Local Drought Update

Widespread Improvements across eastern Nebraska and western Iowa

Key Messages

→ One category improvement in parts of Knox, Antelope, and Pierce counties has removed the D3 - Extreme Drought Category.

→ The Omaha metro and parts of Harrison, Shelby and Pottawattamie counties saw a one category improvement.

→ There was a one category improvement this week for the entirety of southeast Nebraska.

Next Scheduled Briefing

→ The US Drought Monitor is updated and released each Thursday morning and can be viewed at droughtmonitor.unl.edu. This packet will be updated by July 1st.
Change in Drought Status

U.S. Drought Monitor Class Change - Contiguous U.S. (CONUS)
1 Week

Interactive Drought Monitor: droughtmonitor.unl.edu/CurrentMap.aspx
Drought Change Maps: droughtmonitor.unl.edu/Maps/ChangeMaps.aspx

4 Week Change

12 Week Change

These WILL NOT auto update. You’ll have to recreate from the drought monitor https://droughtmonitor.unl.edu/Maps/ChangeMaps.aspx
Change in Drought Status
Since March 2019

Areal Coverage of Drought

NEBRASKA

IOWA

Drought Impacts

➔ The Iowa Department of Natural Resources warned people boating in western Iowa over the Memorial Day weekend to be advised that water levels are low.

➔ April runoff in the upper Missouri River Basin was 1.5 million acre-feet, which is 51% of average.

➔ The revised annual forecast runoff for the Missouri River above Sioux City for 2022 is 69% of normal levels.

➔ Spring fire season is winding down in the Corn Belt, but it’s been a doozy so far. More than 2,000 square miles of land has burned nationwide - the most by May since 2018.

Drought Timeline: mesonet.agron.iastate.edu/plotting/auto/?q=183
<table>
<thead>
<tr>
<th>Drought Category</th>
<th>Abnormally Dry</th>
<th>Going into drought:</th>
<th>Coming out of drought:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0 Abnormally Dry</td>
<td>Short-term dryness slowing planting, growth of crops or pastures</td>
<td>None listed</td>
<td>Some lingering water deficits, Pastures or crops not fully recovered</td>
</tr>
<tr>
<td>D1 Moderate Drought</td>
<td>Some damage to crops, pastures</td>
<td>展馆水体或限额不足，一些水短缺发展或即将发生</td>
<td>Voluntary water-use restrictions requested</td>
</tr>
<tr>
<td>D2 Severe Drought</td>
<td>Crop or pasture losses likely</td>
<td>展馆水体或限额不足，一些水短缺发展或即将发生</td>
<td>Water shortages common, Water restrictions imposed</td>
</tr>
<tr>
<td>D3 Extreme Drought</td>
<td>Major crop/pasture losses</td>
<td>展馆水体或限额不足，一些水短缺发展或即将发生</td>
<td>Widespread water shortages or restrictions</td>
</tr>
<tr>
<td>D4 Exceptional Drought</td>
<td>Exceptional and widespread crop/pasture losses</td>
<td>展馆水体或限额不足，一些水短缺发展或即将发生</td>
<td>Shortages of water in reservoirs, streams, and wells creating water emergencies</td>
</tr>
</tbody>
</table>
April was particularly dry, but May brought precip totals closer to normal.
Some significant improvements in drought conditions have occurred in the far Northern Plains. Nebraska remains mostly dry for the whole of 2022.
Current Soil Moisture Status

Nebraska (Entire State)

<table>
<thead>
<tr>
<th></th>
<th>As of May 15th</th>
<th>Very Short Moisture</th>
<th>Short Moisture</th>
<th>Adequate Moisture</th>
<th>Moisture Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topsoil</td>
<td>12%</td>
<td>26%</td>
<td>59%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Subsoil</td>
<td>17%</td>
<td>37%</td>
<td>46%</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

