

Work Session

Mutual Aid and Crisis Management Technology & Policy Challenges and Solutions

December 4, 2018

National Geospatial Preparedness Summit

Agenda

- Round Robin Introductions
- Work Session Goals and Objectives
- Incident Vignette
- Open Discussion
- Current and Future of Mutual Aid Policy and Technology
- Open Group Discussion
- Key Take-Aways and Next Steps

Goal and Objectives

Define the future state of resource management and mutual aid technology aligned with local and national policy

Objectives:

- Validate the greatest challenges in resource management information sharing and mutual aid
- Identify common policy limitations impacting effective resource management and mutual aid operations
- Gain insight into the current and future of mutual aid technology
- Provide insight and inform the direction of mutual aid technology and policy across all levels of government

What is a GOOD mutual aid response?

- Daily Automatic Aid
- Larger-Scale Mutual Aid
- Interstate Mutual Aid in a Governor-Declared State of Emergency

Incident Vignette

TJ Lyon, Florida Fire Chiefs Association

Open Discussion

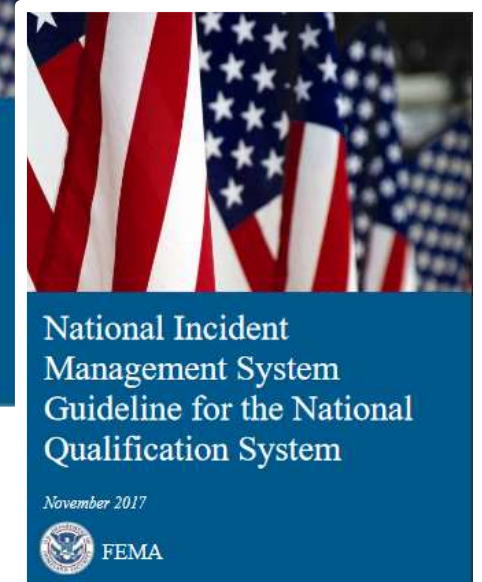
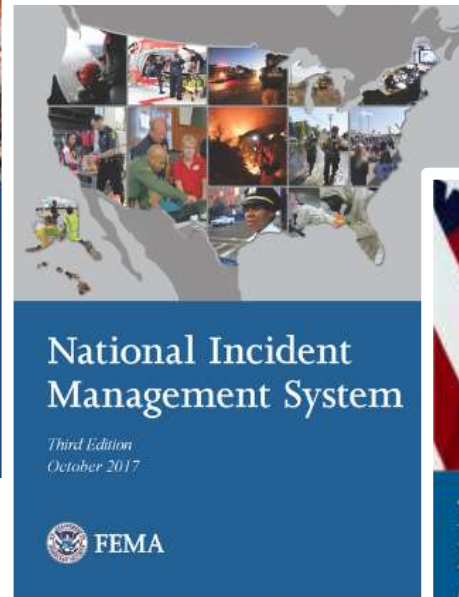
- How does your agency currently **inventory and manage resources**?
- How does your region **share resource information** across agencies, outside of your PSAP/CAD?
- What has been your experience in mutual aid operations locally and regionally?
- What **policy and organization structure(s)** exist in your area that **govern how mutual aid** is carried out?
 - Are these local policies and SOPs?
 - Statewide?
 - Are they up-to-date and aligned with how you operate today?
- What **challenges have you experienced** gaining awareness of available resources, and requesting and receiving resources?

Current and Future of Mutual Aid Policy and Technology

National Mutual Aid Policy Today

- Public Law 104-321 – Emergency Management Assistance Compact
- National Response Framework
- National Incident Management System

<https://www.fema.gov/national-incident-management-system>



State and Local Mutual Aid Policy Today

- 80-90% Local daily automatic aid agreements
 - Already GOOD
- 20-30% Local/County/Tribal - regional agreements or compacts
 - Intrastate regional - compacts with contiguous jurisdictions in a single state
 - Mutual aid “regions” - compacts with contiguous jurisdictions/tribes across state borders
- 15-20% Statewide agreements or compacts
- 5-10% State-to-State agreements or compacts
 - Simple one state to one state
 - Regional agreements among multiple states
- 2-5% Emergency Management Assistance Compact (EMAC)

Where We Need to Focus

- 80-90% Local daily automatic aid agreements
- **20-30% Local/County/Tribal - regional agreements or compacts**
- **15-20% Statewide agreements or compacts**
- **5-10% State-to-State agreements or compacts**
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Where We Need to Focus

