NOAA and Partners Midwest and Great Plains Drought Update Webinar

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National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

NOAA Webinar Series, December 20, 2012
General Information

* Providing climate services to the Central Region
  * Collaboration with Dennis Todey (South Dakota 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: January 17, 2013
* Access to Climate/Drought Webinars and information
  * [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)

* Operator Assistance for questions at the end
Agenda

- Current Conditions
- Outlooks
- Drought Impacts
- Questions/Comments
June-November Rankings

June-November 2012 Statewide Ranks
National Climatic Data Center/NESDIS/NOAA

Precipitation

1 = Driest
118 = Wettest

Temperature

1 = Coldest
118 = Warmest

Record Driest
Much Below Normal
Below Normal
Near Normal
Above Normal
Much Above Normal
Record Wettest

Record Coldest
Much Below Normal
Below Normal
Near Normal
Above Normal
Much Above Normal
Record Warmest
June-November Rankings

Jun - Nov 2012
National Climatic Data Center/NCDC/NOAA

Precipitation

Record Driest
Much Below Normal
Below Normal
Near Normal
Above Normal
Much Above Normal
Record Wettest
November Data

**November 2012 Statewide Ranks**

**Temperature**
- 1 = Coldest
- 118 = Warmest

**Precipitation**
- 1 = Driest
- 118 = Wettest
Last 30 Days (ACIS)

Precipitation (in)
11/20/2012 – 12/19/2012

Departure from Normal Temperature (F)
11/20/2012 – 12/19/2012

Generated 12/20/2012 at HPRDC using provisional data.
Last 30 Days (ACIS)

30 Day SPI
11/20/2012 - 12/19/2012

Generated 12/20/2012 at HPRCC using provisional data.
12 Month Departure from Normal

Departure from Normal Precipitation (in)
12/20/2011 - 12/19/2012

Generated 12/20/2012 at HPRCC using provisional data.
Fall Recharge

Precipitation (in)  
9/21/2012 – 12/19/2012

Precipitation (in)  
9/21/2012 – 12/19/2012

Generated 12/20/2012 at HPRCC using provisional data.
Current Soil Moisture

Ensemble-Mean – Current Total Column Soil Moisture Percentile
NCEP NLDAS Products Valid: DEC 15, 2012

NOAA/NCEP/EMC
Current Snow Cover
### Conditions for the U.S., including Alaska, Hawaii and Puerto Rico

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
<th>D4</th>
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</thead>
<tbody>
<tr>
<td>One Year Ago</td>
<td>12/13/11</td>
<td>64.07</td>
<td>35.93</td>
<td>23.52</td>
<td>17.47</td>
<td>10.75</td>
<td>3.83</td>
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<tr>
<td>Start of Water Year</td>
<td>09/25/12</td>
<td>31.11</td>
<td>68.89</td>
<td>54.77</td>
<td>35.24</td>
<td>17.97</td>
<td>5.12</td>
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<td>Start of Calendar Year</td>
<td>12/27/11</td>
<td>58.88</td>
<td>41.12</td>
<td>23.89</td>
<td>15.88</td>
<td>8.37</td>
<td>2.76</td>
</tr>
<tr>
<td>3 Months Ago</td>
<td>09/18/12</td>
<td>29.80</td>
<td>70.20</td>
<td>54.25</td>
<td>34.35</td>
<td>17.35</td>
<td>4.98</td>
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<tr>
<td>Last Week</td>
<td>12/11/12</td>
<td>30.57</td>
<td>69.43</td>
<td>51.82</td>
<td>35.62</td>
<td>17.62</td>
<td>5.43</td>
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<tr>
<td>Current</td>
<td>12/18/12</td>
<td>30.66</td>
<td>69.34</td>
<td>51.74</td>
<td>35.56</td>
<td>18.12</td>
<td>5.54</td>
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</tbody>
</table>