SW Iowa

<table>
<thead>
<tr>
<th></th>
<th>As of May 29th</th>
<th>Very Short Moisture</th>
<th>Short Moisture</th>
<th>Adequate Moisture</th>
<th>Moisture Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topsoil</td>
<td>0%</td>
<td>3%</td>
<td>88%</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>Subsoil</td>
<td>0%</td>
<td>4%</td>
<td>88%</td>
<td>8%</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information

Crop reports are issued weekly April through November and can be found at nass.usda.gov/Statistics_by_State/
### Summary of Drought Impacts

**As of May 1, hay stocks were:**
- 15.1 percent below the 2012-2021 average for the country
- Down 21.7 percent from the ten-year average in the 17 western states
- For the ten westernmost states, down more than 30 percent from the ten-year average

U.S. Feedlot inventories were at a record high on April 1 and remained there on May 1 at 11.967 million head, a record for the month.

### Agricultural Impacts

#### Rated Poor or Very Poor

<table>
<thead>
<tr>
<th>Location</th>
<th>Pasture &amp; Range</th>
<th>Winter Wheat</th>
<th>Oats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nebraska (Entire State)</strong> as of May 31st</td>
<td>38%</td>
<td>33%</td>
<td>26%</td>
</tr>
<tr>
<td><strong>Iowa (Entire State)</strong> as of May 31st</td>
<td>Pasture &amp; Range</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hay (all)</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oats</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corn</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

For additional information on agriculture impacts may be viewed from the:
- USDA National Agricultural Statistics Service
- Iowa
- Nebraska
USDA Topsoil Moisture by Short-Very Short

Percent of State Area
Weekly Value for Period Ending May 29, 2022

Current Vs. 5-Year Mean
Weekly Value for Period Ending May 29, 2022

Means are calculated from historical weekly data published by USDA/NASS using the closest date to the equivalent date for this year.

Results are based on the short and very short percentages of topsoil moisture (upper 6 inches) reported by the USDA. Reports are based on subjective observations.
Overview

- Streamflow has been on the decline over the past couple of weeks.
- The mountain snowpack for the Platte and Missouri headwaters is below-normal.
- Drought conservation measures have been implemented by the U.S. Army Corps of Engineers.

More Information

- Hourly and forecast river stages out to 90 days can be found at the National Weather Service's (NWS) Advanced Hydrologic Prediction Service (AHPS) web page: [water.weather.gov/ahps2/index.php?wfo=oax](water.weather.gov/ahps2/index.php?wfo=oax)
- Additional Current stream and river stages may be viewed at the following USGS Web Site: [waterwatch.usgs.gov](waterwatch.usgs.gov)
Current Hydrology Conditions

Map of Below Normal 7 Day Average Stream Flow Compared to Historical Streamflow for the Day

Key: Percentile Classes

<table>
<thead>
<tr>
<th>Percentile Class</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>&lt;= 5</td>
</tr>
<tr>
<td>6 - 9</td>
<td>6 - 9</td>
</tr>
<tr>
<td>10 - 24</td>
<td>10 - 24</td>
</tr>
</tbody>
</table>

More Information

- Hourly and forecast river stages out to 90 days can be found at the National Weather Service's (NWS) Advanced Hydrologic Prediction Service (AHPS) web page:  

- Additional Current stream and river stages may be viewed at the following USGS Web Site:  
  [waterwatch.usgs.gov/](waterwatch.usgs.gov/)
Current Fire Weather Conditions

Fire Danger is Highest West of the Area

Keetch-Byram Drought Index (KDBI)

<table>
<thead>
<tr>
<th>KBDI Value</th>
<th>Description of Fire Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 200</td>
<td>Low - Wet with little danger of fire initiation</td>
</tr>
<tr>
<td>201 to 400</td>
<td>Moderate - Drying occurring with some fire danger</td>
</tr>
<tr>
<td>401 to 600</td>
<td>High - Ground cover dry and will burn readily</td>
</tr>
<tr>
<td>601 to 800</td>
<td>Extreme - Dead and live fuels will burn readily</td>
</tr>
</tbody>
</table>

Keetch-Byram Drought Index: 02-Jun-22

Highlights

→ Record numbers of fire watches and red flag warnings were issued in Nebraska this spring.

