



"Serving Our Commonwealth"

SITUATIONAL AWARENESS LOCAL to MULTISTATE

CAPSTONE





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CENTRAL UNITED STATES EARTHQUAKE CONSORTIUM

THE REGIONAL VIEW



Michael E. Dossett, Director
Kentucky Emergency Management





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Alabama
Arkansas
Illinois
Indiana
Kentucky
Mississippi
Missouri
Tennessee



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New Madrid Seismic Zone when a 7.7 magnitude hits

- Home to 50 million people
- Major river transportation
- 86,000 casualties
- 7.2 million displaced
- Direct economic losses of \$300 billion
- Indirect economic losses of \$600 billion +



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New Madrid Seismic Zone when a 7.7 magnitude hits

- **Disruptions to supply chains**
- **Damage to oil & gas pipelines interrupt nationwide service**
- **3,500 bridges damaged**
- **715,000 buildings damages**
- **2.6 million households
without power**
- **130 hospitals damaged**



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Value of Sharing Information

- Increased quality of plans
- Faster & better allocation of limited resources
- Gives executive leadership accurate and standardized information
- Increases governmental cross-sector involvement
- Gives Private Sector a “one stop shop” for information





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Value of Sharing Information

- **Shelters & Short Term Housing**
- **Points of Distribution**
- **Establish local government sites**
- **Re-construction sites**
- **Re-open business**



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Federal – State – Local

Leverage Spatial Database

Energy

Medical Services

Transportation

Communications

Water



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Federal – State – Local

- Robust Capabilities
- Support All Missions
- Stakeholder Outreach
- Common GEO Platform
- Leverage Spatial Data
 - Energy
 - Medical Services
 - Transportation
 - Communications
 - Water



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Common Layers

- COP
- Situational Awareness
- Spatial Analysis
- Damage Assessments
- Prior Mitigation Efforts
- Census Data
- SES
- Buyout Information
- Flood Hazard
- Prior Grant Projects



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A View From the Commonwealth: “the role of the middleman”

Doug Eades, GIS Lead
Kentucky Emergency
Management





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Why Share Information?

How Hard Can it Be?

- **Our partners have their own systems**
- **Partners have their own definitions**
- **Partners need more data than they own**
- **This leads to "re-creation" of information – which may or may not be accurate**
- **We all operate in a silo**



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Challenges

- **Sustainability**
- **Cooperation from partners
(breaking down the barriers)**
- **Setting agreeable data standards across
multiple organizations**
- **Sustainability**
- **Sustainability**



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How did we get here?

KAATS
Kentucky Awareness Analytical Tracking System

AGOL Portal

Missouri 5 results Logout
KentuckyEM

KYEM Public Maps All AGOL My Groups

Search My Group: CUSEC: Core EEIs

Sort By: Relevance Title Owner Rating Views Date

MO Airport status
Feature Service by missouri_sema
Last Modified: June 17, 2014
★★★★★ (0 rating, 0 views)

MO Hospital Status
Feature Service by missouri_sema
Last Modified: June 17, 2014
★★★★★ (0 rating, 0 views)

NISC National Information Sharing Consortium

Latitude: 40.385845 Longitude: -87.132693

POWERED BY esri



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CUSEC State EM Directors – shared information

Transportation:

- Air
- Rail
- Roads
- Waterways
- Fuel

Infrastructure:

- Electricity Grid
- Natural Gas Grid
- Water Grid
- Private Sector Infrastructure

Operations:

- Area Command Locations
- Communications
- Evacuation Orders
- Hospital Status
- Injuries and Fatalities
- JRSOI Sites
- Points of Distribution (PODS)
- Shelters
- Staging Areas

