

## Rivers Breakout Session Final Presentation



# Rivers Session Team

## **-Army Corps of Engineers**

-3 Divisions, 4 Districts

-Navigation & Emergency Management

## **-U.S. Coast Guard**

## **-U.S. Department of Transportation**

## **-U.S. Maritime Administration**

## **-State Emergency Management Agencies**

## **-State Conservation Agencies (Rivers)**

## **-U.S. Geological Survey**

## **-Central U.S. Earthquake Consortium**



# Purpose Statement for PreCAP

To start creating a mapping platform that can assist emergency coordination entities in evaluating transportation networks to make logistical decisions during & after a high magnitude New Madrid earthquake event.



*Will test the Mapping Platform during the June 2014 CAPSTONE multi-state earthquake exercise*

# Purpose Statement Keywords

To start creating a <sup>1</sup> mapping platform that <sup>3</sup> can assist <sup>2</sup> emergency coordination entities in evaluating transportation networks to make logistical decisions <sup>4</sup> during & after a high magnitude New Madrid earthquake event.



1. *Mapping Platform*
2. *Emergency Coordination Entities*
3. *Evaluating Transportation Networks*
4. *Logistical Decisions*

## Purpose Keywords #2

To start creating a mapping platform that can assist emergency coordination entities in evaluating transportation networks to make logistical decisions during & after a high magnitude New Madrid earthquake event.

### Primary Audience to Design For:

- **State & Federal Government Emergency Operation Centers (EOC)**

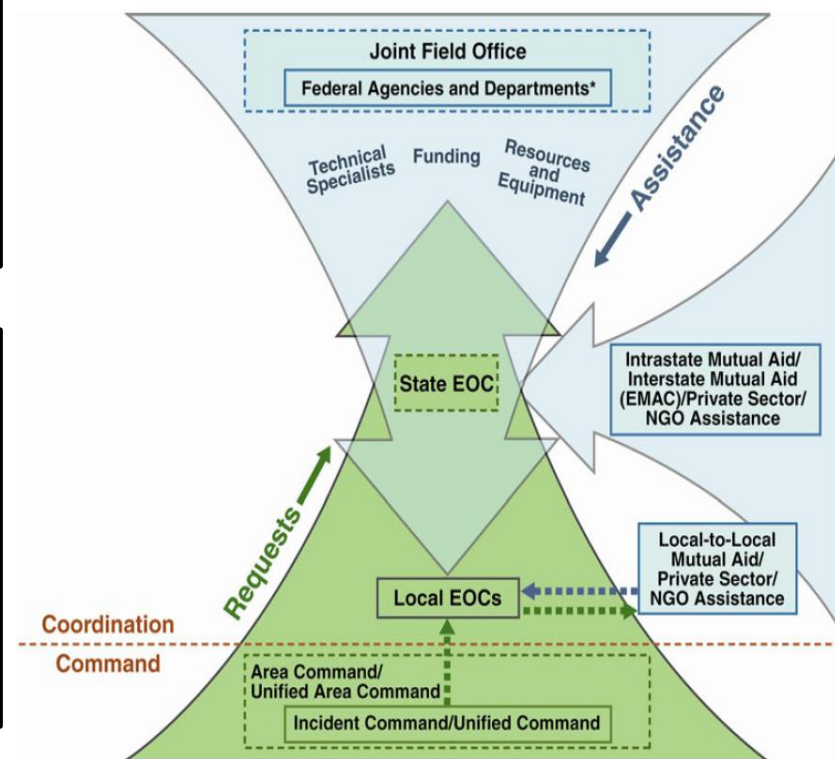
*(But should still be applicable for local governments, private entities, specialists, etc.)*



## Why this Audience:

A high magnitude New Madrid earthquake will require a 'Regional Logistics Coordination' approach at a level never experienced before

- **Units smaller than State Governments**, [e.g. local governments, private entities, individual citizens], **will focus on responding to their localized impacts**
- **State Government & higher units**, [e.g. Federal agencies, National Guard, etc.], **will focus on moving resources into impacted areas**, which will require a "Regional Logistics Coordination" approach



