

# 2010 Flood Outlook

**2010 UMIMRA Conference**  
**Jim Stiman P.E.**  
**Rock Island District**  
**UASCE**



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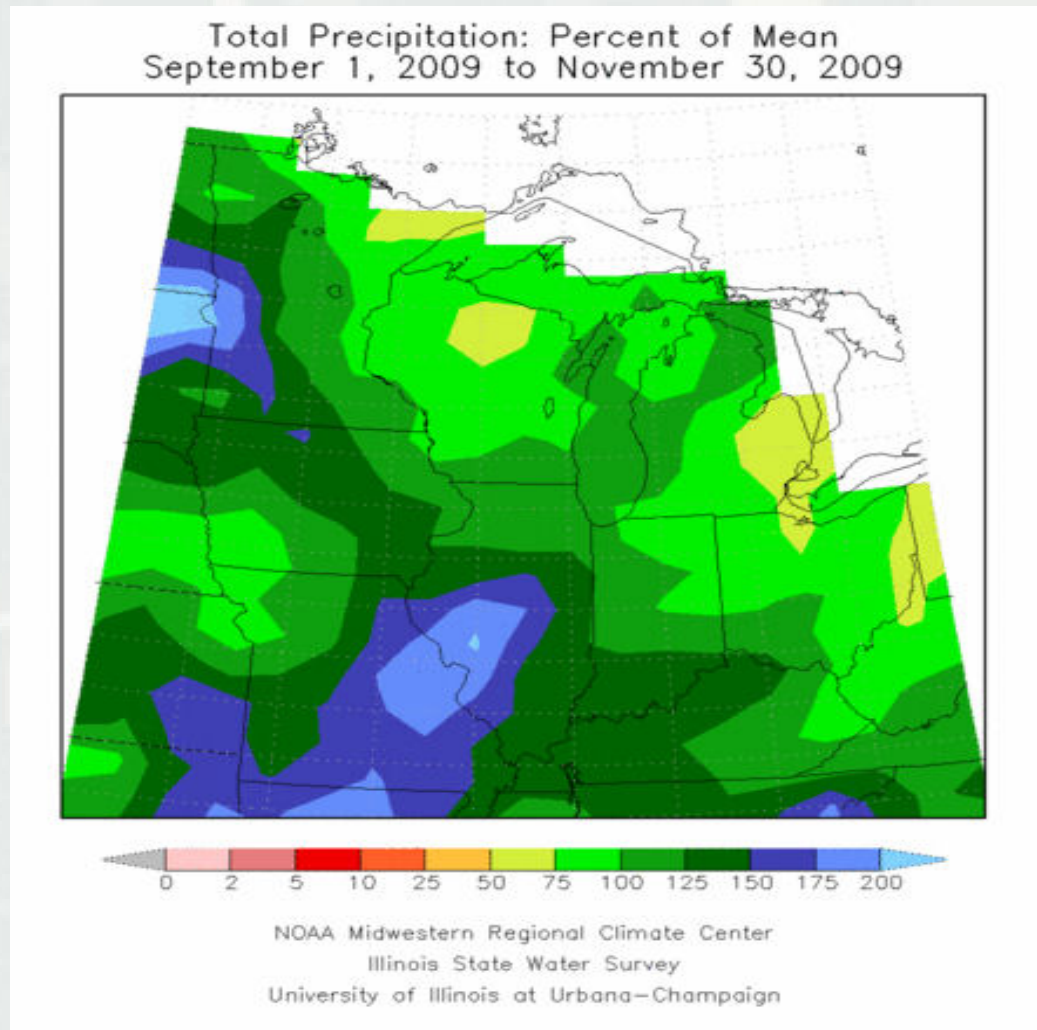
# PARAMETERS RELATED TO FLOOD PROBABILITY

## Parameter

- Antecedent Conditions
- Soil Moisture
- Streamflow
- Snowfall & Water Content
- Frost Depth
- Climate Indicators



