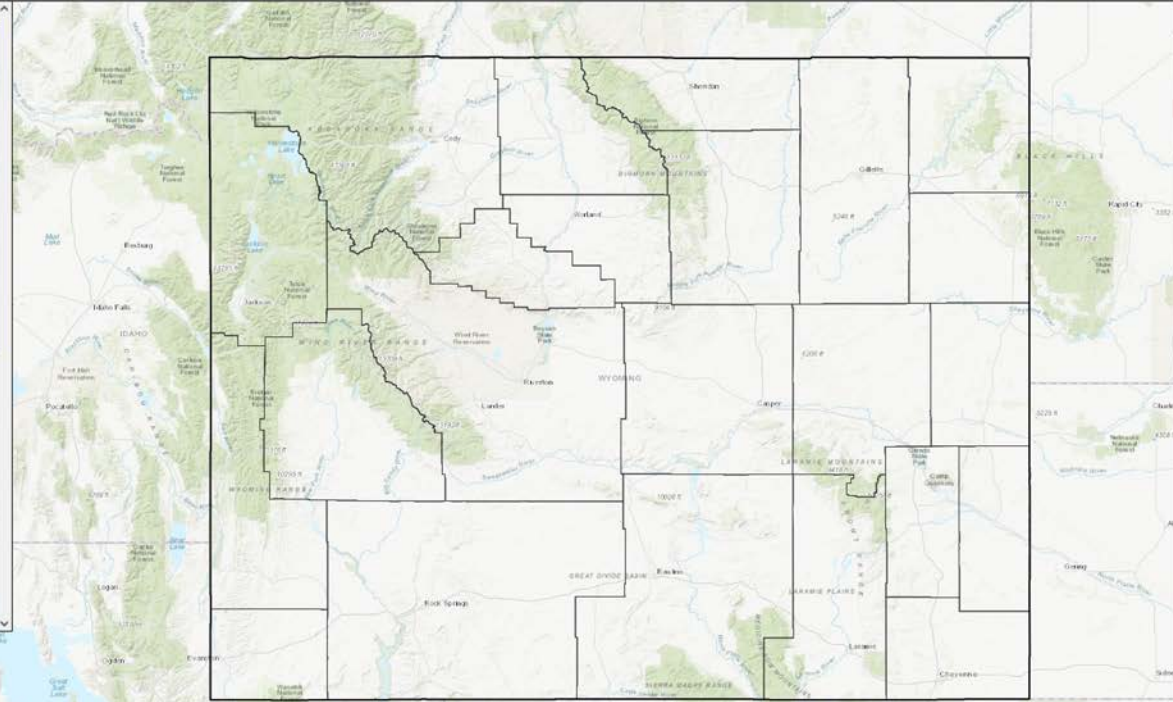
45.302171, -104.447651

Water Resources Data System & State Climate Office

Home Data & Products Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

Click the Legend Symbol in the layer list to display the layer's legend



Map Controls

Instructions

Selection Method	
Data Point	Grid
Zoom In	Zoom Out

Zoom to Location

Wyoming	Albany County
USA	Bighorn County
Alabama	Campbell County
Alaska	Carbon County
Arizona	Converse County

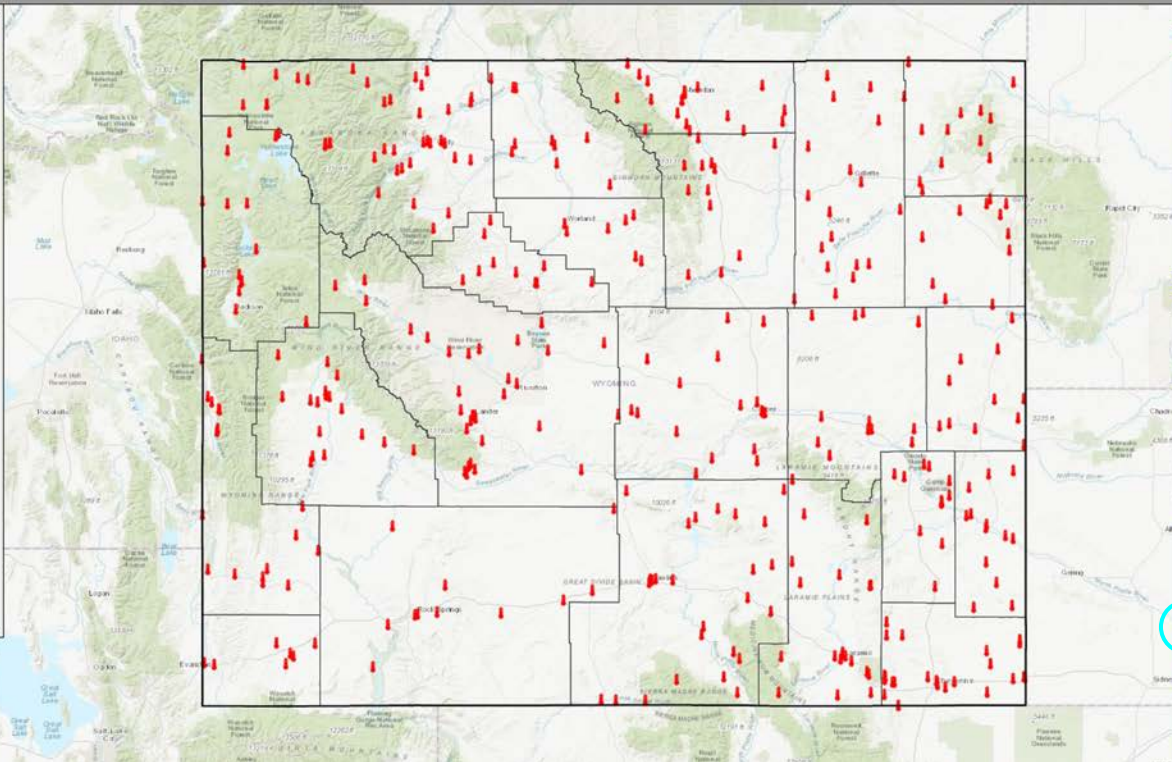
Layers

- Drought
- Wyoming Water Development Office
- Vegetation
- Hydrological Data
- Weather and Climate Data
- Geology
- Administrative and Legal
- Base Layers

