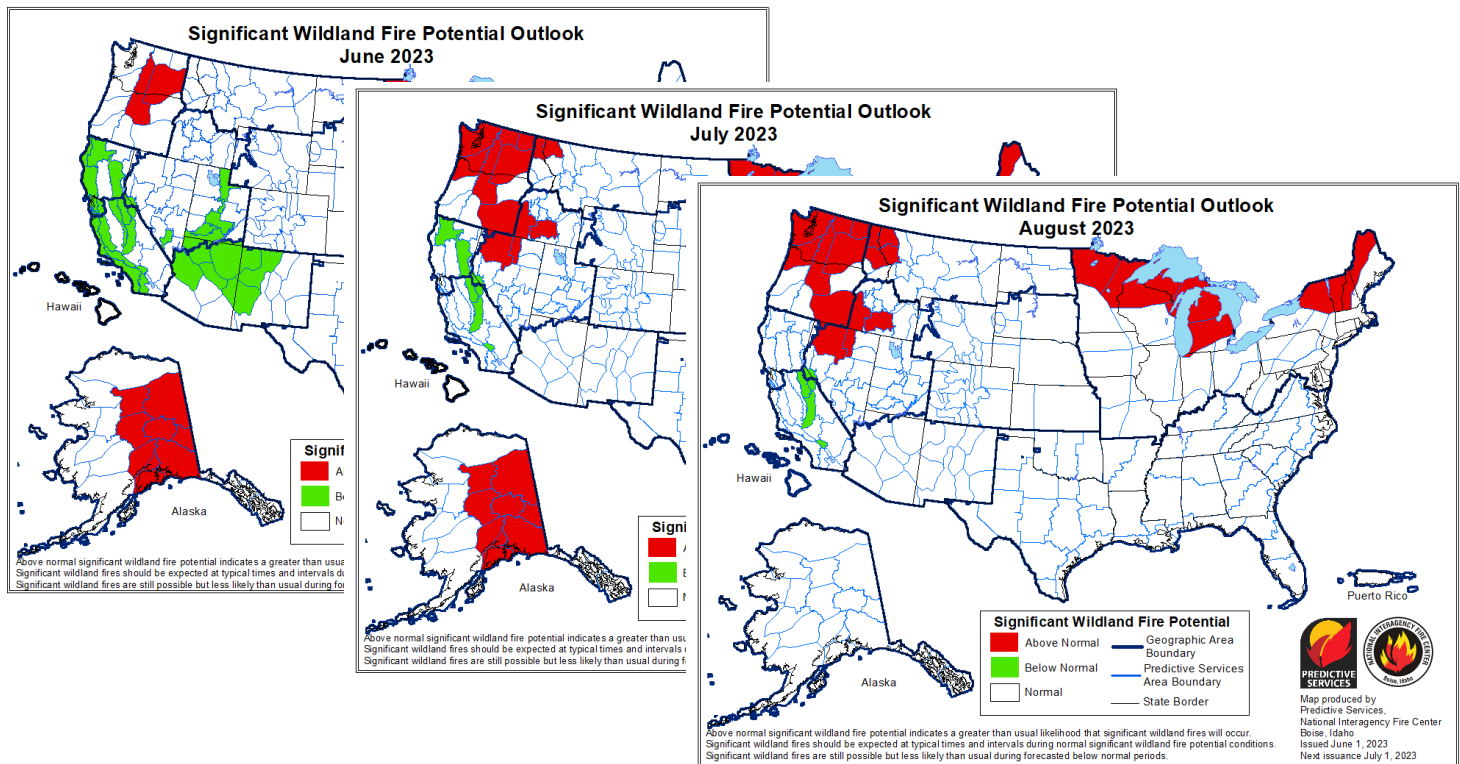


# TETON INTERAGENCY FIRE 2023 WILDLAND FIRE OUTLOOK

June 6, 2023



Significant Wildland Fire Potential -- June, July, August 2023 (June 1 2023, National Interagency Fire Center).  
<https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>

## SUMMARY

A wetter/cooler winter and a transition to neutral and El Niño conditions during the summer will support normal conditions and a normal outlook for significant wildland fire potential.

The Great Basin Coordination Center “Seasonal Outlook for June-September 2023” shows the TIDC area with **Normal fire potential for June-September**. For additional information see:

- GBCC monthly outlook: <https://gacc.nifc.gov/gbcc/predictive/docs/monthly.pdf>
- Daily GBCC Fire Potential Briefing and related outlooks: <https://gacc.nifc.gov/gbcc/outlooks.php>

Potential fire activity for the Great Basin GACC is projected to be normal for June, with a below-normal outlook for central/southern Utah and southern Nevada. Most of the GACC remains normal for July-August, except for an above-normal outlook for western Idaho and northwest Nevada.

During an average fire season, based on a 20-year fire history from 2001-2020), Bridger-Teton National Forest will average 52 unplanned fires (32 natural starts and 20 human-caused fires per year) for an average of 16,522 acres per year. Grand Teton National Park will average 10 unplanned fires (six natural starts and four human-caused fires per year) for an average of 1332 acres per year.

*The Teton Interagency Wildland Fire Outlook is updated monthly during fire season. Current information on fire conditions, fire indices and activity can be found at [www.tetonfires.com](http://www.tetonfires.com), with local, regional and national outlooks at <https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/predictive-services/outlooks>.*

# CLIMATE AND FUELS

## (1) Area Snowpack and Streamflow

For area watersheds, SNOTEL sites have mostly melted by early June, so basin-wide averages for snow water equivalent (SWE) are not valid due to the limited number of data sources. Maps of westwide and Wyoming Snotel conditions provide an overview of current conditions, though percentages may not be valid.

Total Precipitation Water for the water year-to-date (Water YTD, beginning October 2022) is trending normal to slightly above normal for area watersheds.

Table 1: Percent of 30-Year Average Snow Water Content and Precipitation by Basin.		
	* = Analysis may not be valid measure of conditions.	
	<a href="http://uwyo.edu">Wyoming Snow Precipitation Update (uwyo.edu)</a> . 06/04/23.	
	Snow Water Content	Total Precipitation (Water YTD)
Snake River	78 % *	98 %
Upper Green River	93 % *	101 %
Yellowstone	56 %	95 %
Wind River	70 % *	106 %
Upper Bear River	(2 of 12 stations reporting SWE – not valid) *	127 %