# Fall Precipitation 2009

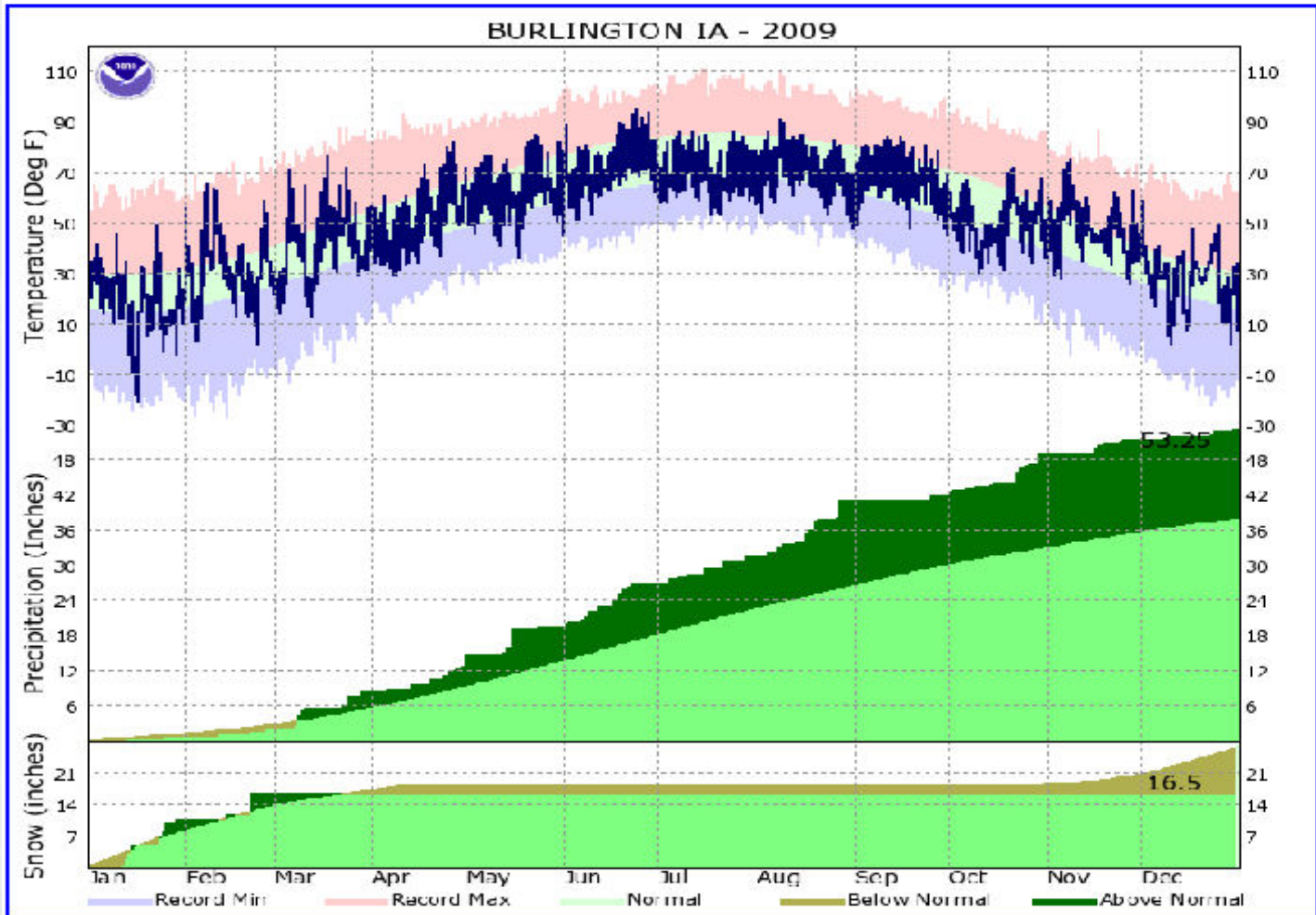


Previous Year

# Burlington 2009 Climate Graph

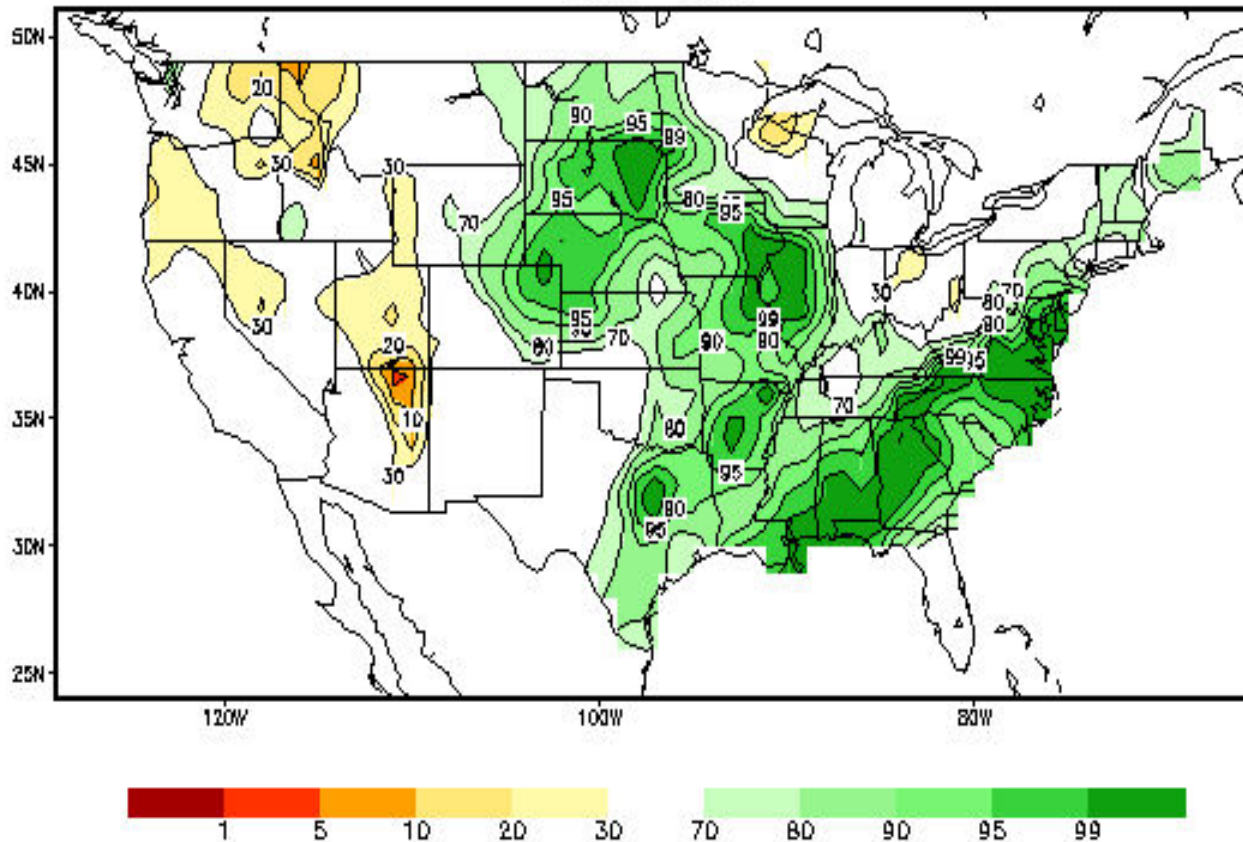
Next Year

Click on the [Monthly Graphs](#) for Daily Observations, Normals & Records Data



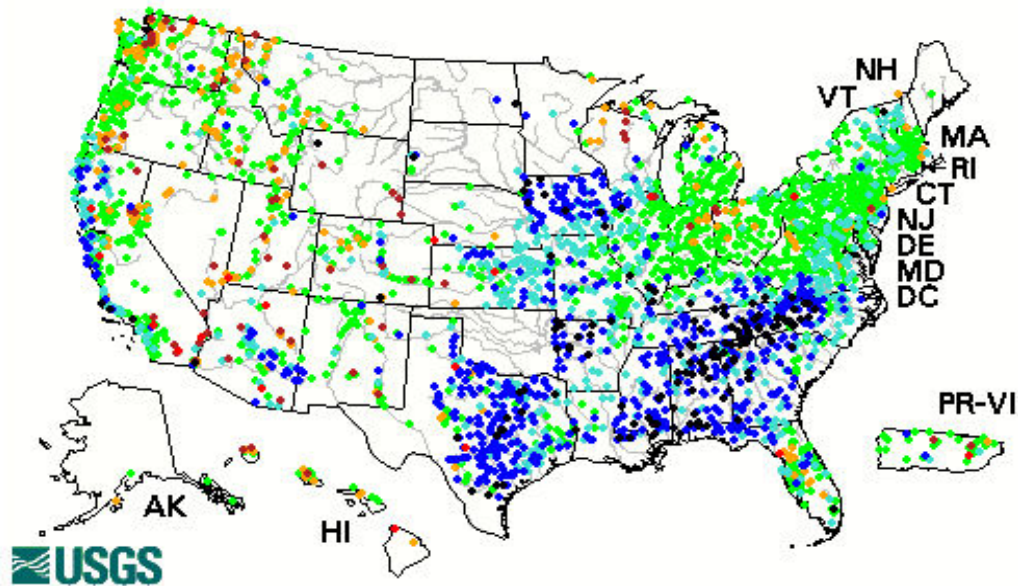
# Soil Moisture

Calculated Soil Moisture Ranking Percentile  
JAN, 2010



# Daily Streamflow Conditions

Friday, February 05, 2010 15:30ET



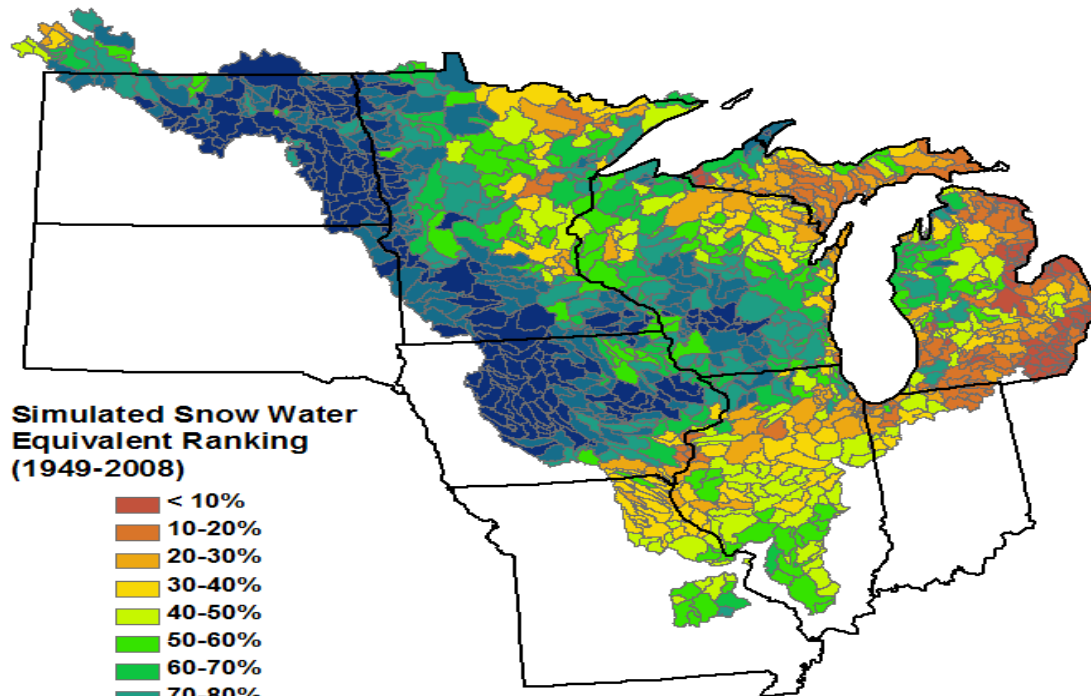
## Explanation

- High
- $\geq 90$ th percentile
- 75th - 89th percentile
- 25th - 74th percentile
- 10th - 24th percentile
- $< 10$ th percentile
- Low
- Not ranked

The colored dots on this map depict streamflow conditions as a percentile, which is computed from the period of record for the current day of the year. Only stations with at least 30 years of record are used.

The **gray circles** indicate other stations that were not ranked in percentiles either because they have fewer than 30 years of record or because they report parameters other than streamflow. Some stations, for example, measure stage only.