USGS Impact Assessment / Damage Estimates

18 Essential Elements of Information (EIs)



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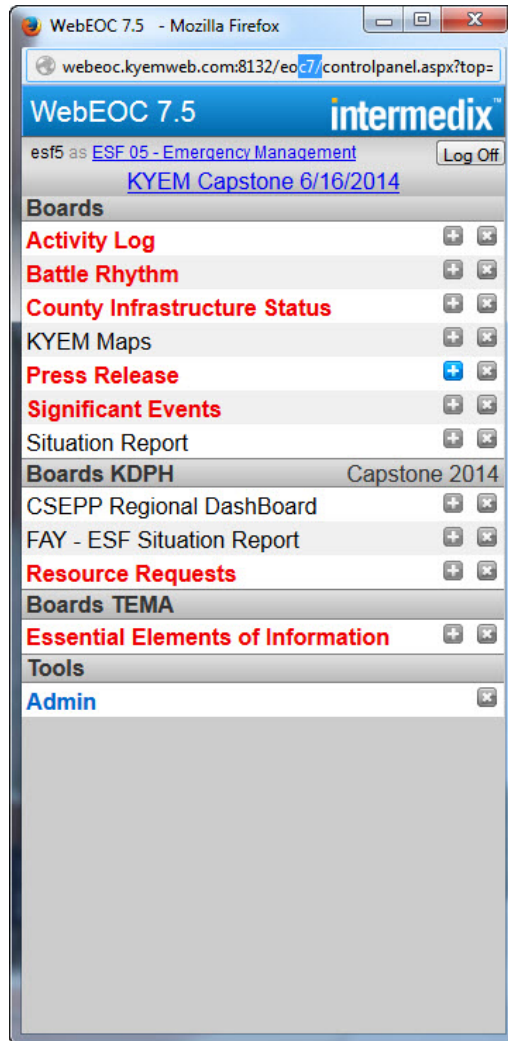
Benefits of Using EEs

- **Covers most response partners’ basic data needs**
- **Establishes a “starting point” in data sharing between agencies/organizations**
- **When applied properly, establishes an “end point” for data sharing**
- **Broader audience understands the meaning behind the map**
- **Data owners maintain control (access/QC) of their information**



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What technology was deployed?



WebEOC Technology Platform





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webdoc.kyemweb.com/192/coc/boards/boards.aspx?tableid=126&viewid=666&id=12646

Update Record 31

Save Spell Check Cancel

Ballard County in Kentucky

Electricity Grid	Unknown	
Natural Gas Grid	Unknown	
Public Water Grid	Unknown	
Road/Bridge Status	Yellow	Strutctal damage reported on the Cairo Ohio River Bridge (KY-US51/60/62)
Railroad Network	Unknown	
Navigable Waterways	Unknown	
Air Transportation Infrastructure	Unknown	
Area Command Locations	Unknown	
Staging Areas	Unknown	
Points of Distribution (PODS)	Unknown	
Joint Reception, Staging, Onward Movement and Integration(JRSOI)	Unknown	
Evacuation Orders	Unknown	
Injuries and Fatalities	Unknown	
Shelters	Unknown	
Private Sector Infrastructure	Unknown	
US Geological Survey Data	Unknown	
Communications	Red	loss of communication and the EOC has been destroyed. Operating on HAM Radio and
Hospital Status	Unknown	



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webeoc.kyemweb.com:8132/eoc7/boards/board.aspx?tableid=126&viewid=686&tuvid=1.2040