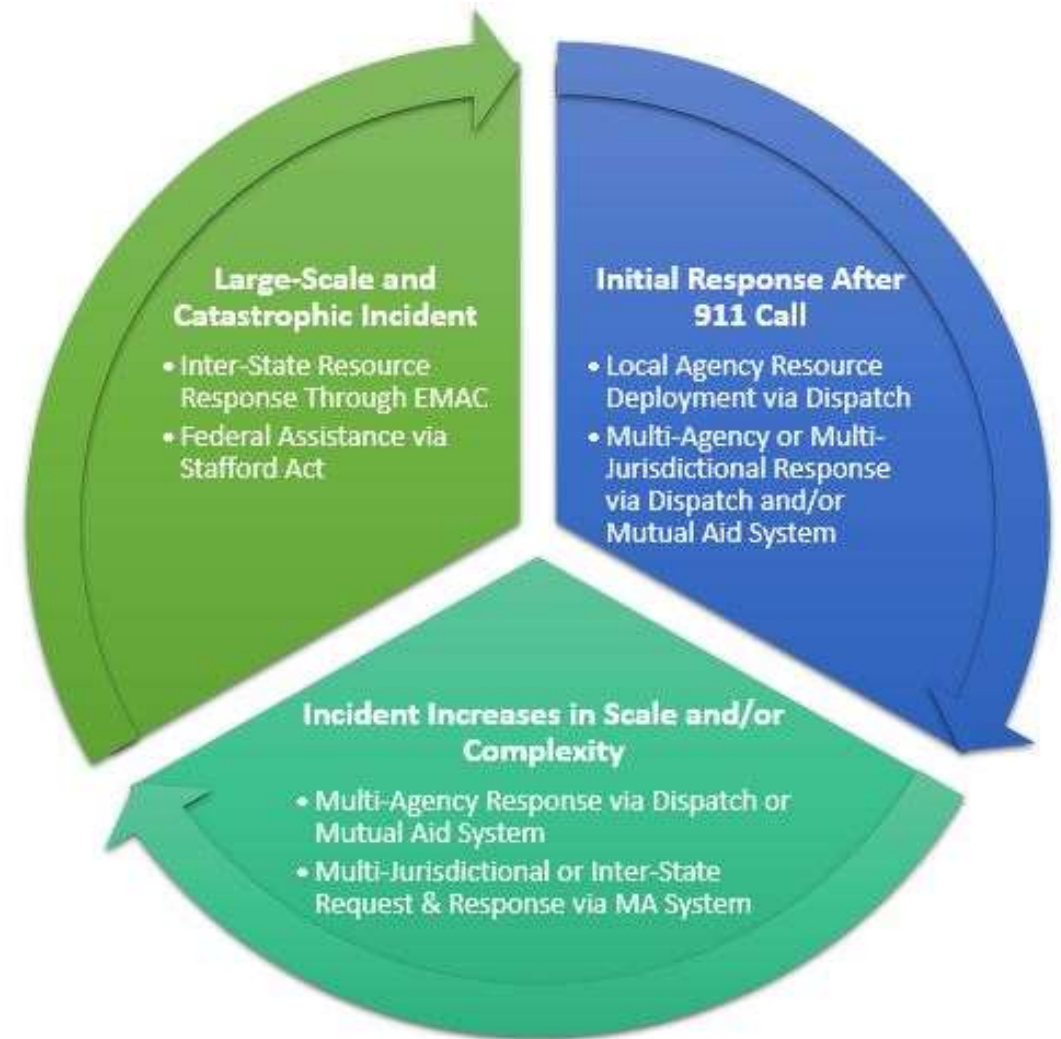
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As incidents scale in size and complexity, additional levels of mutual aid are required.

SPEED IS LIFE

Challenge

- Mutual aid is critical for effective unified response to and recovery from emergencies and planned events
- While many mutual aid technology systems in-use today, there is no clear national standard or framework by which these systems can be integrated to support operational workflows



Breakout Discussions – Part 1

- What are the **top 3 challenges** facing mutual aid operations today?
- What local, state, and/or national **policy changes** are needed overcome each of those challenges?

Core Information Requirements for Mutual Aid

What information do you need for effective decision making in an event requiring mutual aid?

