General Information

• Providing climate services to the Central Region
  • Collaboration with Dennis Todey (South Dakota State Climatologist), Jim Angel (Illinois State Climatologist), Doug Kluck and John Eise (NOAA), State Climatologists and the Midwest Regional Climate Center, High Plains Regional Climate Center, NOAA's Climate Prediction Center, Iowa State University, National Drought Mitigation Center

• Next Climate/Drought Outlook Webinar
  • September 17, 2015, Laura Edwards (SDSU Extension) and Brad Rippey USDA

• Access to Future Climate Webinars and Information
  • http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars

• Past recorded presentations and slides can be found here:
  • http://mrcc.isws.illinois.edu/webinars.htm
  • http://www.hprcc.unl.edu/webinars.php

• There will be time for questions at the end
Agenda

• July 2015
• Current conditions
• Impacts
• El Niño
• Outlooks
Statewide Precipitation Ranks
July 2015
Period: 1895–2015

The map shows the precipitation ranks for July 2015 across the United States. Each state is color-coded to indicate its rank from driest to wettest:

- **Record Driest:** 1
- **Much Below Average:**
- **Below Average:**
- **Near Average:**
- **Above Average:**
- **Much Above Average:**
- **Record Wettest:** 121

The map uses different shades of colors to represent these categories, with darker colors indicating higher ranks. The map is accompanied by a legend and a note from the National Centers for Environmental Information, dated Wed Aug 5 2015.
30-Day Precipitation

Precipitation (in)
7/21/2015 - 8/19/2015

Percent of Normal Precipitation (%)
7/21/2015 - 8/19/2015
30-Day Temperature Departure

Departure from Normal Temperature (°F)
7/21/2015 – 8/19/2015

Generated 8/20/2015 at HPRCC using provisional data.
Regional Climate Centers
90-Day Precipitation

Precipitation (in)
5/22/2015 - 8/19/2015

Percent of Normal Precipitation (%)
5/22/2015 - 8/19/2015
Result of June Rains - Gulf of Mexico Hypoxia

NOAA press release: 6,500 square miles and 1,000 square miles above average
Result of Heavy Rains - Lake Erie Algae Bloom in August 2015

Source: http://earthobservatory.nasa.gov/
Days Suitable for Fieldwork - USDA

Days Suitable for Fieldwork
March 30 – August 16, 2015
(20 Weeks; 140 Possible Days)

Only states with fewer than 80 days are shown.

- MO: 44%
- OH: 49%
- IN: 49%
- IL: 52%
- IA: 56%

Secretarial Disaster Designations - CY 2015
Primary and Contiguous Counties Designated for 2015 Crop Disaster Losses

All Secretarial Designations as of August 19, 2015
Total All Crop Approved Designations
- State Boundary
- County Boundary
- Tribal Lands
- Primary Counties: 640
- Contiguous Counties: 375

USDA Farm Service Agency
Production, Emergencies and Compliance Division
Washington, D.C.
August 19, 2015

1:23,520,203

Alaska 1:58,102,399
Hawaii 1:19,740,053
Puerto Rico 1:5,592,808
Agriculture Issues

- Prevented Planting, especially soybeans
- Delayed planting
- Slow development
- Poor root development, limiting water and nutrient uptake
- Uneven yield within fields due to drainage
- Concern of a wet fall in areas where soils are unusually wet
- Concern of an early frost
And Yet ....

- 10% of Corn Crop rated poor to very poor
- US corn yield: 168.8 bu/acre, down 2.2 bu/acre from 2014
- 11% of Soybean Crop rated poor to very poor
- US soybean yield: 46.9 bu/acre, down 0.9 bu/acre from 2014
- Winter wheat yield: 43.2 bu/acre, up 0.6 from 2014
- Numbers from the August USDA report and posted in the *Weekly Weather and Crop Bulletin*
Stream Flow - USGS

http://waterdata.usgs.gov/nwis/rt
## Great Lakes Water Levels

<table>
<thead>
<tr>
<th>Lake</th>
<th>Departure from long-term average for August</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Superior</td>
<td>+6 inches</td>
</tr>
<tr>
<td>Lakes Michigan and Huron</td>
<td>+7 inches</td>
</tr>
<tr>
<td>Lake St. Clair</td>
<td>+15 inches</td>
</tr>
<tr>
<td>Lake Erie</td>
<td>+16 inches</td>
</tr>
<tr>
<td>Lake Ontario</td>
<td>+9 inches</td>
</tr>
</tbody>
</table>
Climate Outlooks

• 7-day precipitation forecast
• 6-10, 8-14 day outlook
• September
• Fall, Winter, Spring
• Drought Outlook

http://www.cpc.ncep.noaa.gov/
8-14 Day Forecast for Aug 27 – Sep 02, 2015

Temperature

Precipitation
El Niño

• Warmer waters in the eastern Pacific Ocean

• Life-cycle:
  • Starts spring/summer
  • Fully developed fall and winter
  • Fades by next spring/summer
Climate.gov – ENSO Blog

https://www.climate.gov/news-features/department/8443/all
El Niño

• El Niño – Ongoing
• >90 % chance of continuing this winter
• 85 % chance of staying next spring
Warm Episode Relationships

December - February

NWS/NCEP
CLIMATE PREDICTION CENTER
No two El Niño’s are the same - even strong events can differ. That is why we use phrases like “tendency”, “tilts the odds”, or “increases the chances”.

1997-98 El Niño, Warm Winter

2009-10 El Niño, Cold Winter
ENSO Forecast (CPC/IRI)
Forecast Plume for ENSO
September Outlook

Temperature

Precipitation

http://www.cpc.ncep.noaa.gov/
September - November Outlook

Temperature

Precipitation
December – February Outlook
March – May Outlook

Temperature

Precipitation
U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for August 20 - November 30, 2015
Released August 20, 2015

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:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center

http://go.usa.gov/hHTe
Summary – Current Conditions

• Frequent, heavy rains in spring and summer have had a negative impact on agriculture with prevented planting, delayed planting, shallow roots, etc.

• Increased spring runoff has produced water quality issues on Lake Erie and the Gulf of Mexico.
Summary - Forecast

• El Niño

• Fall – increased chance of cooler, wetter than average conditions in the southwest portion of the central US

• Winter – increased chance of warmer than average conditions across most of the central US. Potential dry areas centered on Montana and the Great Lakes.
Further Information - Partners

• **Today’s and Past Recorded Presentations and :**
  - [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 Climatic Data Center:** [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)

• **U.S. Drought Portal:** [www.drought.gov](http://www.drought.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**
  - [http://mrcc.isws.illinois.edu](http://mrcc.isws.illinois.edu)
  - [http://www.hprcc.unl.edu](http://www.hprcc.unl.edu)
Thank You and Questions?

• Questions:
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