KYEM Capstone 6/16/2014

Essential Elements of Information



County	Electricity Grid	Natural Gas Grid	Public Water Grid	Road/Bridge Status	Railroad Network	Navigable Waterways	Air Transportation Infrastructure	Area Command Locations	Staging Areas	Points of Distribution(PODS)	JRSOI	Evacuation Orders	Injuries and Fatalities	Shelters	Private Sector Infrastructure	US Geological Survey Data	Communications	Hospital Status	Updated	Detail	Edit
Anderson , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/13/2014 23:32:52		
Ballard , KY	Unknown	Unknown	Unknown	Yellow	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/17/2014 13:40:31		
Calloway , KY	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Green	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/16/2014 13:24:57		
Carlisle , KY	Red	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/18/2014 14:19:25		
Daviess , KY	Unknown	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/16/2014 13:45:31		
Franklin , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/14/2014 08:34:48		
Fulton , KY	Unknown	Unknown	Red	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	Red	Unknown	06/18/2014 10:15:29		
Graves , KY	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/17/2014 08:31:24		
Hardin , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Green	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/16/2014 11:21:00		
Henderson , KY	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/16/2014 14:07:42		
Hickman , KY	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/16/2014 11:16:12		
Hopkins , KY	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/16/2014 13:32:49		
Jackson , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/18/2014 14:02:57		
Livingston , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/18/2014 10:16:00		
Lyon , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/18/2014 14:21:38		
Marshall , KY	Unknown	Unknown	Yellow	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Yellow	Unknown	Unknown	Red	Unknown	06/18/2014 10:56:45		
McCracken , KY	Unknown	Unknown	Red	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Yellow	Red	Unknown	06/18/2014 13:27:20		
Ohio , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/12/2014 22:34:10		
Trigg , KY	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Red	Unknown	06/16/2014 10:43:58		
Union , KY	Red	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	06/17/2014 10:00:00		





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[HOME](#) [GALLERY](#) [MAP](#) [GROUPS](#) [MY CONTENT](#) [MY ORGANIZATION](#)

Doug ▾



**Kentucky
Division of
Emergency Management**



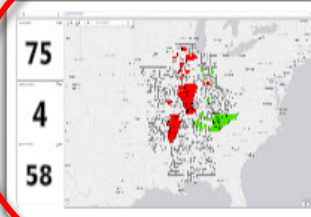
KYEM Public Maps



[Damage Assessment Update](#)



[DamageAssessment_CUSEC_I](#)



[FEI Overview Status -
Operation View](#)



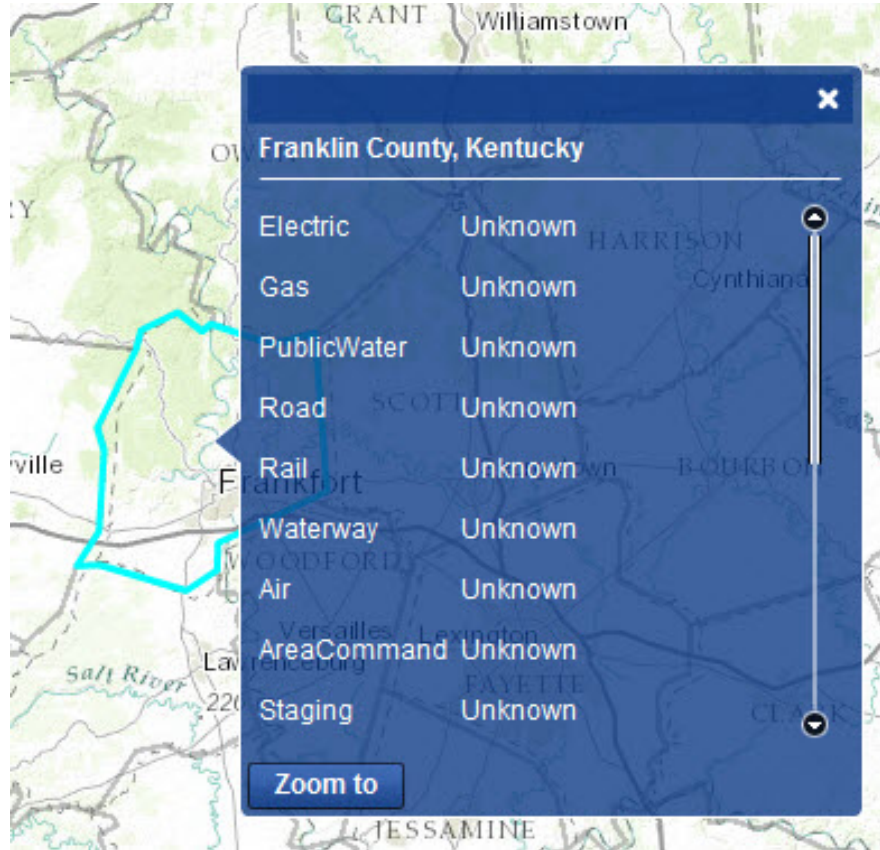
[Kentucky Hospitals](#)

