

"Tennessee Natural Phenomena Events"

Oak Ridge
Emergency Management Forum
September 8, 2011



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TEMA Assistant Director
Response

Elgan Usrey
TEMA Assistant Director
Recovery

TENNESSEE EMERGENCY MANAGEMENT AGENCY



**2011 Oak Ridge
Emergency Management Forum**

**Charles Bryant
TEMA Assistant Director**



Natural Phenomena Events

- Video review of the 2010 Event
- Review the State's Emergency Management System
- Overview of the 2010 and 2011 Events
- The Long process of Recovery – 2010/2011



TENNESSEAN.com

TEMA armed for disaster with high-tech punches



Disaster: State one of 10 rated as ready

By MICHAEL JACKSON
For the Tennesseean
and LARA JAMES JORDAN
Associated Press

Tennessee was one of only 10 states lauded for having sufficient plans to respond to disasters, according to a Homeland Security Department report released Tuesday.

New Orleans remains woefully unprepared for catastrophes 30 months after Hurricane Katrina, and the two cities targeted by the 9/11 attacks don't meet all guidelines for disaster preparedness, the report said.

The report is part of a series of studies by the Homeland Security Department's Emergency Management Institute. It is the first time the institute has ranked states on disaster preparedness.

The report is based on a survey of state emergency management agencies. It looks at a state's ability to respond to a disaster, including its ability to coordinate with other agencies and the federal government.

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MAKING THE GRADE

A new security analysis rates Tennessee and nine other states as sufficiently prepared for catastrophes. A look at the states:



SOURCE: Homeland Security Department

Tennessee rated as disaster-ready

Report finds only 10 states prepared for disasters

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Tennessee Military Department



Governor



The Adjutant General



Assistant Adjutant
General, Army



Assistant Adjutant
General, Air



Director of TEMA



Emergency Management Plan

ESF 1 Transportation
ESF 2 Communications
ESF 3 Infrastructure
ESF 4 Fire fighting
ESF 5 Information & Planning
ESF 6 Mass Care
ESF 7 Resource Support
ESF 8 Health & Medical Services
ESF 9 Search & Rescue
ESF 10 Environmental Response
ESF 11 Food
ESF 12 Energy
ESF 13 Law Enforcement
ESF 14 Donations & Volunteers
ESF 15 Recovery
ESF 16 Animal Housing & Care Services

