

# RFC Short Term Ensemble Workshop

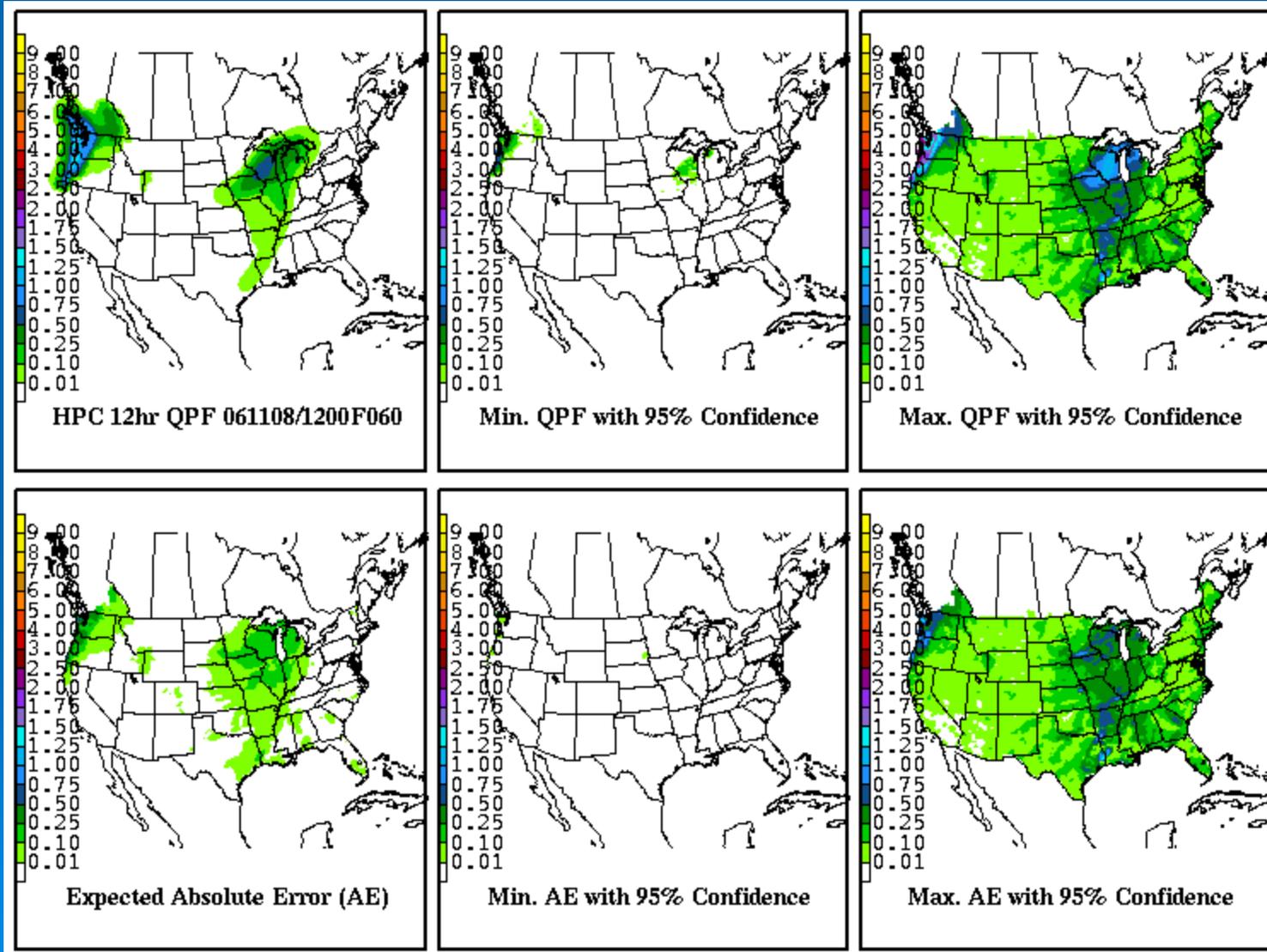
Nov. 28 – 30, 2006

Mike DeWeese

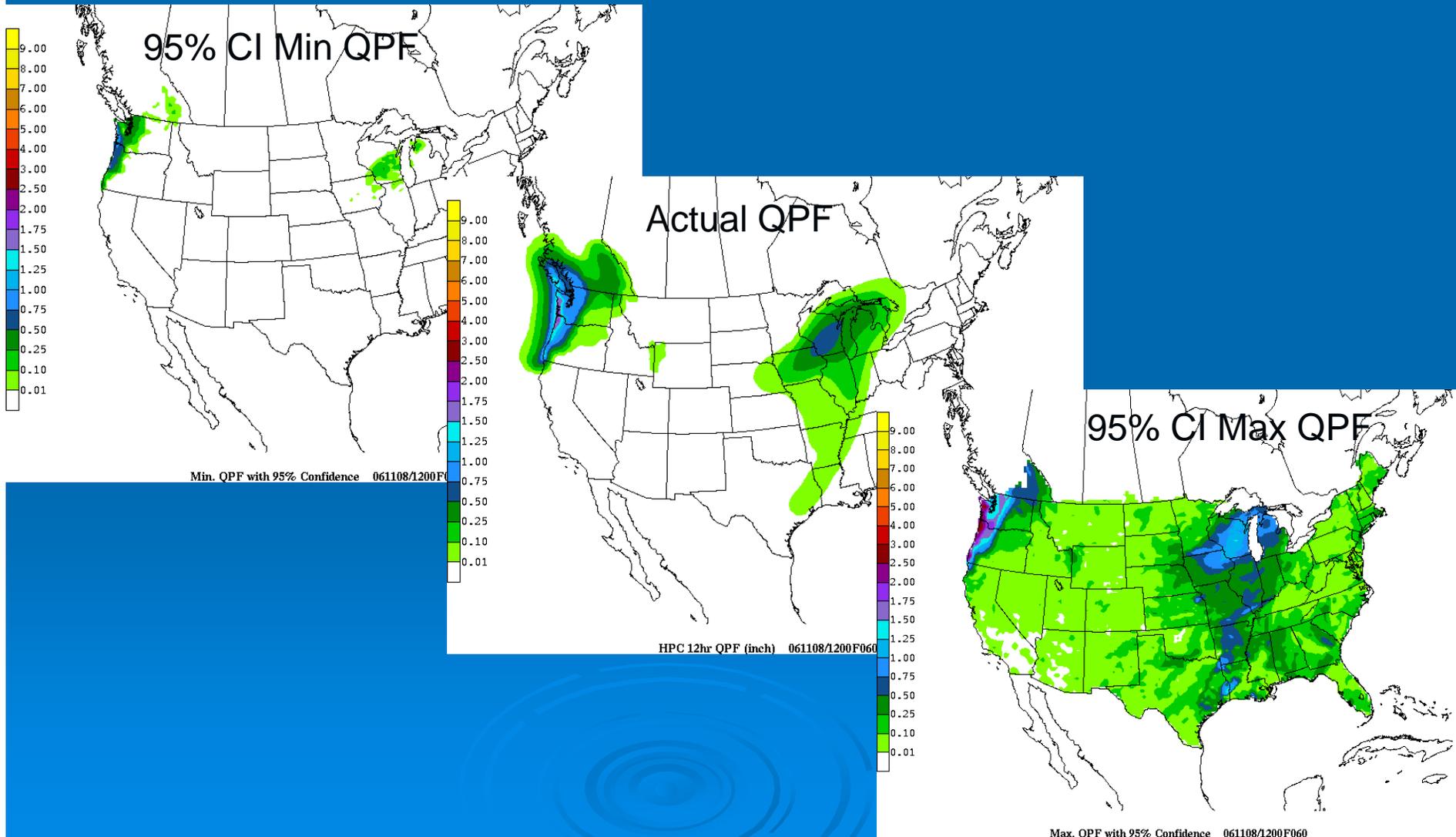
NCRFC



# HPC Experimental QPF Products