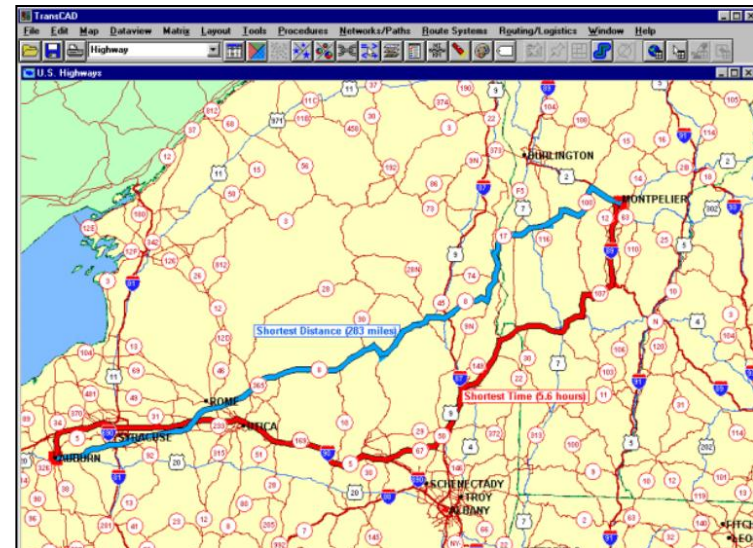


## Purpose Keywords #4

To start creating a mapping platform that can assist emergency coordination entities in evaluating transportation networks to make **logistical decisions** during & after a high magnitude New Madrid earthquake event.

### Primary Questions/Answers to Design For:

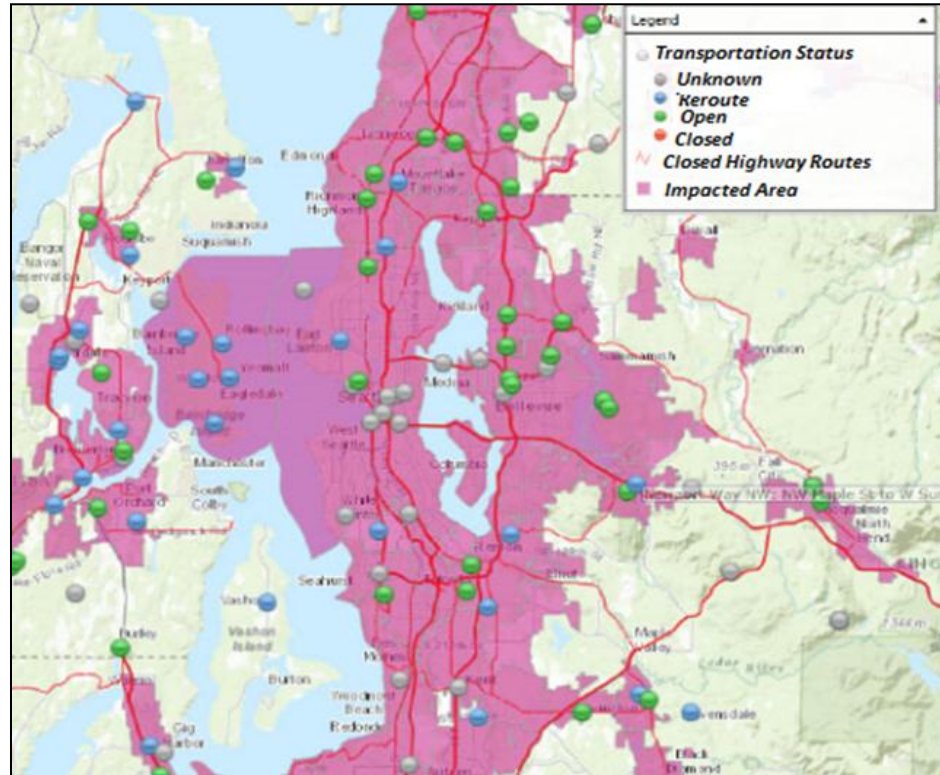
1. *What routes, alternative routes, or combination of routes can be used to move response resources to impacted areas?*
2. *What are the most efficient routes to move resources quickly?*
3. *How long will it take to reestablish a route and where are the impacts making it not useable?*