**Simulated Snow Water  
Equivalent Ranking  
(1949-2008)**

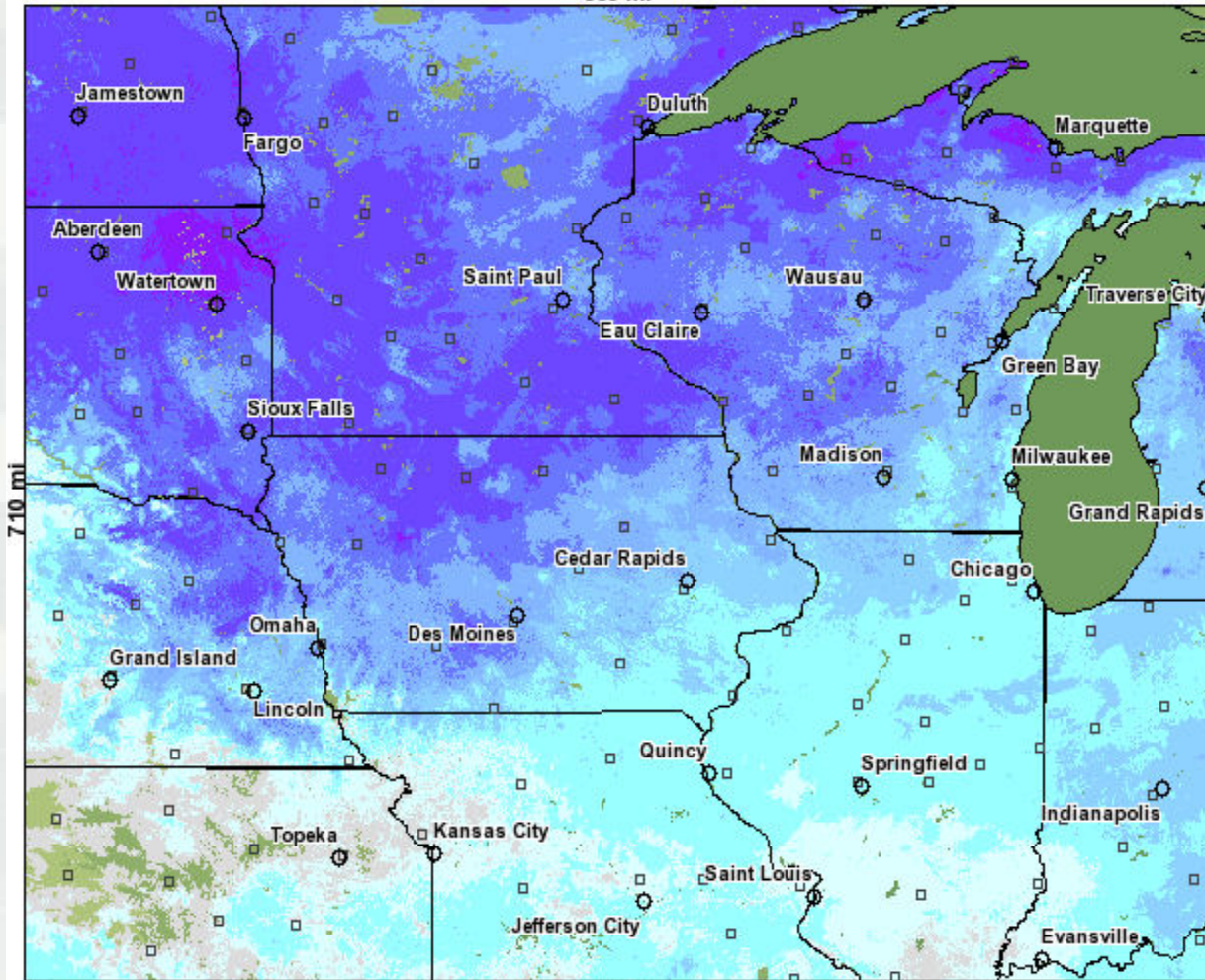
- < 10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- > 90%