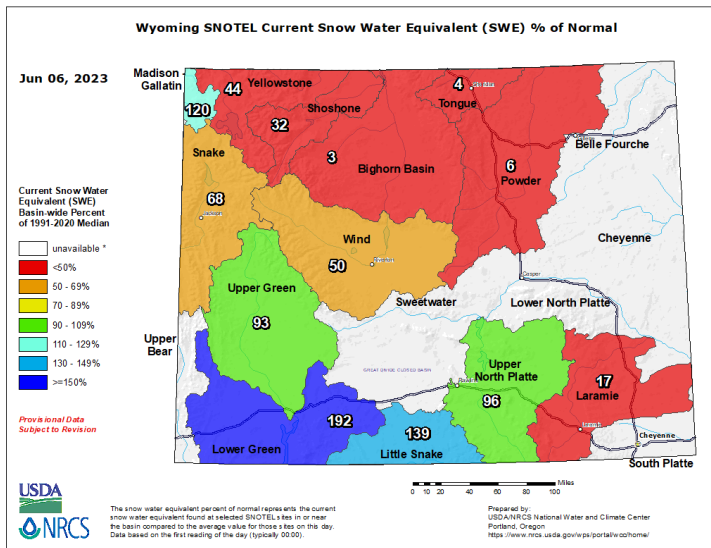
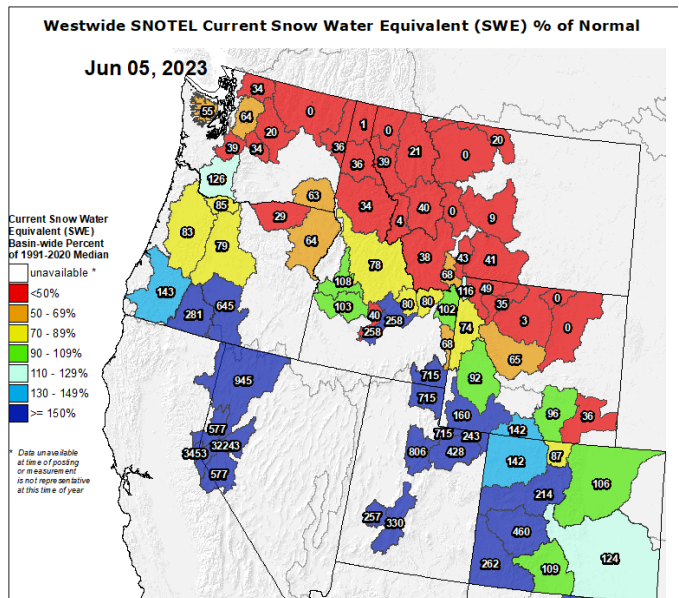
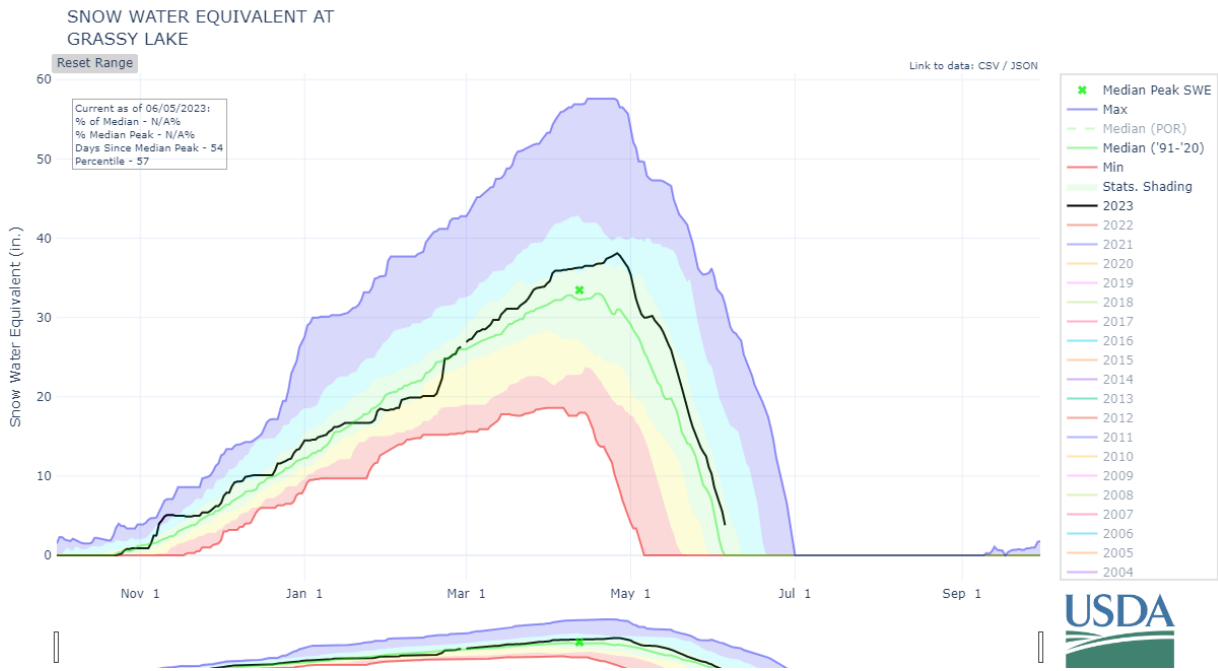


Figure 1a: [Westwide SNOTEL - Snow Water Equivalent, Percent of Normal.](#)

Figure 1b: [Wyoming SNOTEL - Snow Water Equivalent, Percent of Normal.](#)

**REPRESENTATIVE SNOTEL SITES.** Figures 1 c-e (below). SNOTEL Water Year to Date, Snow Water Equivalent for Grassy Lake (North Zone), Elkhart Park Guard Station (East Zone), and Snider Basin (West Zone). Generally, these representative sites exhibited normal to slightly above-normal moisture (in total precipitation and snow water equivalent), with a normal rate for snowmelt. Except for Snider Basin (south), drier than average conditions in late April and May has partly offset prior above-normal SWE.



Station (499) WATERYEAR=2023 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
 Mon Jun 05 06:19:40 GMT-08:00 2023

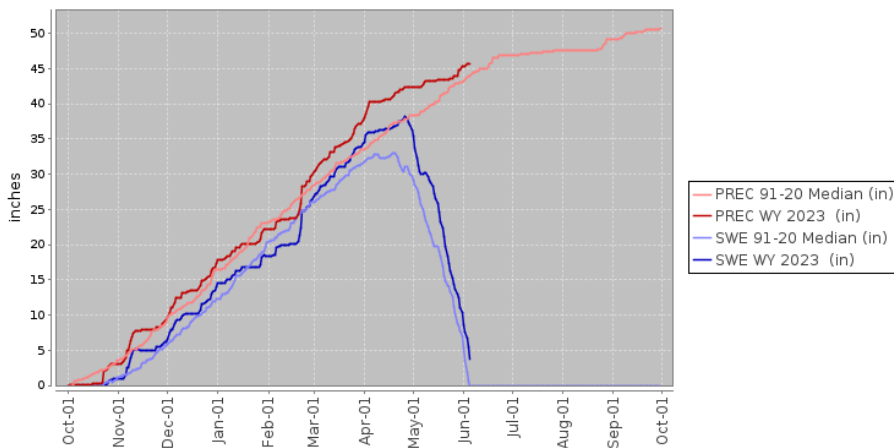
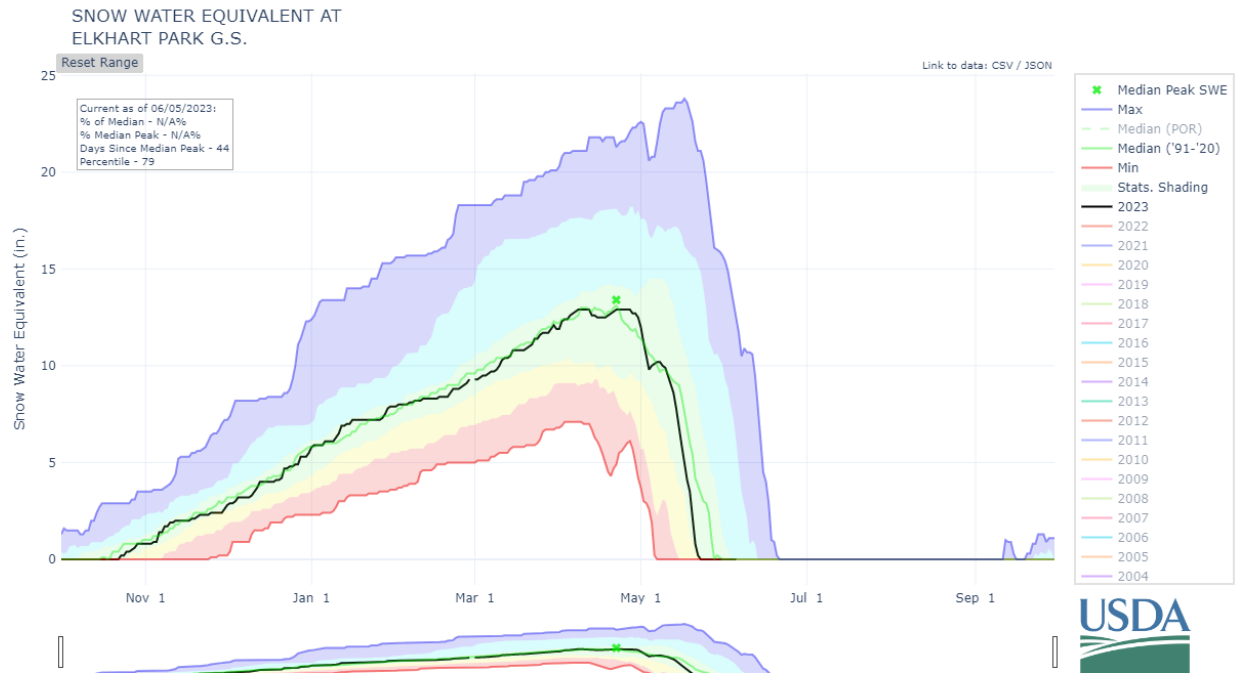