# Make river transportation a known option within the emergency response transportation network

## Emergency Trans. Network

- Highways
- Air
- Rail
- Rivers



\*especially in moving  
bulk resources to outside  
Logistical Staging Areas



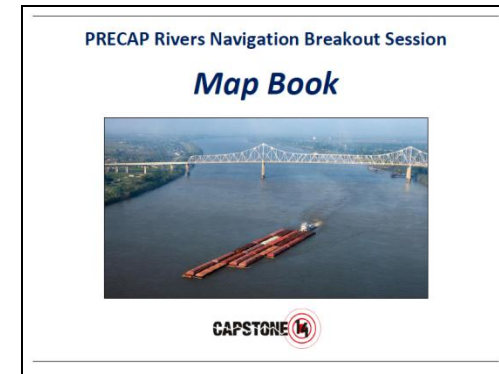
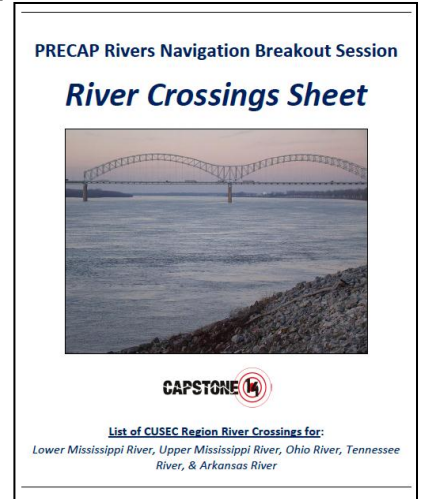
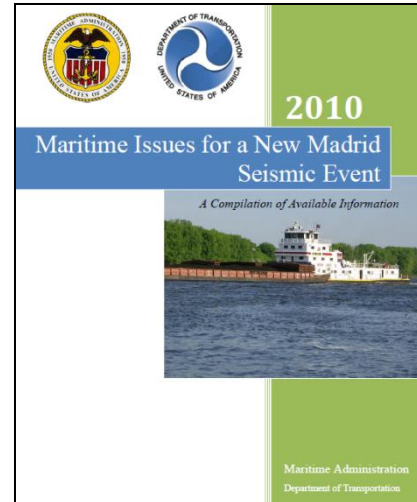


## Focuses for Map

- **Life Safety**
  - How to move resources in to save lives
    - With a New Madrid Event, life safety issues will go past the typical 72 hour timeframe
- **Focus Less on Fixing the Navigation Routes**
  - Federal agency jurisdiction to figure that out
- Platform will focus on the kind of information that **State & Federal Emergency Managers will be requesting** from Maritime-based Agencies

# Reference Materials

- River Crossing Sheet
- Maritime Issues for a New Madrid Seismic Event
- Map Book