# Three QPF Scenarios Used at NCRFC

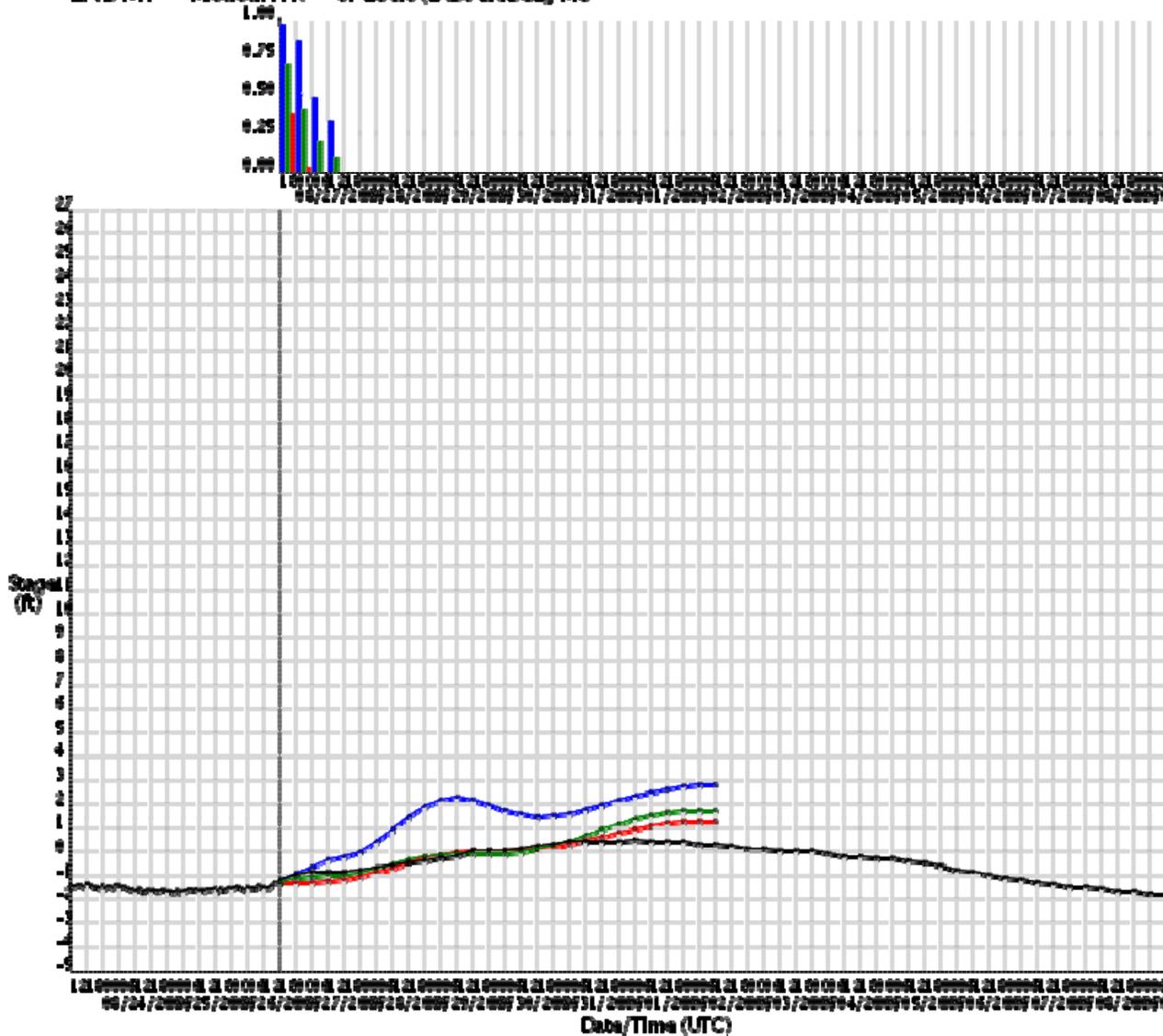


# 4 Member Ensemble

EADM7 MISSISSIPPI R — ST LOUIS (EADS BRIDGE), MO

Flood Stage = 30 ft.  
RS = 28 ft.