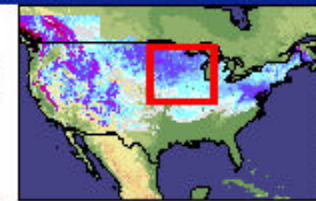
# Snow Depth -11 Feb 2010

Modeled Total Snow Depth (Hourly) for 2010 February 11, 12:00 Z

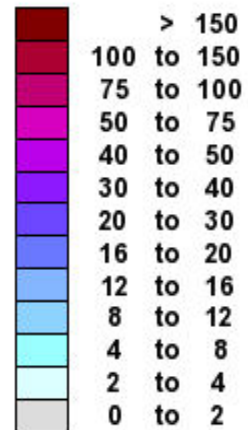
635 mi



751 mi

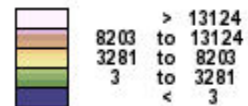


Inches of depth



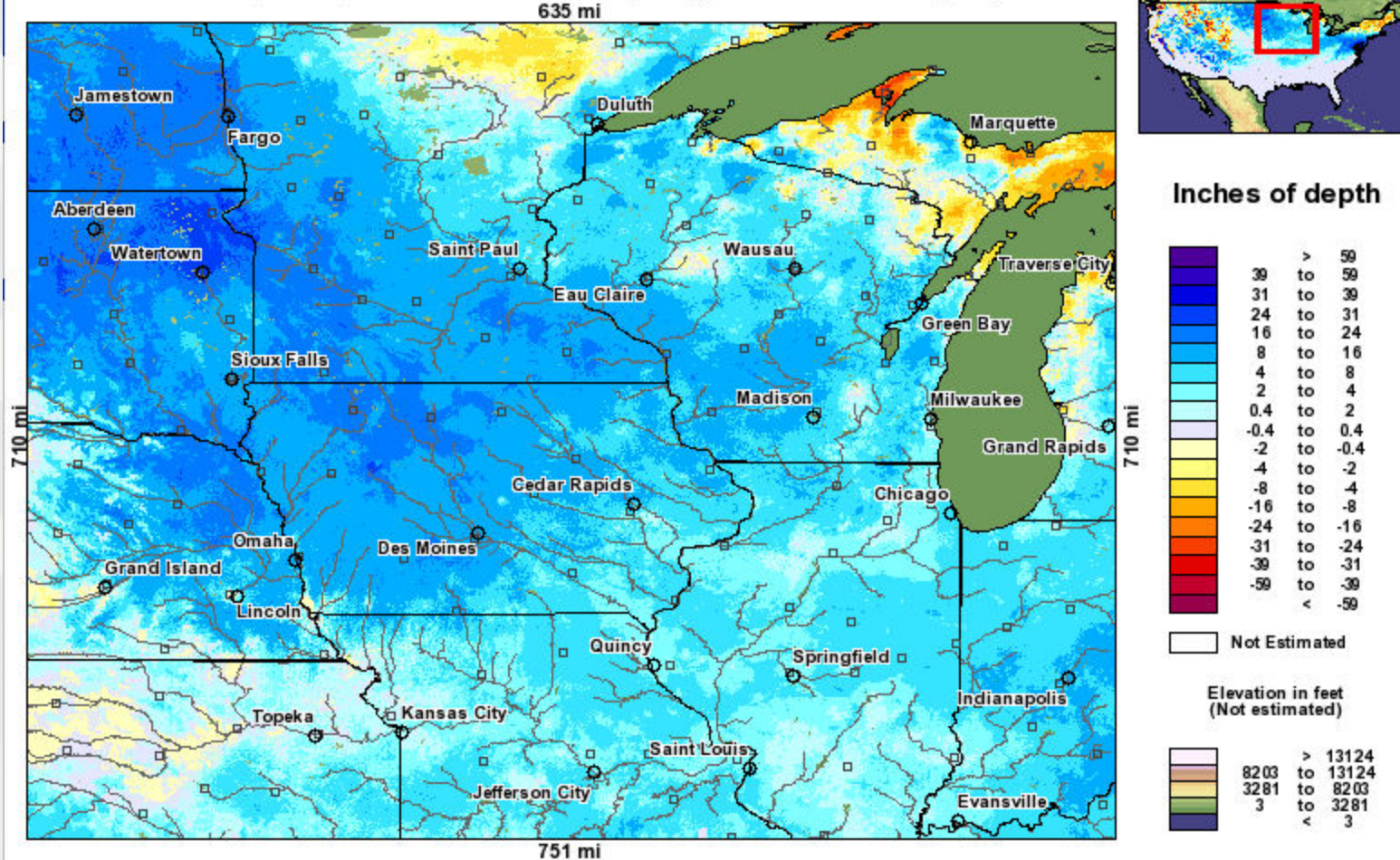
Not Estimated

Elevation in feet  
(Not estimated)