45 280909 -102 996884

Legend

Click the Legend Symbol in the layer list to display the layer's legend.



Map Controls

Instructions

- Label elements in the layer
- View the legend for the layer
- Refresh the layer
- Metadata or more info for the layer
- Turn the layer on or off
- Select the layer to query

Use the slider bar to change the transparency of the layer

Hover mouse over blue layers in the catalog below for tooltips.

Please send any comments or suggestions to antonius@uwyo.edu

Selection Method

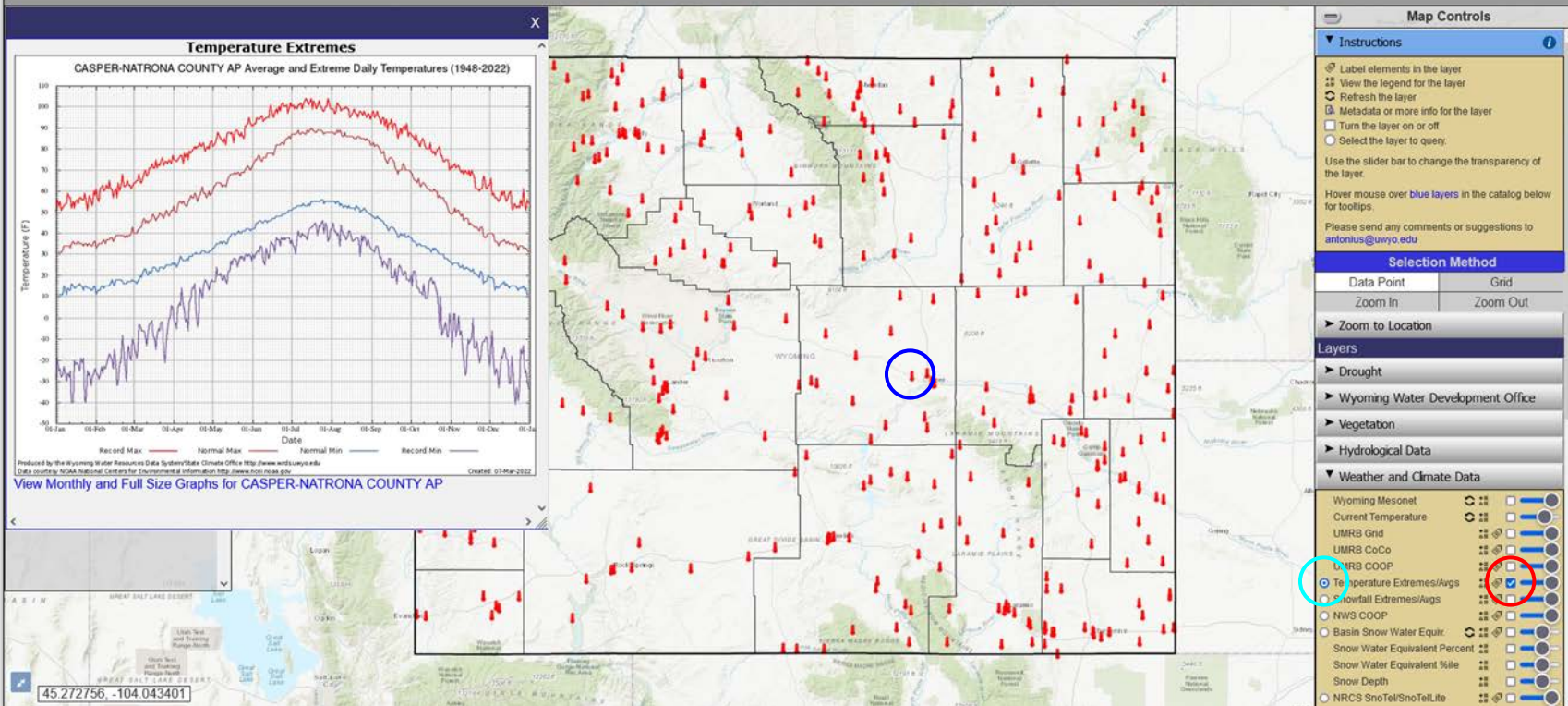
Data Point	Grid
Zoom In	Zoom Out

Zoom to Location

Layers

- Drought
- Wyoming Water Development Office
- Vegetation
- Hydrological Data
- Weather and Climate Data**
 - Wyoming Mesonet
 - Current Temperature
 - UMRB Grid
 - UMRB CoCo
 - UMRB COOP
 - Temperature Extremes/Avg
 - Snowfall Extremes/Avg
 - NWS COOP
 - Basin Snow Water Equiv.
 - Snow Water Equivalent Percent
 - Snow Water Equivalent Scale
 - Snow Depth
 - NRCS SnoTel/SnoTel.ite