- **Situational Awareness Information**
- **Resource Information**
- Necessary to define time-bound information requirements, prior to determining which EEs at a data and attribute levels can be used to fill information requirements
- Report on Core Information Requirements for Mutual Aid: <http://bit.ly/mutualaidinfo>

Basic Framework for Resource Information





- **C - Capability** (what you need it to do)
- **S - Size** (physical size descriptor)
- **A - Amount** (how many you need)
- **L - Location** (where it will be delivered)
- **T - Type** (NIMS Type or what it is)
- **T - Time** (when do you need it and for how long)

Time Thresholds

- Intrastate Mutual Aid: 0-12 hours
- Interstate Mutual Aid: 24+ hours
- National Mutual Aid: 48+ hours


Geo-Enabled Resource Management

Guidance on Resource Management Dashboards

National Guidance    

- 2 Decision Support Tools for Resource Management
- 3 Pathway to Decision Making
- 4 Basics of Resource Management Dashboards
- 5 Information Needs for RM Dashboards
- 6 Metrics for RM Dashboards
- 7 Steps to Build a RM Dashboard
- 8 Explore a Model RM Dashboard
- 9 Technical Tutorial on RM Dashboard Development

Guidance on Resource Management Dashboards




 napsgfoundation.org | @napsgfoundation

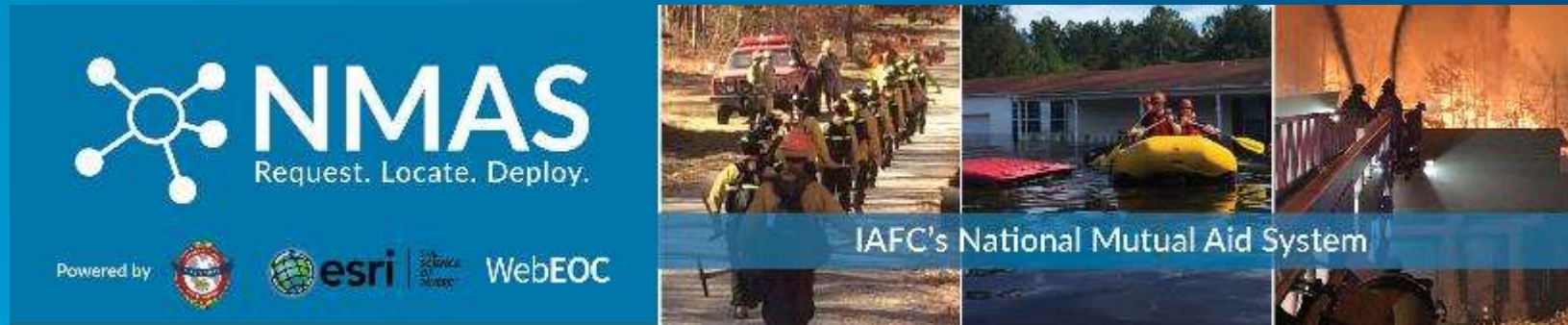
Photo: courtesy of the Federal Emergency Management Agency

NEED

Public safety needs access to **innovative and standardized technology** solutions for daily operations that can **automatically scale** to support large-scale disasters, involving more complex resource management and mutual aid.



National Mutual Aid System



Jeff Dulin
Strategic Adviser
International Association of Fire Chiefs

NMAS Vision



Increase First Responder Safety & Loss of Civilian Life and Property By:

Building a Stronger Mutual Aid System that supports State Response while strengthening National Response. Utilize state of the art technology to Request, Locate and Deploy the closest and most appropriate Resource.

Improving outcomes by enhanced decision making with geo-enabled analysis tools for use in every phase of mutual aid planning and response



The IAFC's Vision is to advance Mutual Aid



Today WebGIS and Crisis Management Technologies provide the First Responders the capability to support all their Mutual Aid needs.

What's missing is:

- Leadership
- Governance
- SOP Development

The IAFC is building NMAS to provide all of these.



Intrastate Mutual Aid System



- Following Hurricane Katrina 2006-2009
- IAFC and DHS NIC Support to States to Develop Mutual Aid Plans
- Mutual Aid Net Developed





Mutual Aid Net

Welcome: Power

Home Page

ACTIVATION

Enter Resource Request

Activation Status

Resource Types

ADMINISTRATION

Executive List Contacts

Regional Contacts

County Contacts

Dept/Agency

System Notifications

System News

County Participation in Exercises

Role Activity

Role Menu Access

Manage ST/TF

INQUIRY

Resources by Dept/Agency

All Resources by Region or County

Resource Type by Region, County or Dept/Agency

Resource Type by Distance

Log Off

Change Password

MutualAidNet - Virginia - All Resources by Region or County

Search Criteria

Region:

1

County:

