

Collecting Data in the Field for Search & Rescue and Debris Management



November 12th, 2019

Paul J Doherty and Jared Doke

napsgfoundation.org | [@napsgfoundation](https://twitter.com/napsgfoundation)

Today's Objectives

- Understand how to use basic field data collection tools (Survey123 configured with the SAR and First Responder Survey template).
- Understand the relationship between Search & Rescue and Debris Management.
- Understand how to quickly analyze and report against live field data for situational awareness.
- Begin to develop your own geospatial game plan and access additional resources.

Why Use Geospatial Tools in the Field?

- Real-time situational awareness & collaboration

“I can see where other search & rescue teams have already searched and what is needed in the field”

- Enhanced data collection and reporting capabilities

“I can see where teams are (or have been), and what they observed – share data with agencies”

- Improved search strategy & tactics

“I can see what areas have been covered and what remains to be searched”

- Geospatial Coordination

“I can reach out to the SAR Geospatial Working Group to find access to the layers I need”

Today's Agenda

- 1440 Introductions
- 1445 Pre-planning: USNG Trail Markers - Jennifer Lana, Cobb County
- 1455 Debris Management - Katie Picchione, FEMA
- 1505 Search and Rescue & First Responder Survey – Paul Doherty, NAPSG SAR Working Group
- 1515 Field Apps Training – Jared Doke
- 1535 Field Simulation – Jared Doke
- 1615 After Action Review – Paul Doherty
- 1630 Adjourned

Pre-planning: USNG Trail Markers

Jennifer Lana, Cobb County

[Open Presentation Online](#)



IMPROVING EMERGENCY RESPONSE ON TRAILS WITH GIS AND USNG



COBB COUNTY, GEORGIA

JENNIFER LANA, COUNTY GIS MANAGER

JENNIFER.LANA@COBBCOUNTY.ORG

COBB COUNTY TRAILS

- Existing Trails: 133 miles
- Programmed/Under Construction: 28 miles
- TOURISM is a leading industry in Cobb
- Kennesaw Mountain is most visited Civil War site in the entire US!



PROJECT OVERVIEW

The Cobb Emergency Management Agency (EMA), Parks, DOT, GIS and Public Safety members have been working together on what started as a trail mapping system that has evolved into a nationally recognized trail marking and mapping system.



EMERGENCY RESPONSE ON TRAILS



COBB POLICE RANGERS

Primary Responders when
initial E911 call comes in



EMERGENCY MANAGEMENT AGENCY

Missing Persons & Lost
Children
Response & Recovery



SOUTHERN OFF-ROAD BICYCLE ASSOCIATION

Eyes & Ears on the trails
Do rescues themselves
Part of CERT



COBB FIRE STAFF

Medical Responders
Usually on scene before
Ambulance



*** Cobb Contracts with Private Vendors for Ambulance Services*

Familiar Challenges

- Trail Program growing each year
- New Police Rangers had to rely on other people (PARKS & SORBA) for detailed trail information.
- Responders could not view existing trails on their in-car MDC's
- Trails and mile markers were not integrated into dispatch and E911



Increasingly Aware of a problem...

- The Cobb Police Ranger Unit recognized the need to have a location specific system that relayed a way point on a trail or in a park that corresponded correctly to our police and fire CAD dispatch system
- So, in late 2016, SGT Ablashi asked EMA Director, Cassie Mazloom, for her opinion as a previous Cobb County Police Officer and Cobb Police Ranger



E911 CALLS... MORE COMPLICATIONS

CASE #1807XXX

Silver Comet Trail @ East-West Conn.

- Bicyclist rode off trail bridge (2 levels)
- Police Officer Rangers on the trail headed Westbound on motorcycles.
- *It was not on a map, so Rangers had to escort ambulance personnel to area.*
- They had to manually redirect Fire and EMS to the Concord Rd. trailhead from Cooper Lake Rd.
- Limited Bridge Access for vehicles.



CASE #18-0005XXX

Silver Comet Trail. @ Brookwood Dr.

- Bicyclist near end of ride had heart attack and went into arrest.
- Location was between two first responding units with limited access from the west.
- *Unknown restricted weight limit bridges*

CASE #18-0001XXX

Silver Comet Trail @ Concord Rd.