40.716566, -105.743518

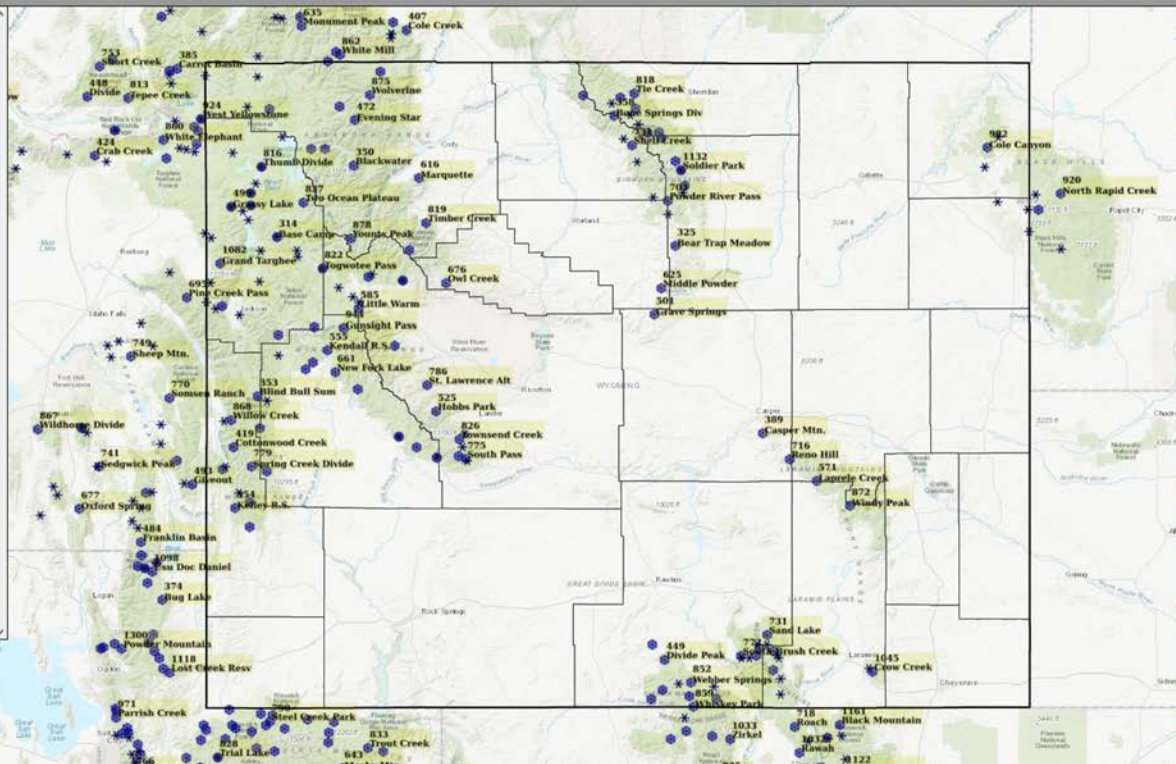


Water Resources Data System & State Climate Office

Home Data & Products Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

Click the Legend Symbol in the layer list to display the layer's legend.



Map Controls

the layer

Hover mouse over blue layers in the catalog below for tooltips.

Please send any comments or suggestions to antonius@uwyo.edu

Selection Method

Data Point	Grid
Zoom In	Zoom Out

► Zoom to Location

Layers

► Drought

► Wyoming Water Development Office

► Vegetation

► Hydrological Data

▼ Weather and Climate Data

Wyoming Mesonet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Current Temperature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UMRB Grid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UMRB CoCo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UMRB COOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature Extremes/Avgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snowfall Extremes/Avgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NWS COOP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Basin Snow Water Equiv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snow Water Equivalent Percent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snow Water Equivalent %ile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snow Depth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NRCS SnoTel/SnoTelLite	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NRCS Snow Course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CoCoRaHS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precip Percent of Average	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precipitation Percentiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precipitation Frequency	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Precipitation Frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Probable Max Precip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind Roses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tornadoes/Explosive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Water And Climate Explorer (WACE)