## PRECAP Rivers Navigation Breakout Session

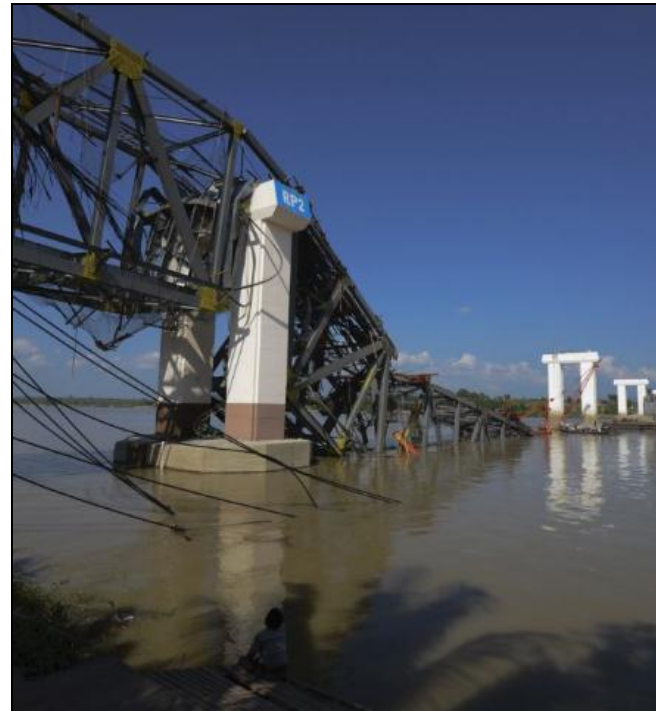
*Map Book*

<b>Map 1:</b> Navigable Inland Waterways	<i>page 1</i>
<b>Map 2:</b> Inland Ports	<i>page 7</i>
<b>Map 3:</b> Port Area Water Facilities	<i>page 8</i>
<b>Map 4:</b> Principle Ports by Cargo Tons	<i>page 16</i>
<b>Map 5:</b> Annual Freight Tonnage Volume	<i>page 17</i>
<b>Map 6:</b> Marine Traffic	<i>page 18</i>
<b>Map 7:</b> Marine Facility & Vessel Incidents <i>(2007 example)</i>	<i>page 20</i>
<b>Map 8:</b> River Locks	<i>page 23</i>
<b>Map 9:</b> Major Dams	<i>page 25</i>
<b>Map 10:</b> Army Corps Divisions & Districts	<i>page 28</i>
<b>Map 11:</b> Coast Guard Districts & Sectors	<i>page 31</i>
<b>Map 12:</b> Soil & Amplification Survey	<i>page 33</i>
<b>Map 13:</b> Seismic Impact Zones	<i>page 38</i>

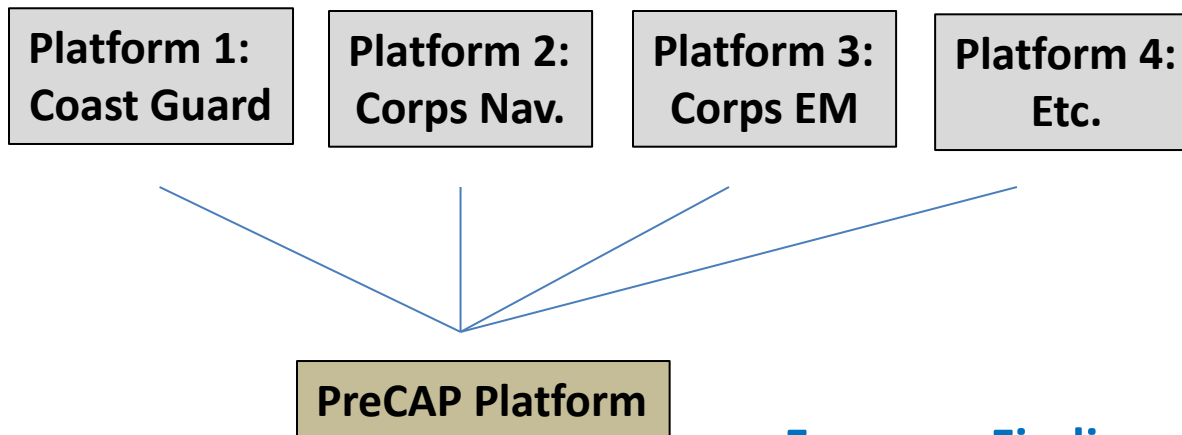
## Initial Threat Description

-Mr. Jim Wilkinson  
(CUSEC)

-Dr. Randall Jibson  
(USGS)