2011

ESF-tabs identify lead and support agencies

Emergency S...
ators

Catastrophic Event Annex

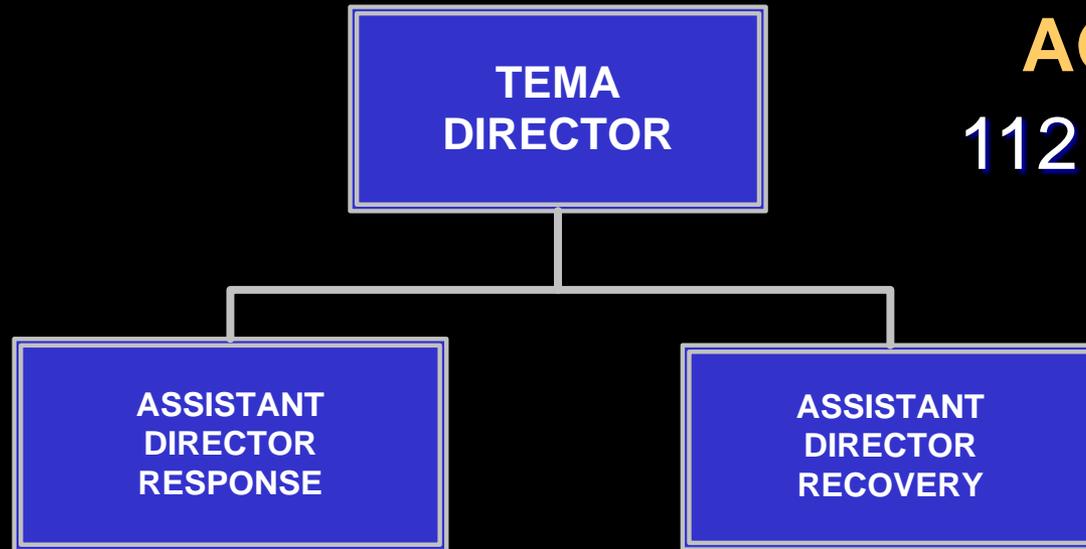
Disaster Operations Guide

National Response Framework

State Law



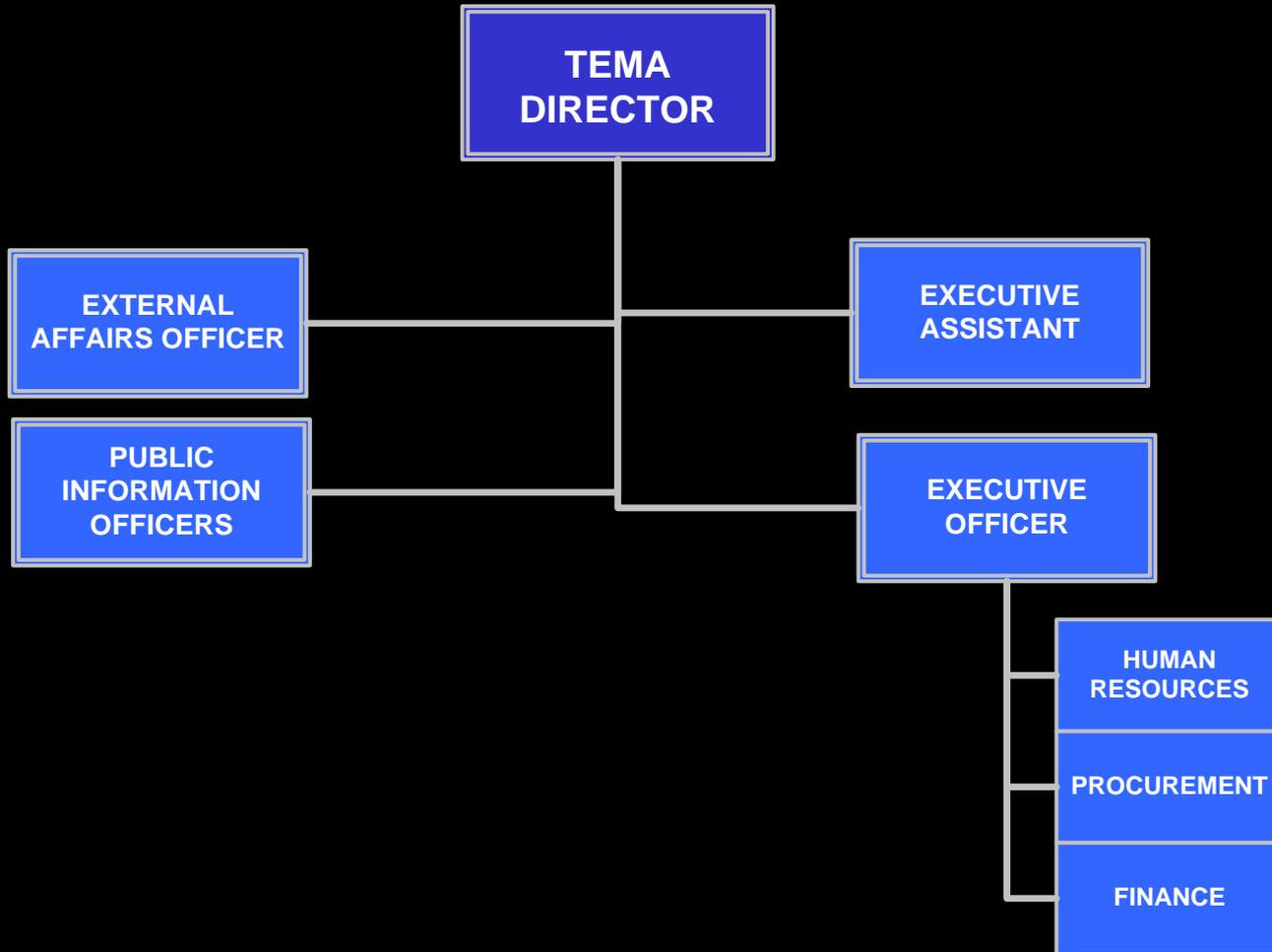
TEMA ORGANIZATION



AGENCY
112 Positions

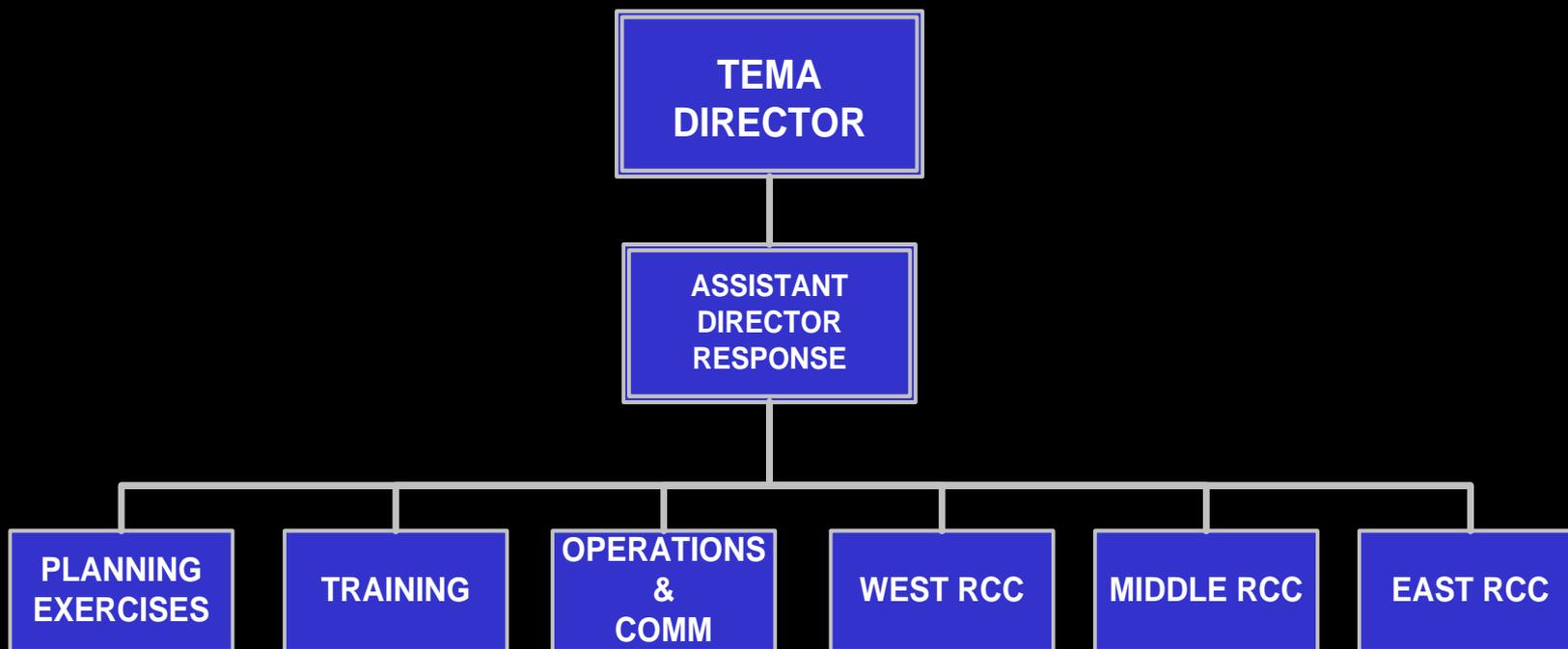


TEMA EXECUTIVE STAFF



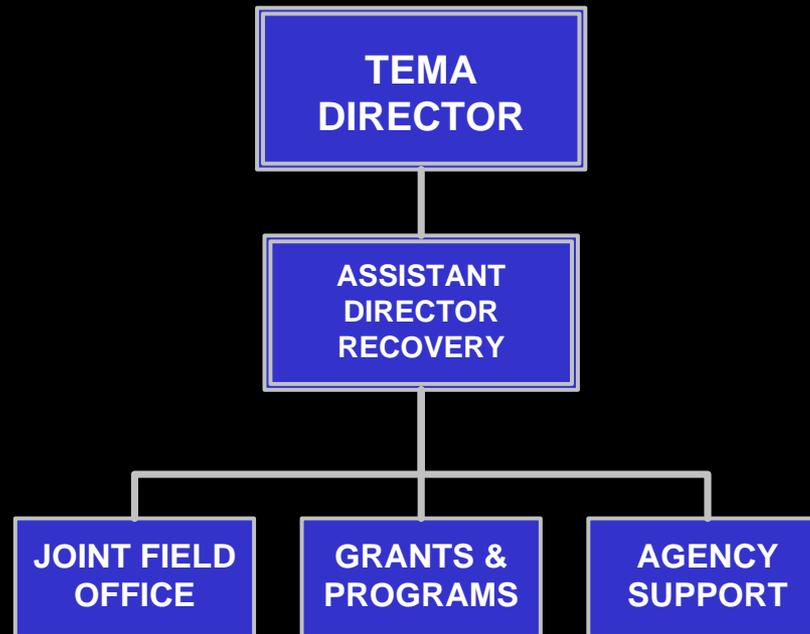


TEMA RESPONSE DIRECTORATE





TEMA RECOVERY DIRECTORATE





DISASTER



MANAGEMENT





STATE OF TENNESSEE 24 HOUR WARNING POINT MISSION COORDINATION CENTER



Statewide Communications



STATE EMERGENCY OPERATIONS CENTER



85 PIT Positions + 3 Breakout Rooms



Emergency Services Coordinator Program

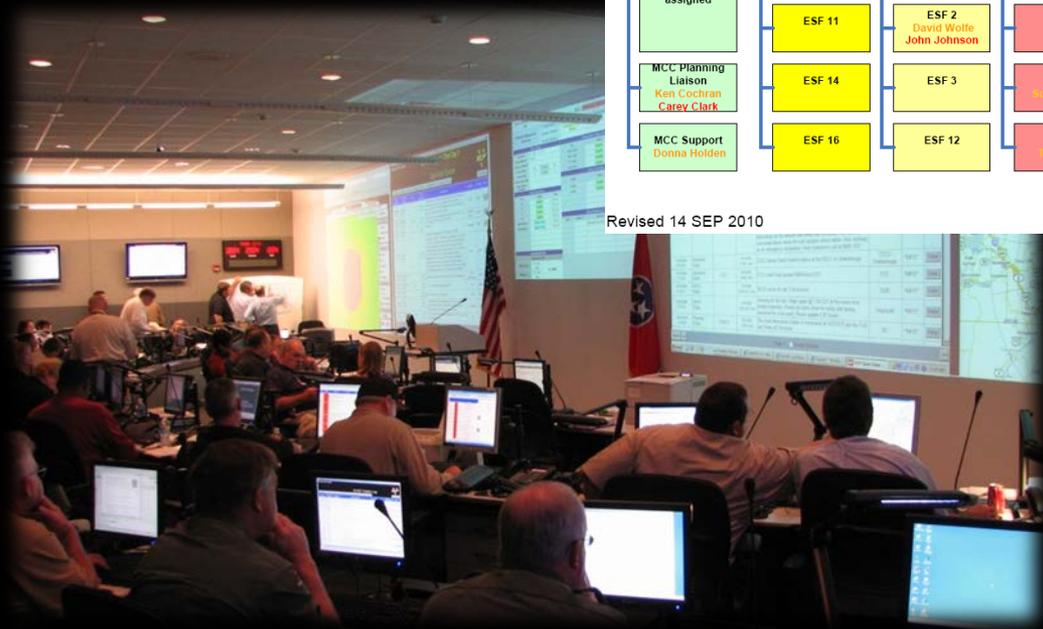
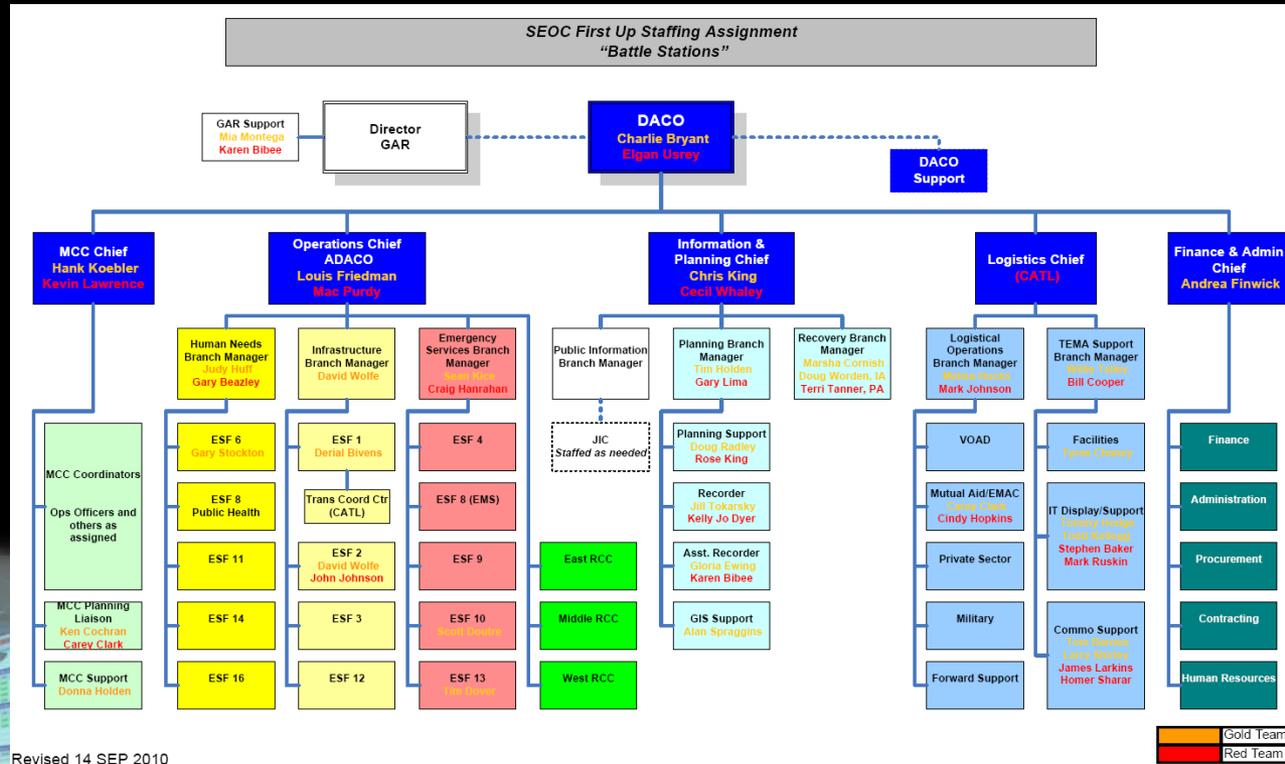
- Emergency Services Coordinator (ESC) position is established under TCA 58-2-106 & 107
- Appointed by the Commissioner or head of agency
- Jointly makes decisions to commit resources or personnel and coordinates activities with other departments and Federal agencies.