Water Resources Data System & State Climate Office

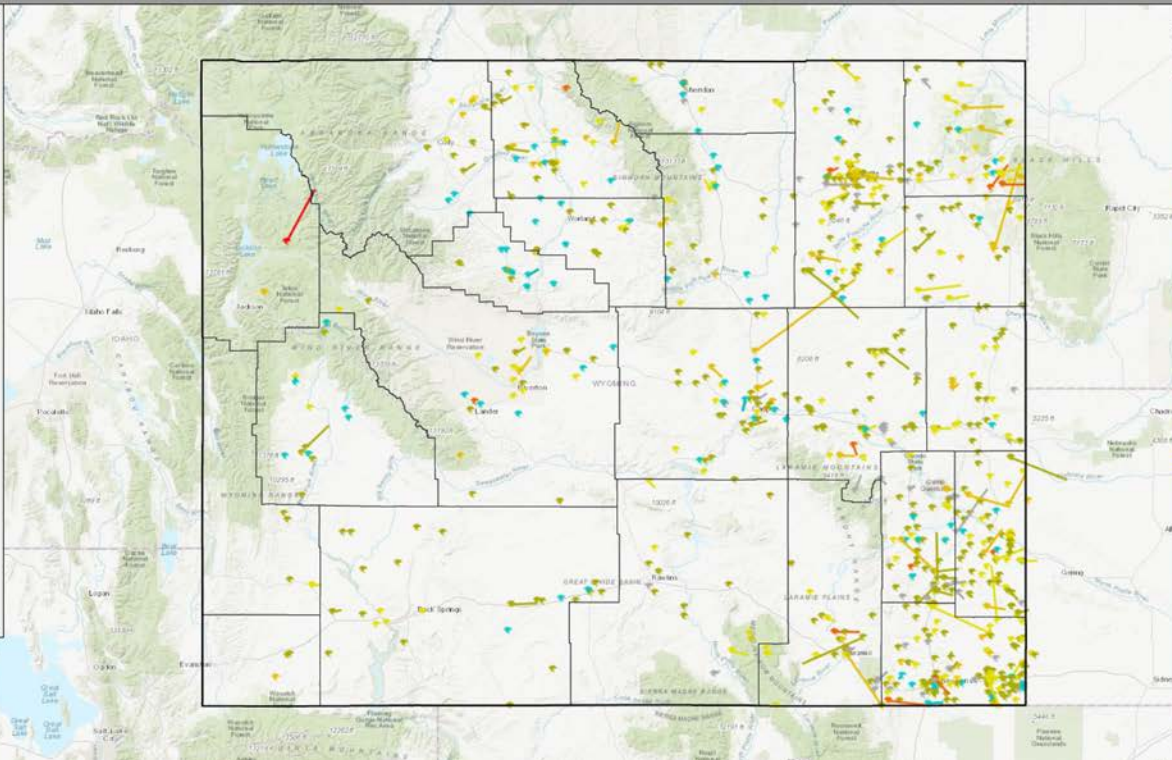
Home Data & Products Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

Tornado Category

- Unknown Category
- Funnel
- F0/EF0
- F1/EF1
- F2/EF2
- F3/EF3
- F4/EF4

41 269 774, -102 781 536



Map Controls

Hydrological Data

- Weather and Climate Data**
- Wyoming Mesonet
- Current Temperature
- UMRB Grid
- UMRB CoCo
- UMRB COOP
- Temperature Extremes/Avg
- Snowfall Extremes/Avg
- NWS COOP
- Basin Snow Water Equiv
- Snow Water Equivalent %
- Snow Water Equivalent %ile
- Snow Depth
- NRCS SnoTel/SnoTelLife
- NRCS Snow Course
- CoCoRaHS
- Precip Percent of Average
- Precipitation Percentiles
- Precipitation Frequency
- Precipitation Frequency
- Probable Max Precip
- Wind Roses
- Tornados/Funnels**
- WYDOT Cameras

Outlooks

- 6-10d Temperature
- 6-10d Precipitation
- 8-14d Temperature
- 8-14d Precipitation
- Day 1 QPF
- Day 2 QPF
- Day 3 QPF
- 7-Day QPF
- SPC Hazards Day 1
- NEXRAD Radar
- GOES 16 Satellite

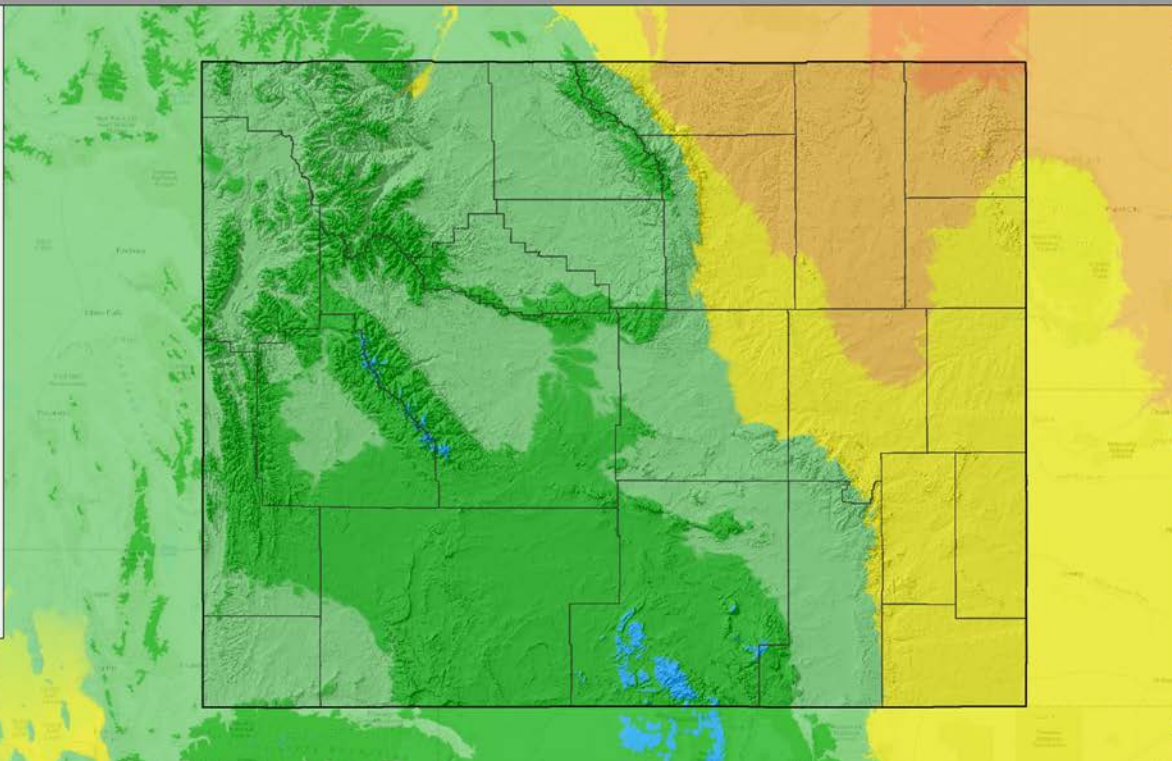
► PRISM Normals (1991-2020)