Figure 1c: [NRCS Grassy Lake Snotel](#) with season statistics (above), and [Grassy Lake Snotel \(Teton Zone\), 499](#) (below) with YTD precipitation and snow water equivalent (SWE).



Station (468) WATERYEAR=2023 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
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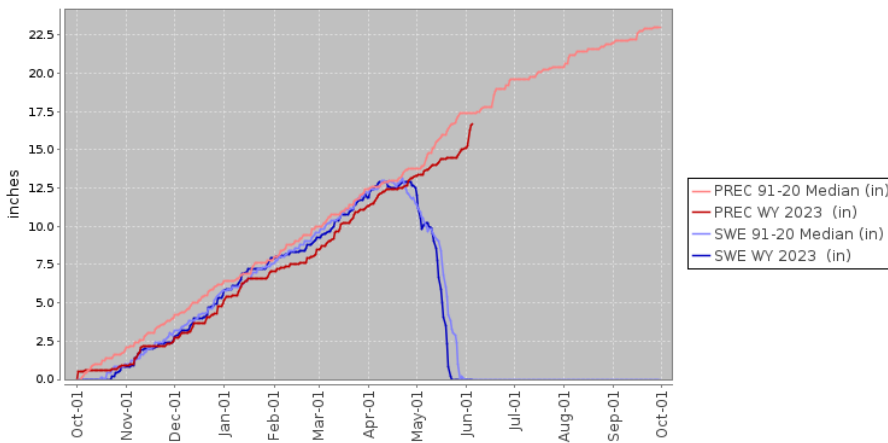
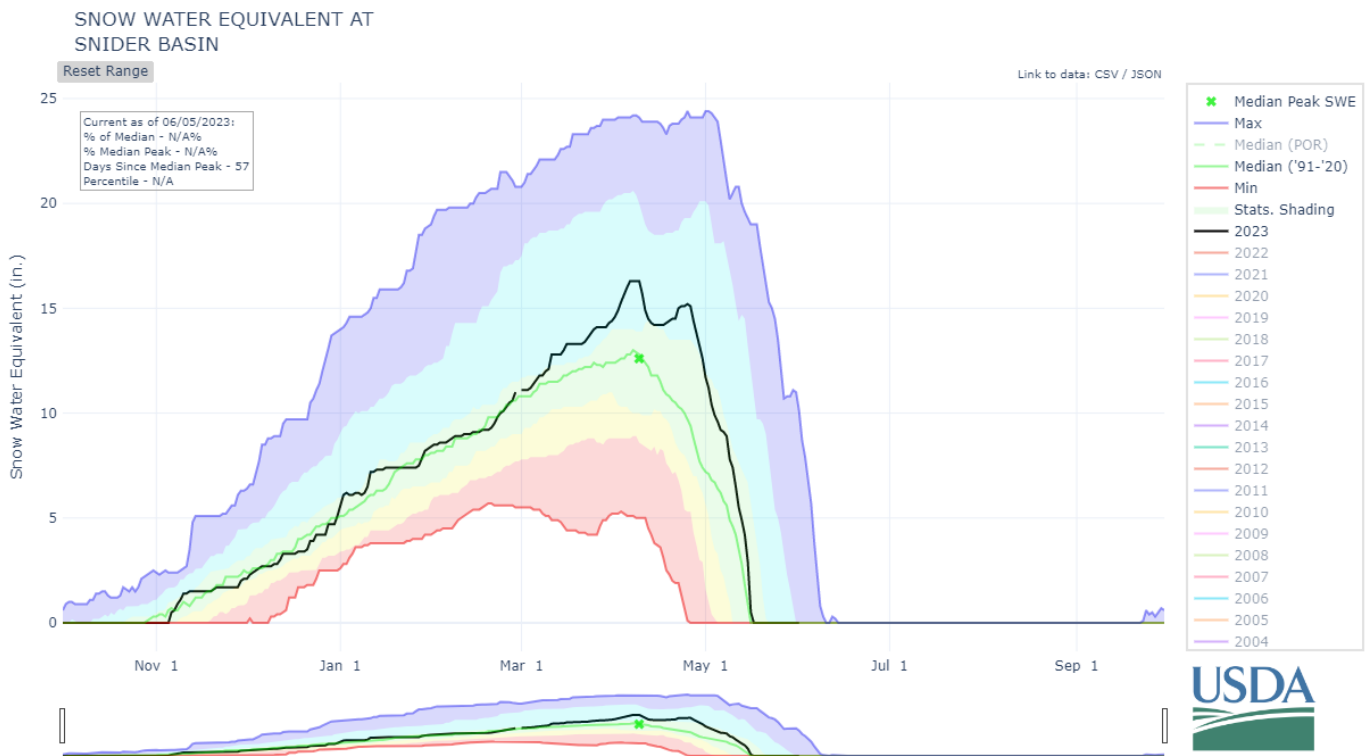


Figure 1d: [NRCS Elkhart Snotel](#) with season statistics (above), and [Elkhart Snotel \(Wind River Zone\), 468](#) (below) with YTD precipitation and snow water equivalent (SWE).