# Build a mapping platform based around what we already have & use



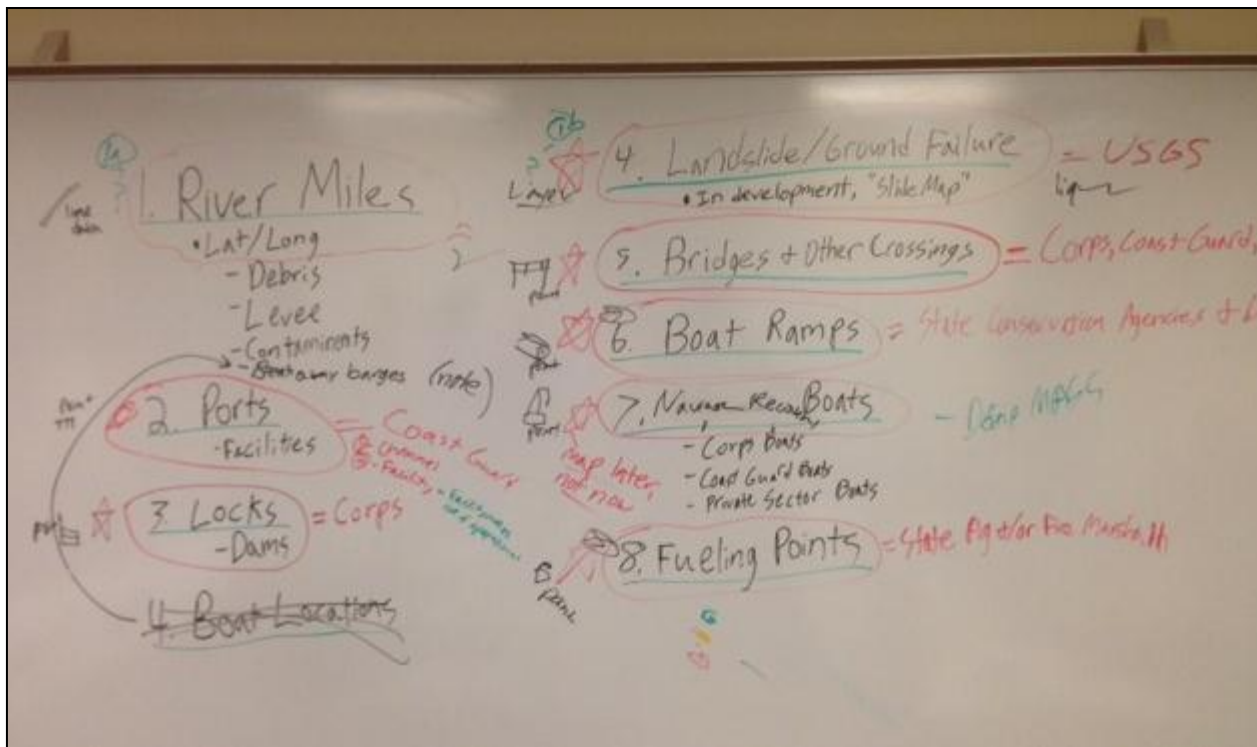
## Focus on Finding

- Existing shapefiles or datasets
- Ways to provide automatic or quick manual updates into our system
- Ways to easily interpret existing platform information to update the PreCAP Platform



## Determined EEs

- Started with 3, Moved to 11, and Ended with 8

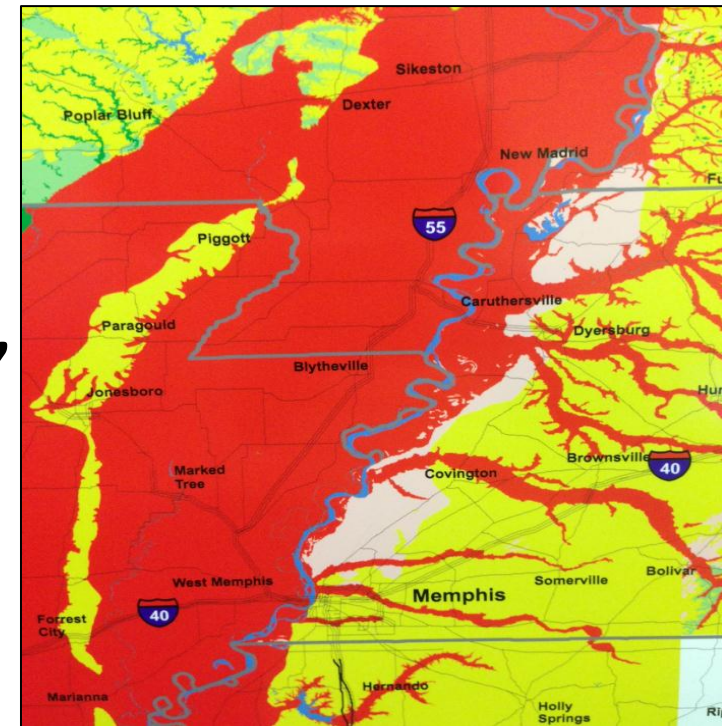


## **Determined EEs**

- 1. Landslide/Ground Failures**
- 2. River Mile Status**
- 3. Port Status**
- 4. Lock Status**
- 5. Bridge & Other Crossing Status**
- 6. Boat Ramp Status**
- 7. Navigation Recovery Boat Status**
- 8. Fueling Point Status**