-- Select all --

Search

Resource Information: Expert To Excel

Resource Type	Dept/Agency Total	Total Available	EMAC
Air Supply Truck, Type I	2	2	0
Fire Boat, Type III	1	1	0
Foam Tender, Firefighting, Type I (500 Gallons)	1	1	0
HazMat Response Team, Type I	1	1	0
HazMat Response Team, Type II			
Incident Management Team, Type III			
Mass Casualty Response Unit, Type I			
Mass Casualty Response Unit, Type II			
Mobile Command Vehicle, Type III			
Public Safety Dive Team, Type I			
Public Safety Dive Team, Type II			
Swiftwater/Flood SAR Boat, Type I			
Swiftwater/Flood SAR Team, Type I			
Swiftwater/Flood SAR Team, Type II			
Swiftwater/Flood SAR Team, Type III			
Technical Large Animal Rescue Team, Type I			
Technical Rescue Team, Type I			
Technical Rescue Team, Type III			
Urban Search & Rescue Task Force, Type II			
Wilderness Search & Rescue, Type III			

Welcome: Power

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MutualAidNet - Virginia -

Max User Tasks to Roles

Division	Fire
User Role	Tasks
Fire Executive List - Admin	<input checked="" type="checkbox"/> Update User Contact Information <input checked="" type="checkbox"/> Create new Users <input checked="" type="checkbox"/> Send Notification <input checked="" type="checkbox"/> Review Activation Status <input checked="" type="checkbox"/> Reset Passwords <input checked="" type="checkbox"/> Create New Dept/Agencies <input checked="" type="checkbox"/> Initiate Activation <input checked="" type="checkbox"/> View Resource Inquiry <input checked="" type="checkbox"/> Update Dept/Agency Information <input checked="" type="checkbox"/> Update Resources <input checked="" type="checkbox"/> Approve Resource Updates <input checked="" type="checkbox"/> Update County Dispatch Center <input checked="" type="checkbox"/> Update Access Levels <input checked="" type="checkbox"/> Send Resources <input checked="" type="checkbox"/> Post System News
Fire Executive List - User	<input checked="" type="checkbox"/> Update User Contact Information <input checked="" type="checkbox"/> Create new Users <input checked="" type="checkbox"/> Send Notification <input checked="" type="checkbox"/> Review Activation Status <input checked="" type="checkbox"/> Reset Passwords <input checked="" type="checkbox"/> Create New Dept/Agencies <input checked="" type="checkbox"/> Initiate Activation <input checked="" type="checkbox"/> View Resource Inquiry <input type="checkbox"/> Update Dept/Agency Information <input checked="" type="checkbox"/> Update Resources <input type="checkbox"/> Approve Resource Updates <input type="checkbox"/> Update County Dispatch Center <input type="checkbox"/> Update Access Levels <input type="checkbox"/> Send Resources <input checked="" type="checkbox"/> Post System News
Fire Central Dispatch	<input checked="" type="checkbox"/> Update User Contact Information <input type="checkbox"/> Create new Users <input checked="" type="checkbox"/> Send Notification <input checked="" type="checkbox"/> Review Activation Status <input type="checkbox"/> Reset Passwords <input type="checkbox"/> Create New Dept/Agencies <input checked="" type="checkbox"/> Initiate Activation <input checked="" type="checkbox"/> View Resource Inquiry <input type="checkbox"/> Update Dept/Agency Information <input type="checkbox"/> Update Resources <input type="checkbox"/> Approve Resource Updates <input checked="" type="checkbox"/> Update County Dispatch Center <input type="checkbox"/> Update Access Levels <input checked="" type="checkbox"/> Send Resources <input type="checkbox"/> Post System News
Fire County Dispatch	<input checked="" type="checkbox"/> Update User Contact Information <input type="checkbox"/> Create new Users <input type="checkbox"/> Send Notification <input checked="" type="checkbox"/> Review Activation Status <input type="checkbox"/> Reset Passwords <input type="checkbox"/> Create New Dept/Agencies <input type="checkbox"/> Initiate Activation <input checked="" type="checkbox"/> View Resource Inquiry <input type="checkbox"/> Update Dept/Agency Information <input type="checkbox"/> Update Resources <input type="checkbox"/> Approve Resource Updates <input type="checkbox"/> Update County Dispatch Center <input type="checkbox"/> Update Access Levels <input checked="" type="checkbox"/> Send Resources <input type="checkbox"/> Post System News



NMAS
Request. Locate. Deploy.