Station (765) WATERYEAR=2023 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
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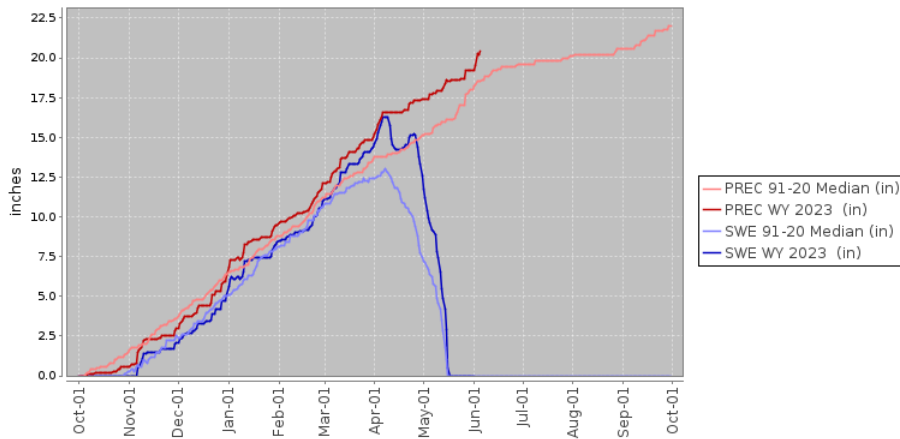
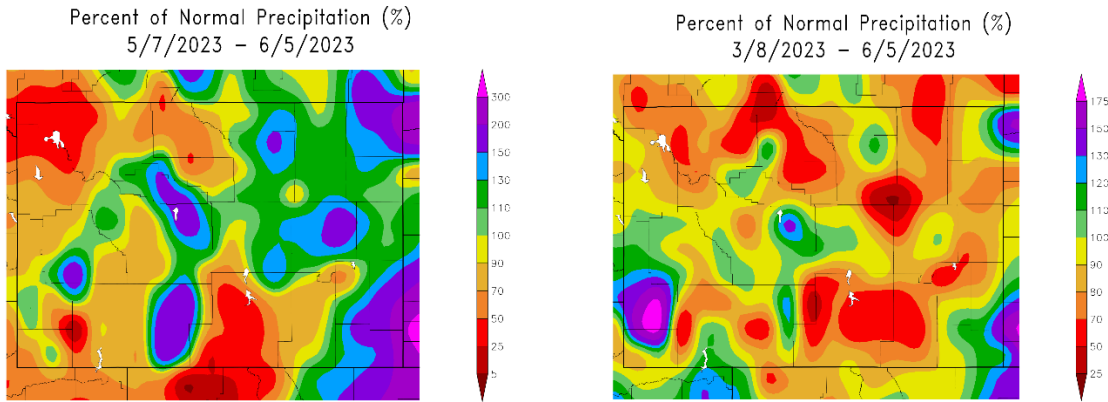


Figure 1e: Figure 1d: [NRCS Snider Basin Snotel](#) with season statistics (above), and [Snider Basin Snotel \(Wyoming Range Zone\), 765](#) (below) with YTD precipitation and snow water equivalent (SWE).

## (2) Precipitation Monitoring

The Wyoming precipitation map for the prior month reflects drier than normal precipitation, offset with areas of late May precipitation, which has come with isolated thunderstorms (30-day, Figure 2a). The 90-day total shows wetter conditions to southwest and a drier-than-normal 90-day total (Figure 2b). Both periods illustrate a general moisture transect, wetter to the far east and southwest of the state and normal to below-normal elsewhere.



Generated 6/6/2023 at HPRCC using provisional data. NOAA Regional Climate Centers. Generated 6/6/2023 at HPRCC using provisional data. NOAA Regional Climate Centers.

**Figure 2a (left).** Wyoming, Percent of Normal Precipitation for the past 30 days.

<https://hprcc.unl.edu/products/maps/acis/subgrn/WY/30dPNormWY.png>. Moisture patterns transitioned in May, with below normal precipitation except for localized thunderstorms in late May.

**Figure 2b (right).** Percent of Normal Precipitation for the past 90 days was below-normal to normal for late-winter precipitation in most of the TIDC area, except for above-normal precipitation in the southwest in the Star Valley and Afton-Kemmerer. <https://hprcc.unl.edu/products/maps/acis/subgrn/WY/90dPNormWY.png>.

**Precipitation tracking at the [Moose 1 NNE WY Climate Weather Station](#)** -- the automated Climate Reference Station in the Applied Climate Information System in the dispatch area -- is representative for lower elevation sites in Grand Teton National Park and some North Zone sites. The station recorded 112% of normal for water year-to-date, with five months receiving above-normal precipitation and three below normal. The drier months occurred in October, April and May. The Fall-Winter period (October-February) was 116% of the 30-year normal while late Winter-Spring (March-May) was 103% of normal (Table 2 and Graph). The prior two months (April-May) received 82.5% of normal precipitation.

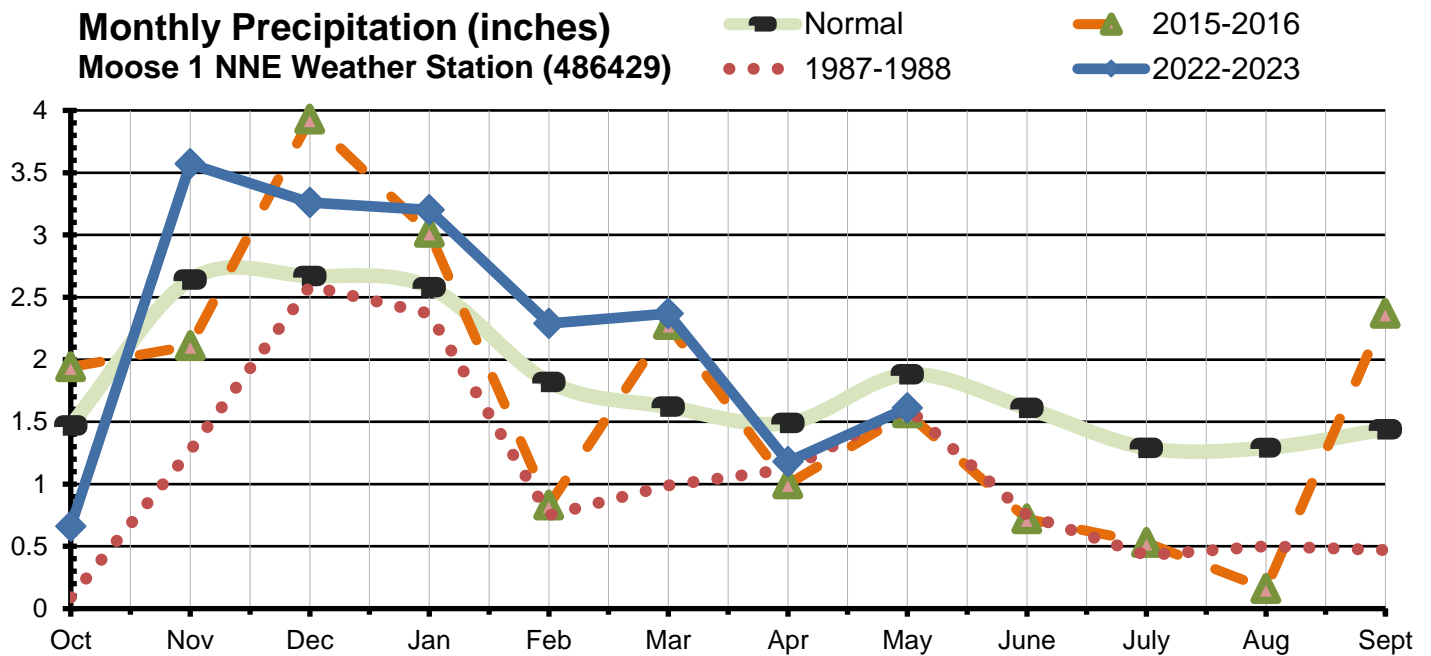


Table 2 - Graph / Table: Precipitation at Moose Weather Station (Grand Teton National Park).