Creation Date: 09/26/2006 19:15 UTC



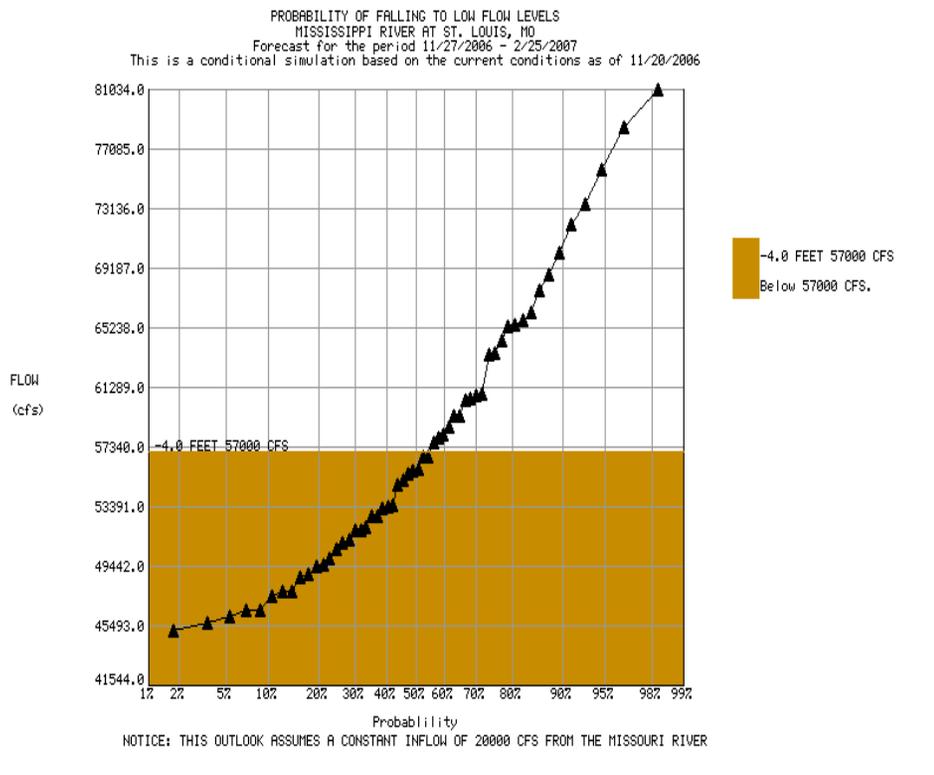
# Mississippi River at St. Louis 2006

- Drought conditions persist in Minnesota headwaters
- St. Louis is critical point for navigation industry
- Levels are already critically low early in the season
- NCRFC/COE conducting daily coordination for low flow forecasts
- Ongoing low flow forecast scrutiny equal to major flooding events

# Mississippi River at St. Louis 2006

- NCRFC Short Term ensemble forecast was very well received by COE Division Headquarters
- FACT: Short Term Ensemble Forecasts are desperately needed nationwide
- Users need a seamless suite of information products from short to long term

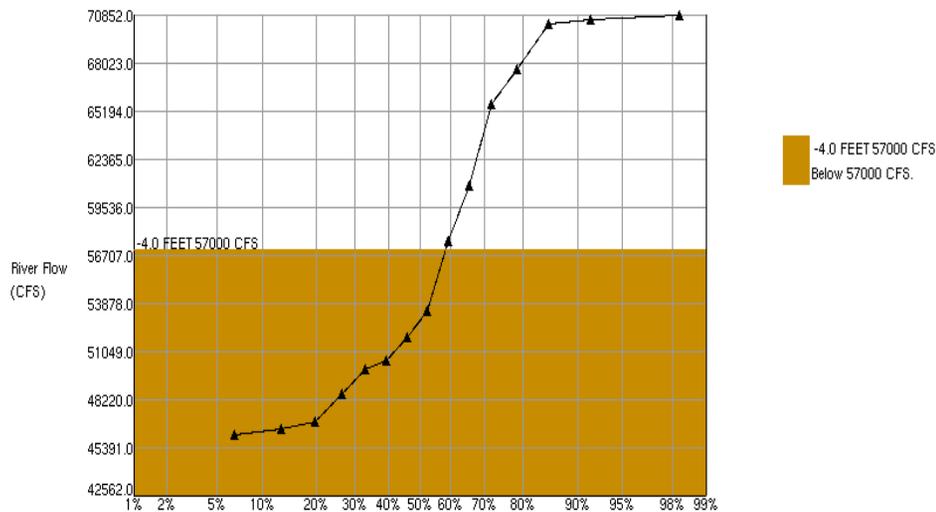
# St. Louis Contingency Outlooks Requested by COE



- -2.0 feet is critical level for navigation
- -4.0 feet is near record minimum stage
- Based on continuing minimum flows in Missouri River

# St. Louis Contingency Outlooks Requested by COE

PROBABILITY OF FALLING TO LOW FLOW LEVELS - EL NINO EVENTS  
MISSISSIPPI RIVER AT ST. LOUIS, MO  
Forecast for the period 11/25/2006 - 2/25/2007  
This is a conditional simulation based on the current conditions as of 11/20/2006