Disaster Battle Stations

SEOC

- All TEMA personnel have an additional duty or “Battle Stations”
 - Not part of day-to-day work
- Disaster staffing levels are dictated by nature of the emergency



Example:

- TVA Nuclear Plant Emergency
 - 41 TEMA Positions
 - 59 State/Other Positions
- Duty Shifts
 - 2 x 12 hour Shifts
 - Requires ~200 people



Field Mission Coordination





West Region Coordination Center



Alternate SEOC

Location:

1510 R.E. Bailey Bypass
Jackson

Staffing:

Regional Director
5 Area Coordinators
1 Planner
1 ASA

Counties: 21





Middle Region Office

Location:

1200 Foster Avenue
Nashville

Staffing:

Regional Director
7 Area Coordinators
1 Planner
1 ASA

Counties: 38

Alternate Operations
(warning point)





East Region Coordination Center



Location:

803 North Concord
Knoxville

Staffing:

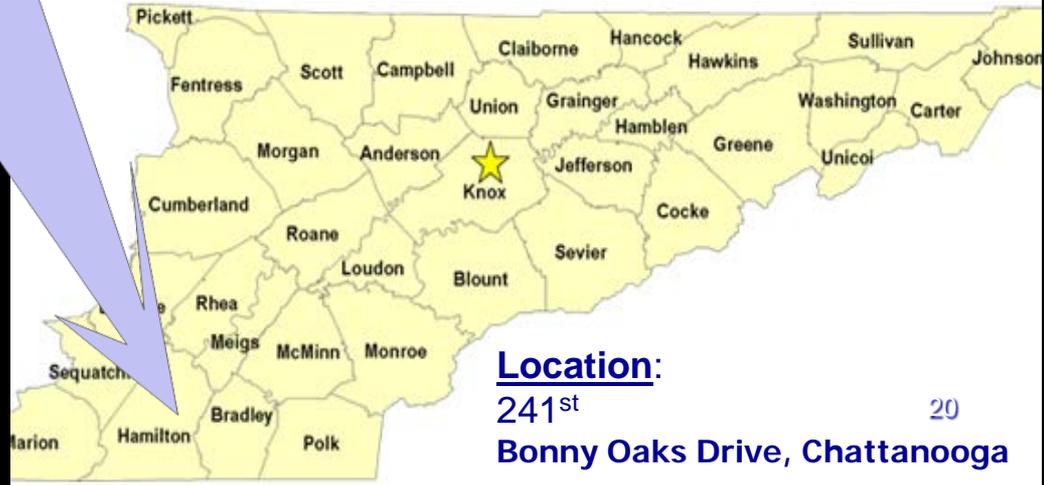
Regional Director
7 Area Coordinators
1 Environment Supervisor
2 Environment Specialist
2 Communications Techs
1 ASA

Counties: 36





TEMA East Field Coordination Center (FCC)





TN Flooding May 2010



ICS 201 Issued by TEMA Director of Operations and Communications

1. Incident Name
Weather mission

2. Date Prepared
April 29, 2010

3. Time Prepared
1600

INCIDENT BRIEFING

4. Map Sketch

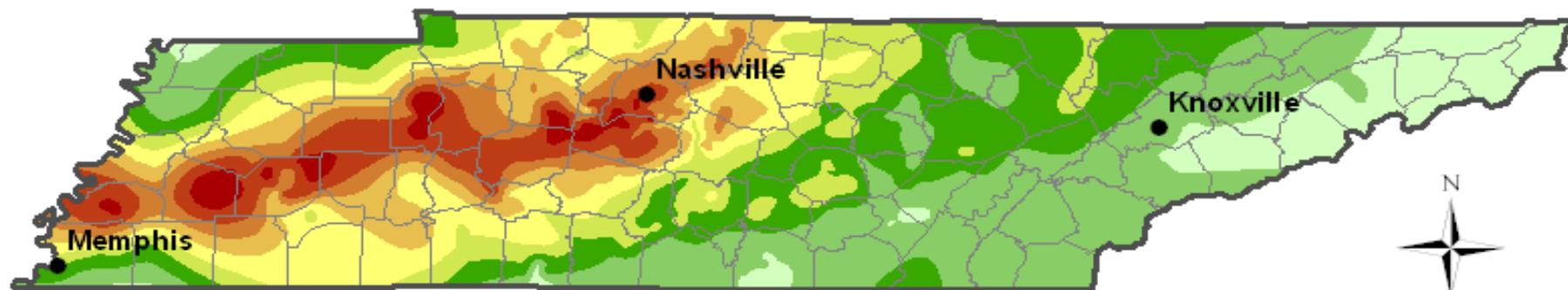


Showers and thunderstorms will begin to be possible starting late Friday afternoon/evening following a very windy day on Friday. Much of the activity may hold off into the early morning hours on Saturday. Severe thunderstorms including isolated tornadoes, damaging winds and large hail will be possible with the main threat centered on Saturday morning and afternoon. West and middle Tennessee look to see the worst of this weather.

A second round of storms can be expected centered on Sunday morning. A severe thunderstorm risk exists but most likely the most significant weather related threat will be flash flooding as our rainfall totals start to add up from the previous days storms.

Expecting 2-8 inches rain from Friday through Sunday

Weekend Rainfall Totals - May 1st & 2nd, 2010 Tennessee



Source: CoCoRaHS

0 25 50 100 150
Miles

Precipitation Contours

In Inches	
0.01" - 2.00"	8.01" - 10.00"
2.01" - 4.00"	10.01" - 12.00"
4.01" - 6.00"	12.01" - 14.00"
6.01" - 8.00"	14.01" - 16.00"
	16.01" - 20.00"



This map is an interpolation of actual reported values,
but should be considered an estimation only.

Created by the National Weather Service Forecast
Offices Nashville, Tennessee & Louisville, Kentucky



Overview 2010

**Storms on and around May 1st severe wind
Damage and caused historic flooding across the
state of Tennessee**

- **24 Fatalities**
- **1,500 Homes destroyed, 1,150 homes with major damage**
- **As many as 10,000 persons displaced**
- **102 Bridges, 239 roads, 19 Water treatment plants, 19 Compromised.**
- **Estimated over \$2,000,000,000 in damage to homes businesses and infrastructure.**





State Response to Flooding 2010

- More than 850 survivors rescued by state directed assets.
- More than 50,000 volunteers participated in the response.
- Utilized mutual aid resources from other jurisdictions.





National Guard Response to support SEOC

- Governor activated 500 Tennessee National Guard members to support SEOC
- Troops conducted water rescues with high-water vehicles.
- Established Logistical Staging Area to receive FEMA resources and delivered commodities to Points of Distribution.



Water Delivery

- TEMA Logistics coordinated water delivery from May 2nd to May 18th
- During that time, water was delivered to Benton, Cheatham, Clay, Davidson, Decatur, DeKalb, Gibson, Hickman, Perry, and Stewart Counties
- 250 truckloads (around 1.5 million gallons) of water were handled
 - Over 40 via direct ship through FEMA or TEMA procurement to counties
 - About 200 via the Smyrna or Lavinia LSA
- Davidson County was the primary receiver of aid water due to its water production limitations





Human Needs Branch

- On May 14th, the last day of SEOC staffing, ARC reported the following total numbers
 - 44 Shelters utilized
 - 6,751 Overnight Stays
 - Over 200,000 meals and snacks served
 - Over 16,000 Clean Up Kits handed out
 - Nearly 10,000 Comfort Kits handed out
 - 2,372 ARC workers deployed
 - 642 Volunteers deployed



Depopulation of Shelters:

A task force was formed to assist applicants in transitioning from shelters highlighting those that were previously in non-traditional housing such as "Tent City" that was located in Nashville

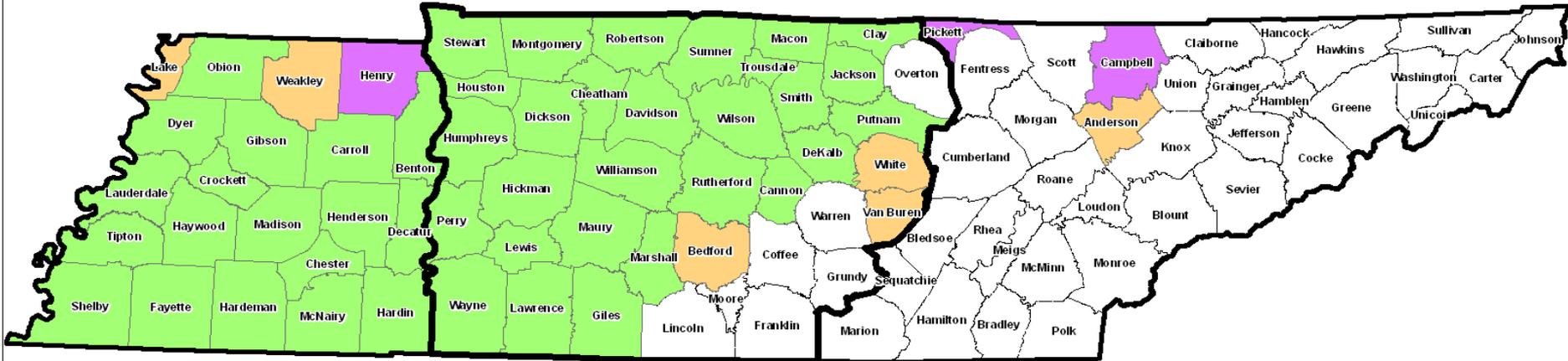
FEMA-1909-DR-TN - Tennessee Flooding DESIGNATED COUNTIES - As of June 11, 2010