Monthly Precipitation		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	YTD total
(inches)	1987-88	0.09	1.27	2.59	2.37	0.75	0.99	1.12	1.61	10.79
	1999-00	0.08	0.67	2.03	2.27	5.04	1.03	0.4	1.38	12.9
	2015-16	1.94	2.11	3.93	3.02	0.83	2.28	1	1.57	16.68
	2020-21	1.94	2.92	1.63	3.08	4.62	0.31	0.89	3.05	18.44
	2021-22	1.91	1.33	3.52	3.09	0.45	1.17	3.1	2.49	17.06
	<i>Normal</i>	2.58	1.82	1.62	1.49	1.88	2.58	1.82	1.62	16.17
	<b>2022-23</b>	<b>0.66</b>	<b>3.57</b>	<b>3.26</b>	<b>3.2</b>	<b>2.29</b>	<b>2.37</b>	<b>1.18</b>	<b>1.61</b>	<b>18.14</b>
<b>% Normal</b>	1987-88	6%	48%	97%	92%	41%	61%	75%	86%	67%
	1999-00	5%	25%	76%	88%	277%	64%	27%	73%	80%
	2015-16	132%	80%	147%	117%	46%	141%	67%	84%	103%
	2020-21	132%	111%	61%	119%	254%	19%	60%	162%	114%
	2021-22	130%	50%	132%	120%	25%	72%	208%	132%	106%
	<b>2022-23</b>	<b>45%</b>	<b>135%</b>	<b>122%</b>	<b>124%</b>	<b>126%</b>	<b>146%</b>	<b>79%</b>	<b>86%</b>	<b>112%</b>

### (3) Drought Monitor

Compared to last year at this time, the current drought map for the U.S. West indicates a nearly eightfold increase of normal conditions (from 6.2% last June to 52.5% this year) compared to drought conditions and less than one percent in Extreme or Exceptional Drought (compared to nearly 48% last year). Extreme and exceptional drought persists in the High Plains, particularly Kansas and Nebraska. Western Wyoming is primarily in Abnormally Dry and Moderate/Severe Drought.

## U.S. Drought Monitor West

May 30, 2023  
(Released Thursday, Jun. 1, 2023)  
Valid 8 a.m. EDT

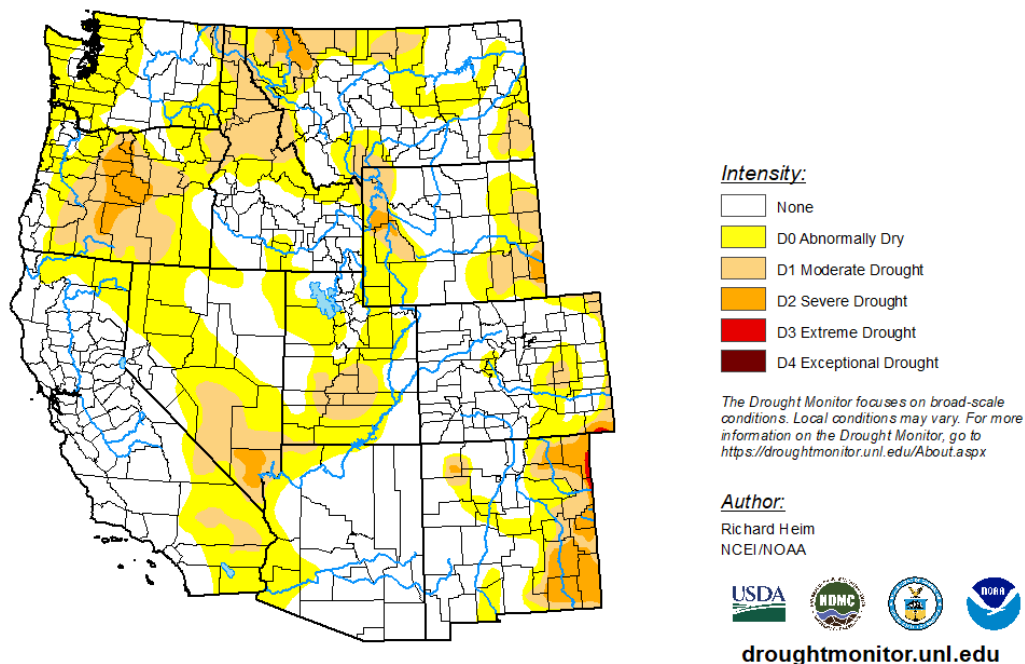
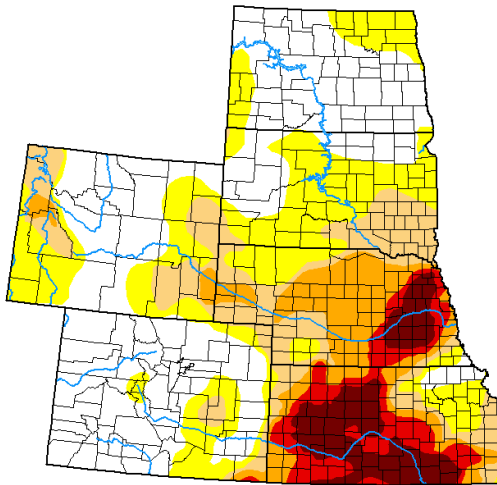


Figure 3a. U.S. Drought Monitor – West.  
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?West>

**U.S. Drought Monitor  
High Plains**

**May 30, 2023**  
(Released Thursday, Jun. 1, 2023)  
Valid 8 a.m. EDT



**Intensity:**  
 None  
 D0 Abnormally Dry  
 D1 Moderate Drought  
 D2 Severe Drought  
 D3 Extreme Drought  
 D4 Exceptional Drought

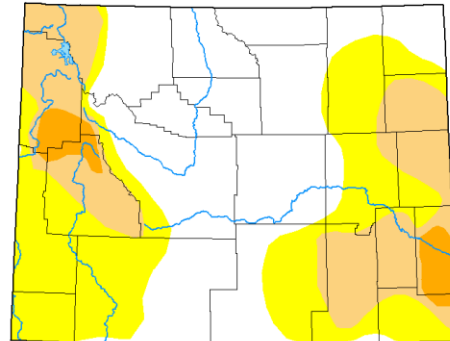
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

**Author:**  
Richard Heim  
NCEI/NOAA



**U.S. Drought Monitor  
Wyoming**

**May 30, 2023**  
(Released Thursday, Jun. 1, 2023)  
Valid 8 a.m. EDT



**Intensity:**  
 None  
 D0 Abnormally Dry  
 D1 Moderate Drought  
 D2 Severe Drought  
 D3 Extreme Drought  
 D4 Exceptional Drought

