General Information

- **Providing climate services to the Central Region**
  - Collaboration Activity Between:
    - State Climatologists/American Association of State Climatologists
    - NOAA NCEI/NWS/OAR/NIDIS
    - USDA Climate Hubs
    - Midwest and High Plains Regional Climate Centers
    - National Drought Mitigation Center

- **Next Regular Climate/Drought Outlook Webinar**
  - December 17 (1 PM CST): Presenter: Dr. Beth Hall, State Climatologist of Indiana

- **Access to Future Climate Webinars and Information**
  - [http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars](http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars)
  - [http://mrcc.isws.illinois.edu/webinars.htm](http://mrcc.isws.illinois.edu/webinars.htm)
  - [http://www.hprcc.unl.edu/webinars.php](http://www.hprcc.unl.edu/webinars.php)

- **Recordings of Past Webinars**
  - [http://mrcc.isws.illinois.edu/webinars.htm](http://mrcc.isws.illinois.edu/webinars.htm)
  - [http://www.hprcc.unl.edu/webinars.php](http://www.hprcc.unl.edu/webinars.php)

- Open for questions at the end
Presentation Outline

• Recent Conditions
  • Temperature and precipitation ranks
  • 30-day temperature and precipitation
  • Drought
• Growing Season Progress
• Snow, Fire, Rivers and Lakes
• Impacts and Notable Events
• Outlooks
  • La Niña
  • Short-term
  • Winter season
Recent Conditions

October Temperature and Precipitation Ranks
YTD Temperature and Precipitation Ranks
Departure from Normal Temperature and Precipitation
Soil Moisture, Streamflow and Drought
October Temperature Ranks
Statewide Average Temperature Ranks
October 2020
Period: 1895–2020

October Precipitation Ranks

Statewide Precipitation Ranks

October 2020
Period: 1895–2020

Year-To-Date Precipitation Ranks

Statewide Precipitation Ranks
January – October 2020
Period: 1895–2020

SPoRT–LIS 0–200 cm Soil Moisture percentile valid 18 Nov 2020

https://weather.msfc.nasa.gov/cgi-bin/basicLooper.pl?category=lis_CONUS&initialize=first&regex=vsm0-200percent_20201118
Topsoil Moisture
Percent Short to Very Short
Week Ending - November 15, 2020

48 States
Short to Very Short  41
Change from Last Year  +23

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports

Figure Credit: Brad Rippey – USDA OCE/USDA NASS Data
Growing Season Progress
**Sorghum Progress**

**Percent Harvested**

November 15, 2020

<table>
<thead>
<tr>
<th>State</th>
<th>Harvested</th>
<th>Change from 5-year Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>100</td>
<td>7</td>
</tr>
<tr>
<td>Arizona</td>
<td>91</td>
<td>3</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>96</td>
<td>11</td>
</tr>
<tr>
<td>Other states</td>
<td>99</td>
<td>14</td>
</tr>
</tbody>
</table>

**Top #8 - Percent Harvested**

[Bottom #8] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

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**Sunflowers Progress**

**Percent Harvested**

November 15, 2020

<table>
<thead>
<tr>
<th>State</th>
<th>Harvested</th>
<th>Change from 5-year Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>99</td>
<td>11</td>
</tr>
<tr>
<td>Arizona</td>
<td>91</td>
<td>6</td>
</tr>
<tr>
<td>California</td>
<td>93</td>
<td>20</td>
</tr>
<tr>
<td>Other states</td>
<td>81</td>
<td>4</td>
</tr>
</tbody>
</table>

**Top #8 - Percent Harvested**

[Bottom #8] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

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Figure Credit: Brad Rippey – USDA OCE/USDA NASS Data
Snow, Fire, Rivers and Lakes
• Significant reduction of wildland fire potential from last month
• Expected as cooler and wetter conditions develop
• Most of the area within red ellipse had above normal potential in October
Missouri River

Missouri Mainstem Reservoir Status (as of 11/17/20):

• System storage is 56.7 million-acre feet

• Reductions to Gavins Point winter release levels are scheduled to begin on November 24

• The Gavins Point release is currently 34,000 cfs. Releases will be adjusted as needed to meet full-service navigation targets

*In January 2011, the Base of Flood Control was 56.8 MAF, and the Top of Exclusive Flood Control was 73.1 MAF.

28-day Average Streamflow

Great Lakes Water Levels

- All Great Lakes running well above their long-term averages
- However, they have dropped from record levels in 2018-2019
- Forecasted levels over the next six months should remain above the long-term average
Impacts and Notable Events
State Impacts

- Big snow event at the end of October helped contain widespread and historic fires in Colorado
- The state has never had a 150,000 acre fire
- Have now had two since September – Cameron Peak and Pine Gulch fires
State Impacts

- Hundreds of waterfowl killed across northwestern Iowa due to rapid change in weather and standing water on roadways.
- A record-setting October snowstorm dumped heavy snow in Minnesota, as well as parts of northern Wisconsin and the eastern Dakotas, causing slippery driving conditions.
- A snow squall warning for the Des Moines Metro on October 19th.
Dryness Concerns

Sub-soil conditions across much of the region show below normal percentiles.

Recent warm and windy days produce higher evaporative demand (for this time of year).
Conditions allow for extraction of surface moisture, which does not help soil.
This setup makes it hard for deep infiltration of moisture from rain events.

Dry soils will freeze faster when temperatures get below freezing.

Soil recharge of concern for next growing season.