[Esri.com](#) | [ArcGIS Marketplace](#) | [Help](#) | [Terms of Use](#) | [Privacy](#) | [Contact Esri](#) | [Report Abuse](#)

ESRI ArcGIS Online



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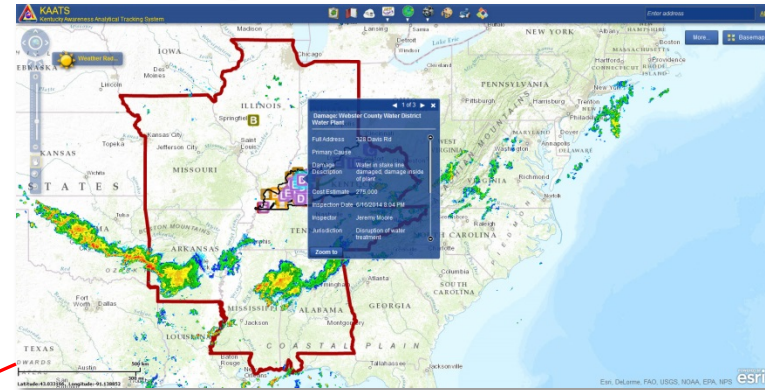


ArcGIS rest service
end point
created with
data from
WebEOC
fusion
board



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Damage Assessments



1 of 4

Damage: Muhlenberg Community Hospital

Inspection Date: 01/16/2014 2:00 PM

Inspector: 12178

Jurisdiction: Minor

Comments

Photo 1.jpg 165.70 KB

Photo 2.jpg 185.10 KB

Zoom to

ArcGIS API for Flex | Ar...

Completed Assessments

0 7% 100

Threshold: 80%

% Complete

PA Total Dmg Assmt

1,204,192.19

Running total of statewide PA dmg assessments



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FILE TOOLS VIEW Multidisplay Public Facilities Damage Assessment - DE

Legend

- B Inaccessible
- B Affected
- B Minor

Total Damages Report...

42,917,997.00

Govt Infrastructure Damages in \$

Completed Assessments

Damage Threshold

KYEM Damage Assessment Map

Details

Greenriver bridge

Inspector y

37.612737N 087.489531W

Public Facilities

Search

- C Greenriver bridge Assessed by Jeremy Moore
- G Employee walking trail Assessed by Emily Bartee
- C National Guard Road Assessed by Emily Bartee

Assessed Public Facilities

Cost Estimate

Cost Estimate by County

Operations dashboard – numbers behind the pictures



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The EMAC logo is a registered trademark



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Organization Detail: Indiana National Guard Aviation UH60

Organization

- Information
- Organizational Roles
- HRP Details
- Current Status
- Mission History
- Documents
- Positions
- Requirements/Inventory
- Offerings
- HRP Costs
- Notes

Current Status

Mission Title:

Location:

Deployment Date: /

Type of Deployment:

State/Country:

Lat/Long:

Status: Available

Status Explanation:

Total Cost:

Organization Detail: Indiana National Guard Aviation UH60

Organization

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Current Status

Mission Title:

Location:

Deployment Date: /

Type of Deployment:

State/Country:

Lat/Long:

Status: Available

Status Explanation:

Total Cost:

Mission History

Mission Title	Location	Start/End Date	Type	Status	Explanation	Total Cost	Created	Modified