► Geology

Legend

Current Temperature (F)
19-Oct-2023 11:22

- 48 - 50
- 50 - 52
- 52 - 54
- 54 - 56
- 56 - 58
- 58 - 60
- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- 70 - 72



Map Controls

Hydrological Data

Weather and Climate Data

- Wyoming Mesonet
- Current Temperature
- UMRB Grid
- UMRB CoCo
- UMRB COOP
- Temperature Extremes/Avg
- Snowfall Extremes/Avg
- NWS COOP
- Basin Snow Water Equiv
- Snow Water Equivalent Percent
- Snow Water Equivalent %ile
- Snow Depth
- NRCS SnoTel/SnoTelLite
- NRCS Snow Course
- CoCoRaHS
- Precip Percent of Average
- Precipitation Percentiles
- Precipitation Frequency
- Precipitation Frequency
- Probable Max Precip
- Wind Roses
- Tornados/Funnels
- WYDOT Cameras

Outlooks

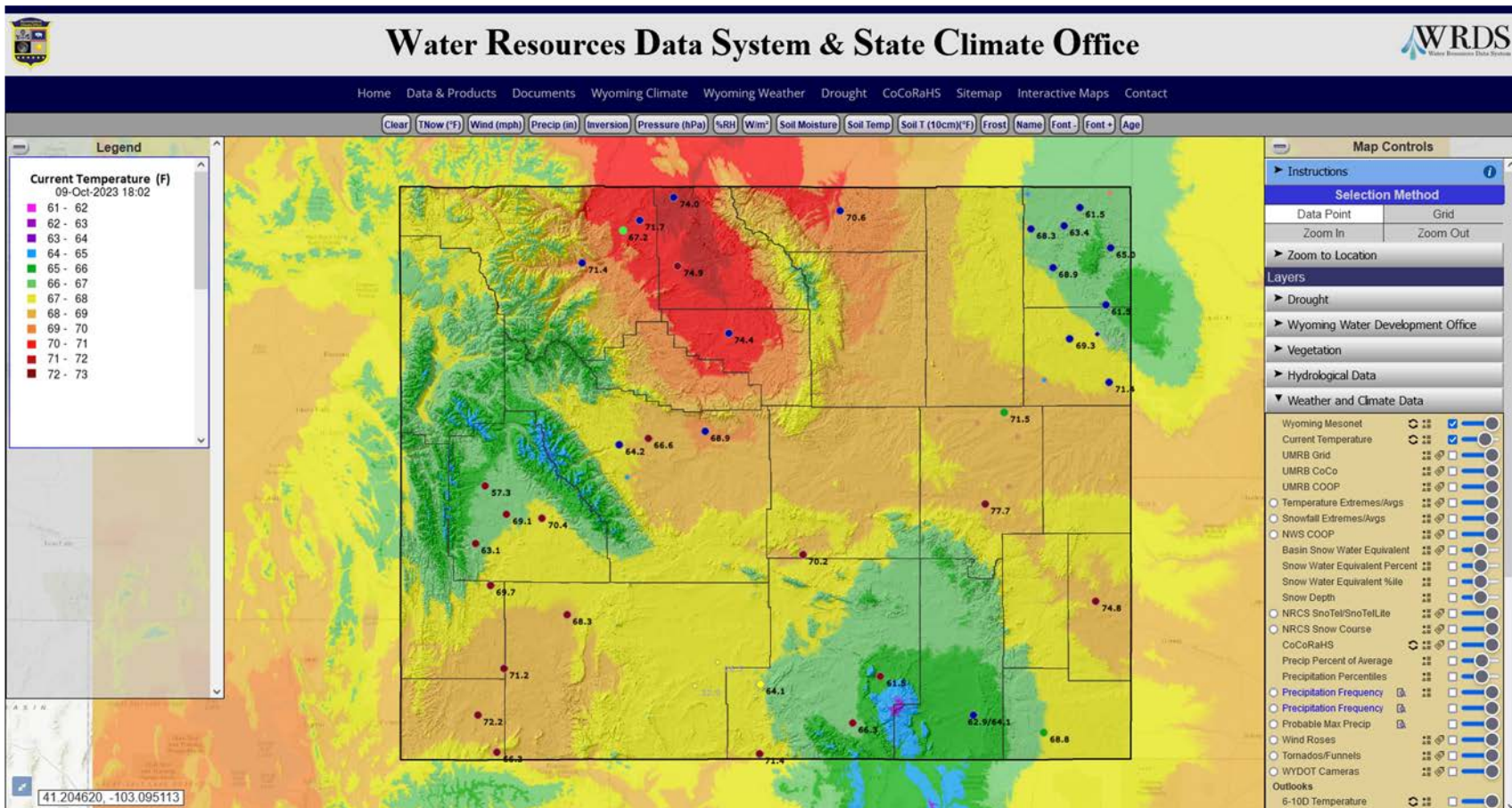
- 6-10D Temperature
- 6-10D Precipitation
- 8-14D Temperature
- 8-14D Precipitation
- Day 1 QPF
- Day 2 QPF
- Day 3 QPF
- 7-Day QPF
- SPC Hazards Day 1
- NEXRAD Radar
- GOES 16 Satellite

► PRISM Normals (1991-2020)

► Geology

45.211750, -103.042220

Water And Climate Explorer (WACE)