# 1. Landslide/Ground Failures

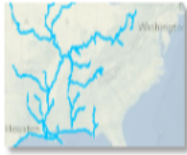
- Type of GIS Data: **Layer Shapefiles**
- Where Data From: **USGS**
  - “Soil Amplification Induced by Ground Motion Map”
  - “Shakemap”- Produced After Quake (*Blank Field for Now*)
  - “Slidemap”- (In development), Produced After Quake (*Blank Field for Now*)



## 2. River Mile Status

- Type of GIS Data: Line Data
- Base GIS Data: USACE Navigable Inland Waterways Shapefile
- Status System: Red, Amber, Green, White
- Maintenance: ??, Rivers Industry Executive Task Force, & Coast Guard
- Note: Believe this will be the hardest EEI for IT/GIS to Develop because we need a way to quickly update river statuses not on a mile by mile basis

### USACE Navigable Inland Waterways



Layer Package

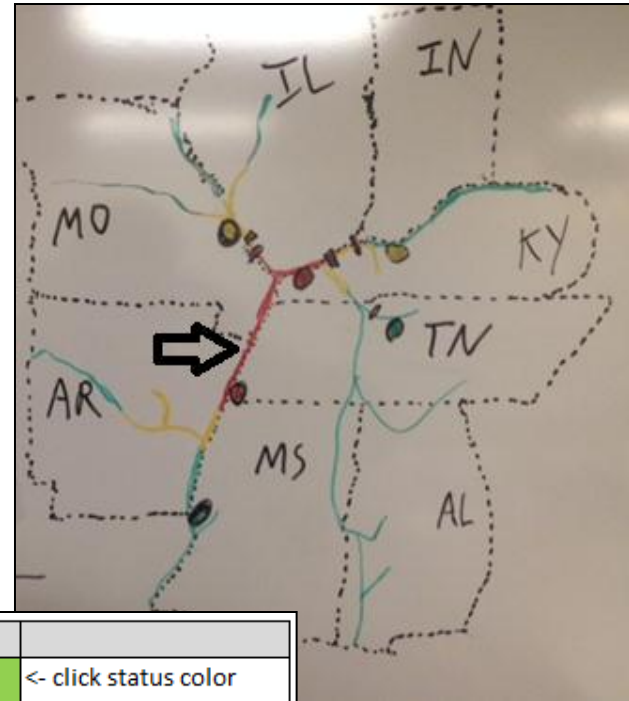
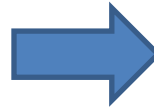
Owner: [Federal\\_User\\_Community](#)

Date modified: 12/13/2011

☆☆☆☆☆ 0 Ratings

Description	Properties	Comments (0)
<p>This dataset contains physical information on navigable inland waterways and the Gulf Intracoastal Waterway. The data consists of 10,115 sequential mile positions of navigable sites and distances in miles. The data was collected from different sources, 60% of the data was extracted from IENC and 20% USGS 1:24000 topographic quadrangle map sheets which have 1 meter accuracy. 5% of the data was extracted from NOAA nautical charts which have roughly the same accuracy depending on the scale. The remainder of the data was interpolated onto the USGS quadrangle map sheets using the USACE district chart books. The interpolated miles have accuracy of approximately 100 meters. This data was downloaded from <a href="http://www.ndc.iwr.usace.army.mil/data/datamile.htm">http://www.ndc.iwr.usace.army.mil/data/datamile.htm</a>.</p>		

## 2. River Mile Status

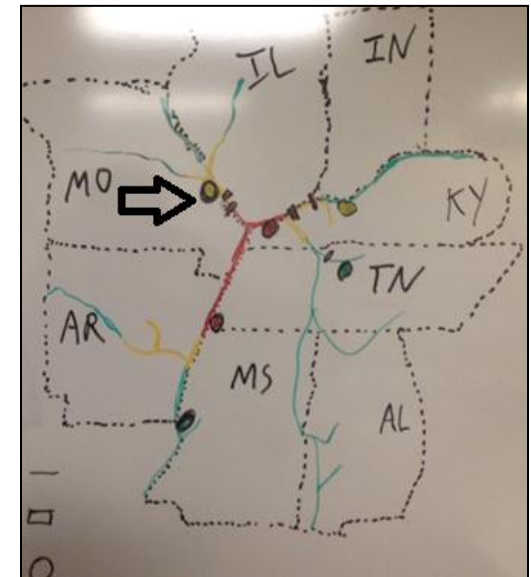
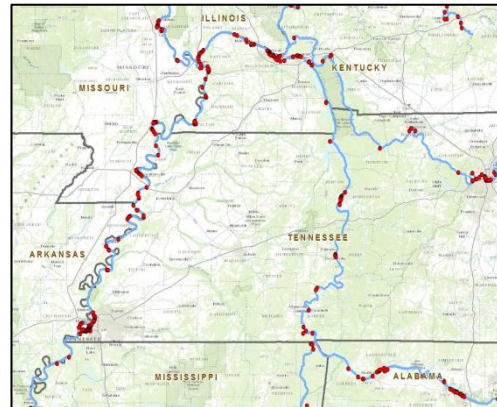