Incident Period: April 30, 2010 - to - May 18, 2010

West Branch
TEMA WEST REGION

Middle Division
TEMA MIDDLE REGION

TEMA EAST REGION



Area of Detail



55

FEMA-1909-DR-TN Designated Counties - As of June 11, 2010

- Individual & Public Assistance - Category A-G & DFA (46)
- Public Assistance - Category A-G & DFA (3)
- Other Requested (6)



Source FEMA GIS
Date: June 11, 2010
DEC_20100611.mxd

*Note: All Counties Eligible for Hazard Mitigation under FEMA-DR-TN-1909

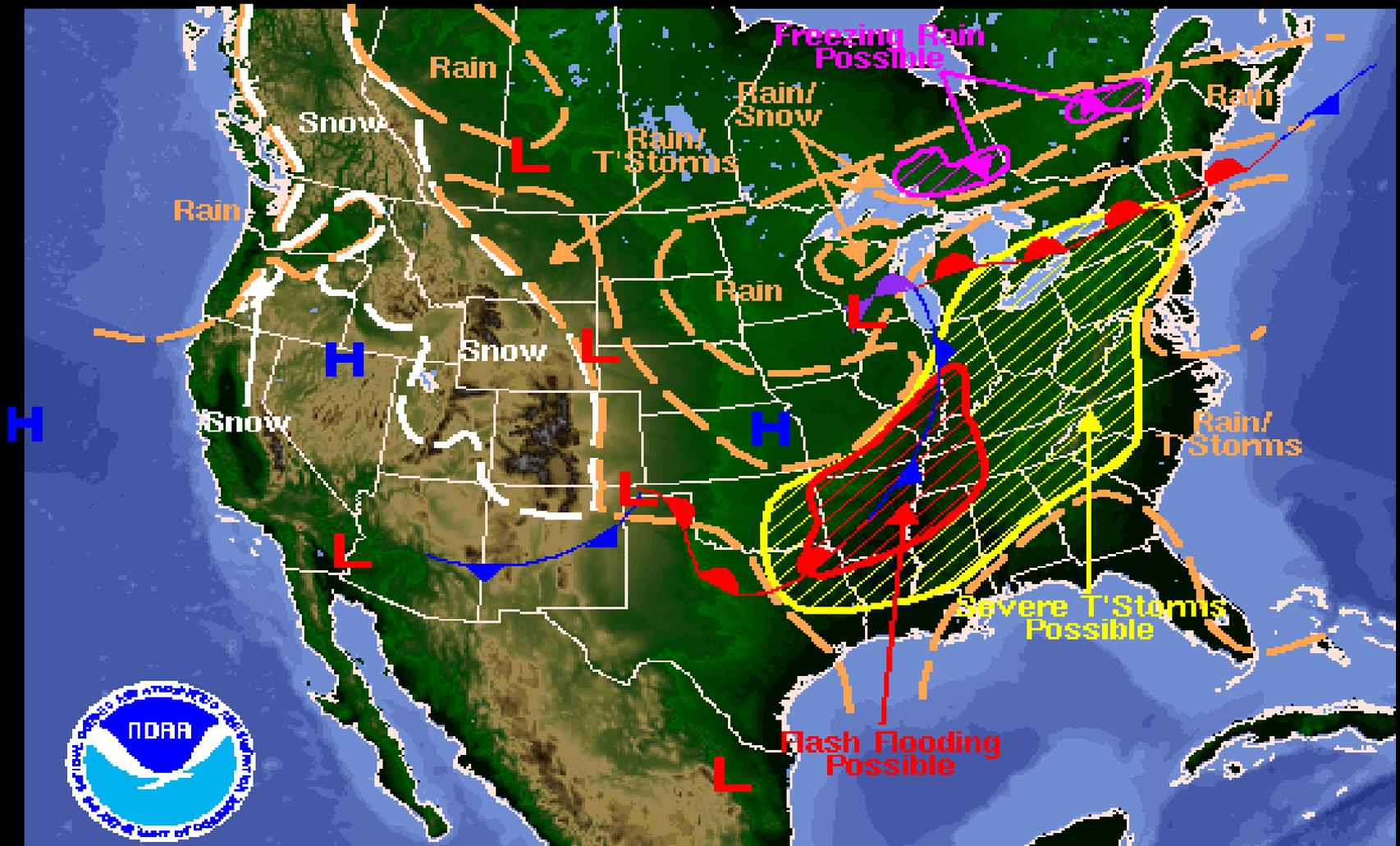
TENNESSEE EMERGENCY MANAGEMENT AGENCY



Severe Weather/Flooding 2011 in Review



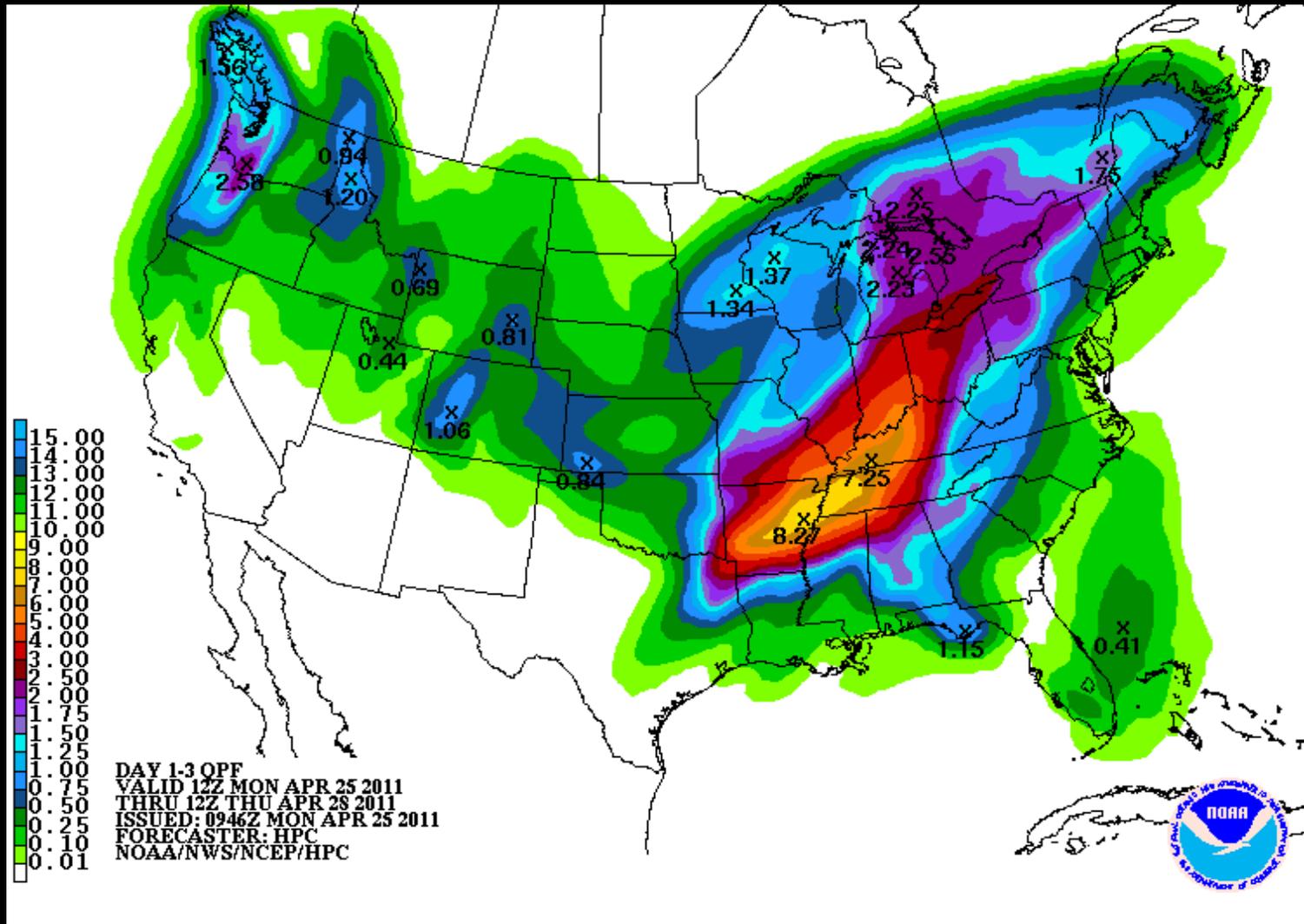
Forecast Weather – 26 Apr



Weather Forecast for Tue, Apr 26, 2011, issued 4:58 AM EDT
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center
Prepared by Gerhardt based on HPC, SPC, and NHC forecasts