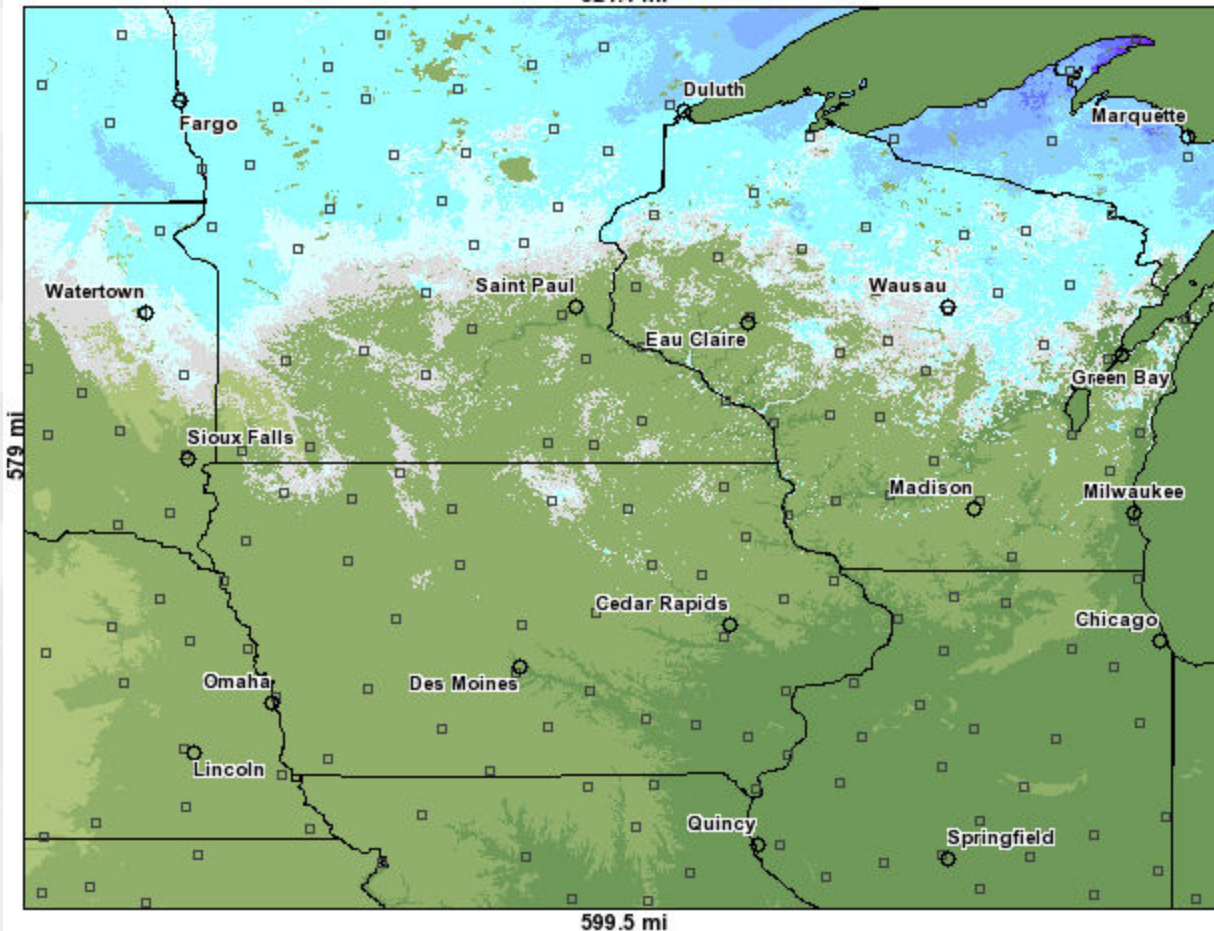
# Snow Depth Departure -11 Feb 2010

Modeled Snow Depth Departure from Normal (Daily) for 2010 February 11, 6:00 Z

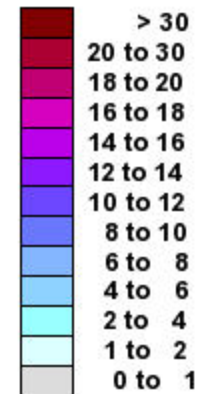


# Snow Water Equivalent -11 Feb 2009

Modeled Snow Water Equivalent (Hourly) for 2009 February 11, 6:00 Z  
521.4 mi



Inches of water equivalent



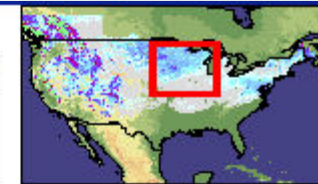
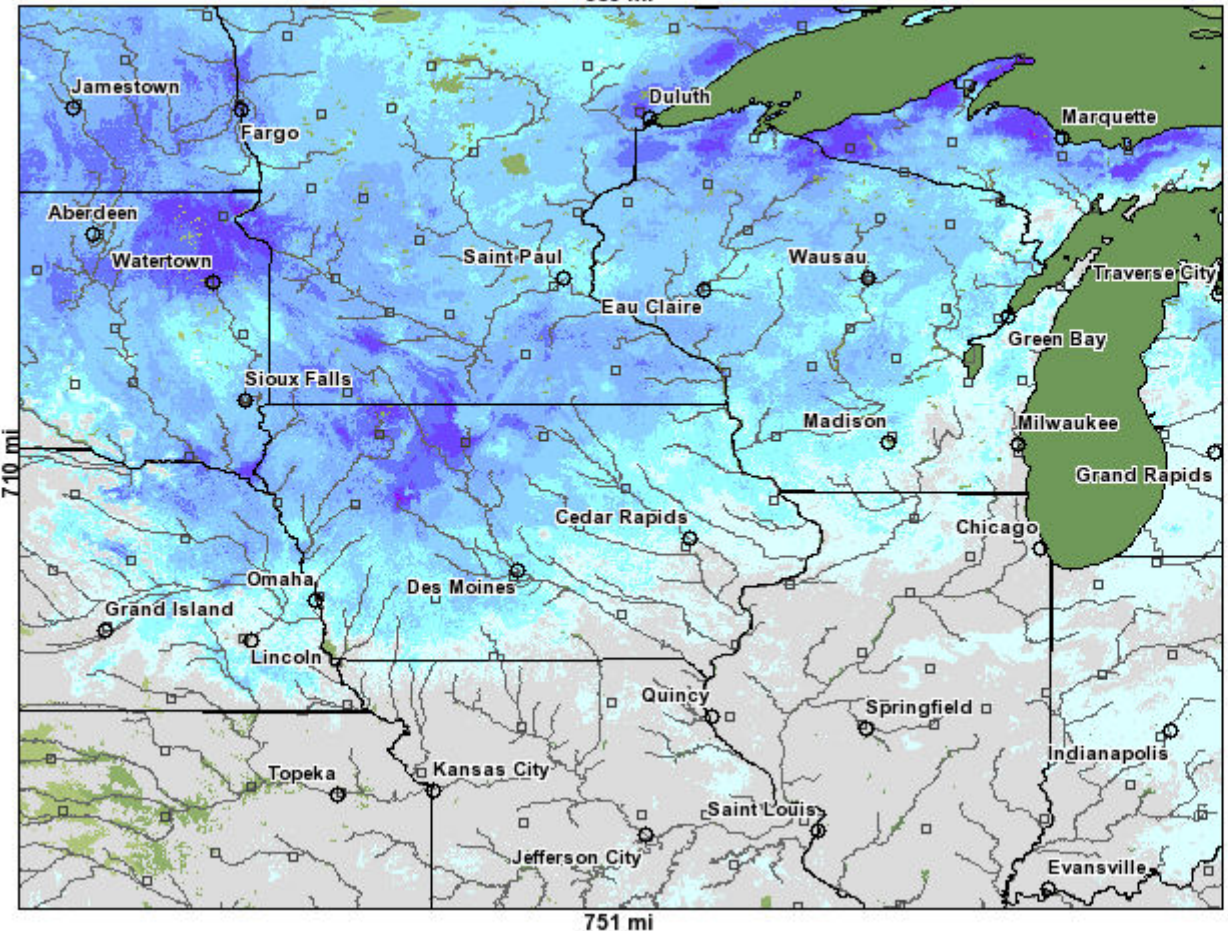
Not Estimated

Elevation in feet  
(Not estimated)

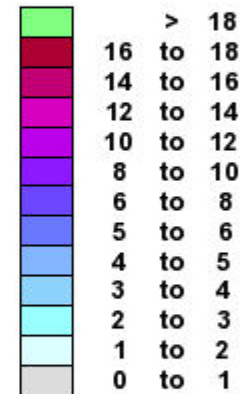


# Snow Water Equivalent -11 Feb 2010

Modeled Snow Water Equivalent (Shallow-snow Legend, Hourly) for 2010 February 11, 6:00 Z  
635 mi