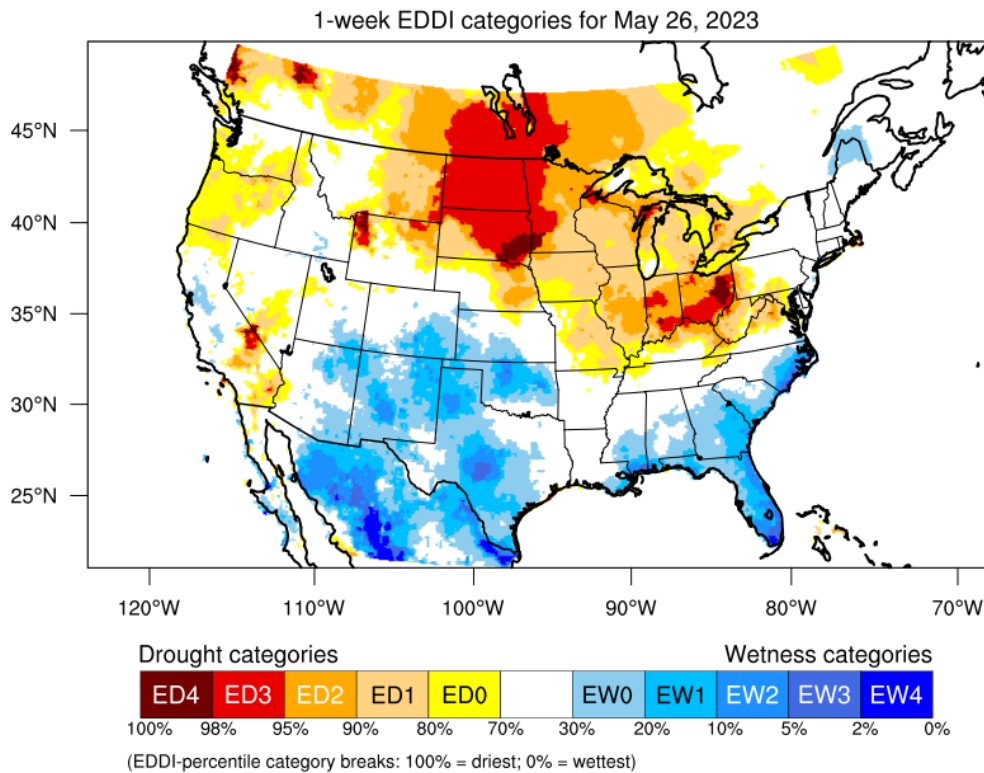
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

**Author:**  
Richard Heim  
NCEI/NOAA



Figure 3b (left). U.S. Drought Monitor Class Change – USDA Northern Plains Climate Hub. [https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?High\\_Plains](https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?High_Plains).

Figure 3c (right). U.S. Drought Monitor – Wyoming. <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?WY>.



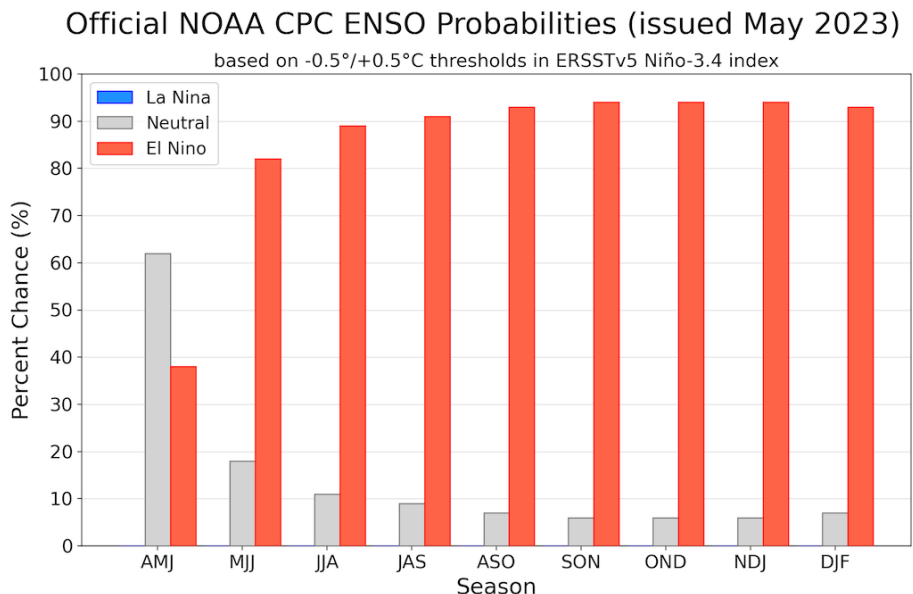
Generated by NOAA/ESRL/Physical Sciences Laboratory

Figure 3d. Evaporative Demand Drought Index. The EDDI can reflect recent moisture trends and may forecast drought transitions. The most recent 1-week EDDI indicates that northwest and northeast Wyoming is exceptionally dry while most of Wyoming is experiencing normal conditions.



**(4) El Niño / La Niña / ENSO-Southern Oscillation)**

The mid-month ENSO Forecasts (Figure 4 below, from [IRI – International Research Institute for Climate and Society](#)) tracks *El Niño* (warm) and *La Niña* (cool) events in the tropical Pacific. This summer, the prior *La Niña* (cool) conditions are transitioning to neutral ENSO neutral conditions and the ensemble of model forecasts support continued transition to *El Niño* conditions during the summer.

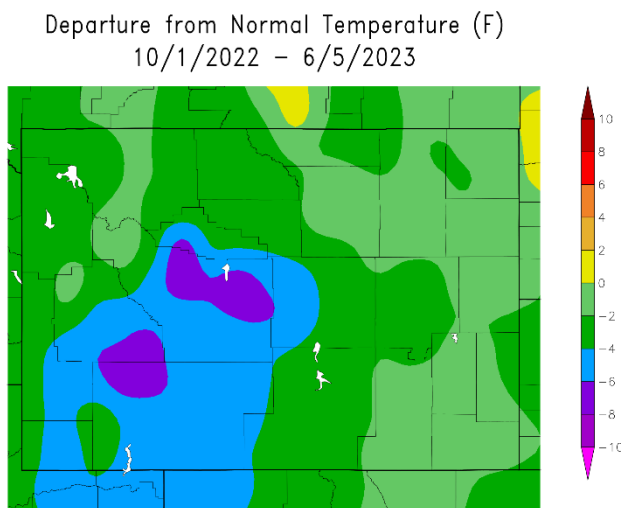


**Synopsis:** Transition from an extended La Niña to El Niño conditions is expected from May-July and moderate El Niño conditions are favored through the forecast period of March 2024. As the most recent [NOAA Discussion](#) states, “While the warming near coastal South America remains striking, the basin-wide coupled ocean-atmosphere system remained consistent with ENSO-neutral.”

The Desert Research Institute has developed a climate-based analysis that provides down-sampled [ENSO Climate Risk Maps](#). If El Niño conditions develop by August, the DRI analyses indicate an increased risk of both warm and wet extremes in the TIDC area, though risks are variable within the down-sampled area.