Forecast Rain Fall 25 – 28 Apr





Actual Rainfall 25 – 27 Apr

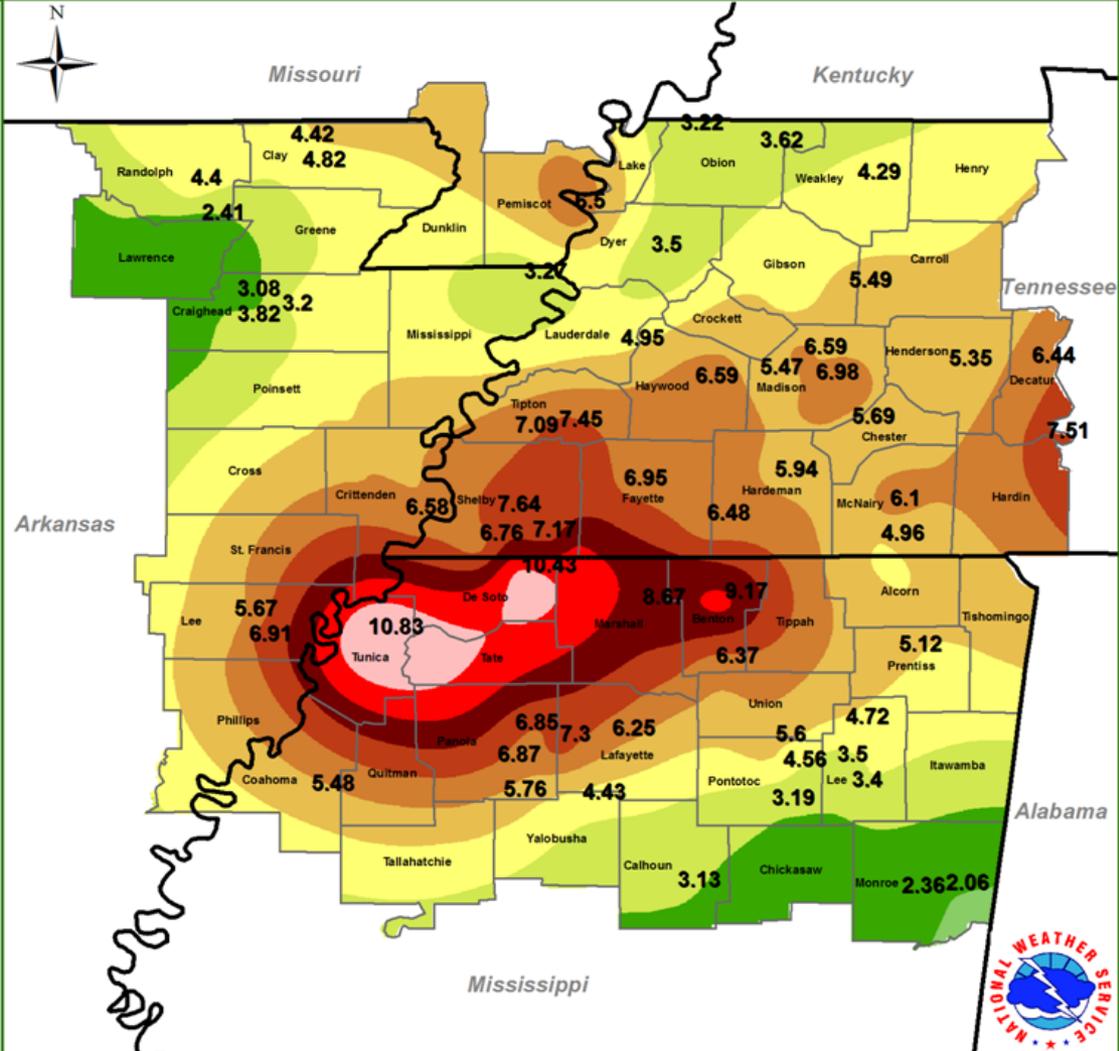
NWS Memphis Precipitation - April 25th - 27th, 2011

This map is an interpolation of actual reported values, but should be considered an estimation only. Not all reports used in the analysis will be displayed due to space constraints. Reports are precipitation for the above mentioned period.

Precipitation Contours In Inches



0 12.5 25 50 Miles





Order of Events

- **4 April – Sev. Storms, Tornadoes, Wind, Flooding (9)**
- **19 Apr – 7 June – Sev. Storms, Tornadoes, Wind, Flooding (9)**
- **25 – 28 April – Sev. Storms, Tornadoes, Wind, Flooding (35)**
- **18 – 24 June – Sev. Storms, Tornadoes, Wind, Flooding (6)**

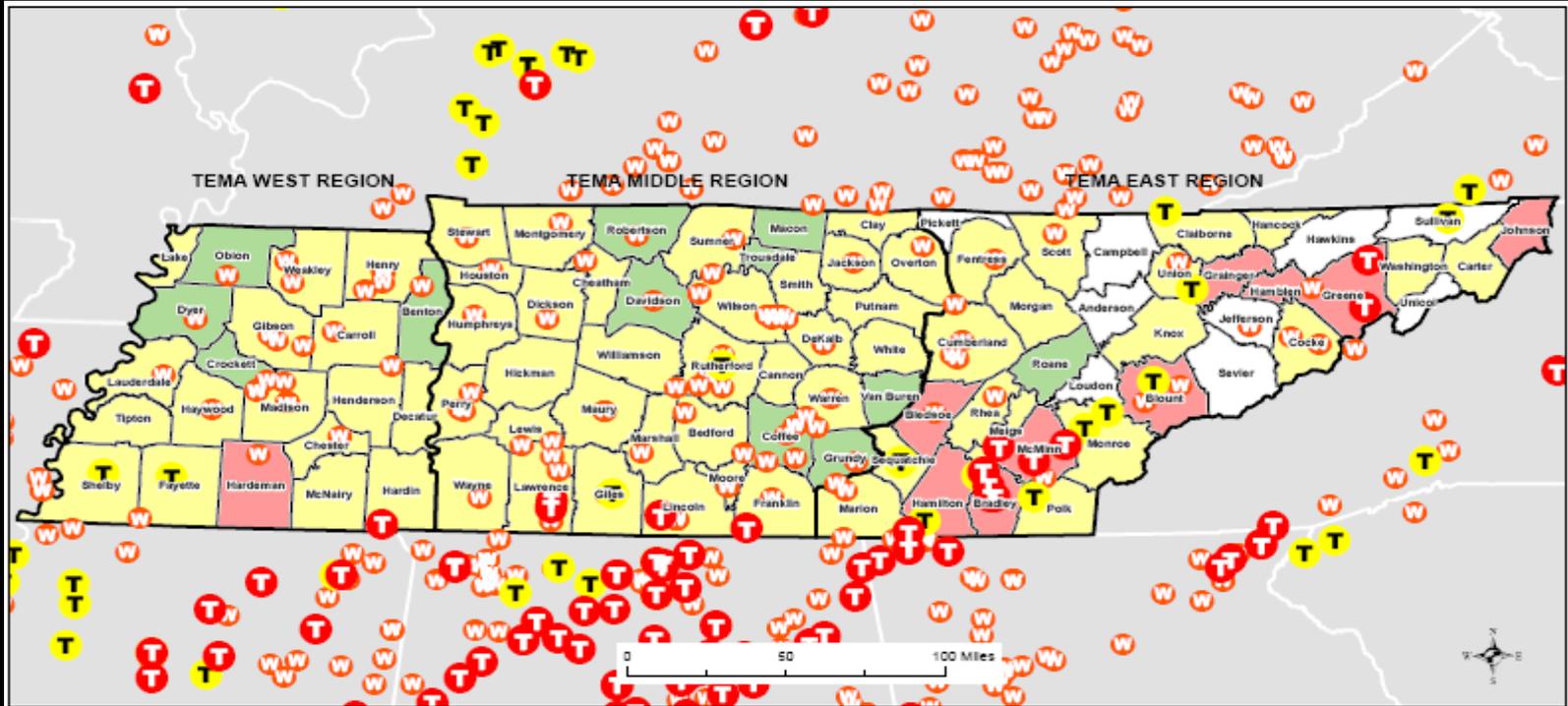
- **NWS/COE Briefings (53+)**





INITIAL DAMAGE REPORTS

26 – 28 APR



LOCAL STORM REPORTS APRIL 26-28, 2011

-  TORNADO
-  FUNNEL CLOUD (NOT ON GROUND)
-  NON-THUNDERSTORM WIND DAMAGE
-  THUNDERSTORM WIND DAMAGE

County Damage Reports (ESF 5)

-  No Report
-  No Significant Damage Reported
-  Reported Damage
-  Reported Damage and May Require Assistance



Last Update (Central Time):
4/28/2011 3:01:25 PM



Severe Weather Impact

- Department of Health confirmed 38 fatalities
 - 37 due to the tornadoes
 - 1 due to the west TN floods
- Statewide -- 94 injuries in Tennessee.
- Fatalities by County
 - Hamilton County - 11 fatalities
 - Bradley County - 9 fatalities
 - Greene County - 7 fatalities
 - Bledsoe County - 4 fatalities
 - Johnson County - 2 fatalities
 - Crockett County - 1 fatality (floods)
 - Franklin County - 1 fatality
 - Sequatchie County - 1 fatality
 - Washington County - 1 fatality
 - Williamson County - 1 fatality



More than 1,200 homes were destroyed or received major damage in 60 counties. Roads, bridges, utilities and businesses were also significantly affected. (>8000)