### Conditions for the Contiguous U.S.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Year Ago</td>
<td>12/13/11</td>
<td>57.13</td>
<td>42.87</td>
<td>28.04</td>
<td>20.85</td>
<td>12.86</td>
<td>4.59</td>
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<tr>
<td>Start of Water Year</td>
<td>09/25/12</td>
<td>23.41</td>
<td>76.59</td>
<td>65.45</td>
<td>42.12</td>
<td>21.48</td>
<td>6.12</td>
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<tr>
<td>Start of Calendar Year</td>
<td>12/27/11</td>
<td>50.89</td>
<td>49.11</td>
<td>28.49</td>
<td>18.95</td>
<td>10.01</td>
<td>3.31</td>
</tr>
<tr>
<td>3 Months Ago</td>
<td>09/18/12</td>
<td>21.85</td>
<td>78.15</td>
<td>64.82</td>
<td>41.07</td>
<td>20.74</td>
<td>5.96</td>
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<tr>
<td>Last Week</td>
<td>12/11/12</td>
<td>26.12</td>
<td>73.88</td>
<td>61.87</td>
<td>42.59</td>
<td>21.07</td>
<td>6.49</td>
</tr>
<tr>
<td>Current</td>
<td>12/18/12</td>
<td>26.21</td>
<td>73.79</td>
<td>61.79</td>
<td>42.51</td>
<td>21.67</td>
<td>6.64</td>
</tr>
</tbody>
</table>
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu
CPC 8-14-Day Outlooks
U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for December 20, 2012 - March 31, 2013
Released December 20, 2012

KEY:
- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events such as individual storms cannot be accurately forecast more than a few days in advance. Use caution for applications such as crops that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.
Hydrologic Impacts

MISSISSIPPI RIVER AT ST. LOUIS
Universal Time (UTC)

Latest observed value: -3.36 ft at 1:30 PM CST 18-Dec-2012. Flood Stage is 30 ft

Low Flow: -6.2

Site Time (CST)

Graph Created (1:46PM Dec 18, 2012)  Observed  Forecast (issued 10:17AM Dec 18)

EADM7(plotting HGRG) "Gage 0" Datum: 379.94'

Observations courtesy of US Geological Survey
Low Water Records for Mississippi River at St. Louis

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Water Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01/16/1940</td>
<td>-6.20 ft.</td>
</tr>
<tr>
<td>2</td>
<td>01/26/1963</td>
<td>-5.70 ft.</td>
</tr>
<tr>
<td>2</td>
<td>01/15/2013</td>
<td>-5.70 ft. (forecast)</td>
</tr>
<tr>
<td>3</td>
<td>01/01/1964</td>
<td>-5.60 ft.</td>
</tr>
<tr>
<td>4</td>
<td>12/26/1989</td>
<td>-5.32 ft.</td>
</tr>
<tr>
<td>5</td>
<td>12/12/1937</td>
<td>-5.00 ft.</td>
</tr>
<tr>
<td>6</td>
<td>12/29/1933</td>
<td>-4.60 ft.</td>
</tr>
<tr>
<td>7</td>
<td>01/16/2003</td>
<td>-4.50 ft.</td>
</tr>
<tr>
<td>8</td>
<td>01/01/1990</td>
<td>-3.80 ft.</td>
</tr>
<tr>
<td>10</td>
<td>12/18/1988</td>
<td>-3.20 ft.</td>
</tr>
</tbody>
</table>

* Pre Regulation values prior to 1967
Mississippi River (N. of Memphis) Precipitation
January - November, 1895 - 2012

Yearly Values
Filtered Values
Long-Term Mean

National Climatic Data Center / NESDIS / NOAA
The U.S. Army Corps of Engineers St. Louis District began increasing releases from Carlyle Lake yesterday (12/19/12) in support of safe navigation on the Mississippi River.
Missouri River Basin

The Missouri River basin mountain snowpack normally peaks near April 15. By December 15, normally 34% of the peak has accumulated. On December 18, 2012 the mountain snowpack SWE in the “Total above Fort Peck” reach is currently 6.6”, 115% of average. The mountain snowpack SWE in the “Total Fort Peck to Garrison” reach is currently 5.4”, 103% of average.

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

Provisional data. Subject to revision.
Missouri River Basin Precipitation
January - November, 1895 - 2012

National Climatic Data Center / NESDIS / NOAA
Missouri River Basin
2012 Runoff Forecast above Sioux City*

December 1 Forecast of Annual Runoff = 19.7 MAF
Historic Annual Runoff Average = 24.8 MAF

* Forecast as of December 1, 2012
Summary

- Drought conditions will persist through the region over the next 3 months.
- As we go into winter, hydrologic impacts will continue.
- Near record low flows will continue on the Missouri and Mississippi Rivers.
- No indications in the seasonal forecasts of any significant pattern changes through the winter.
Further Information

Today’s Recorded Presentation:

- [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 Monitor: [www.droughtmonitor.unl.edu](http://www.droughtmonitor.unl.edu)

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

- Drought Impact Reporter: [www.droughtreporter.unl.edu](http://www.droughtreporter.unl.edu)

- NIDIS Drought Portal: [www.drought.gov](http://www.drought.gov)

- 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)
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