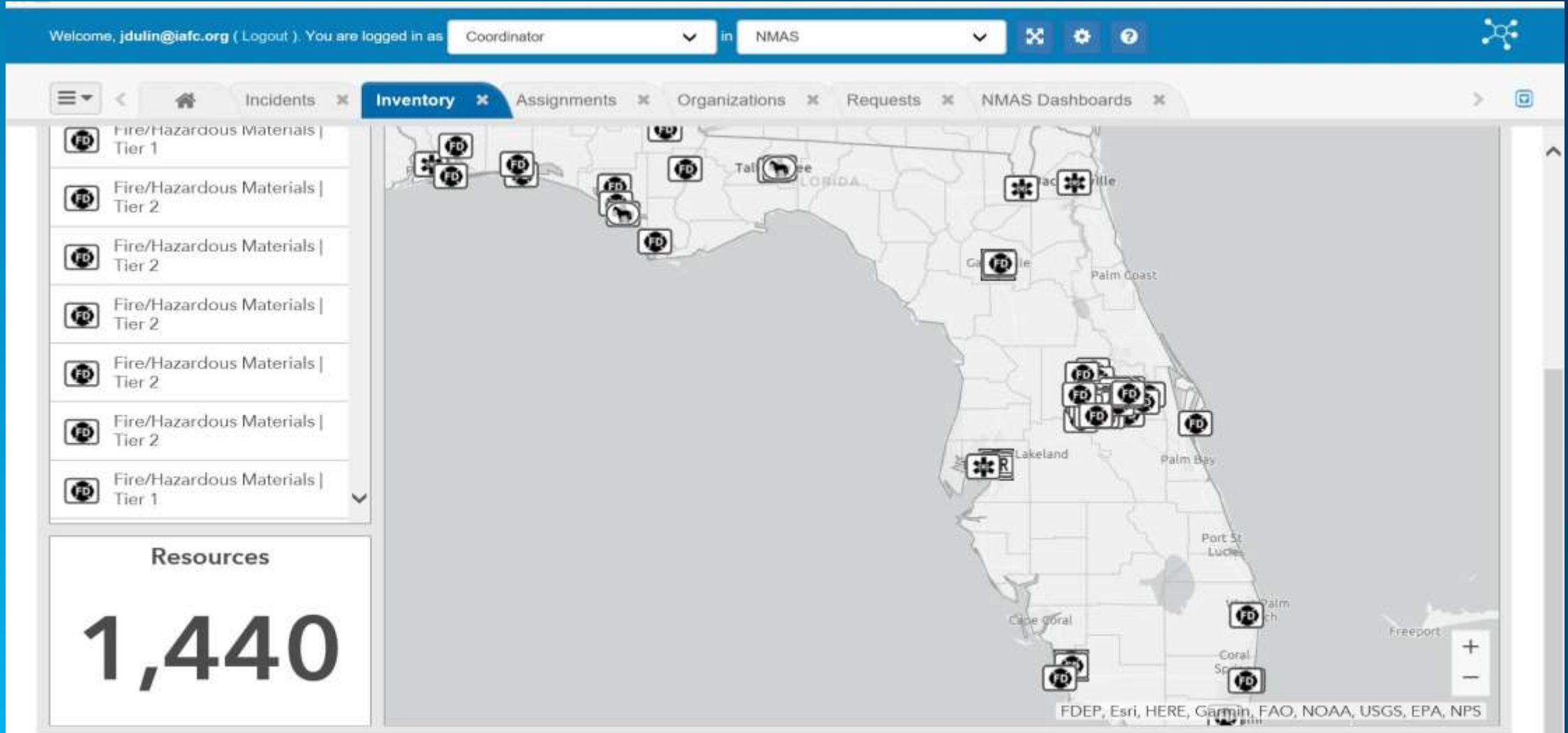
esri | WISBOC

Building NMAS



- Leveraged IAFC's experience over multiple decades in intrastate mutual aid policy and technology
- Searched for the right technology partners
 - Proven track record in crisis management
 - Experience in working with Local, State, and Federal partners
 - Ability to look into and invest in future needs
 - Willingness to partner In development of a Vision

Geo-Enable Mutual Aid



NMAS Basics



- Cloud-based solution to Request, Locate, and Deploy Mutual Aid resources
- Requires only a standard web browser, internet connection, and log-in credentials
- Provides a geo-enabled view of where resources in real-time
- Allows resource owners to enter and update their resources as needed.
- Resources are categorized using NIMS typing and State specific resources can also be entered.

NMAS Capabilities



- Applies existing information sharing capabilities from the WebEOC and ESRI platforms to share information across other systems.
- Uses WebEOC technology as the foundation and is capable of running independent from or integrated with WebEOC depending on a state/jurisdictions needs.
- Uses the IAFC's ArcGIS AGOL Platform for location-enabled tools and functionality, including the real-time tracking of status on resources
- Designed to support mutual aid from the preparedness & planning phase to the demobilization of resources.
- Pre-planning for Mutual Aid has for any years been over looked.
 - NMAS will provide a tool to capitalize on Pre-planning efforts for communities.