MASS 1.0 database

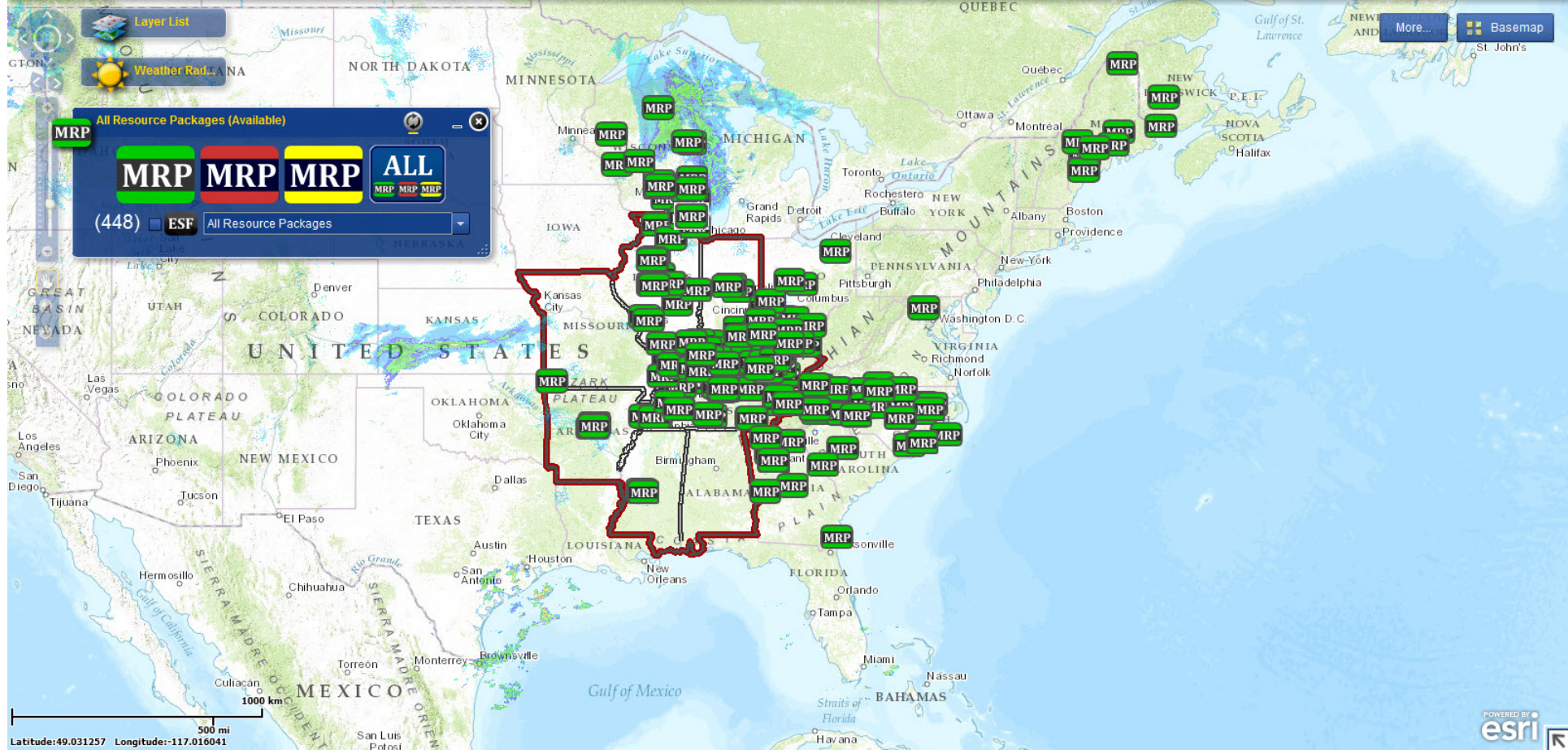


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KAATS
Kentucky Awareness Analytical Tracking System



About



MASS During Capstone



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KAATS
Kentucky Awareness Analytical Tracking System

Layer List
Weather Rad...