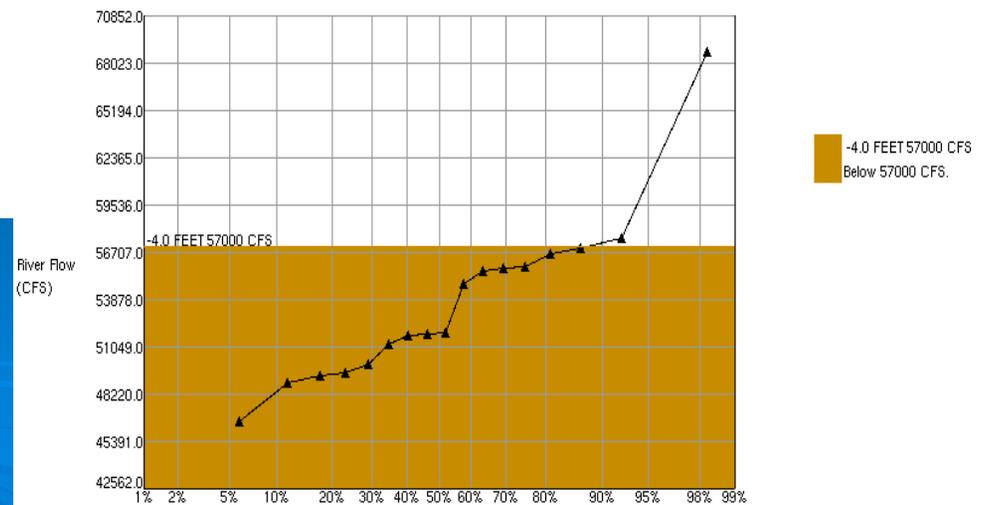


NOTICE: THIS OUTLOOK ASSUMES A CONSTANT INFLOW OF 20000 CFS FROM THE MISSOURI RIVER

## El Nino Events

## Ice Events

PROBABILITY OF FALLING TO LOW FLOW LEVELS - "ICE BITE" EVENTS  
MISSISSIPPI RIVER AT ST. LOUIS, MO  
Forecast for the period 11/25/2006 - 2/25/2007  
This is a conditional simulation based on the current conditions as of 11/20/2006



NOTICE: THIS OUTLOOK ASSUMES A CONSTANT INFLOW OF 20000 CFS FROM THE MISSOURI RIVER

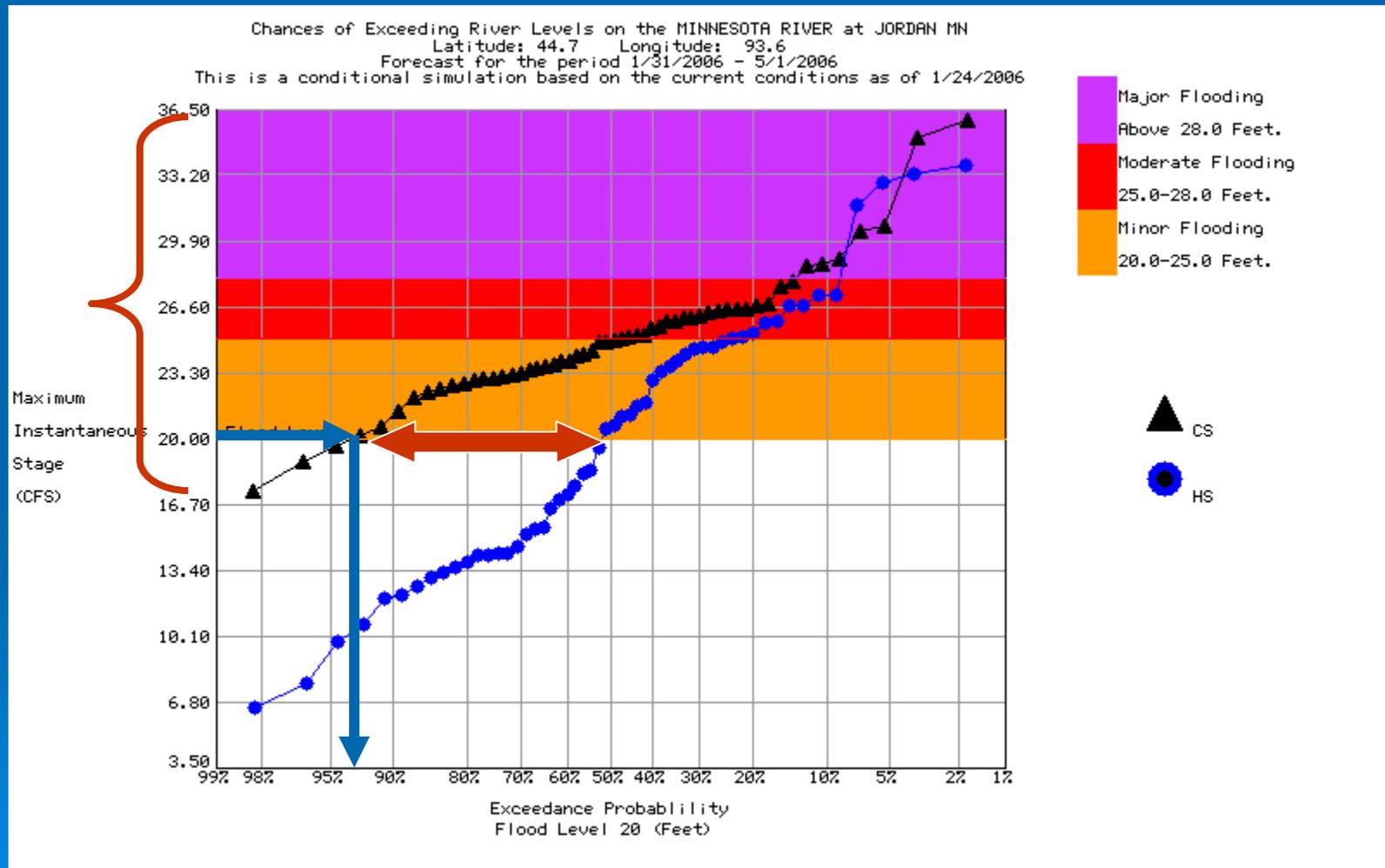
# REVIEW:

## Spring 2006 Outlooks

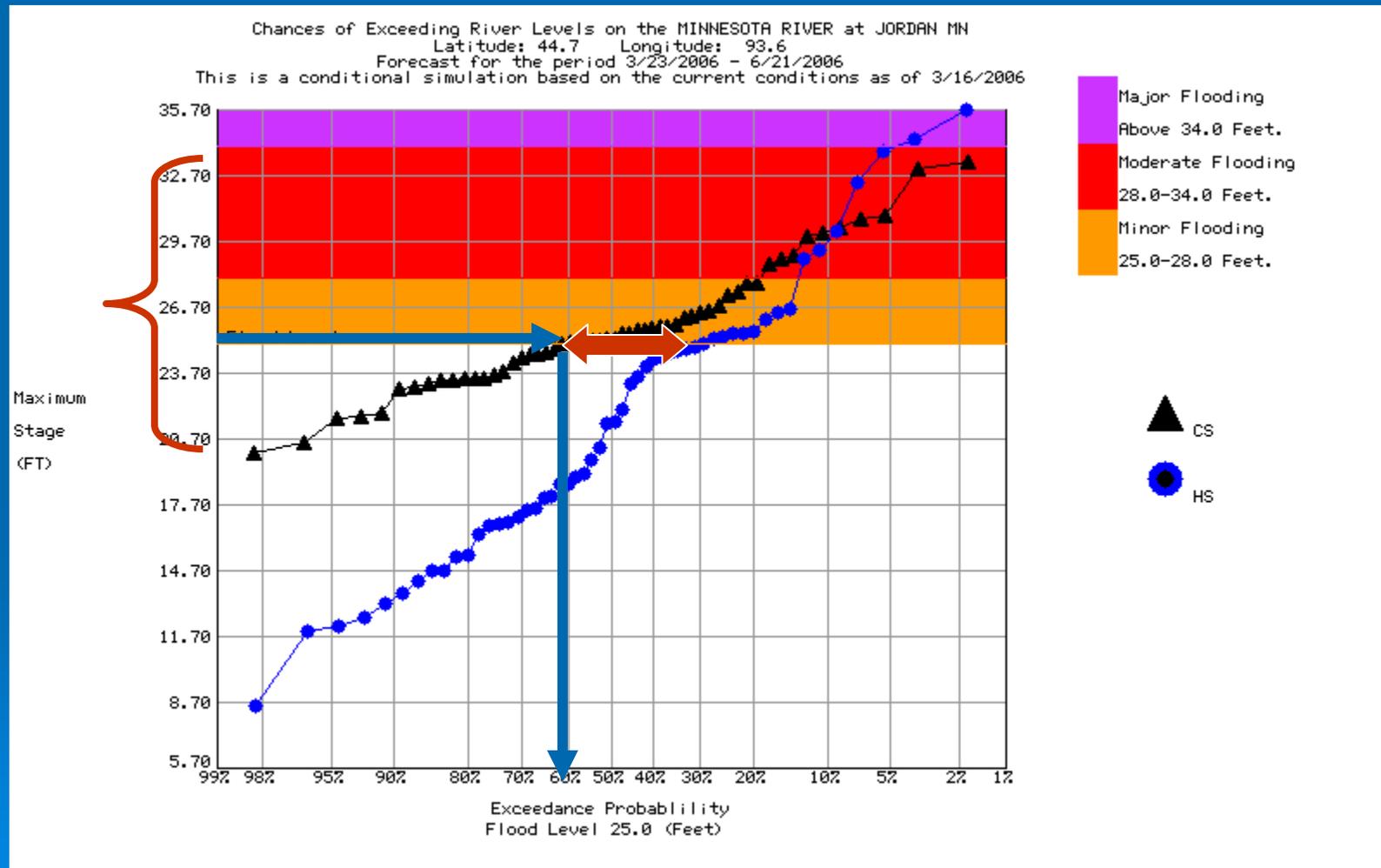
### Compare and Contrast

- Major Flooding Indicated in Red River of the North
- Minor to Moderate Flooding Indicated in Minnesota River