Current Status



- NMAS Tools used in response to 2018 Hurricanes

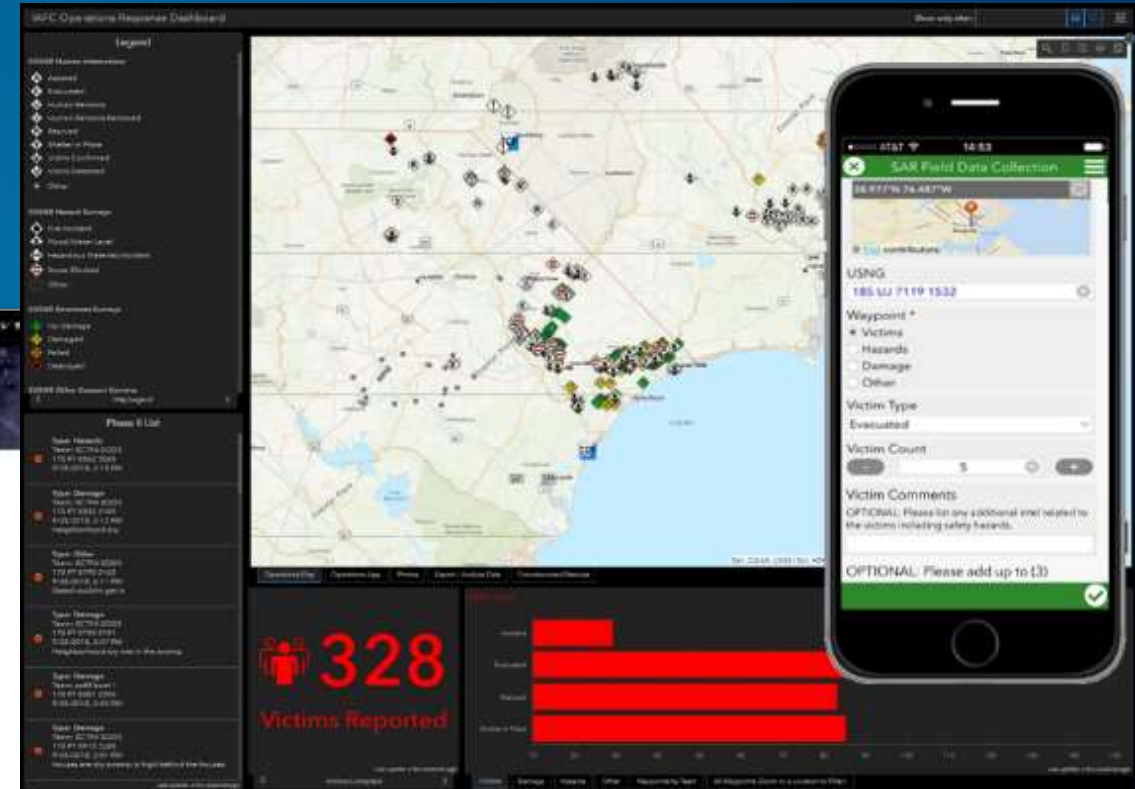
Hurricane Florence	Hurricane Michael
60 Search & Rescue Teams from 10 States	126 SAR Teams from 11+ States
2,600 Field Forms Submitted	51,532 Field Forms Submitted
340 Users	400+ Users

- 6 States conducted beta testing of NMAS capabilities with support from Emergency Management agencies

