TETON INTERAGENCY FIRE

August 2022 - Wildland Fire Outlook

August 3, 2022

SUMMARY

The Teton Interagency Dispatch area was drier than normal for July with limited monsoon moisture in late July and early August. The area remains in moderate to severe drought conditions. Temperature and precipitation outlooks indicate a warmer-wetter pattern for early August, with warmer and drier than normal conditions for mid-to late-August. For August through September, analyses and outlooks indicate normal wildland fire potential in surrounding areas and normal potential for the Dispatch area.

- Fire danger is at High for August 1 for Bridger-Teton National Forest / Grand Teton National Park and no fire restrictions are in place. Last year at this time we were in Stage 1 Fire Restrictions.
- Normal fire potential for August-November, per the Great Basin Coordination Center’s monthly outlook: https://gacc.nifc.gov/gbcc/predictive/docs/monthly.pdf

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 per year, and 20 human-caused fires) for an average of 16,522 acres per year. Grand Teton National Park will average 10 unplanned fires (six natural starts per year, and four human-caused fires) for an average of 1332 acres per year. See www.tetonfires.com for fire indices and activity, with outlooks at https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/predictive-services/outlooks.
1. 30-day and 60-day Temperatures

**WARMER EARLY SUMMER.** After a cooler than normal winter, the past 30 and 60 days recorded a warmer than normal early and mid-summer. These higher temperatures coupled with above-normal early precipitation supported an increased green-up intensity countered by drier dead fuels.

![Departure from Normal Temperature (F) 7/4/2022 – 8/2/2022](https://hprcc.unl.edu/products/maps/acis/hprcc/wy/30dTDeptHPRCC-WY.png)

*Figure 1a. 30-Day Departure from Normal Temperature, Wyoming, ending 08/02/2022. [Link](https://hprcc.unl.edu/products/maps/acis/hprcc/wy/30dTDeptHPRCC-WY.png)*

![Departure from Normal Temperature (F) 6/4/2022 – 8/2/2022](https://hprcc.unl.edu/products/maps/acis/hprcc/wy/60dTDeptHPRCC-WY.png)

*Figure 1b. 60-Day Departure from Normal Temperature, Wyoming, ending 08/02/2022. [Link](https://hprcc.unl.edu/products/maps/acis/hprcc/wy/60dTDeptHPRCC-WY.png)*
2. Precipitation

Area precipitation analyses for the past 30 and 90 days illustrate the effect of short- and long-term moisture deficits for the area – with 30-day and 90-day deficits (Figure 2a, 2b) drier than normal. In the past 90 days, NW and southwest/south-central Wyoming received precipitation notably above normal.

Figure 2a (left) and 2b (right). Wyoming, Percent of Normal Precipitation, past 30 days and 90 days. [Link](https://hprcc.unl.edu/products/maps/acis/subrgn/WY/30dPNormWY.png). [Link](https://hprcc.unl.edu/products/maps/acis/subrgn/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 101% of normal for water year-to-date, with four of the past nine months recording below-normal and five with above-normal precipitation. Compared to 30-year precipitation normal, the past three months received 96% of normal and July received 31%.

