RESPONDING TO NATURAL DISASTERS – Lessons Learned

NRITS CONFERENCE & GRITS ANNUAL MEETING
September 16-19, 2012

Bob Chapman
Emergency Services Director
Since 1990 Mississippi has had 32 major Disaster Declarations involving severe storms, hurricanes, flooding, winter storms, tornadoes, drought and/or combinations of these.
LESSONS LEARNED:

Must be Self-sustaining for **72** hours:

- Communications
- Fuel
- Water & Food
- Manpower
MDOT Mission Statement:

Provide a safe intermodal transportation network that is planned, designed, constructed and maintained in an effective, cost efficient, and environmentally sensitive manner.
Emergency Mission Statement:

*Prepare for, Respond to, and Recover from* any loss of personnel, resources or facilities due to an emergency solely within MDOT, or as part of a community, regional or national emergency.
Failing to Prepare is Preparing to Fail.
Comprehensive Emergency Transportation Response Plan
The “CETRP”
Betsy (cat 3) 1965
Camille (cat 5) 1969
Frederic (cat 3) 1979
Elena (cat 3) 1985
Georges (cat 2) 1998
Ivan (cat 3) 2004
Dennis (cat 3) 2005
KATRINA (cat 3) 2005
Gustav (cat 2) 2008
Isaac (cat 1) 2012
MDOT Hurricane Evacuation Guide
CONTRAFLow

• Implemented only on request from Louisiana for evacuation assistance
• Involves MDOT District’s 6 & 7, 21 miles of I-59 & 31 miles of I-55, respectfully
• Expected duration - 24 hours
• Notification from Louisiana between 72 & 60 hours prior to landfall
• Implement around 48 hours (for Katrina it was closer to 36 hours)
Katrina Contraflow
Gustav Contraflow
I-55
Gustav Contraflow
I-59
CAMILLE in 1969 was then the storm of the century. **KATRINA** in 2005 is now the storm all future storms will be measured against.
How threat developed

Hurricane Katrina hit Florida as a category 1 storm, gained power over the Gulf of Mexico and hit Louisiana three and a half days later as a category 4 monster.
Time To Leave

We are closed due to the hurricane
Evacuation

Hide from the Wind,
Run from the Water.
KATRINA Comes Ashore August 29, 2005

Hurricane Katrina
GOES-12 Infrared
August 29, 2005 @ 0755 to 1640 UTC

MDOT
Before
After
St. Charles Condos, Biloxi
Gulfport, Harrison County
Bay St. Louis, Hancock County
90% of Waveland Destroyed

FROM THE PEOPLE OF WAVELAND

In appreciation and gratitude to all who gave of their time, energy, and money to help us recover from Hurricane Camille. On August 17, 1969 our city was devastated, but those who cared came to her rescue.
AFTERMATH

- Record setting storm surge of over 30 ft
- 3rd strongest landfall in U.S. history
- 6th strongest storm ever in Atlantic Basin
- 90,000 square mile disaster area
- Over 1 million people displaced
- 48 of Mississippi’s 82 counties declared disaster areas
FINANCIAL COSTS TO MDOT

- FHWA ER $1 Billion, 13 Million
  (includes FAS Infrastructure and 1st Pass Debris, ~5.5 million cubic yds)

- FEMA PA $25 Million
  (includes non-FAS Infrastructure and 2nd Pass Debris, an estimated 850 K cubic yds)
MDOT EMPLOYEES DIRECTLY AFFECTED BY THE STORM

- MDOT employs 3,200 statewide
- 1,500 MDOT employees participated in the emergency response
- 63 employee families applied for relief with varying degrees of damage
- 16 families reported a total loss
- No life lost in the MDOT family
LESSONS LEARNED:

Must be Self-sustaining for **72 hours**: *(to include)*

- Communications
- Fuel
- Water & Food
- Manpower
Communications

• New 700 mHz Motorola System on the Coast now provides a statewide interoperability platform. Currently operational in three quarters of the state
• 800 MHz radios thru Southern Link provided communications for MDOT District 6, including coastal counties
• Satellite radio/phone backup (90 units)
FUEL

- Combined MDOT fuel storage capacity increased pre-Katrina from 108,000 gallons (57,000 unleaded/ 51,000 diesel) to 344,000 gallons today
- Current statewide MDOT fuel reserves are:
  - 166,500 gallons unleaded
  - 177,500 gallons Diesel
- Available fuel delivery resources:
  - Two 9,200 gallon tanker
  - Four 2,200+ gallon bob-trucks
Water & Food

- Bottled water and MRE’s are stockpiled in Jackson, ready for immediate release to MDOT work areas
- Distribution plans in place to transport needed supplies to affected work locations
Manpower

Soon after landfall, as roads are cleared, travel trailers will be positioned at MDOT’s forward operations area to accommodate MDOT emergency workers. These trailers have the capacity to accommodate upwards to 80 workers with feeding, sleeping and shower facilities. Trailers are equipped with electrical, water and sewer connections with an onsite generator providing a backup power supply.
TMC Emergency Operations
DYNAMIC MESSAGE SIGNS (DMS)