**(5) Long-term Temperature and Precipitation Trends and Outlook**

**RANGE OF WINTER TEMPERATURES.** The TIDC area was cooler overall from fall into early summer. (see Figure 5a).



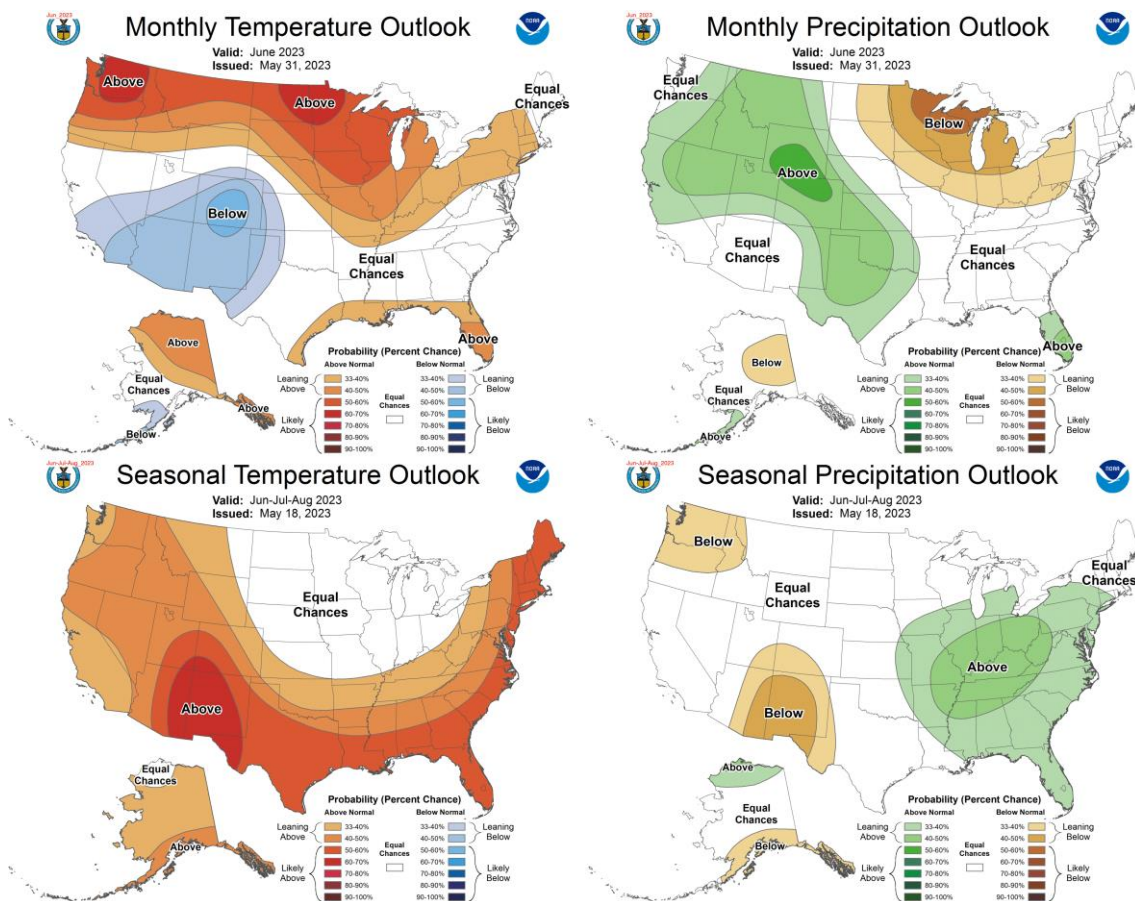
Generated 6/6/2023 at IPRCC using provisional data. NOAA Regional Climate Centers

Figure 5a (above). Departure from Normal Temperature, Wyoming, October 1, 2022 to June 3, 2023 (Water Year-to-Date) indicates a cooler winter than normal in the northern area of TIDC and significantly cooler to the south and southeast.

<https://hprcc.unl.edu/products/maps/acis/hprcc/wy/WaterTDeptHPRCC-WY.png>

Figure 5b (below): 30-day and 90-day Outlooks for Temperature / Precipitation (June and June-August).

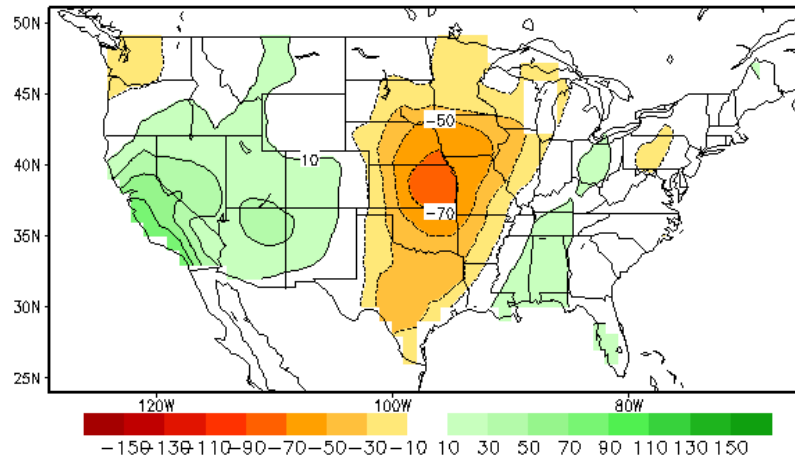
[https://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/page2.qif](https://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/page2.qif)



The 30- and 90-day temperature and precipitation outlooks (Figure 5b above) indicate a probability for a warmer June and June-August, except for normal June temperatures in the southern half of the TIDC area. The precipitation outlook shows moisture probability likely above normal for June with equal chances of above-, normal- or below-normal (the climatological norm) for June-July-August. This trend is supported by soil moisture outlooks (figure 5c), with an outlook for normal soil moisture for all but far western Wyoming by the end of August.

A warmer/wetter early summer, which may transition by late summer to a warmer/normal moisture trend, may support a delayed start of wildfire activity. An increase in fine fuels such as grasses and forbs, when and where these fuels become available, may support active fire spread and intensity later in the season. ([http://www.cpc.ncep.noaa.gov/products/predictions/multi\\_season/13\\_seasonal\\_outlooks/color/page2.qif](http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/page2.qif)).

Lagged Averaged Soil Moisture Outlook for End of JUL2023  
units: anomaly (mm), SM data ending at 20230605



Lagged Averaged Soil Moisture Outlook for End of SEP2023  
units: anomaly (mm), SM data ending at 20230605

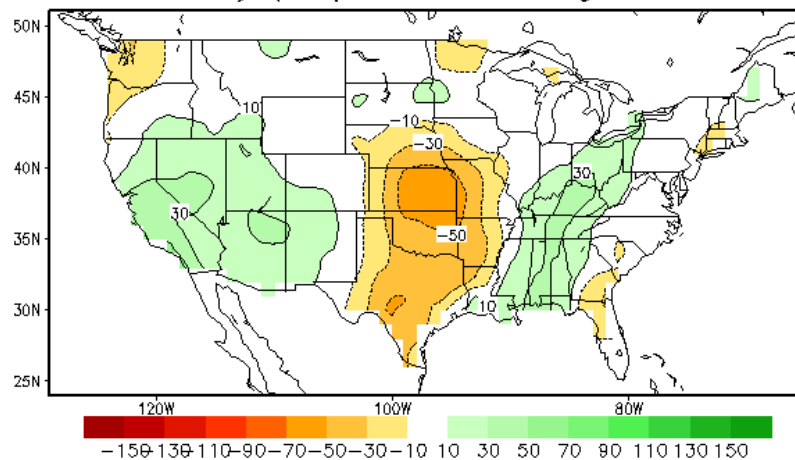


Figure 5c: Soil Moisture Outlook for end of June and August 2023.

[https://www.cpc.ncep.noaa.gov/products/Soilmst\\_Monitoring/US/Outlook/CAS/SM.shtml](https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/CAS/SM.shtml)

**(6) Fuel Moisture**

Initial sampling and monitoring in Grand Teton National Park and Bridger-Teton National Forest show green-up occurring at a typical rate. Live and dead fuels are generally trending normal or slightly drier than average for June 1, except for wetter-than-normal grasses (live herbaceous) at sagebrush sites and drier-than-normal at Grand Teton conifer sites. Live fuels are in full green-up. For current fuel moistures: [https://www.wfas.net/nfmd/public/current\\_state\\_data.php?gacc=EGBC&state=WY&submit\\_button=Submit+Request](https://www.wfas.net/nfmd/public/current_state_data.php?gacc=EGBC&state=WY&submit_button=Submit+Request)

<b>Bridger-Teton NF – North Zone averages (June 1, 2023)</b>						
<b>Sagebrush</b>	<b>30-year AVG</b>	<b>2023</b>		<b>Conifer</b>	<b>30-year AVG</b>	<b>2023</b>
LH Grass				LH Grass	302%	<b>302%</b>
LW Sagebrush	208%	<b>245%</b>		LW Conifer	88%	<b>86%</b>
				1000 HR	18%	<b>13%</b>
<b>Grand-Teton NP – Representative Sites (06/01-06/05/2023)</b>						
<b>Sagebrush</b>	<b>30-year AVG</b>	<b>2023</b>		<b>Conifer</b>	<b>30-year AVG</b>	<b>2023</b>
LH Grass	185%	<b>224%</b>		LH Grass	214%	<b>144%</b>
LW Sagebrush	153%	<b>150%</b>		LW Conifer	101%	<b>96%</b>
				1000 HR	28%	<b>28%</b>

## NATIONAL AND GEOGRAPHIC AREA OUTLOOKS

The Teton Area fire zone is within the Great Basin Geographic Area. Fire seasons in our zone also track with similar conditions in adjacent areas within the Rocky Mountain and Northern Rockies geographic areas, which converge within the Greater Yellowstone Area (GYA) and share fire activity trends.