Silver lining: Going into the growing season drier than normal will make field work/planting easier.
Windy October

Our Windy Autumn of 2020

Autumn typically is the windiest season in northern Illinois & northwest Indiana, but this year, especially the past month or so, has seen a higher frequency of gusty days.

<table>
<thead>
<tr>
<th>Wind Gusts at Chicago O'Hare from October 12 – November 15</th>
<th>This Year (% of days)</th>
<th>5-Year Avg (% of days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 30 mph</td>
<td>20 days (57%)</td>
<td>11 days (31%)</td>
</tr>
<tr>
<td>&gt;= 40 mph</td>
<td>9 days (26%)</td>
<td>2 days (6%)</td>
</tr>
<tr>
<td>&gt;= 50 mph</td>
<td>3 days (9%)</td>
<td>1 day (3%)</td>
</tr>
</tbody>
</table>

https://www.ncdc.noaa.gov/societal-impacts/wind/
Station Extremes:

- Finally, note that there were some monthly record lows in late October and monthly record highs in early November – at the same locations.

- Scottsbluff, Nebraska, was one of those stations:
  - October record low of -10°F on the 27th
  - November record-tying high of 80°F on the 3rd, followed by highs of 80°F on Nov. 4 and 81°F on Nov. 5
Climate Outlooks

- La Niña
- 7-day Precipitation Forecast
- U.S. Hazard Outlooks
- 8 – 14 day Outlook
- December temperature and precipitation
- JFM temperature and precipitation
- MAM temperature and precipitation
La Niña Advisory

- In October, the tropical Pacific and atmosphere both indicated a strengthening La Niña
- La Niña is likely to continue across the Northern Hemisphere 2020-21 winter
  - ~95% chance during January-March and into spring 2021
  - ~65% chance in Spring 2021 during March-May
- At -1.3°F, this was the eighth strongest negative October value on record, which dates back to 1950

https://www.climate.gov/news-features/blogs/enso/november-2020-la-ni%C3%B1a-update-just-us-chickens
Winter temperature patterns during the 20 strongest La Niña events since 1950

Dec-Feb (ONI value)

- 1973-74 (-1.8)
- 1988-89 (-1.7)
- 1999-00 (-1.7)
- 1975-76 (-1.6)
- 2007-08 (-1.6)
- 1949-50 (-1.5)
- 1998-99 (-1.5)
- 1970-71 (-1.4)
- 2010-11 (-1.4)
- 1955-56 (-1.1)
- 1984-85 (-1.0)
- 1995-96 (-0.9)
- 2017-18 (-0.9)
- 2005-06 (-0.8)
- 2008-09 (-0.8)
- 2011-12 (-0.8)
- 1954-55 (-0.7)
- 1971-72 (-0.7)
- 2000-01 (-0.7)
- 1964-65 (-0.6)

December–February vs. 1981–2020 average

difference from average temperature (°F)

NOAA Climate.gov
Data: NCDC/ESRL
Winter precipitation during the 20 strongest La Niña events since 1950
Dec-Feb (ONI value)

1973-74 (-1.8)
1988-89 (-1.7)
1999-00 (-1.7)
1975-76 (-1.6)

2007-08 (-1.6)
1949-50 (-1.5)
1998-99 (-1.5)
1970-71 (-1.4)

2010-11 (-1.4)
1955-56 (-1.1)
1984-85 (-1.0)
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2017-18 (-0.9)
2005-06 (-0.8)
2008-09 (-0.8)
2011-12 (-0.8)

1954-55 (-0.7)
1971-72 (-0.7)
2000-01 (-0.7)
1964-65 (-0.6)

December–February vs. 1961–2020 average

difference from average precipitation (inches)

NOAA Climate.gov
Data: NCDC/ESRL
ENSO Probabilities

https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-cpc_plume
7-day Quantitative Precipitation Forecast
Valid: 19 Nov. – 26 Nov.

https://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml
8-14 Day Outlook

Temperature

Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/814day/
December Outlook

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead14/
DJF 2020/2021 Outlooks

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/
Seasonal Drought Outlook

U.S. Seasonal Drought Outlook
Valid for November 19, 2020 - February 28, 2021
Drought Tendency During the Valid Period
Released November 19, 2020

Depicts large-scale trends based on subjectively derived probabilities, guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author: Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center

http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png
Outlook Summary

• Short-term outlooks showing high probabilities of above average temperatures and below-average precipitation

• Classic La Niña signal showing in updated monthly and seasonal outlooks
  • High probability of a strong La Niña
  • We shouldn’t expect major changes in the maps moving forward
  • Analog years show high variability in temperature and precipitation vs. El Niño phase
  • Some of the biggest signals from La Niña will be late winter and early spring, especially across the Ohio Valley and Great Lakes – wet.
Further Information - Partners

- Today’s and Past Recorded Presentations:
  - [http://mrcc.isws.illinois.edu/webinars.htm](http://mrcc.isws.illinois.edu/webinars.htm)
  - [http://www.hprcc.unl.edu](http://www.hprcc.unl.edu)

- NOAA’s National Centers for Environmental Information: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

- NOAA’s Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

- Climate Portal: [www.climate.gov](http://www.climate.gov)


- National Drought Mitigation Center: [http://drought.unl.edu](http://drought.unl.edu)

- State climatologists
  - [http://www.stateclimate.org](http://www.stateclimate.org)

- Regional climate centers
  - [https://mrcc.illinois.edu](https://mrcc.illinois.edu)
  - [http://www.hprcc.unl.edu](http://www.hprcc.unl.edu)
Thank You and Questions?

• Questions:

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