Before
- EMERGENCY
- BROADCAST
- TUNE TO 91.3 FM

During
- HURRICANE
- EVACUATION IN PROGRESS
DYNAMIC MESSAGE SIGNS (DMS)

After

1. For road conditions call 1-866-521-MDOT (6368).
2. Severe weather alert: Delay travel plans south MS.
EMERGENCY ALERT

PLEASE START PREPARING FOR THE HURRICANE

Questions? RESIDENTS OF DISTRICT ONE PLEASE CALL Supervisor Windy Swetman at 435-8272
Jones Co 1987
Lauderdale, Rankin
Covington Co’s 1992
Newton 2002
Columbus 2002
Simpson Co 2009
Yazoo City 2010
Choctaw, Webster,
Clay Co’s 2011
Smithville 2011
Tornadoes

Tornadoes can be a big problem anytime in Mississippi. MDOT response:

- roadway clearance
- debris removal
- infrastructure damage
- traffic control
Newton Tornado
Dec 2002
Columbus Tornado
Nov 2002
Yazoo City Tornado
April 2010
Yazoo City Tornado
April 2010
Clinton Tornado
April 2011
Pearl River, Easter 1979

MS River/Backwater 2011
Easter Flood
April 1979
Easter Flood
April 1979
Backwater Flooding
May 2011
Backwater Flooding,
Satartia, MS
May 2011
Backwater Flooding,
Wolf Lake
May 2011
Flooding distresses Everything
MS River, May 2011
New Madrid 1811-12
M7.7 - killed ?

Northridge, CA 1994
M6.8 - killed 72

Haiti, Jan 2010
M7 - killed 230,000

Chile, Feb 2010
M8.8 - killed 500

New Zealand, Sept 2010
M7 - killed 0

New Zealand, Feb 2011
M6.3 - killed 161

Japan, Mar 2011
M9 - killed 21,000

?
New Madrid Seismic Zone

<table>
<thead>
<tr>
<th>INTENSITY</th>
<th>EFFECTS</th>
<th>RICHTER</th>
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<tbody>
<tr>
<td>VI Strong</td>
<td>trees sway, suspended objects swing</td>
<td>4.9 - 5.4</td>
</tr>
<tr>
<td>VII Very Strong</td>
<td>walls crack, plaster falls</td>
<td>5.5 - 6.1</td>
</tr>
<tr>
<td>VIII Destructive</td>
<td>poorly designed buildings damaged</td>
<td>6.2 - 6.9</td>
</tr>
<tr>
<td>IX Ruinous</td>
<td>great damage to substantial buildings</td>
<td>7.0 - 7.3</td>
</tr>
<tr>
<td>X Disastrous</td>
<td>many buildings destroyed</td>
<td></td>
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This map shows hypothetical maximum intensities from a magnitude 7.6 earthquake. Modified from S.T. Algermissen and M.G. Hopper, 1994.
How would a major earthquake affect the central US today? It could be more devastating than you can imagine...

Events like those of 1811-12 will devastate larger area and affect more people than Hurricane Katrina or a California earthquake

- There will be large earthquakes and many aftershocks
- Many would be homeless, hungry, sick, injured, stressed
- Tremendous impact on 8 affected states and the nation
- Will require monumental local/regional/national response
- Multi-state advance planning and exercises are essential
- Could literally cripple the U.S. economy

Response and Recovery will require cooperation and teamwork among affected states and the Federal Government

- Recovery will take years
Mississippi Assessment Overview

- Approximately 205,000 will seek shelter
- Estimated 340 25-ton truckloads of commodities (water, ice, MREs) will be required to support the at risk population
- Over 80,000 households are without potable water
- Nearly 230,000 households are without electric power
- Approximately 6,056 injuries and 183 deaths
- Approximately 57,400 buildings are damaged
- 200+ bridges are damaged
MDOT Earthquake Emergency Response

- Provide rapid response
- Provide quick assessment of roadway accessibility
- Return roadway to normal as soon as possible
Responsibilities

• Clear & restore transportation routes
• Establish priorities for transportation
• Coordinate all transportation related requests from disaster areas
• Coordinate ESF-1 activities at SEOC
• Coordinate resources and prioritized needs for debris removal, damage assessment and clearing roadways
PUBLIC INFORMATION PRIOR TO AND DURING AN EMERGENCY IS CRITICAL

MDOT EMERGENCY COMMUNICATIONS AND USE OF THE WORLD-WIDE WEB

- www.GoMDOT.com
  - MDOT Emergency Plans & Maps
  - MS Traffic
  - Traveling Information
    - Current conditions
    - Evacuation routes
    - Roadway status
Are You READY?

1. Know the risks in your area.
2. Develop a Plan.
3. Build a family emergency kit to supply your family for at least 72 hours.
4. Have a communication and evacuation plan.
EMERGENCY PREPAREDNESS

It’s best to have a PLAN and not need it, than to need it and NOT have it!

Failing to Prepare is Preparing to Fail.
For Additional Information please feel free to contact:

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