California	Florida
Arizona	Tennessee
Utah	Virginia



Example

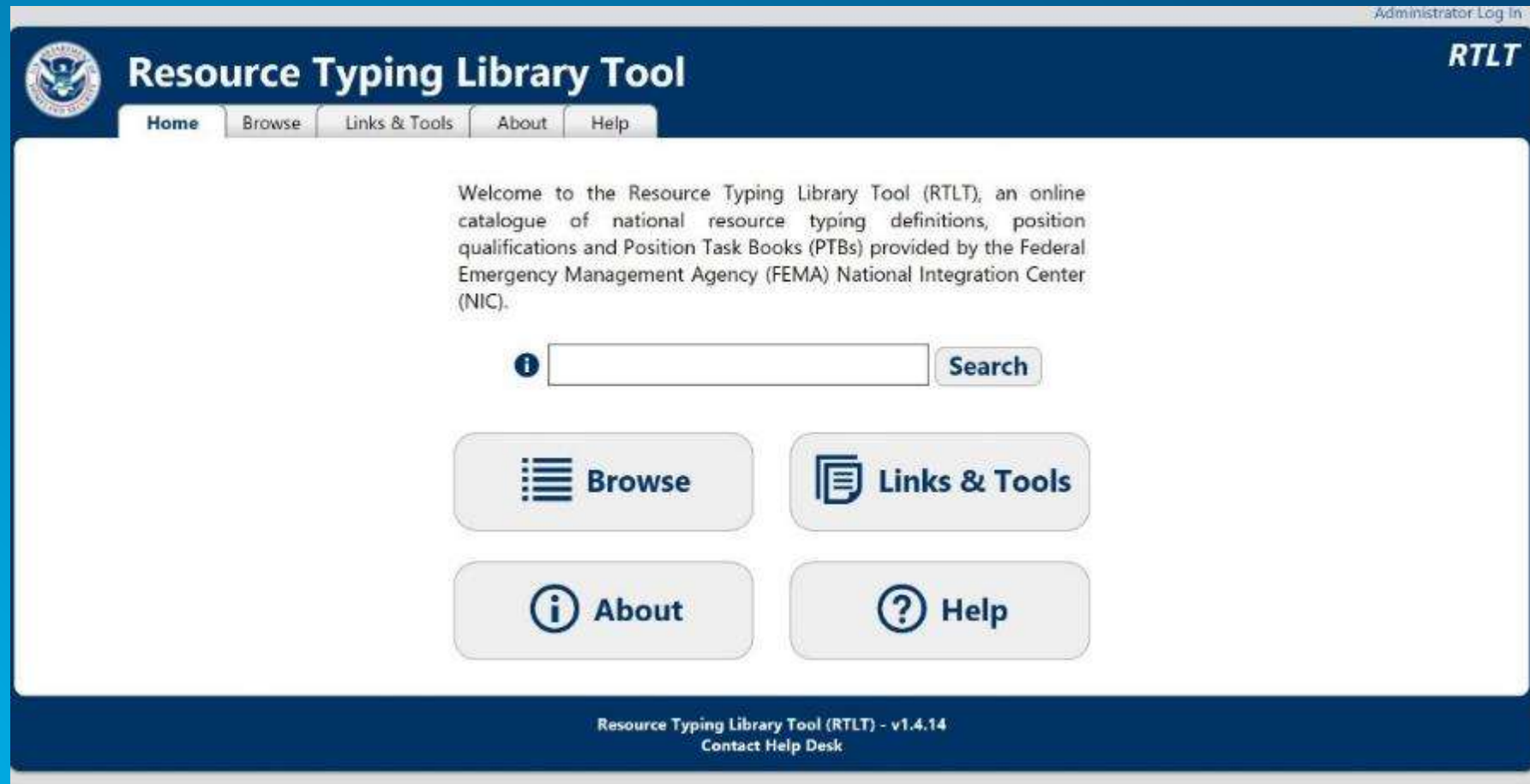


<https://arcg.is/1zaby4>

NMAS
Rescue. Locate. Deploy.



Resources will be inventoried in NMAS based on NIMS Tier 1 Resource Typing Definitions and NQS Position Qualification Sheets