- Engines were not able to drive on the trail
- *Limited and unknown local access points to get to patient.*
- Restricted bridges and tunnels for the ambulances.

HOW TO OVERCOME RELUCTANCE...

GET PEOPLE TO SEE OUR CONCERNS: TRIP 1 FEB 17, 2017

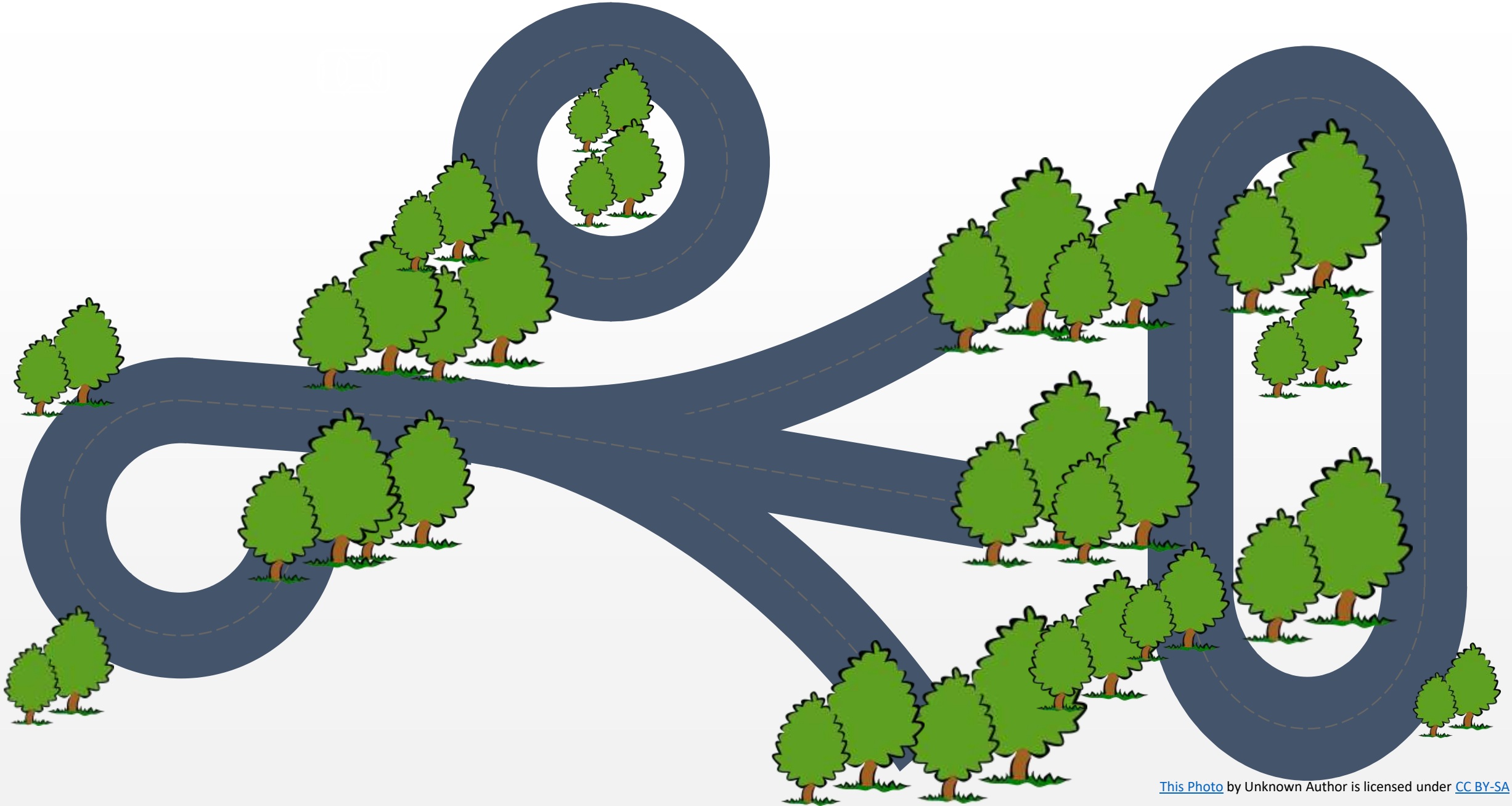




Trip 2. May 2nd 2017

Older Signs, Missing Mile Markers, Old Call Boxes

Addressing is hard enough on roads... what about Trails?



