

Rainfall–River Forecasting Fusion Team

Rainfall–River Forecasting Summit St. Paul, MN

Monday, Oct 19, 2009



Fusion Team (Cell)

- ▶ Created as a 2008 Midwest Flood after-action from the Rainfall–River Forecasting Summit (Oct 2008)
- ▶ Main area of focus, Mississippi River Basin
- ▶ Member Agencies – USACE, USGS, NWS
 - USACE members – 3 Divisions and 2 Districts
 - USGS members – Nat'l Flood Coordinator and Data Chiefs from MO & LA Water Science Centers
 - NWS members – 4 Regional Forecast Centers and 2 Regional HQs



Fusion Team Mission

The Fusion Team 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 team's member agencies.

The Fusion Team will develop a plan for river forecast 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.



7/9/2009

Fusion Team Focus Areas

- ▶ Cross Agency Training and Operations
- ▶ Enhance communication and coordination
- ▶ Accurate data available concurrently to agencies
- ▶ Technical forecast improvements
- ▶ River forecast performance



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Cross Agency Training

- ▶ USACE/NWS workshop on May 2009 forecasts
 - Conduct at annual forecasters workshop (Sep 2009)
- ▶ Develop flood event playbook and joint exercise to be conducted at
 - Annual river forecasters workshop and/or
 - Annual Tri-Agency Water Control Meeting
- ▶ Navigation to provide “familiarization–float” to demonstrate use and impacts of river forecasts



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Cross Agency Flood Operations

- Utilize Flood Event Playbook
- Provide USGS liaison to RFC
 - National Flood Coordinator will work with USGS offices for duty at RFC
 - Liaison will
 - Assist with communication to USGS in the field
 - Coordinate rating curve extension needs and information with the USGS offices providing that support
- Provide USACE liaison to RFC
 - USACE Division Chief of Water Control will coordinate through the H&H Chiefs
 - Liaison will
 - Coordinate with USACE in field
 - Relay levee information and breaks



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Enhance Communications for Flood Operations

- ▶ Incorporate integrated GIS data
 - NWS Situational Awareness display
 - USACE levee database
- ▶ Use NWS Chat
- ▶ Optimize number of multi-agency briefings
 - Explore use of Goto Meeting/Webinar
 - Reduce multiple briefings when possible



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Accurate Data Available Concurrently to Agencies

- ▶ Gage height differences
 - Drawdown curves used at some locations
 - Rating Curve corrections available on USGS Rating Depot
 - USACE/NWS developing policy to deal with drawdown corrections
- ▶ Explore differences in discharge measurement techniques to ensure common method



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Technical forecast improvements

- ▶ Develop rating curve extensions
 - In advance and in real time
- ▶ Co-develop HEC-RAS models for the Mississippi and Illinois Rivers
- ▶ Provide Zero-QPF (no rain), 14-day river forecast for navigation
 - Text product implemented July 7, 2009



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River Forecast Performance

- ▶ USACE requested NWS to evaluate recessions
 - Barge grounding occurred where the actual recession was faster than forecast
- ▶ Navigation interests will provide their requirements based on impacts from which NWS can create river forecast performance metrics
- ▶ Value of cross-training will be assessed



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Forecasting – What Does This Mean To Our Stakeholders?

- ▶ NWS provides the official forecasts after collaboration with USGS and USACE
- ▶ What-if Forecasts – NWS now produces a Zero-QPF (no rain), 14-day river forecast
- ▶ Elimination of conflicting real-time gage data
 - gage adjustments/corrections made before posting online



Fusion Team – Path Forward

- ▶ Continue Reaching Out to Stakeholders to Obtain Feedback & Communicate Progress
- ▶ Continue developing Metrics to evaluate Forecast Accuracies
 - Concentrate on Critical Times (Flood peaks, Low water, etc)
- ▶ Provide Guidance to NWS/USGS/USACE organizations
 - Annual Tri-Agency Forecasting Meetings
 - Annual Water Control Meetings



Fusion Team Web Page

<http://mvs-wc.mvs.usace.army.mil/fusion/fusion.htm>

Tri-Agency
Fusion Cell



[Fusion Cell Home](#)

[St. Louis Summit Oct 08](#)

[St. Paul Summit Oct 09](#)

Welcome

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

Announcements

[Welcome](#) (posted 08/26/2009)

Thank you for visiting the Fusion Cell website. We hope you find this site useful for Team collaboration among our member agencies.

Next Meeting

The **Rainfall-River Forecasting Joint Summit** is scheduled for 19 October 2009 at Crowne Plaza, St. Paul, MN. Summit [agenda](#) and [brochure](#) are available.

Technical point-of-contact:
[MVS-Webmaster](#)

Posting Fusion site
content/other questions:
[USACE St. Louis Water Control](#)

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