All Resource Package (448 Available)
MRP MRP MRP ALL
(448) ESF All Resource Packages

Indiana National Guard Aviation UH60
MRP Name: Indiana National Guard Aviation UH60
MRP Type: Rotary Wing (UH-60) Force Package (RWFP UH-60) Type 1
NIMS Category: Transportation ESF-1
NIMS Type: 1
Mission Capabilities: to rapidly respond to events within the state and provide Command and Control of aerial capabilities to support Emergency Management in restoring normal conditions to affected areas.
MRP Status: Available
Cost Notes: COST PER DAY:
PERSONNEL: \$789.00
EQUIPMENT: \$11,563.16 (\$2890.79 x 4 hr)
TOTAL: 12,352.16
POC Last Name: Winslow
POC First Name: Tim

Latitude:35.330571 Longitude:-97.610897

Identification of Mission Ready Packages



From the County Level Up: Providing info at the scene

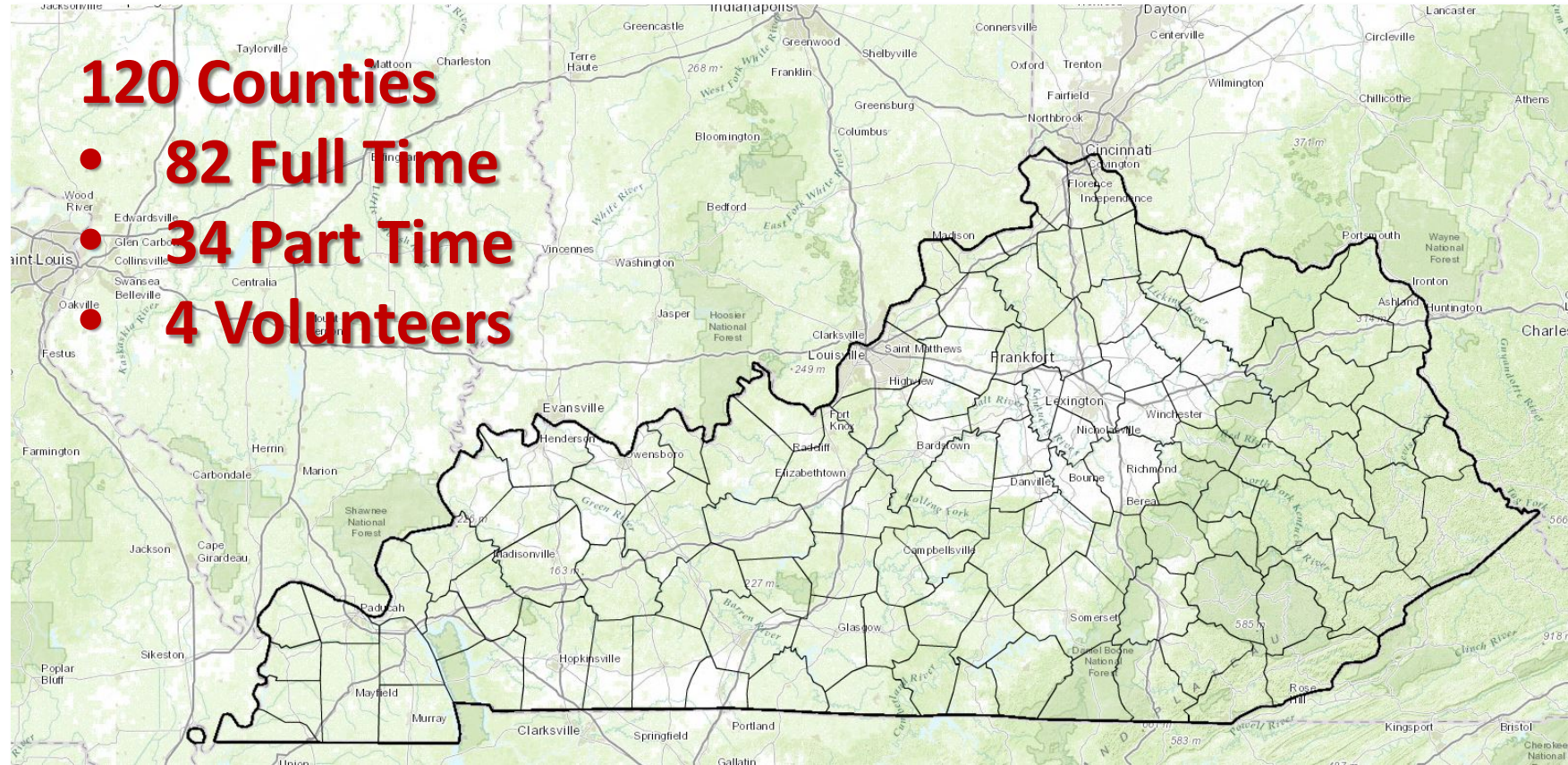
Charlie Shields, Director
Ohio County
Emergency Management