Water Resources Data System & State Climate Office

Home
Data & Products
Documents
Wyoming Climate
Wyoming Weather
Drought
CoCoRaHS
Sitemap
Interactive Maps
Contact

I80HalleckRidge

These images are updated three times a day to show current conditions and historical conditions one and two years ago. For the most up to date images for today (no historical images) please [view the WYDOT page for this site](#)

Camera: I80HalleckRidgeEast.jpg

14 Oct 2021
14 Oct 2022
14 Oct 2023

Camera: I80HalleckRidgeWest.jpg

Map Controls

SPC Hazards Day 1

NEXRAD Radar

GOES 16 Satellite

PRISM Normals (1991-2020)

Geology

Administrative and Legal

- Wyoming
- Other States
- Counties
- Township/Range
- Sections
- Qtr-Qtr Sections
- Wyoming Highways
- Conservation Districts
- Improvement & Service
- Land Management
- National Recreation Areas
- National Forests
- National Parks
- National Wildlife Refuges
- State Parks
- Water & Sewer Districts
- Wilderness Areas
- Wind River Reservation
- State Engineer's Office
- Divisions
- Districts
- Compacts and Decees
- National Weather Service**
- County Warning Areas
- River Forecast Centers
- Climate Divisions

Base Layers

- Hillshade
- Aerial
- NAlP
- Stamen Terrain

41 767078, -105.262756

Water And Climate Explorer (WACE)

Water Resources Data System & State Climate Office

Home Data & Products Documents Wyoming Climate Wyoming Weather Drought
Home Products & Data Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

NWS COOP Stations by Age

- <5 Years
- 5-10 Years
- 10-15 Years
- 15-20 Years
- >20 Years

NWS COOP

[View data for LARAMIE 2 NW](#)

Data Retrieval

station name: LARAMIE 2 NW
 station identifier: 485435
 key: T-trace | M-missing | blank-unknown
 maximum minimum precipitation snowfall snow depth time of time of time of time of
 temperature temperature_observation observation observation observation
 ..._melt_melt_cocn_snow_snow
 date (degrees F) (degrees F) (inches) (inches) (inches) (hour) (hour) (hour) (hour)
 1966-05-01 59.21 0.00 0.0 0.0 0.7 7.7 0.0
 1966-05-02 63.20 0.00 0.0 0.0 0.7 7.7 0.0
 1966-05-03 70.25 0.00 0.0 0.0 0.7 7.7 0.0
 1966-05-04 71.30 0.00 0.0 0.0 0.7 7.7 0.0
 1966-05-05 75.20 0.00 0.0 0.0 0.7 7.7 0.0
 1966-05-06 78.30 0.00 0.0 0.0 0.7 7.7 0.0

LARAMIE 2 NW (485435)
(1966-05-01 - 2023-06-18)
(20667 days)

LARAMIE RIVER AT LARAMIE (485435)
(2000-04-23 - 2009-04-11)
(3273 days)

LARAMIE AP (24022)
(1948-01-01 - 2021-06-19)
(27763 days)

LARAMIE 2WSW (485420)
(1715-08-01 - 1971-09-30)
(1135 days)

LARAMIE 2WSW SITE 2 (485416)
(2011-08-23 - 20) 1-01-311
(850 days)

LARAMIE 2 (485411)
(1892-01-01 - 1976-02-29)
(40738 days)

LARAMIE ISE (485417)
(2000-01-01 - 2023-06-19)
(8370 days)

- Conservation Districts
- Improvement & Service
- Land Management
- National Recreation Areas
- National Forests
- National Parks
- National Wildlife Refuges
- State Parks
- Water & Sewer Districts
- Wilderness Areas
- Wind River Reservation
- State Engineer's Office
- Divisions
- Counties and Deeds
- National Weather Service
- County Warning Areas
- River Forecast Centers
- Climate Divisions
- Base Layers
- Hillshade
- Aerial
- NAIP
- Change Topo

41.308804, -105.626735

WRDS/SCO may be working remotely so there could be a slight delay returning phone calls. Please email wrds@uwyo.edu if you are in need of information and we will respond as soon as possible

Water And Climate Explorer (WACE)

Water Resources Data System & State Climate Office

Home
Data & Products
Documents
Wyoming Climate
Wyoming Weather
Drought
CoCoRaHS
Sitemap
Interactive Maps
Contact

Legend

Annual Precipitation (in.)

- 0
- < 4
- 4 - 8
- 8 - 12
- 12 - 16
- 16 - 20
- 20 - 24
- 24 - 28
- 28 - 32
- 32 - 36
- 36 - 40
- 40 - 50
- 50 - 60
- 60 - 70
- 70 - 80

Annual
 Jan
 Feb
 Mar
 Apr
 May
 Jun
 Jul
 Aug
 Sep
 Oct
 Nov
 Dec

Map Controls

- Snow Water Equivalent %ile
- Snow Depth
- NRCS SnoTel/SnoTelLite
- NRCS Snow Course
- CoCoRaHS
- Precip Percent of Average
- Precipitation Percentiles
- Precipitation Frequency
- Precipitation Frequency
- Probable Max Precip
- Wind Roses
- Tornadoes/Funnels
- WYDOT Cameras
- Outlooks**
- 6-10D Temperature
- 6-10D Precipitation
- 8-14D Temperature
- 8-14D Precipitation
- Day 1 QPF
- Day 2 QPF
- Day 3 QPF
- 7-Day QPF
- SPC Hazards Day 1
- NEXRAD Radar
- GOES 16 Satellite
- PRISM Normals (1991-2020)**
- Precipitation
- Minimum Temperature
- Mean Temperature
- Maximum Temperature
- Geology**
- Administrative and Legal**
- Base Layers**
- Hillshade (30m)
- Hillshade (10m)
- Aerial
- NAIP
- Stamen Terrain