Ohio River	Status Color	
Mile 1-2		<- click status color
Mile 2-3		<- click status color
Mile 3-4		<- click status color
Mile 4-5		<- click status color
etc.		<- click status color
Mississippi River	Status Color	
Mile 1-2		<- click status color
Mile 2-3		<- click status color
Mile 3-4		<- click status color
etc.		<- click status color



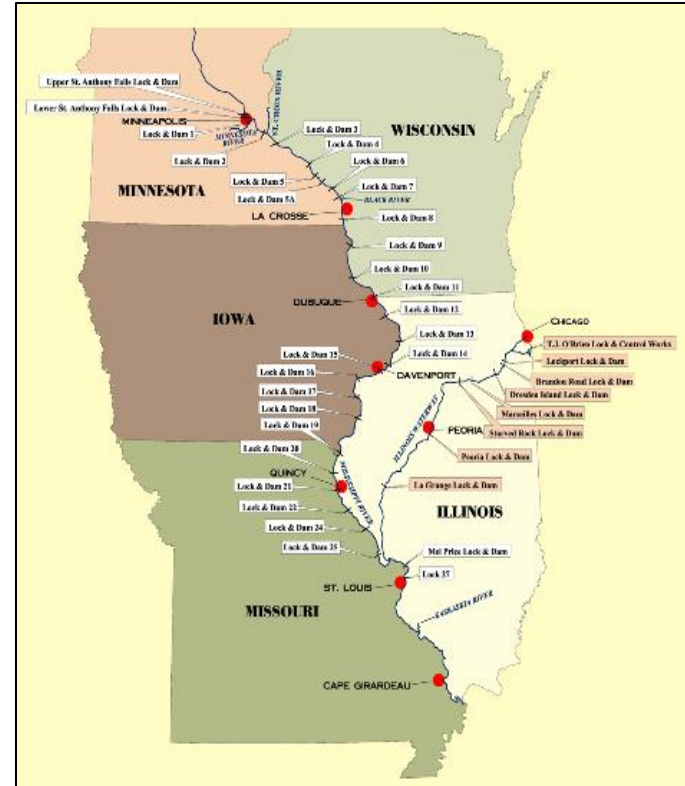
### 3. Port Status

- Type of GIS Data: Point Data
- Base GIS Data: USACE or Coast Guard Shapefile
- Status System: Red, Amber, Green, White
- Note: Only Track Major Ports, not individual Facilities
- Maintenance: ??, Coast Guard provides status



## 4. Lock Status

- Type of GIS Data: Point Data
- Base GIS Data: USACE Shapefile
- Status System: Red, Amber, Green, White
- Maintenance: ??, Corps provides status