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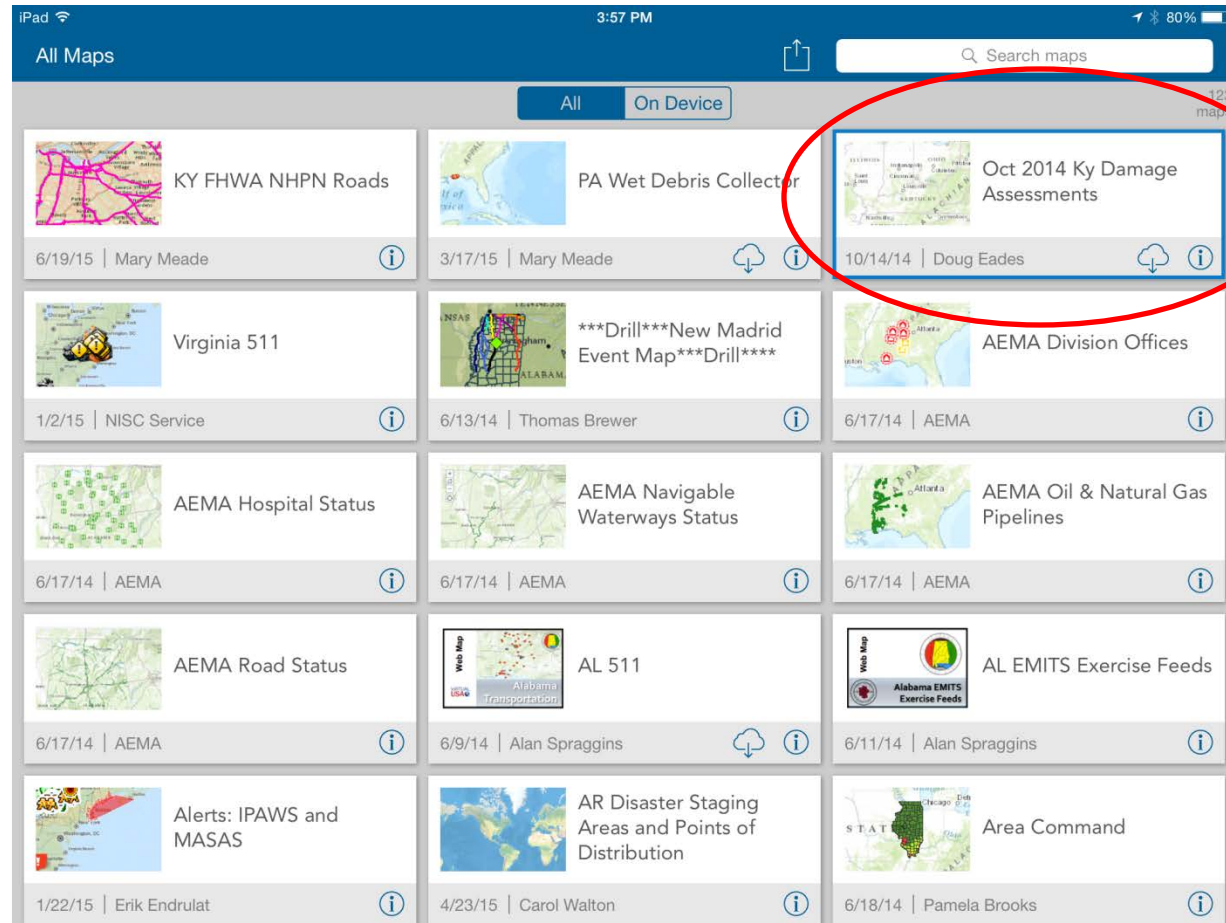