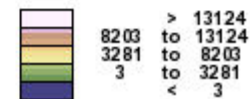


Inches of water equivalent

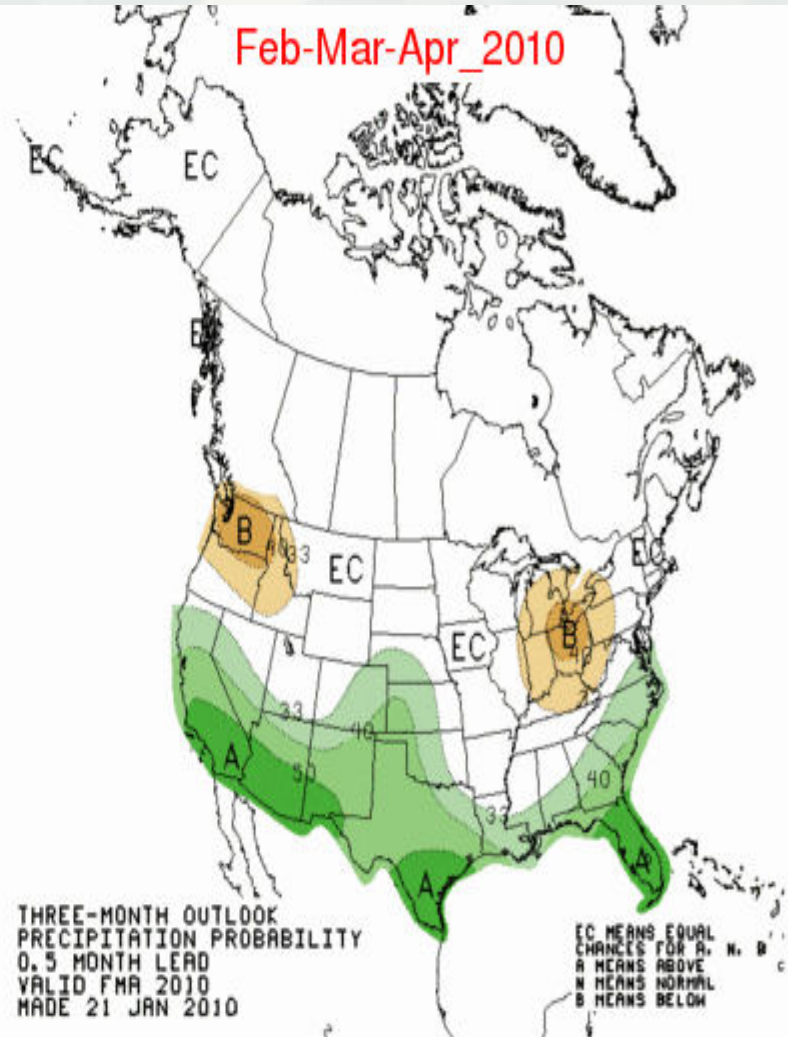
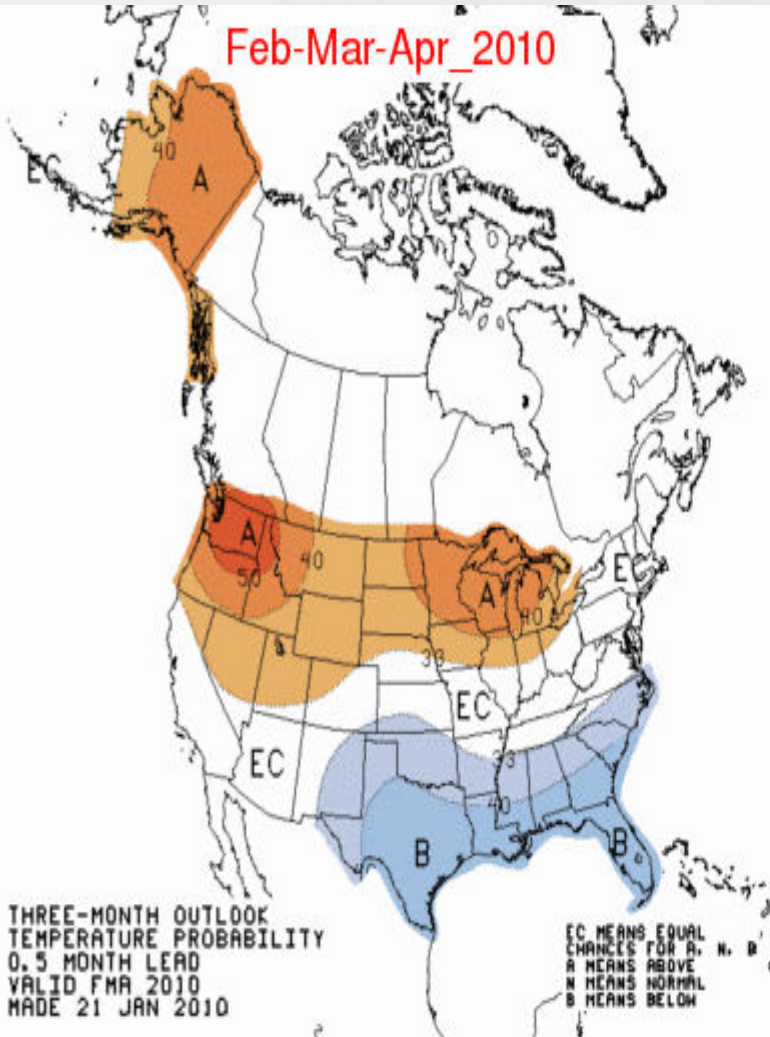


Not Estimated

Elevation in feet (Not estimated)