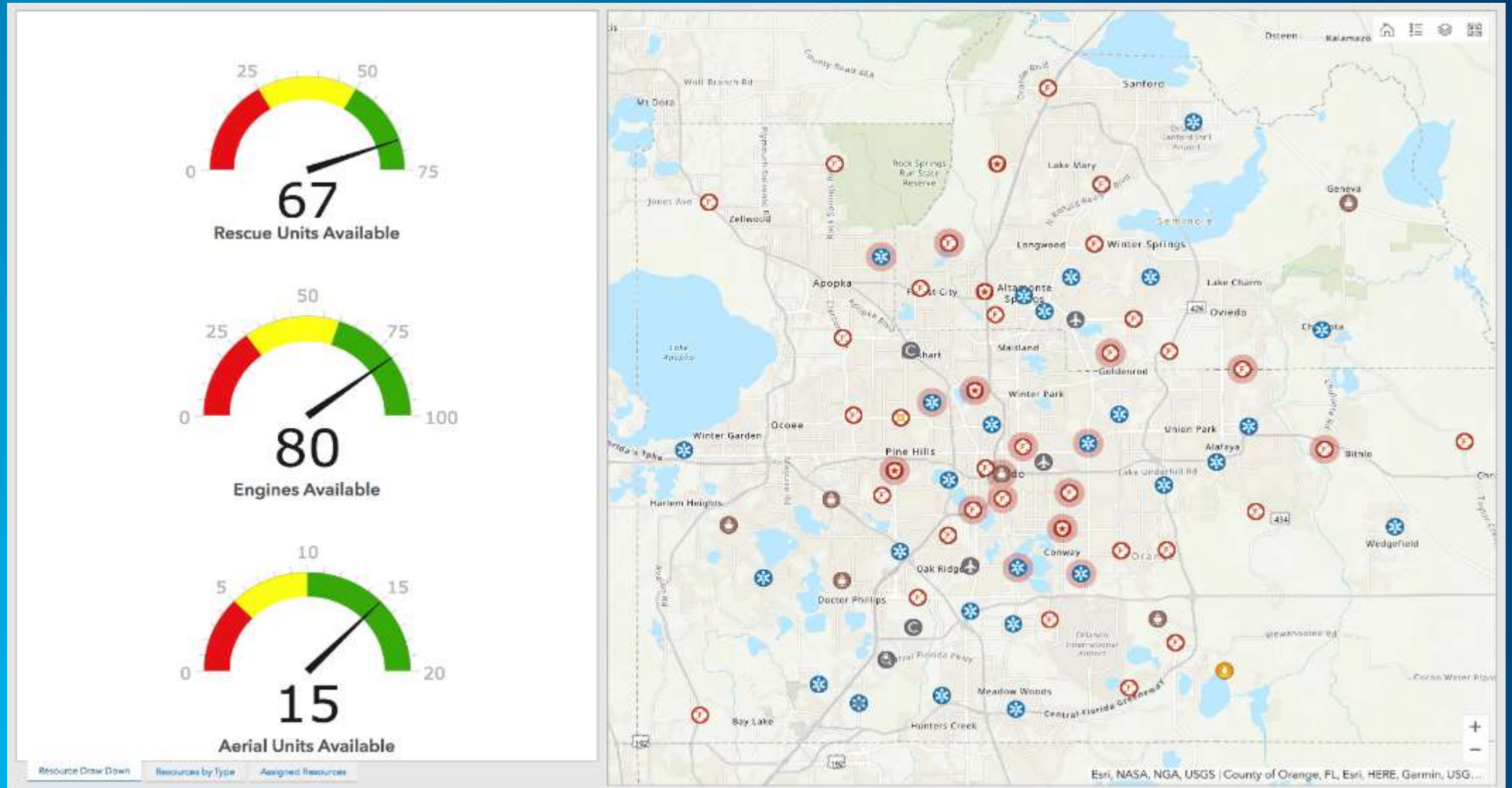


Resources are approved to deploy, with driving directions provided by NMAS and ESRI Workforce App.



Incident Management		
Back		Print
#	Direction	Distance
1	Start at Location 1	0 mi
2	Go south on Newburyport Ave toward E Altamonte Dr	0.1 mi
3	Turn left on SR-436 E (E Altamonte Dr)	2.2 mi
4	At fork keep right on SR-436 E (E Semoran Blvd)	0.4 mi
5	Turn left on Red Bug Lake Rd	5.8 mi
6	Bear right onto ramp and go on SR-417-TOLL S toward Orlando	15.1 mi
7	At exit 26 take ramp on the right to SR-528 E / SR-528 W toward Cocoa / Int'l Airport	0.4 mi
8	At fork keep left on SR-528-TOLL E toward Cocoa / Kennedy Space Center	26.4 mi
9	At exit 42A take ramp on the right and go on I-95 S toward Miami	28.9 mi
10	At exit 176 take ramp on the right to CR-516 / Palm Bay Road toward Palm Bay	0.4 mi
11	Turn right on Palm Bay Rd NE (CR-516 W)	0.7 mi
12	Turn left on Minton Rd NE (CR-509)	2.5 mi
13	Turn right on Malabar Rd NW	4.3 mi
14	Finish at Location 2, on the right	0 mi

Situational Awareness and Data Analytics are part of the management tools for NMAS





The banner features the NMAS logo on the left, which consists of a network icon and the text "NMAS Request. Locate. Deploy.". Below this, it says "Powered by" followed by logos for IAFC, Esri, and WebEOC. On the right, there is a collage of three images: firefighters in gear, a yellow inflatable boat on water, and firefighters at a night fire scene. Overlaid on the bottom of the collage is the text "IAFC's National Mutual Aid System".

Contact: Jeff Dulin

Contact: jdulin@iafc.org

Learn more at IAFC.org/NMAS

Breakout Discussion – Part 2

- What **role can technology** play in helping to overcome those challenges?
- How can capabilities (like those through NMAS) be designed and deployed locally, statewide, and/or nationally to **improve mutual aid operations**?