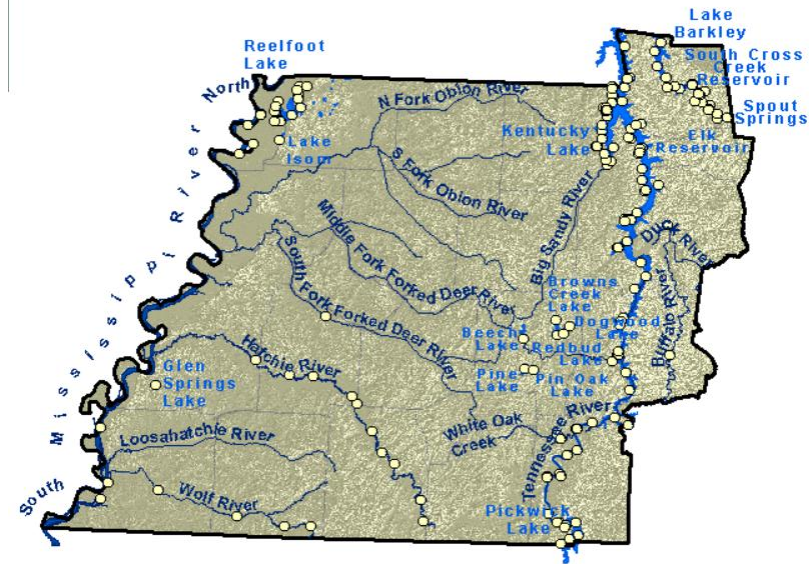
## 5. Bridge & Other Crossing Status

- Type of GIS Data: Point Data
- Base GIS Data: Nav Charts
- Status System: Red, Amber, Green, White
- Maintenance: ??

Crossing	Carries	Location	Year Opened	Coordinates Lat. Long.
Kentucky – Missouri				
Dorena-Hickman Ferry		Hickman and Dorena		<span><span><span></span></span></span> 36°34′04″N 89°12′43″W
Tennessee – Missouri				
Caruthersville Bridge	<span><span><span></span></span></span> I-55 / US-412	Dyersburg and Caruthersville	1976	<span><span><span></span></span></span> 36°06′54″N 89°36′47″W
Tennessee – Arkansas				
Hernando de Soto Bridge	<span><span><span></span></span></span> I-40	Memphis and West Memphis	1973	<span><span><span></span></span></span> 35°09′10″N 90°03′50″W
Harahan Bridge	Union Pacific Railroad		1916	<span><span><span></span></span></span> 35°07′45″N 90°04′33″W
Frisco Bridge	BNSF Railway		1892	<span><span><span></span></span></span> 35°07′43″N 90°04′35″W
Memphis & Arkansas Bridge	<span><span><span></span></span></span> I-55, Mississippi River Trail <span><span><span></span></span></span> US-61 / US-64 / US-70 / US-79		1949	<span><span><span></span></span></span> 35°07′42″N 90°04′36″W
Mississippi – Arkansas				
Helena Bridge	<span><span><span></span></span></span> US 49	Lula and Helena-West Helena	1961	<span><span><span></span></span></span> 34°29′48″N 90°35′17″W
Charles W. Dean Bridge (construction to begin in 2011)	Future <span><span><span></span></span></span> I-69 / US 278	Benoit and Arkansas City	Planning Phase	<span><span><span></span></span></span> 33°37′12″N 91°08′10″W
Benjamin G. Humphreys Bridge (demolished 2011–2012)		Greenville and Lake Village	1940	<span><span><span></span></span></span> 33°17′37″N 91°09′34″W
Greenville Bridge	<span><span><span></span></span></span> US 82 / US 278		2010	<span><span><span></span></span></span> 33°17′14″N 91°09′15″W
Mississippi – Louisiana				
Old Vicksburg Bridge	Former <span><span><span></span></span></span> US 80 Kansas City Southern Railway	Vicksburg and Delta	1930	<span><span><span></span></span></span> 32°18′52″N 90°54′17″W
Vicksburg Bridge	<span><span><span></span></span></span> I-20 / US 80		1973	<span><span><span></span></span></span> 32°18′55″N 90°54′30″W
Natchez-Vidalia Bridge	<span><span><span></span></span></span> US 84 / US 425	Natchez and Vidalia	1940	<span><span><span></span></span></span> 31°33′33″N 91°25′09″W

## 6. Boat Ramp Status

- Type of GIS Data: Point Data
- Base GIS Data: Will need to collect from State Conservation (River) Agencies
- Status System: Red, Amber, Green, White
- Maintenance: ??, State Conservation (River) Agencies



## 7. Navigation Recovery Boat Status

- Type of GIS Data: Point Data
- Base GIS Data: Start Plotting After Disaster (*Blank Field for Now*)
- Status System: Red, Amber, Green, White
- Maintenance: ??





## 8. Fueling Point Status

- Type of GIS Data: Point Data
- Base GIS Data: Will need to Collect from State Agriculture &/or Fire Marshall
- Status System: Red, Amber, Green, White
- Maintenance: ??



## Drop Down Box