Local EM Staffing in Kentucky



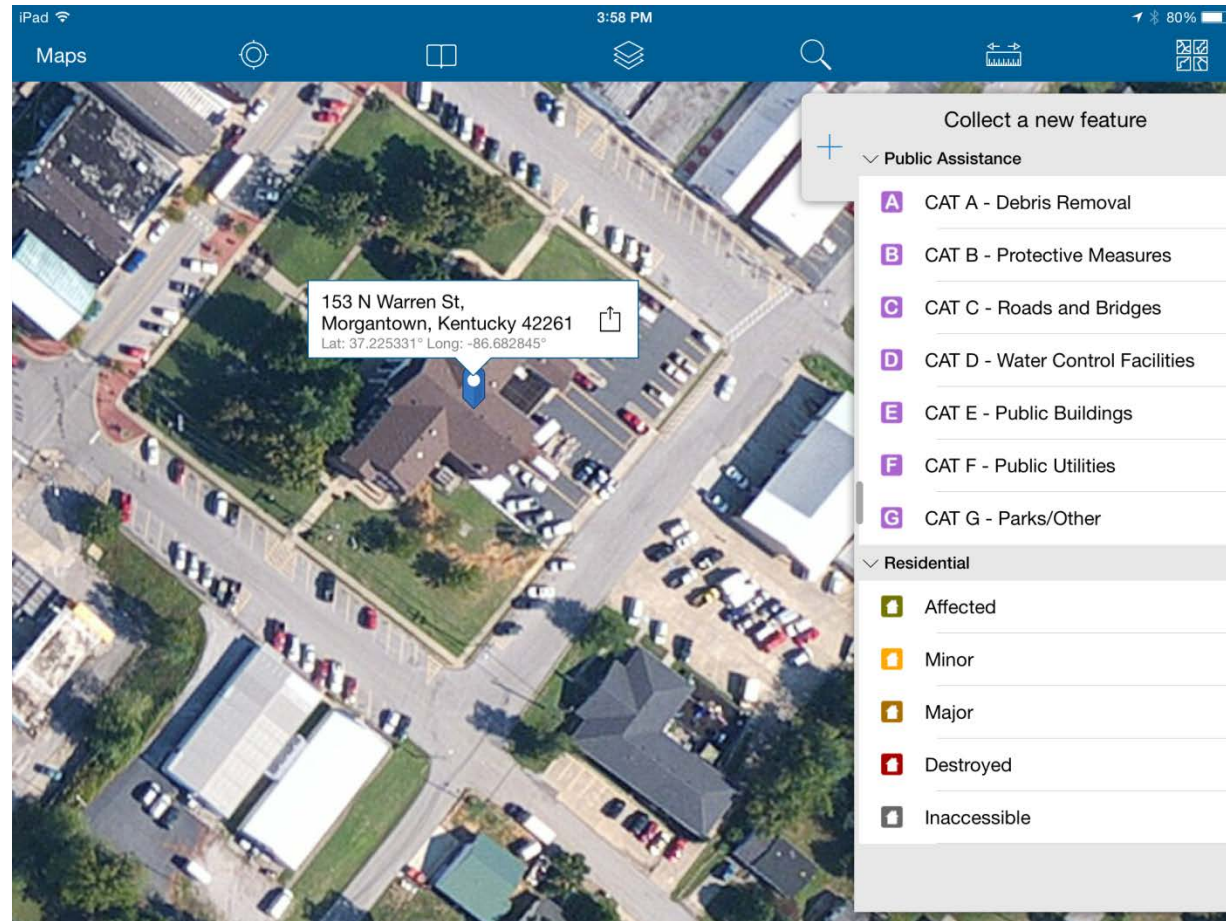


Using Collector on the County Level





Using Collector on the County Level





Using ArcGIS on a daily basis

Using ArcGIS online

&

Data Collector in the future