**Table 2 - Table and Graph: Precipitation, Moose Weather Station (Grand Teton National Park).**

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>YTD total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precipitation (inches)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1987-88</td>
<td>2.37</td>
<td>0.75</td>
<td>0.99</td>
<td>1.12</td>
<td>1.61</td>
<td>0.75</td>
<td>0.43</td>
<td>11.97</td>
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<tr>
<td>1999-00</td>
<td>2.27</td>
<td>5.04</td>
<td>1.03</td>
<td>0.4</td>
<td>1.38</td>
<td>0.59</td>
<td>0.36</td>
<td>13.85</td>
</tr>
<tr>
<td>2015-16</td>
<td>3.02</td>
<td>0.83</td>
<td>2.28</td>
<td>1</td>
<td>1.57</td>
<td>0.72</td>
<td>0.53</td>
<td>17.93</td>
</tr>
<tr>
<td>2020-21</td>
<td>3.08</td>
<td>4.62</td>
<td>0.31</td>
<td>0.89</td>
<td>3.06</td>
<td>0.5</td>
<td>0.7</td>
<td>19.64</td>
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<tr>
<td>Normal</td>
<td>1.49</td>
<td>1.88</td>
<td>2.58</td>
<td>1.82</td>
<td>1.62</td>
<td>1.61</td>
<td>1.29</td>
<td>19.07</td>
</tr>
<tr>
<td>2021-22</td>
<td>3.09</td>
<td>0.45</td>
<td>1.17</td>
<td>3.1</td>
<td>2.49</td>
<td>1.72</td>
<td>0.4</td>
<td>19.18</td>
</tr>
<tr>
<td><strong>% of Normal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987-88</td>
<td>92%</td>
<td>40%</td>
<td>63%</td>
<td>75%</td>
<td>84%</td>
<td>47%</td>
<td>33%</td>
<td>63%</td>
</tr>
<tr>
<td>1999-00</td>
<td>88%</td>
<td>267%</td>
<td>66%</td>
<td>27%</td>
<td>72%</td>
<td>37%</td>
<td>28%</td>
<td>73%</td>
</tr>
<tr>
<td>2015-16</td>
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<td>46%</td>
<td>141%</td>
<td>67%</td>
<td>84%</td>
<td>45%</td>
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<td>94%</td>
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<tr>
<td>2020-21</td>
<td>119%</td>
<td>254%</td>
<td>19%</td>
<td>60%</td>
<td>162%</td>
<td>31%</td>
<td>54%</td>
<td>103%</td>
</tr>
<tr>
<td>2021-22</td>
<td>120%</td>
<td>25%</td>
<td>72%</td>
<td>208%</td>
<td>132%</td>
<td>107%</td>
<td>31%</td>
<td>101%</td>
</tr>
</tbody>
</table>
3. Drought Monitor

Western Wyoming is predominantly in Severe and Extreme Drought. Wyoming is also abnormally dry or in drought except for northwest/Yellowstone and areas of in far northeast and central Wyoming. Early August monsoonal flow is predicted to be normal or below normal. With warmer temperatures and normal or drier moisture outlooks for late-summer, drought conditions are likely to remain and intensify, increasing fuel availability in 1000-hour fuels, fine dead fuels and live fuels. Soil moisture outlooks indicate continued drought impacts through October.


4. Fuel Moisture

Sampling in Bridger-Teton National Forest and Grand Teton National Park reflect the impact of a drier than normal July on some fuel types and locations.

Current fuel moistures from the TIDC area are for mid- to late July, unless noted.

<table>
<thead>
<tr>
<th>SITE TYPE</th>
<th>FUEL TYPE</th>
<th>East Zone BTFN</th>
<th>West Zone BTFN</th>
<th>North Zone BTFN</th>
<th>Grand Teton NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sagebrush</td>
<td>LH Grass</td>
<td>127%</td>
<td>144%</td>
<td>199%</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>LW Sagebrush</td>
<td></td>
<td></td>
<td></td>
<td>113%</td>
</tr>
<tr>
<td>Conifer</td>
<td>LH Grass</td>
<td>171%</td>
<td></td>
<td>156%</td>
<td>117%</td>
</tr>
<tr>
<td></td>
<td>LW Lodgepole</td>
<td>108%</td>
<td>109%</td>
<td></td>
<td>117%</td>
</tr>
<tr>
<td></td>
<td>LW Fir (Douglas/Subalpine)</td>
<td>SF: 111%</td>
<td>SF: 99%</td>
<td>DF: 146%</td>
<td>DF: 112%</td>
</tr>
<tr>
<td>1000 Hour Dead</td>
<td></td>
<td>12%</td>
<td>11%</td>
<td>12%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Additional fuel moisture data is available at the National Fuel Moisture Database: [Current Fuel moistures in Bridger-Teton NF and Grand Teton NP](#).

At long-term sampling stations in Grand Teton National Park, mid-season fuel moistures followed green-up and curing trends, with below-normal moistures in all fuel types except for live-herbaceous (grasses) at conifer sites. Compared to mid-July averages, all sagebrush sites were trending toward 80th percentile.
(driest 20\textsuperscript{th} percent), and at conifer sites the live-woody conifer and 1000 hour fuels were at 90\textsuperscript{th} percentiles (driest 10 percent).
The mid-month ENSO Forecasts (Figure 5 below - IRI – International Research Institute for Climate and Society | Quick Look (columbia.edu) tracks El Niño (warm) and La Niña (cool) events in the tropical Pacific. La Niña conditions are forecast to continue through early winter. In some years, this may lead to climatic norms, but this season outlooks call for dry-warm conditions and drought impacts.

Fig. 5. Current La Niña conditions will likely continue with moderate probability (68% chance) for La Niña conditions for August-November and continuing into February 2023 (55-70% likelihood).
6. Temperature and Precipitation Outlooks
Most outlooks call for warmer temperatures and lower than normal precipitation for the summer and into fall.
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 common trends of fire activity. The outlooks excerpted below support an outlook for normal fire activity for August in the Teton Interagency Dispatch area.