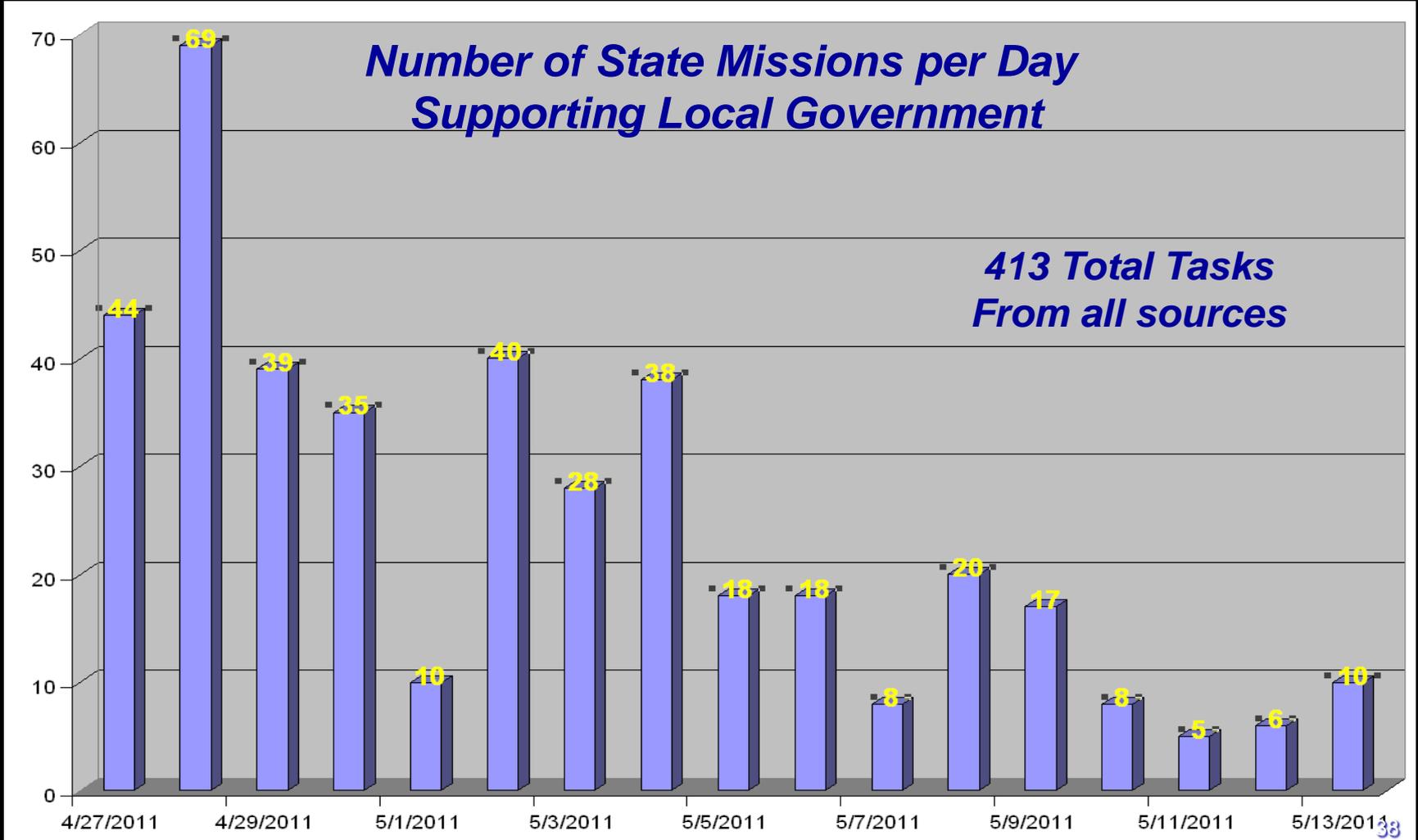
Operations Tempo

- 697 Related Severe Weather Watches & Warnings issued
- 420 Data Entries/Action
 - 212 – Tornado Related
 - 208 – Flood Related
- Information Entries
 - 62 - Information





SEOC Response—MCC Tasks





National Guard Support

- Over 730 Mandays were expended by soldiers and airmen of the TN National Guard
- Provided support to a variety of Emergency Service Functions during the response
 - Mission areas included:
 - Rotary Wing Air Operations
 - Liaison officers to support TEMA West Region
 - Water rescue, evacuation involving 10 high water vehicles with supporting equipment and staff
 - Sandbagging equipment with support staff
 - Two generators with maintenance and operations team
 - Logistical warehouse operations support at two locations
 - Logistics Staging Area Site Survey of 4 locations
 - Ground Transportation Support
 - Armory support for sheltering operations



SEOC Logistics Response

Total Transportation Missions--87 Missions

- Ground Transportation: 25 Total Missions
 - Tennessee National Guard 10 Truckloads
 - General Services Motor Vehicle Management 6 Truckloads
 - Department of Corrections 2 Truckloads
 - Private Sector 5 Truckloads
 - FEMA Contract Carrier 2 Truckloads
- Air Transportation: 61 Total Missions
 - Tennessee Army National Guard 12 Rotary Wing Missions
 - Tennessee Highway Patrol 12 Rotary Wing Missions (estimate)
 - Tennessee Wildlife Resources Agency 2 Fixed Wing Missions
 - Tennessee Civil Air Patrol 35 Fixed Wing Missions
- Rail: 1 Mission
 - Tennessee Department of Transportation 1 rail mounted bus

Emergency Procurement

- Significant Purchases
 - Forklift (5,000 lb capacity)
 - 156,000 Sand bags
 - 100 Uni-Pac Sets (cots/bedding/sundry items = 1,000 pax)
 - 470+ Barricades (including road closed signs)
 - 100 Tarps
 - 75 Pallets of Water
 - 6 Generators
 - Computer/Radio Equipment and Supplies



Emergency Procurement

- Significant Rentals
 - Ice Machines
 - Port-a-Potties
 - Skid Loaders
 - Tents
 - Portable Water Treatment Filter
 - Transportation Rail Truck
 - Fuel Truck
 - Trac Excavator
 - Message Boards
 - Diesel and Unleaded Pumper Trucks
 - Flood Lift Pump





WEST TENNESSEE DEPLOYED FORCES





TEMA Web Site



Tennessee Emergency Management Agency
James Bassham, Director



GOVERNOR
Bill Haslam
Visit Bill's Web Site

 Search

For Residents

For Visitors

For Business

For Emergency Mgrs

For the Public

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Employment

Legal Announcements

Event History

Newsroom

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Related Resources

- [FEMA](#)
- [Official Weather](#)
- [Tier-II Reporting](#)
- [Donations to Disaster Victims](#)
- [Register for the Great Central U.S. Shakeout](#)

TEMA Headlines



Tornado hits Big Rock, Stewart County, Tenn.



PictoBrowser

Disaster Assistance Information

May 18, 2011 | 1:54 pm

The Federal Emergency Management Agency has declared 15 Tennessee counties – Bledsoe, Bradley, Cocke, Dyer, Greene, Johnson, Hamilton, Lake, McMinn, Monroe, Obion, Rhea, Shelby, Stewart and Washington – eligible for federal assistance to individuals and families who have suffered damage from the recent tornadoes, storms and flooding. Disaster assistance in these counties to date: Individual Registrations [...]

Disaster Recovery Centers Open in West Tennessee



SEOC Activation Level





Public Information Disaster Summary

- TEMA's media operation handled more than 630 media inquiries by phone and reached more than 200,000 individuals directly with information published online or through social media.
- 2011 Disaster Outreach Stats:
 - 22,000 unique visitors to TEMA's website
 - 23,262 views of maps and photos on Flickr
 - 112,000 impressions on Facebook
 - 21,798 views of news releases on TN.gov Newsroom.



Public Information

- **PIO Staffing included**
 - Up to 18 state PIOs per week
 - PIOs supported multiple locations
 - SEOC, Deployed JIC of media room
- **Activities included**
 - Interviews with local and national media outlets via phone
 - Televised interviews
 - Production of daily Senior Leadership Briefing for Governor
 - Twice-a-day situation updates for website
 - Including photos and situational maps
 - Dozens of press releases written and many more coordinated with local, state and federal partners



TN Designated Counties as of July 20, 2011

FEMA-1965-DR-TN
 Incident: Severe Storms, Tornadoes, and Flooding
 Incident Period: February 28, 2011 to March 1, 2011
 Declared: March 31, 2011

FEMA-EM_3321
 Incident: Flooding
 Incident Period: April 26, 2011 - June 7, 2011
 Declared May 4, 2011
 Amendment No 1: June 7, 2011

FEMA-1974-DR-TN
 Incident: Severe Storms, Tornadoes,
 Straight-Line Winds, and Associated Flooding
 Incident Period: April 25, 2011 to April 28, 2011
 Declared: May 1, 2011

Amendment No 1: May 4, 2011
 Amendment No 2: May 27, 2011
 Amendment No 3: June 2, 2011
 Amendment No 4: June 7, 2011

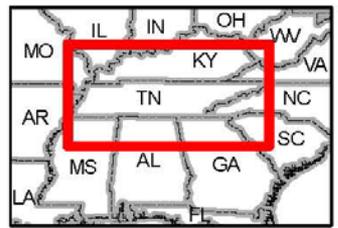
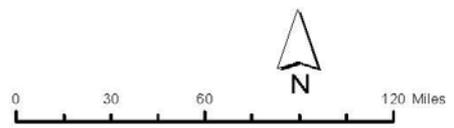
FEMA-1978-DR-TN
 Incident: Severe Storms, Flooding,
 Tornadoes, And Straight-Line Winds
 Incident Period: April 4th, 2011
 Declaration Date: May 9th, 2011

FEMA-4005-DR-TN
 Incident: Severe Storms, Straight-Line Winds,
 Tornadoes, and Flooding
 Incident Period: June 18th, 2011 to June 24th, 2011
 Declared: July 20, 2011

FEMA-1979-DR-TN
 Incident: Severe storms, tornadoes,
 straight-line winds, and flooding
 Incident Period: April 19th, 2011 and continuing
 Declaration Date: May 9, 2011
 Amendment No 1: May 26, 2011
 Amendment No 2: June 1, 2011
 Amendment No 3: June 7, 2011
 Amendment No 4: June 21, 2011



All Counties are eligible to apply for assistance under the Hazard Mitigation Grant Program.