# 3-Month Climate Outlook



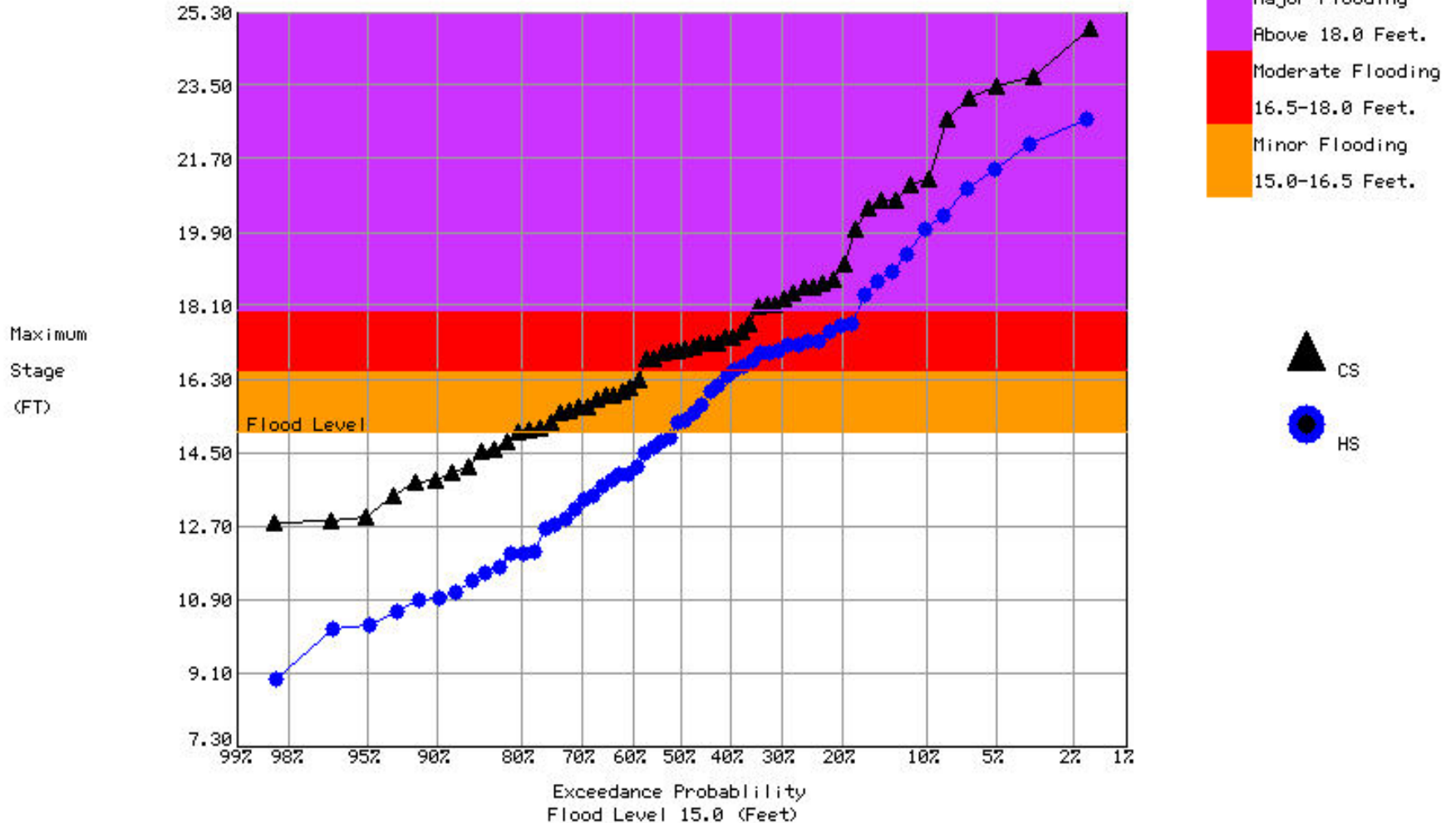
# 90-day Probabilistic Outlook

Chances of Exceeding River Levels on the Mississippi River at Burlington

Latitude: 40.8 Longitude: 91.1

Forecast for the period 2/1/2010 - 5/2/2010

This is a conditional simulation based on the current conditions as of 1/25/2010



# NWS Probabilities of Flooding

<b>MISSISSIPPI RIVER</b>	<b>F.S.</b>	<b>MINOR</b>	<b>NORM</b>	<b>MAJOR</b>	<b>NORM</b>
➤ <b>Dubuque</b>	<b>17.0</b>	<b>67%</b>	<b>48%</b>	<b>18%</b>	<b>18%</b>
➤ <b>Quad Cities</b>	<b>15.0</b>	<b>72%</b>	<b>50%</b>	<b>26%</b>	<b>20%</b>
➤ <b>Burlington</b>	<b>15.0</b>	<b>78%</b>	<b>51%</b>	<b>34%</b>	<b>18%</b>
➤ <b>Quincy</b>	<b>17.0</b>	<b>85%</b>	<b>52%</b>	<b>38%</b>	<b>20%</b>
➤ <b>Clarksville</b>	<b>25.0</b>	<b>92%</b>	<b>65%</b>	<b>25%</b>	<b>10%</b>
➤ <b>Winfield</b>	<b>26.0</b>	<b>85%</b>	<b>54%</b>	<b>18%</b>	<b>8%</b>






Water Levels By:

[RiverGages Mirror Site](#)  
[National Weather](#)  
[Service Products](#)  
[Privacy & Security](#)



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## RAINFALL-RIVER FORECASTING SUMMIT REPORTS/PRESENTATIONS

- St. Louis Summit October 2008 Report

### St. Paul Summit Presentations

- St. Paul Summit October 2009 Agenda
- Rainfall River Forecasting: Overview of NOAA's Role, Responsibilities, and Services
- The USGS Streamgaging and Rainfall-River Forecasting System Improvements
- USACE - Rainfall-River

## *Tri-Agency Fusion Cell*

### Mission Statement

The Fusion Cell mission is to collaboratively develop a process for improving the accuracy of rainfall/river forecasts within the Mississippi River Basin utilizing the expertise and experience of the cell's member agencies. The Fusion Cell is comprised of representatives from the National Weather Service, US Geological Survey and the US Army Corps of Engineers. The Fusion Cell will produce a report to address the current status of the rainfall and river forecasting within the Mississippi Valley (including tributaries) and develop a plan for improvements that can be made given the current science, manpower and level of funding. The ultimate goal is to optimize the accuracy and utility of the forecasts provided to the Public in accordance with all applicable regulations.



*Melvin Price Locks and Dam, opened in 1994*