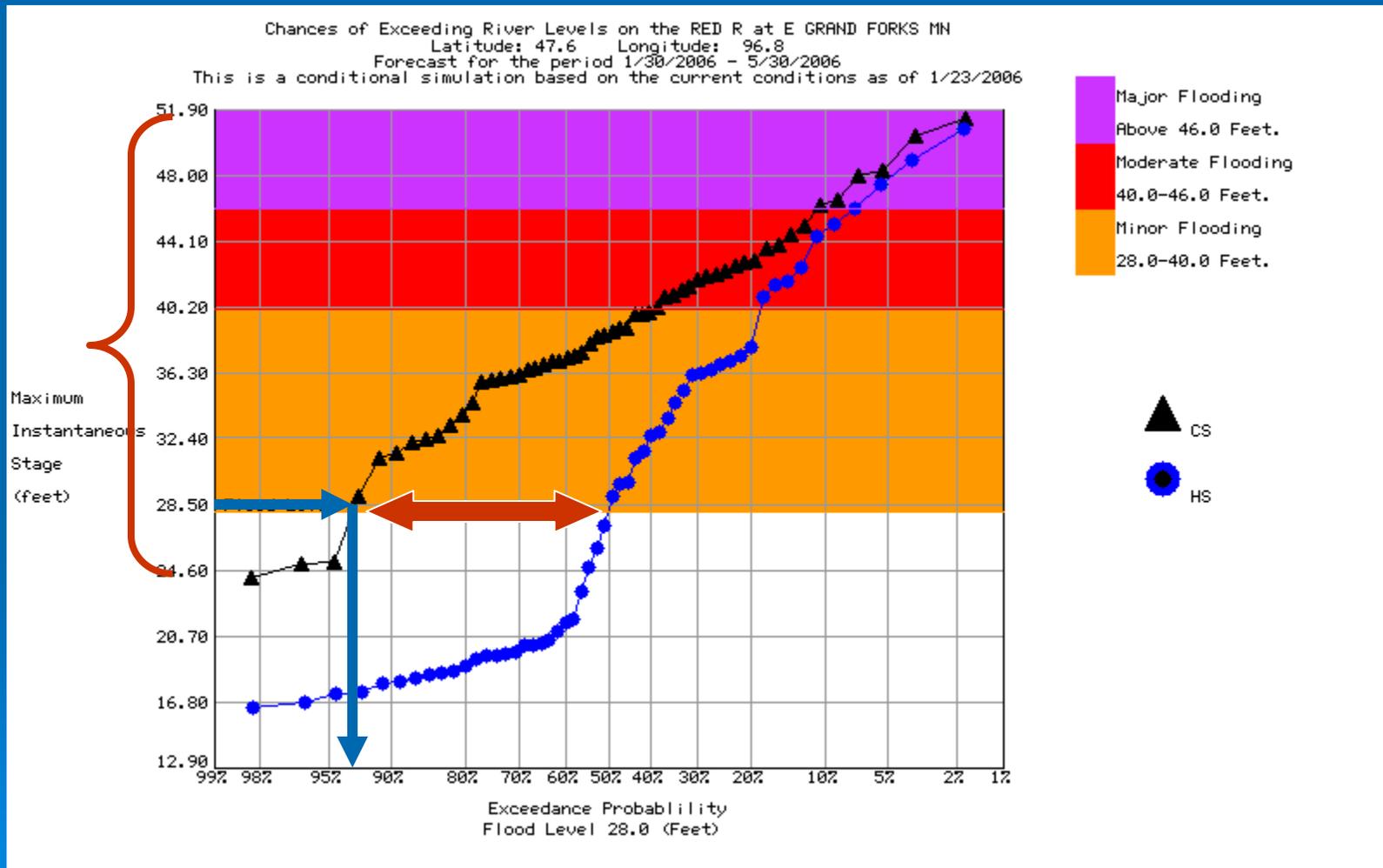
# January Forecast - Jordan



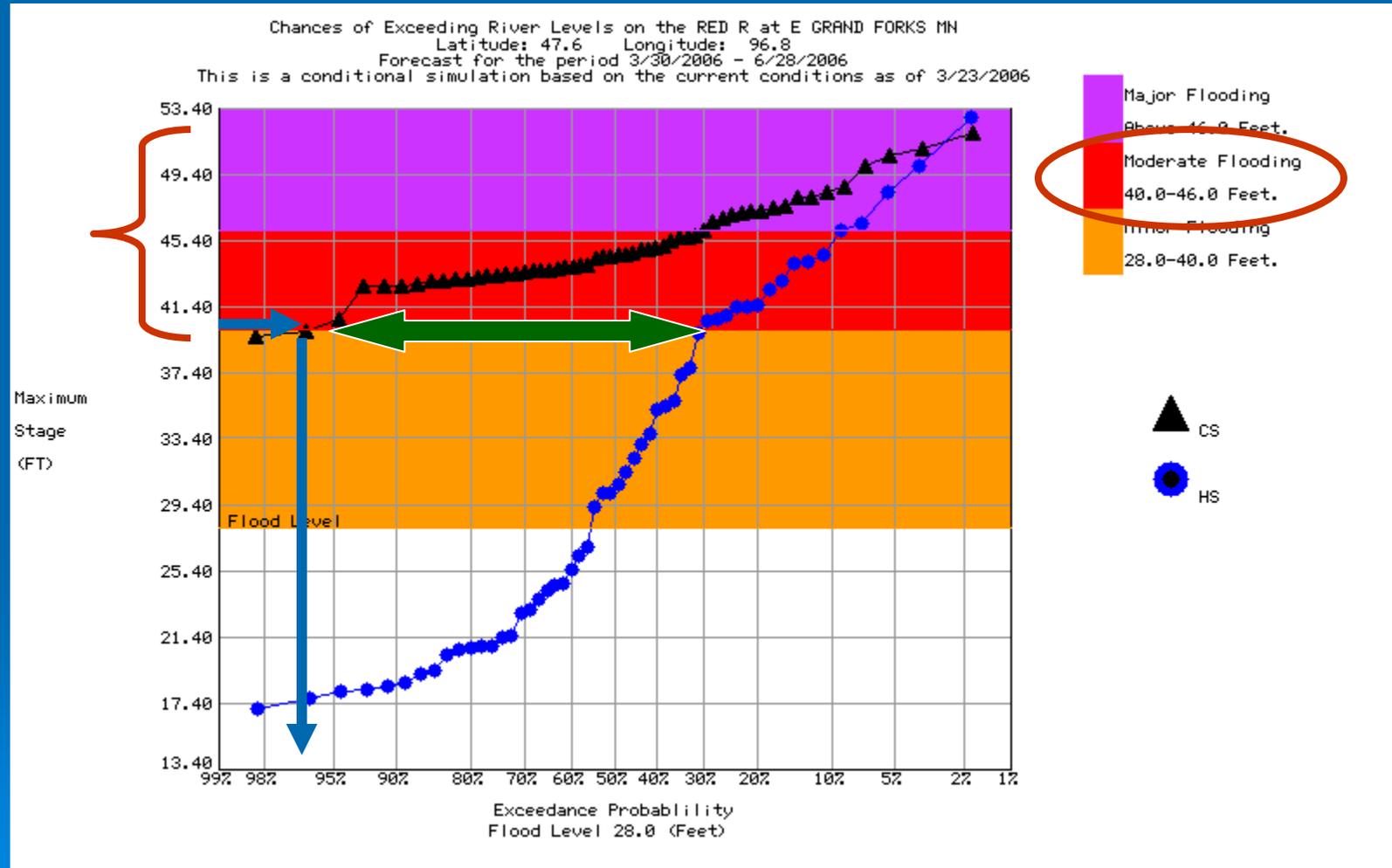
# March Forecast - Jordan