National – Executive Summary (excerpts)

Fire activity decreased significantly in mid to late July across Alaska, but large fire activity increased across much of Texas and Oklahoma. Large fires began to emerge in central Idaho, Montana, and northern California towards the end of July as lightning followed prolonged hot and dry conditions. Year-to-date acres burned for the US is approximately 160% above the 10-year average, with over 90% of the total acres burned in the Alaska, Southwest, and Southern Areas.

The monsoon should continue through August over the Southwest and into the greater Four Corners region, while above normal temperatures are forecast across the northern Intermountain West, central US, and Southeast.

Climate and Fire Potential Outlooks

La Niña conditions remain, with below average sea surface temperatures (SSTs) over much of the equatorial Pacific Ocean. SSTs have warmed this summer, with weak La Niña to neutral conditions are forecast late this summer into fall by the Climate Prediction Center (CPC). However, SSTs may cool again in the equatorial Pacific Ocean, with CPC forecasting a 66% chance of La Niña strengthening during fall and early winter. This would be a rare “triple dip” La Niña.

Great Basin

July saw prolonged warmth and dryness shift north and west into northwest Nevada and much of Idaho and Wyoming. Farther south, monsoonal moisture took a respite in early July, with new large fires emerging, but were quickly followed by more surges of monsoonal moisture into the southern half of the Great Basin, with above average precipitation and high humidity for most areas south of the I 80 corridor. The monsoon is expected to continue for southern and eastern areas through most of August, possibly as far north as southeast Idaho and western Wyoming. After a surge of monsoonal moisture in early August, warm and dry conditions are expected farther west and north later in August into September.

Consistent moisture over much of the Great Basin during at least the first half of August will likely lead to near normal significant fire potential across the geographic area. However, above normal potential is forecast across portions of southern and central Idaho and the Sierra Front in September. Near normal significant fire potential is forecast October through November for the Great Basin Geographic Area.

Great Basin Coordination Center – Seasonal Outlook for August-November 2022 (excerpt).


Weather/Fuels/Fire Potential: The entire region is coming under the influence of a significant monsoonal surge during the first week of August. Most areas will see plenty of clouds, humidity levels 10-25% higher than normal, while wetting rains, some locally heavy, cover just about the entire region. This pattern should continue thru the 2nd week of August as well, with monsoonal moisture and above normal precipitation chances continuing. The rest of August should feature Above Normal wetness across eastern areas. Warmth and dryness are expected to prevail for the remainder of fire season, as the monsoon is expected to quickly
fade, and be replaced by a dominant West Coast High Pressure Ridge. We expect “Normal” large fire potential for August, then followed by a return to “Above Normal” large fire potential for parts of Idaho and the High Sierra, where previous monsoonal moisture would have been lighter, and not have a long-lasting effect.

CURRENT FIRE ACTIVITY

*Teton Interagency Dispatch Center*

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

Lightning and human-caused fires increased in frequency as the season progressed but were suppressed with minimal spread. The largest fire to date is the Sandy Fire, reported on June 28 of undetermined cause, that burned 104 acres.

**To date this year, 77 abandoned non-escape campfires have been reported** compared to 132 at this time last year, 136 in 2020, and 96 in 2019.

Year-to-Date Fire Activity for Dispatch Center response zones, August 3, 2022. [2022 Fire Numbers and Stats.xlsx](live.com)

<table>
<thead>
<tr>
<th>Teton Interagency Fire Management Area Totals</th>
<th>Human Fires</th>
<th>Human Acres</th>
<th>Natural Fires</th>
<th>Natural Acres</th>
<th>RX Fires</th>
<th>RX Acres</th>
<th>Abandoned Non-escape Campfires</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>0.7</td>
<td>9</td>
<td>103.95</td>
<td>18</td>
<td>292</td>
<td>77</td>
</tr>
</tbody>
</table>

**Selected Sources**

- Precipitation Tracking: [https://water.weather.gov/precip/](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/](https://www.cpc.ncep.noaa.gov/products/predictions/90day/)
- Drought.gov Portal / Wyoming: [https://www.drought.gov/states/wyoming](https://www.drought.gov/states/wyoming)
- Intermountain West Climate Dashboard: [https://wwa.colorado.edu/climate/dashboard.html](https://wwa.colorado.edu/climate/dashboard.html)

For further information, contact Teton Interagency Fire:

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