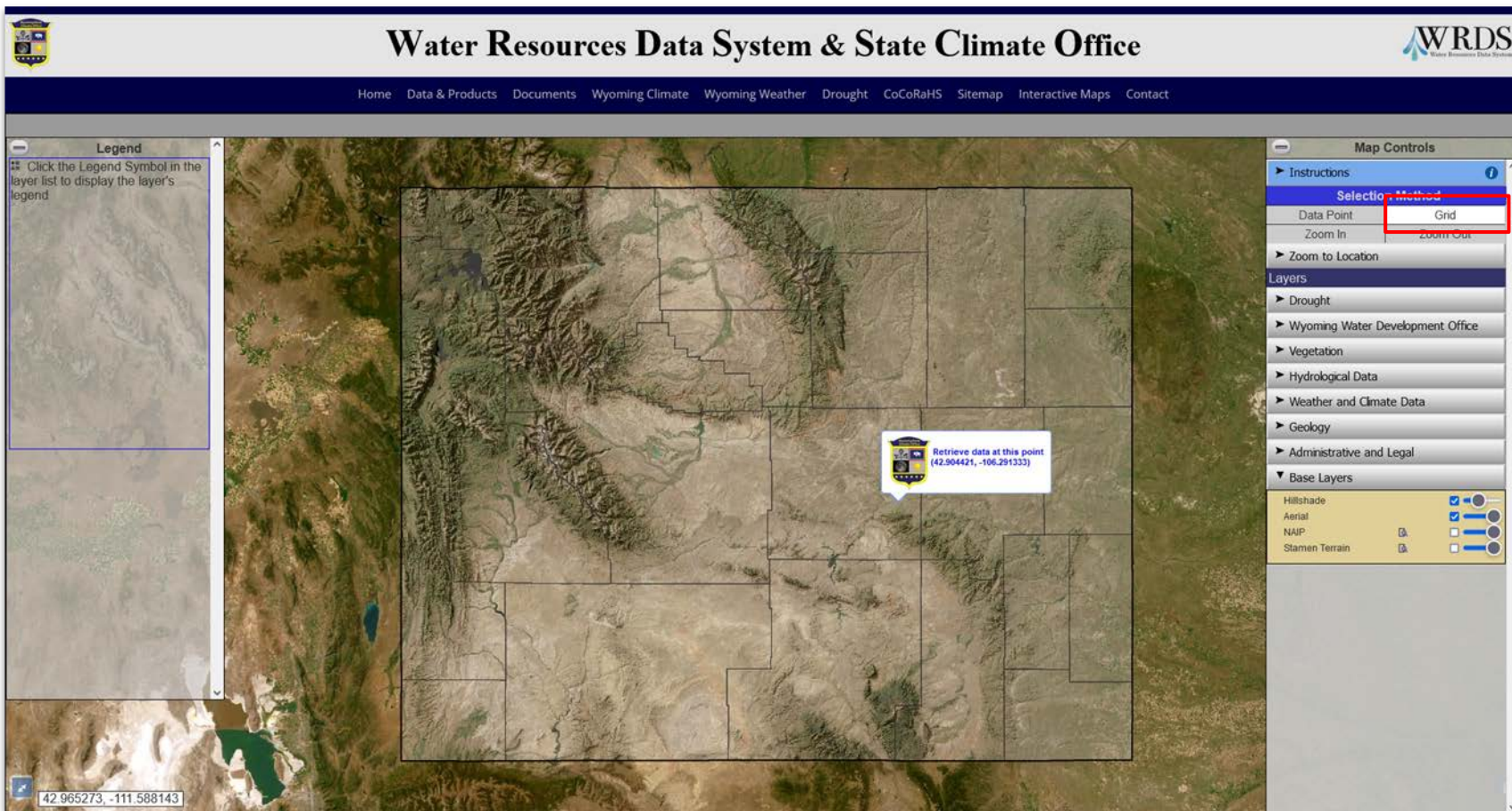
Precipitation Normal (1991-2020)

Month	Precipitation (inches)
Jan	0.3
Feb	0.4
Mar	0.6
Apr	1.2
May	2.0
Jun	1.1
Jul	0.6
Aug	0.4
Sep	0.8
Oct	0.9
Nov	0.3
Dec	0.2

Annual Total: 9.00 inches

PRISM Climate Group, Oregon State University, <https://prism.oregonstate.edu>, data created 01 Dec 2022, accessed 10 Aug 2023.

45.179802, -107.145170



Water Resources Data System & State Climate Office

Home Data & Products Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

Legend

Click the Legend Symbol in the layer list to display the layer's legend

Map Controls

Instructions

Selection Method

Data Point Grid

Zoom In Zoom Out

Zoom to Location

Layers

Drought

Wyoming Water Development Office

Vegetation

Hydrological Data

Weather and Climate Data

Geology

Administrative and Legal

Base Layers

Hillshade

Aerial

NAP

Stamen Terrain

Retrieve data at this point (42.904421, -106.291333)

42.965273, -111.588143

Water And Climate Explorer (WACE)

Water Resources Data System & State Climate Office

Home Products & Data Documents Wyoming Climate Wyoming Weather Drought CoCoRaHS Sitemap Interactive Maps Contact