# January Forecast – Grand Forks



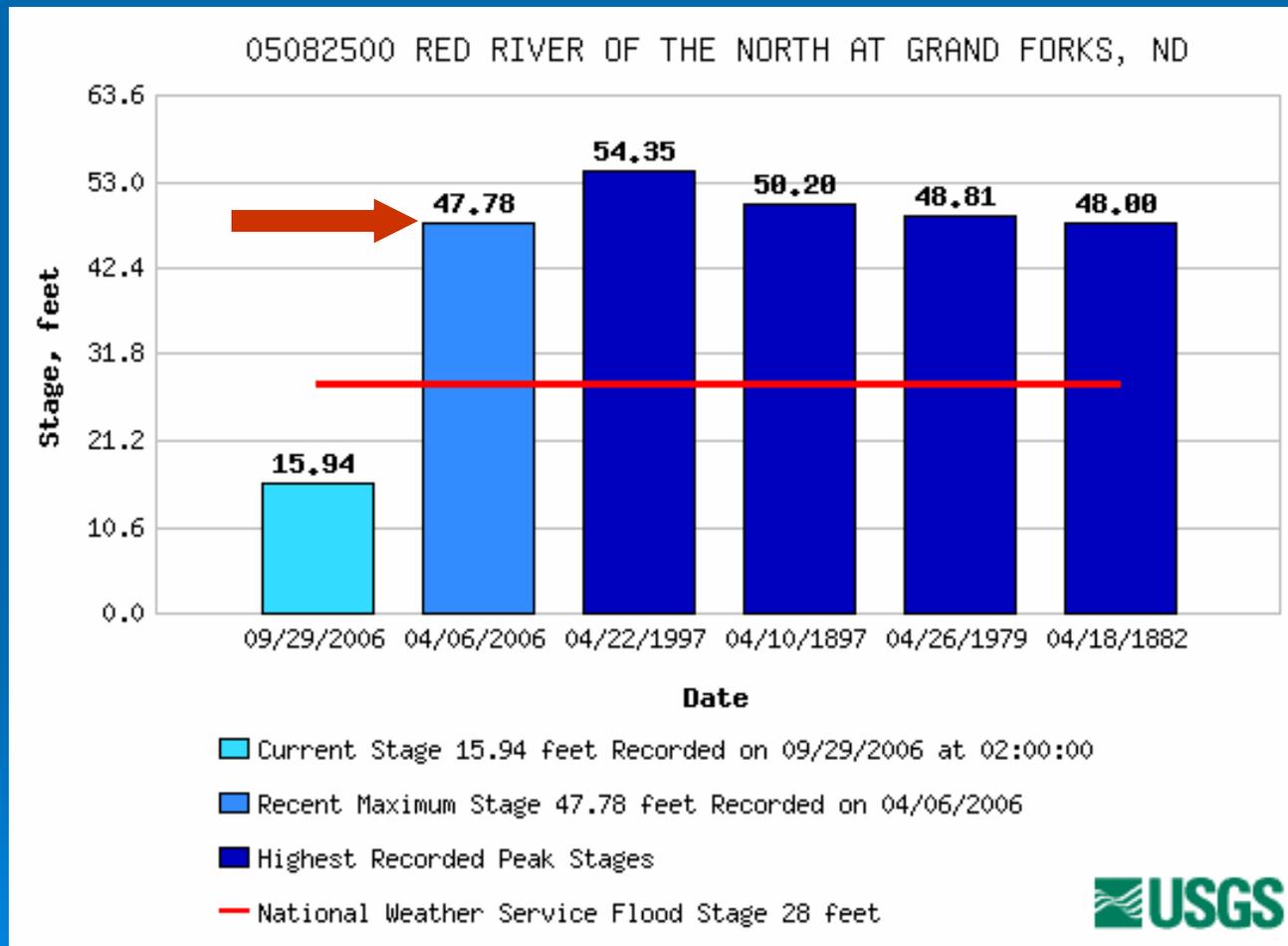
# March Forecast – Grand Forks



What Actually Occurred?