LOCATION

	TEMA Regions	DR_1974_4		IA/PA
	TN Time Zone	DR_1979_4		IA
	DR_1965	Dr_1978		IA/PA
	PA Only (#13)			PA
				PA Only (#9)
				PA
		DR_4005		PA

Designated Counties

65 Counties with designations
 102 Designations
 29 Counties declared with 2 or more disasters

After Action Review Severe Weather/Flooding 2011 April-May 2011

Think Positive, there is always someone waiting to pick us apart!



TEMA utilizing a FEMA Grant independent contractor to conducted AAR Interviews and currently assembling the report



“Flags of Disaster”



Questions



Charles Bryant

Assistant Director
Tennessee Emergency
Management Agency

731 234-1516

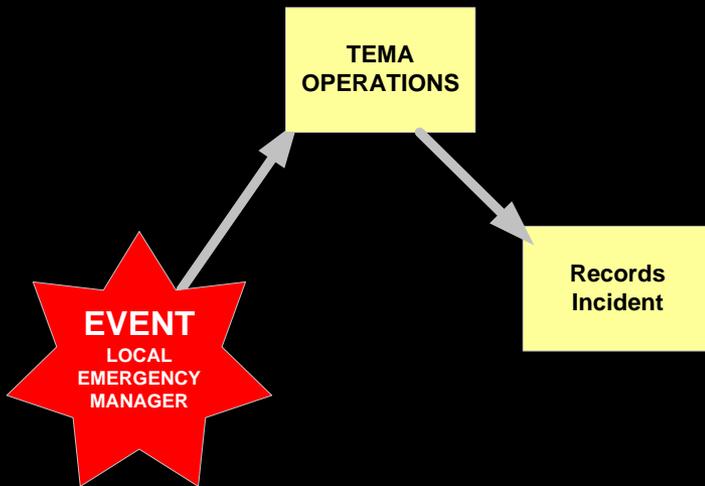
cbryant@tnema.org

“Failure is Not an Option”

Event Notification Process & Resource Support to Local Government

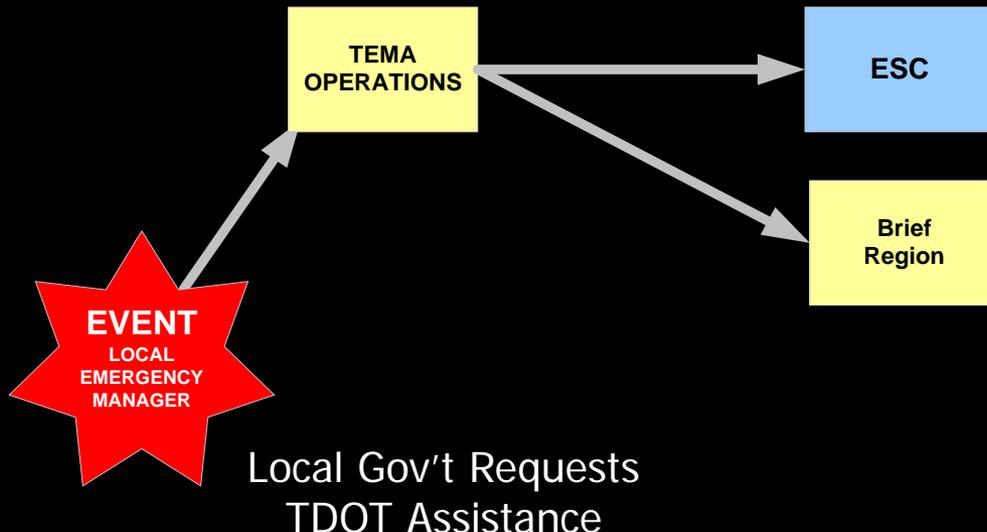
Locals Notify TEMA

- Local Event major emergency or possible disaster.
- Regulatory reporting requirements--HAZMAT



Locals Request Assistance

- Local Event exceeds capabilities of Jurisdiction
- TEMA Operations coordinates with Department ESC to support local request



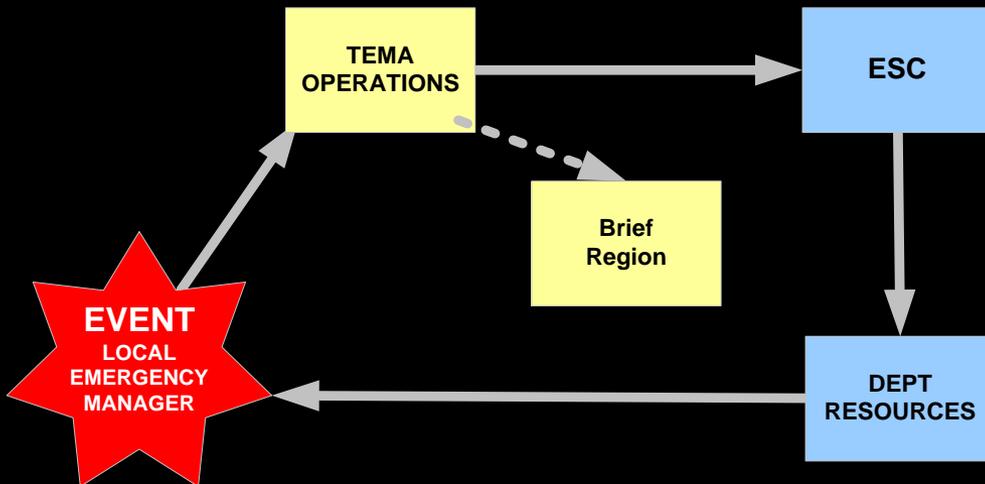
For Example

Typical Support to Locals

- Department Resources deployed to assist locals
 - Event worked without TEMA field response



TDOT Sign Boards Deployed

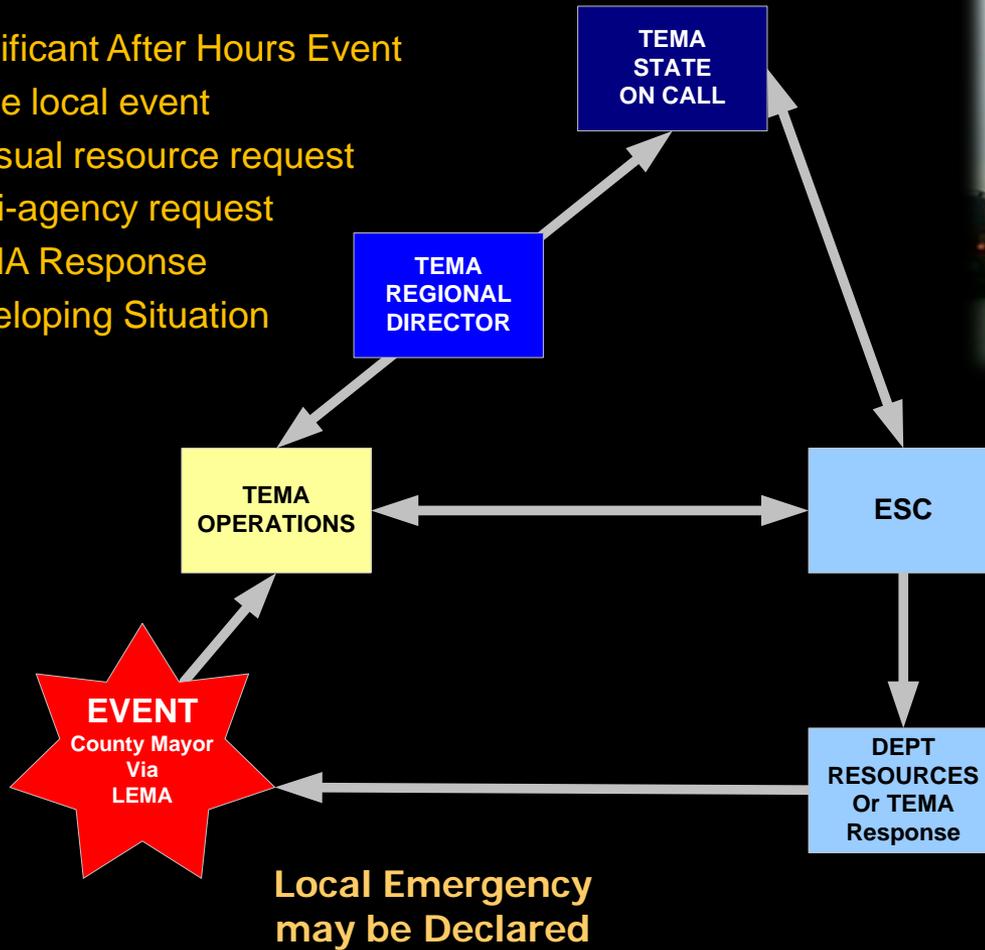


Typical Daily Event

TEMA State On-Call Involvement

- TEMA Operations Consultation with SOC

- Significant After Hours Event
- Large local event
- Unusual resource request
- Multi-agency request
- TEMA Response
- Developing Situation



