General Information

• Providing climate services to the Central Region
  • Collaboration with Dennis Todey (USDA Climate Hub), Jim Angel (Illinois State Climatologist), Doug Kluck and Barb Mayes (NOAA), State Climatologists and the Midwest and High Plains Regional Climate Centers, NOAAs Climate Prediction Center, and the National Drought Mitigation Center

• Next Climate/Drought Outlook Webinar
  • December 15, 2016, Stuart Foster (Kentucky SC)

• 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.jsp
  • http://www.hprcc.unl.edu/webinars.php

• There will be time for questions at the end
Area of Interest
Agenda

Current conditions
Impacts
Outlooks
3rd Warmest October for US and World

http://www.ncdc.noaa.gov/sotc/
30 Day Precipitation

Accumulated Precipitation (in)

October 19, 2016 to November 17, 2016

http://mrcc.isws.Illinois.edu/
Wet July-August

Accumulated Precipitation (in): Departure from 1981-2010 Normals

July 01, 2016 to August 31, 2016
30-Day Snowfall

Accumulated Snowfall (in)

October 19, 2016 to November 17, 2016

(c) Midwestern Regional Climate Center
30 Day Temperature Departure

Average Temperature (°F): Departure from 1981-2010 Normals

October 19, 2016 to November 17, 2016

(c) Midwestern Regional Climate Center
Modeled Soil Moisture - NLDAS

http://www.emc.ncep.noaa.gov/mmb/nldas/drought/
Stream Flow - USGS

http://waterdata.usgs.gov/nwis/rt

November 15, 2016

The Missouri River Basin mountain snowpack normally peaks near April 15. On November 15, 2016 the mountain Snow Water Equivalent (SWE) in the “Total above Fort Peck” reach was 0.5”, 21% of average. The mountain SWE in the “Total Fort Peck to Garrison” reach was 0.8”, 32% of average. Normally by November 15, about 16% of the peak mountain SWE has occurred in both reaches.

*Generally considered the high and low year of the last 20-year period, respectively.

Provisional data. Subject to revision.
Platte River Basin - Mountain Snowpack Water Content
Water Year 2016-2017
November 14, 2016

The North and South Platte River Basin mountain snowpacks normally peak near April 15 and the end of April, respectively. As of November 13, 2016, the mountain snowpack SWE in the "Total North Platte" reach is currently 0.3", 12% of average. The mountain snowpack SWE in the "Total South Platte" reach is currently 0.2", 12% of average.

Source: USDA, Natural Resource Conservation Service

Provisional Data. Subject to Revision
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/
Climate Outlooks

• 7-day precipitation forecast
• 6-10, 8-14 day outlook
• December
• Winter, Spring, Summer
• Drought Outlooks
Forecast Precipitation Amounts (7 day)

http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml
Warmer than normal for this time of year – not absolute warmth
La Niña

• La Niña conditions are present and slightly favored to persist (~55% chance) through winter 2016-17.

Figure: https://www.climate.gov/news-features/department/enso-blog
Changes in the winter atmosphere during El Niño. NOAA Climate.gov image by Fiona Martin.
CPC/IRI ENSO Forecast

Early-Nov CPC/IRI Official Probabilistic ENSO Forecast

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: −0.5°C to 0.5°C

Probability (%)

Time Period

QND 2016 NDJ DJF JFM FMA MAM AMJ MJJ JJA 2017

http://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-cpc_plume
Forecast Plume for ENSO

Mid-Nov 2016 Plume of Model ENSO Predictions

Dynamical Model:
- NASA GMAO
- NCEP CFSv2
- JMA
- SCRIPPS
- LDEO
- AUS/POAMA
- ECMWF
- UKMO
- KMA SNU
- IOCAS ICM
- COLA CCSM4
- MetFRANCE
- CS-IRI-MM
- GFDL CM2.1
- CMC CANSIP
- GFDL FLOR

Statistical Model:
- CPC MRKOV
- CDC LIM
- CPC CA
- CPC CCA
- CSU CLIPR
- UBC NNET
- FSU REGR
- UCLA-TCD

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml
Caveats

• La Niña is not as well-defined as El Niño

• The impacts of La Niña are less clear than El Niño

• There are always other factors at play – Canadian and Siberian snow cover, reduced ice cover in the Arctic Ocean, ocean temperatures in other parts of the Pacific and Atlantic, overall warming due to climate change ...
December Outlook

Temperature

Precipitation

http://www.cpc.ncep.noaa.gov/
December - February Outlook

Temperature

Precipitation
March – May Outlook
June – August Outlook

Temperature

Precipitation
Summary – In Last 30 Days ...

• Temperatures were well above normal across the region (5-15 degrees above)
• Precipitation was below-normal across the region
• No widespread snow yet – but it’s early
• Late first fall freeze dates across region
• Warm soils
Summary - Forecast

• Winter
  • Increased chance of **below-normal** temperatures in upper Midwest/Plains
  • Increased chance of above-normal precipitation from MT to the Great Lakes

• Spring
  • Except for the northern state, increased chance of above-normal temperatures

• Summer
  • Increased chance of above-normal temperatures
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)


- 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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