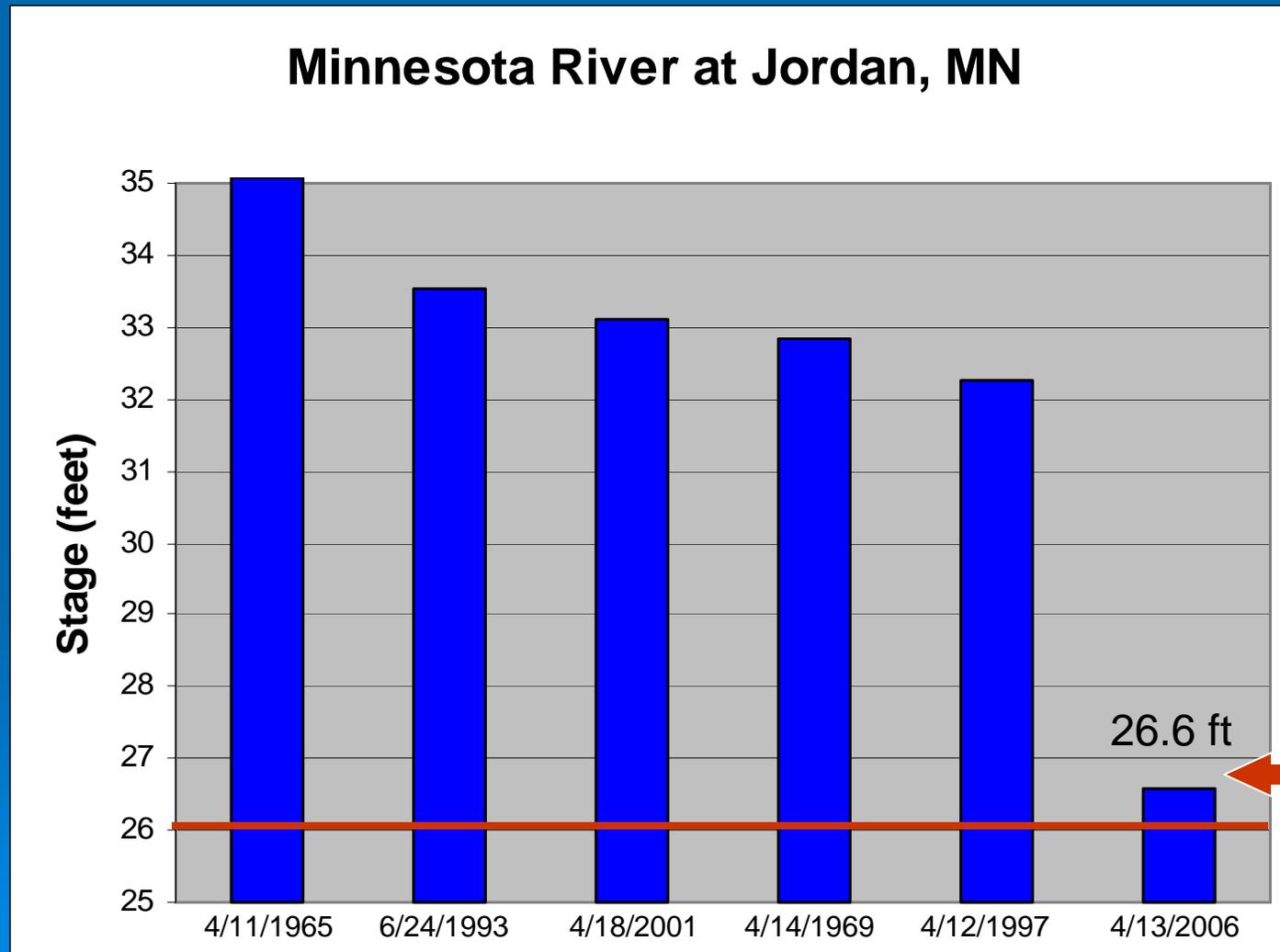


# Historical Crests at Grand Forks 2006 5<sup>th</sup> Highest on Record



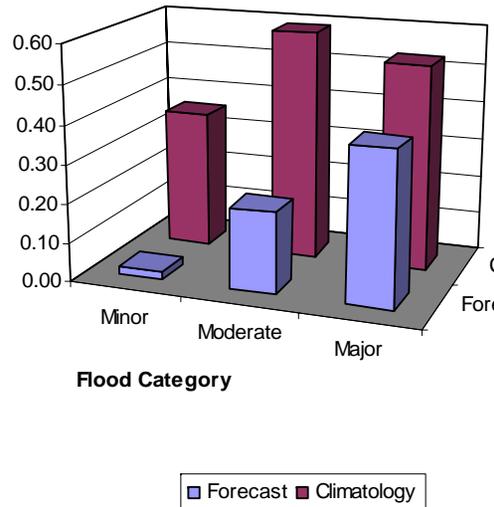
# Historical Crests at Jordan

## 2006 Relatively Minor Event

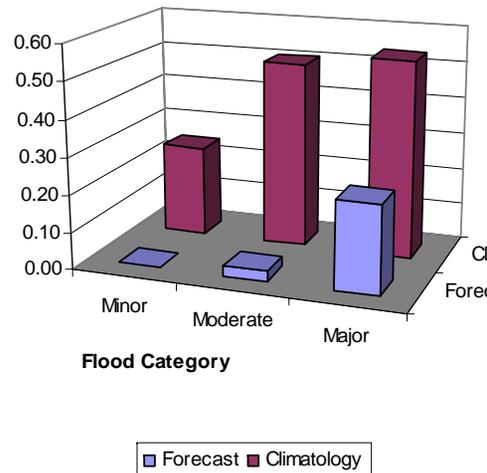


# Red River Brier Scores

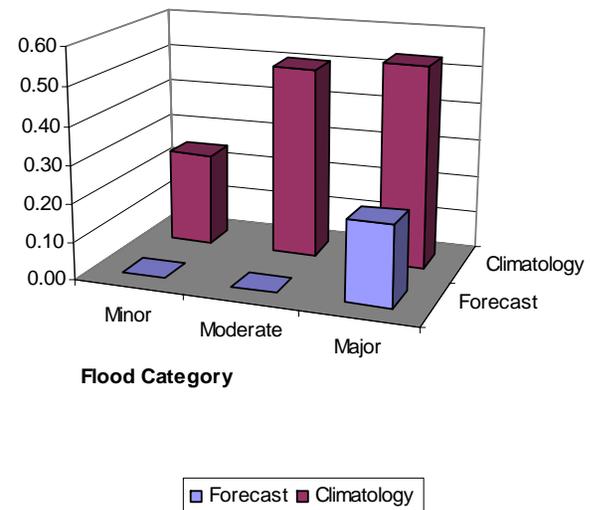
January 2006 Probabilistic Outlook for the Red River  
Brier Scores



February 2006 Probabilistic Outlook for the Red River  
Brier Scores



Probabilistic Outlooks for the Red River  
March 2006 Brier Scores

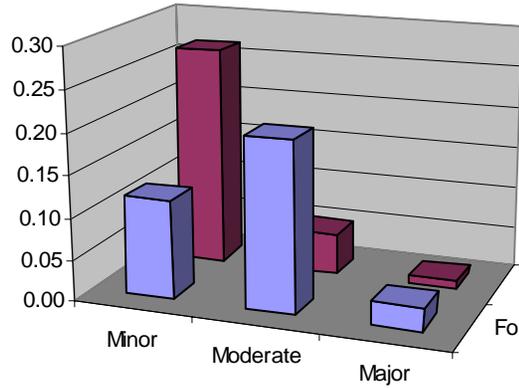


Climatology

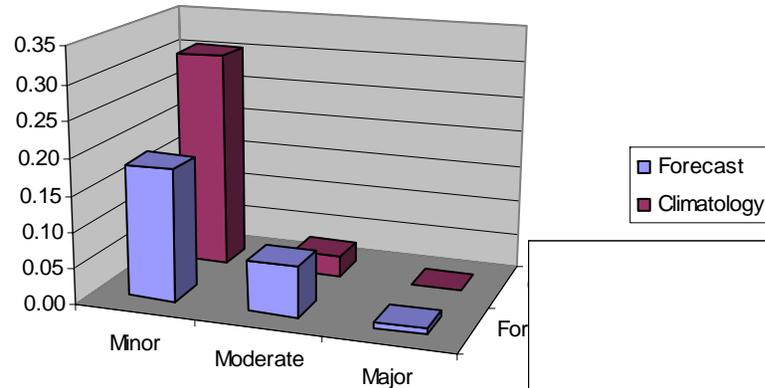
Conditional Forecast

# Minnesota River Brier Scores

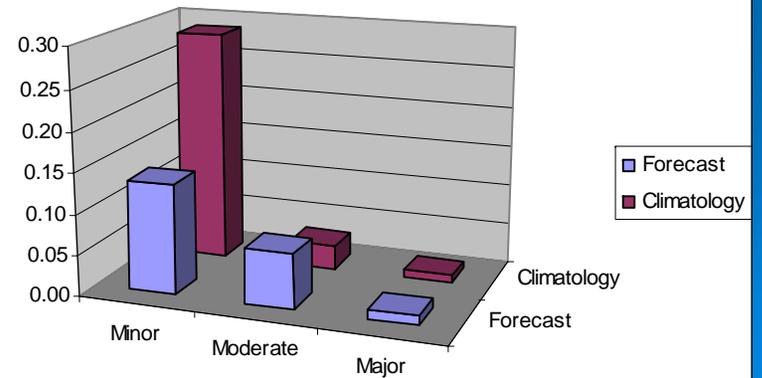
January 2006 Brier Scores  
Minnesota River



February 2006 Brier Scores  
Minnesota River



March 2006 Brier Scores  
Minnesota River



Climatology

Conditional Forecast

Questions?