→ The green-up has reduced fire concerns over the past few weeks.

Local Burn Bans:

→ Burn bans have mostly allowed to expire.

KBDI and Dead Fuel Moisture data can be found through the
Wildland Fire Assessment System (WFAS)
Current Fire Weather Conditions

10 Hour Dead Fuel Moisture Values & Palmer Drought Severity Index

Palmer Drought Severity Index and Dead Fuel Moisture data can be found through the: Wildland Fire Assessment System (WFAS)
Upcoming Precipitation Potential

For More Information Visit: [wpc.ncep.noaa.gov](http://wpc.ncep.noaa.gov)

### Highlights

➔ A wet pattern is forecast through the upcoming week. Its materialization would mean continued improvements.

➔ Heaviest rain is expected on Sunday, June 5th.

➔ Regular opportunities for rain are expected through the entirety of the forecast with best chances reserved for this early summer weekend.
Short Term Climate Outlook

For More Information Visit: [cpc.ncep.noaa.gov](http://cpc.ncep.noaa.gov)

**Highlights**

- Cooler than normal temperatures are favored through the middle of June.
- After a wet week, near normal amounts of precipitation are expected to materialize.
Long Range Climate Outlook

For More Information Visit: cpc.ncep.noaa.gov

Highlights

➔ Long range outlooks for the summer are calling for a higher chance of above normal temperatures and below normal precipitation.

➔ Drought conditions are expected to improve in the short term with June rains, but the long-term outlook shows persistence and drought development.

➔ Autumn brings equal chances of below and above normal precipitation (not shown).
As summer begins, drought conditions are expected to persist over much of Nebraska and expand in Iowa.

Eastern Nebraska would need 6-8” of extra precipitation over the next four weeks to see the drought completely wiped out.
Questions, Comments, and Resources

Contact Information
If you have questions or comments about this information, please contact:

National Weather Service
David Pearson - Senior Service Hydrologist
Taylor Nicolaesen - Meteorologist, Drought Focal Point
Van DeWald - Lead Meteorologist, Drought Focal Point

Phone: (402) 359-5166
Email: David.Pearson@noaa.gov
      Taylor.Nicolaisen@noaa.gov
      Van.DeWald@noaa.gov

Acknowledgments:
The drought monitor is a multi-agency effort involving NOAA's National Weather Service and National Climatic Data Center, the USDA, state and regional center climatologists and the National Drought Mitigation Center. Information for this statement has been gathered from NWS and FAA observation sites, cooperative and volunteer observations, USDAFS, the USDA and USGS.

Additional Resources
Additional information on current drought conditions may be found at the following web addresses:

National Weather Service Omaha: weather.gov/Omaha
Climate Prediction Center Drought: cpc.ncep.noaa.gov/products/Drought/
US Drought Monitor: droughtmonitor.unl.edu/
National Drought Mitigation Center: https://drought.unl.edu/
National Water Dashboard: dashboard.waterdata.usgs.gov/app/nwd/
National Integrated Drought Information System: drought.gov
Current Drought Conditions: drought.gov/current-conditions
USGS Water Watch: waterwatch.usgs.gov
US Army Corps of Engineers (USACE): usace.army.mil
High Plains Regional Climate Center (HRPCC): hprcc.unl.edu

Iowa State Climatologist: Justin Glisan, Ph.D. (515) 281-8981
iowaagriculture.gov/climatology-bureau

Nebraska State Climatologist: Martha Shulski, Ph.D. (402) 472-6711
nsco.unl.edu

USDA Crop Information: nass.usda.gov/index.asp
Drought Impact Reporter: droughtreporter.unl.edu/map