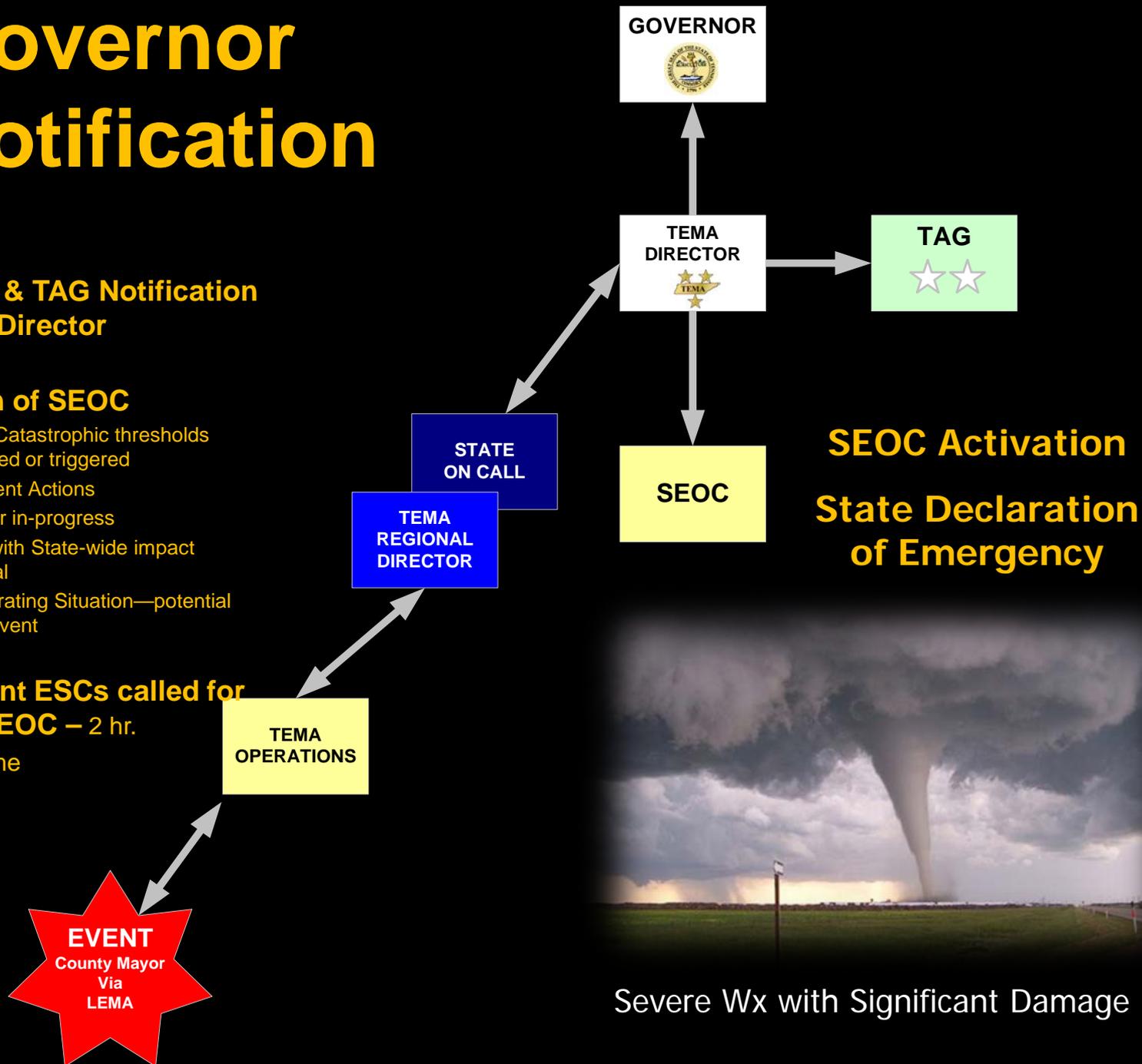
Governor Notification

Governor & TAG Notification by TEMA Director

Activation of SEOC

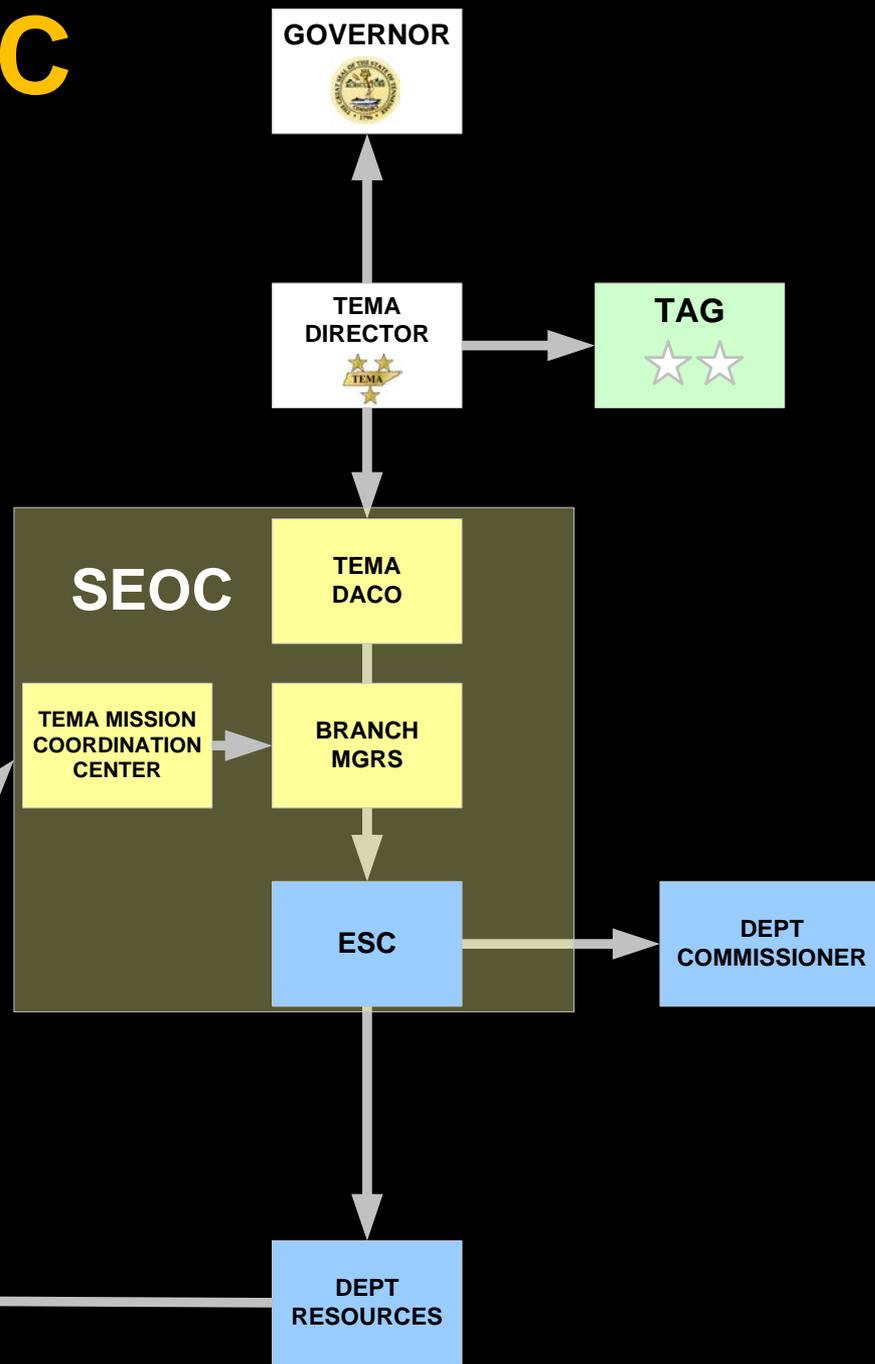
- TEMP Catastrophic thresholds exceeded or triggered
- Pre-Event Actions
- Disaster in-progress
- Event with State-wide impact potential
- Deteriorating Situation—potential major event

Department ESCs called for duty at SEOC – 2 hr. response time



Severe Wx with Significant Damage

On-going SEOC Operations



- **SEOC Mission Coordination Center**

- Provides Clearing House for Resource Requests

- **Notification and Updates to Governor & Cabinet**

- Verbal – major developments
 - TEMA Director – Governor
 - ESC – Commissioner
- SEOC Flash Reports
- Daily SITREPs
- WEBEOC Access

THREATS In TENNESSEE



DOE Oak Ridge



Winter Weather



Tornados



Flooding



Pandemic



TVA Nuclear Facilities



Terrorism



Hazmat



Order of Events

- **Wx Briefings:**
 - 4 from Mar 4-22 – leading to Svr Wx # 13,17,18
 - 7 from Apr 3-11 – leading to Svr Wx # 20,22,23,24
 - 38 from Apr 14-May 5 – leading to Svr Wx # 29,30,32
 - 3 May 9-10 - leading to Svr Wx # 36
 - 1 May 16 – leading to Svr Wx # 38
- **Severe Weather Missions / no Wx Briefings**
 - May 25-30, Svr Wx # 40
 - June 5-14, Svr Wx # 42, 45, 46, 48, 50