The season outlooks excerpted below support normal fire activity in the Teton Interagency Dispatch area, with normal potential for adjacent areas. Within the Great Basin Geographic Area, normal fire activity is expected except for above-normal fire potential for July and August in western Idaho and northern Nevada. The Southwest monsoon, which can affect western Wyoming summer precipitation and thunderstorm activity, may be delayed and weaker than average this summer.

**Excerpts of National - Regional Outlooks from “National Wildland Significant Fire Potential Outlook”**  
(June 1, 2023, NICC Predictive Services).

[http://www.nifc.gov/nicc/predictive/outlooks/monthly\\_seasonal\\_outlook.pdf](http://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf).

### *National – Fire Activity Outlook*

Significant fire activity remained muted across the US during May. Wildfire activity decreased in the Southern Area, especially towards the end of the month, while the Southwest Area continued with below normal fire activity. Alaska had its first large fire of the year and multiple large rangeland fires ignited in the Inland Pacific Northwest during late May. Year-to-date acres burned for the US is 51% of the 10-year average, with a below average number of fires, about 82% of average.

Well above normal temperatures stretched across the northern tier of the West leading to rapid snow melt. Much of the eastern US experienced near to below normal temperatures, but the Great Lakes, Midwest, Mississippi Valley, and into the Northeast and Mid-Atlantic received below normal rainfall. The High Plains into much of Texas and parts of the Southwest received above normal rainfall, while Florida, the southeast Atlantic Coast, and coastal New England mostly had above normal rainfall as well. The Drought Severity and Coverage Index (DSCI) is now at 74 (scale 0 to 500), which is the lowest value since June 2020 and down from a 10-year peak of 202 on November 1, 2022. More than 59% of the country has no drought and less than 20% of it is in moderate to exceptional drought.

Below normal significant fire potential continues for the mountains and foothills of California during June before retreating to the Sierra in July and just the southern Sierra during August and September. Higher elevations in the southern Great Basin through the mountains of Utah and much of the Southwest, west of the Continental Divide, are likely to have below normal significant fire potential in June. These areas will return to near normal significant fire potential in July and may continue near normal through summer depending on the strength of the monsoon.

Climate Prediction Center and Predictive Services monthly and seasonal outlooks depict likely above normal temperatures for the West, South, and East Coast through summer. Below normal precipitation is likely for the Southwest and possibly into the broader Four Corners region as the North American Monsoon is expected to be below average this summer.

### **Great Basin**

Significant wildfire potential will gradually increase through June and July from south to north across the geographic area. Significant long-term drought has improved in some areas but remains across much of the Great Basin. Despite late fall and early winter precipitation that could have increased the likelihood of a greater fine fuel crop in western Nevada, drier conditions the last few months have stunted some of the grass growth. Therefore, shorter grass overall will limit fire potential in the lower elevations going into the fire season, although fuels will be continuous. However, wetter conditions in parts of Idaho in May that will continue into the first half of June will likely trigger an increase in fine fuel growth and be available later in the fire season. Fire activity will be higher in western Nevada and southern Idaho than in 2021, but likely still near normal, unless the grass growth in Idaho is more significant when it cures in July and August.

**Excerpts of Great Basin Coordination Center “Seasonal Outlook for June-September 2023”**  
<https://gacc.nifc.gov/gbcc/predictive/docs/monthly.pdf>).

As for future forecast weather, temperatures will be warming through July and August, however the wetter pattern we have been seeing in late May into June will be continuing at least through mid-June. This showery pattern has prolonged green-up, kept soil moisture high, delayed curing and delayed the start of fire season. This may also delay the onset of monsoon moisture or make the monsoon weaker overall. This will be monitored closely. Showery periods may be around most of the summer as well.

Below normal fire potential is expected in most of the higher elevations of Utah, Nevada, and the Sierra through July and possibly in the Sierra through August. Areas further north will continue with Normal fire potential into early summer, but quickly may switch to above normal in the lower elevations when fuels cure toward July and August. Above average carryover fuels across parts of southern Idaho into northwest Nevada will likely be the focus in the Great Basin through June where grass fires will pop up and be driven by wind until the surrounding fuels cure. Then, Above Normal Fire Potential is more likely by July, in southern Idaho and northwest Nevada. Of note, years coming out of drought tend to lead to an increase of fires and acres burned in the lower elevations of the Great Basin, especially when a very wet year follows an average or a wet winter the year before. However, the summer weather pattern will dictate how active this fire season will be. The potential delay of the monsoon onset or a weaker monsoon will be closely monitored for July and August, as fire activity may be picking up over southern areas of the Great Basin if the monsoon is weaker/later.

**CURRENT FIRE ACTIVITY: Teton Interagency Dispatch Center**

<https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/predictive-services/intelligence>

Early season wildland fire activity is typically limited to a period after snowmelt and prior to green-up. The early fire season saw minimal fire activity, limited to one natural fire. In spring 2023, five prescribed fires treated 249.25 acres.

**Table 3: Year-to-Date (to May 31, 2023) Fire Activity (Unplanned and Planned Ignitions).**

TETON INTERAGENCY FIRE MANAGEMENT AREA TOTALS	Human Fires	Human Acres	Natural Fires	Natural Acres	RX Fires	RX Acres
	0	0	1	0.1	5	249.25

**Selected Sources**

- Precipitation Tracking: <https://water.weather.gov/precip/>
- Precipitation Tracking focused on [Snotel sites, Wyoming](#) (beta site)
- Climate Prediction Center, Three-Month Outlooks: <https://www.cpc.ncep.noaa.gov/products/predictions/90day/>
- Drought.gov Portal / Fire: <https://www.drought.gov/drought/data-maps-tools/fire>
- Drought.gov Portal / Wyoming: <https://www.drought.gov/states/wyoming>
- Intermountain West Climate Dashboard: <https://wwa.colorado.edu/climate/dashboard.html>
- Regional outlooks from “National Wildland Significant Fire Potential Outlook” (first of each month during fire season, NIFC Predictive Services): [https://www.nifc.gov/nicc/predictive/outlooks/monthly\\_seasonal\\_outlook.pdf](https://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf).
- Great Basin Area – Predictive Services/Outlooks: <https://gacc.nifc.gov/gbcc/outlooks.php>.
- Rocky Mountain Area – Predictive Services/Outlooks: <https://gacc.nifc.gov/rmcc/outlooks1.php>.
- Teton Interagency Dispatch: [www.tetonfires.com](http://www.tetonfires.com) / <https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/>.

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*For further information, contact Teton Interagency Fire:*

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