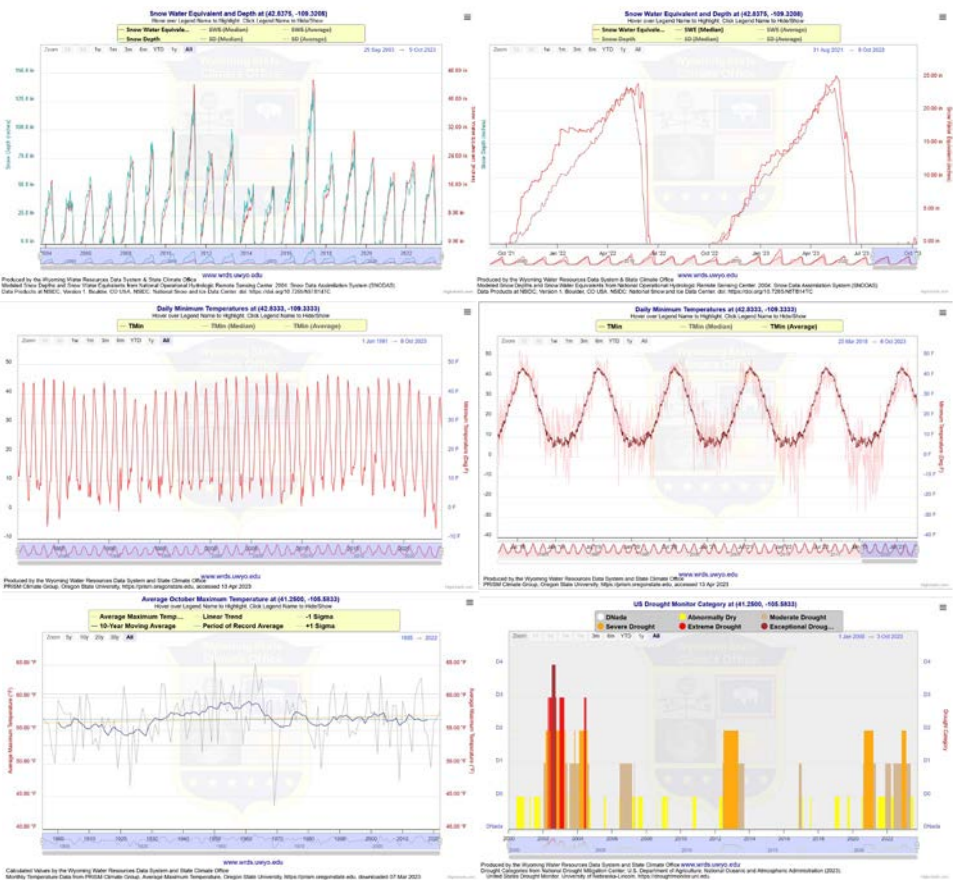
WRDS/SCO may be working remotely so there could be a slight delay returning phone calls. Please email wrds@uwyo.edu if you are in need of information and we will respond as soon as possible

Monthly data from PRISM 4km x 4km grids. Grid cell selected is centered at 42.9167 N, 106.2917 W

- Average Monthly Precipitation (1895-2022)
- Average Monthly Maximum Temperature (1895-2022)
- Average Monthly Minimum Temperature (1895-2022)
- Average Monthly Mean Temperature (1895-2022)
- Average Monthly Dewpoint Temperature (1895-2022)
- Dates of Last Spring and First Fall occurrences of 16°F, 20°F, 24°F, 28°F, 32°F, and 36°F (1981-2022)
- Daily Minimum Temperature (1981-2023)
- Daily Maximum Temperature (1981-2023)
- Snow Depth and Snow Water Equivalent (2004-2023)
- US Drought Monitor Category (2000-2023)

The data sets available here were created using the PRISM (Parameter-elevation Regressions on Independent Slopes Model) climate mapping system, developed by Dr. Christopher Daly, PRISM Climate Group director. The data are from the grids created by Daly and are at 2.5 minute by 2.5 minute (roughly 4km x 4km) resolution. PRISM is a unique knowledge-based system that uses point measurements of precipitation, temperature, and other climatic factors to produce continuous, digital grid estimates of monthly, yearly, and event-based climatic parameters. Continuously updated, this unique analytical tool incorporates point data, a digital elevation model, and expert knowledge of complex climatic extremes, including rain shadows, coastal effects, and temperature inversions. PRISM data sets are recognized world-wide as the highest-quality spatial climate data sets currently available. PRISM is the USDA's official climatological data.

Source PRISM Climate Group, Oregon State University, <http://www.prismclimate.org>
 Source NRCS National Water and Climate Center, <http://www.wcc.nrcs.usda.gov>





— BUREAU OF —
RECLAMATION



Tony Bergantino

WRDS & State Climate Office
antonius@uwyo.edu

Tony Anderson

National Weather Service
Cheyenne
tony.anderson@noaa.gov

Scott Whiteman

US Geological Survey (USGS)
whiteman@usgs.gov

Gretel Follingstad

Nat'l Integrated Drought Info
System (NIDIS)
gretel.follingstad@noaa.gov

Liz Cresto

Bureau of Reclamation
ecresto@usbr.gov

Windy Kelley

UW Extension & USDA Northern
Plains Climate Hub
wkelly1@uwyo.edu

The WY Conditions Monitoring Team (WCMT) organized and hosted this webinar. The WCMT is a collaborative effort of state, federal, tribal, and university partners that monitor conditions & impacts throughout WY weekly – and communicate this info to the U.S. Drought Monitor & others.

Learn more at:

<https://drought.wyo.gov>

Thank you!