What colors?

How many do we need?

What Type of Sign?

What about Reflectivity?

What about existing signs?

How tall/short?

Replace our Call Boxes?

Metal, Plastic or Wood?

How do we follow GDOT standards?



OR THESE??



NOPE



WHAT???



NOT EVEN SURE WHAT THESE ARE



SOUTH METRO

Lost in a Dakota County park? Help is on the way, thanks to new signs

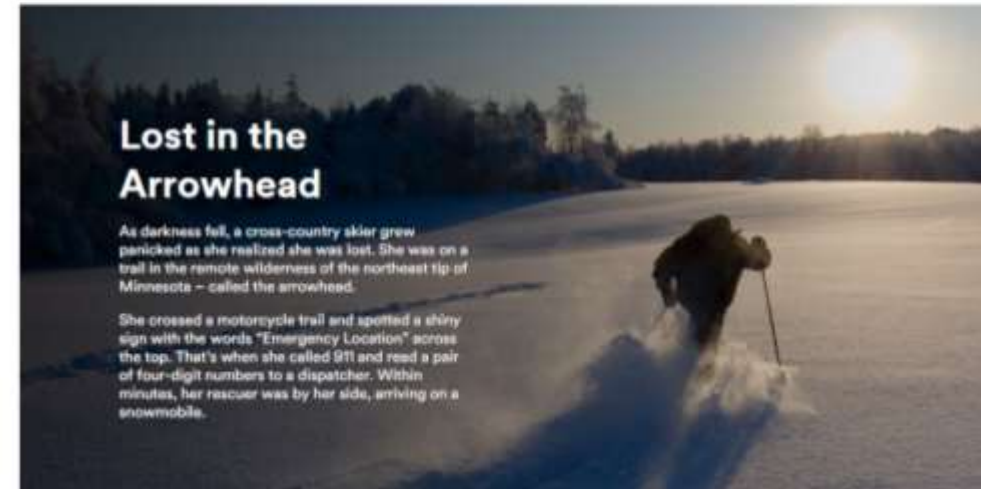
Two Dakota County parks are among the first in Minnesota to use emergency location markers.

By Erin Adler Star Tribune | APRIL 5, 2016 — 7:43AM



A skier lost in Minnesota's Arrowhead looks up and sees this: Hope

By Sue Casement, 3M Storyteller



Lost in the Arrowhead

As darkness fell, a cross-country skier grew panicked as she realized she was lost. She was on a trail in the remote wilderness of the northeast tip of Minnesota – called the arrowhead.

She crossed a motorcycle trail and spotted a shiny sign with the words "Emergency Location" across the top. That's when she called 911 and read a pair of four-digit numbers to a dispatcher. Within minutes, her rescuer was by her side, arriving on a snowmobile.

IN NOVEMBER 2011, THE FEDERAL NATIONAL SEARCH AND RESCUE COMMITTEE, WHICH INCLUDES REPRESENTATIVES FROM THE DOD, COMMERCE, INTERIOR, TRANSPORTATION, HOMELAND SECURITY, NASA, AND THE FCC.... DESIGNATED **USNG (US NATIONAL GRID) AS THE STANDARD** FOR ALL GROUND BASED SEARCH AND RESCUE (SAR) OPERATIONS IN THE UNITED STATES.



DECISION: US NATIONAL GRID & ELM MARKER FORMAT

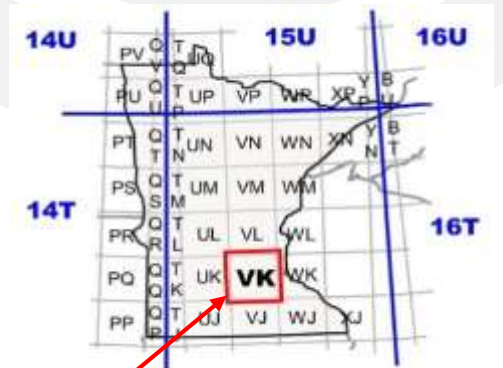
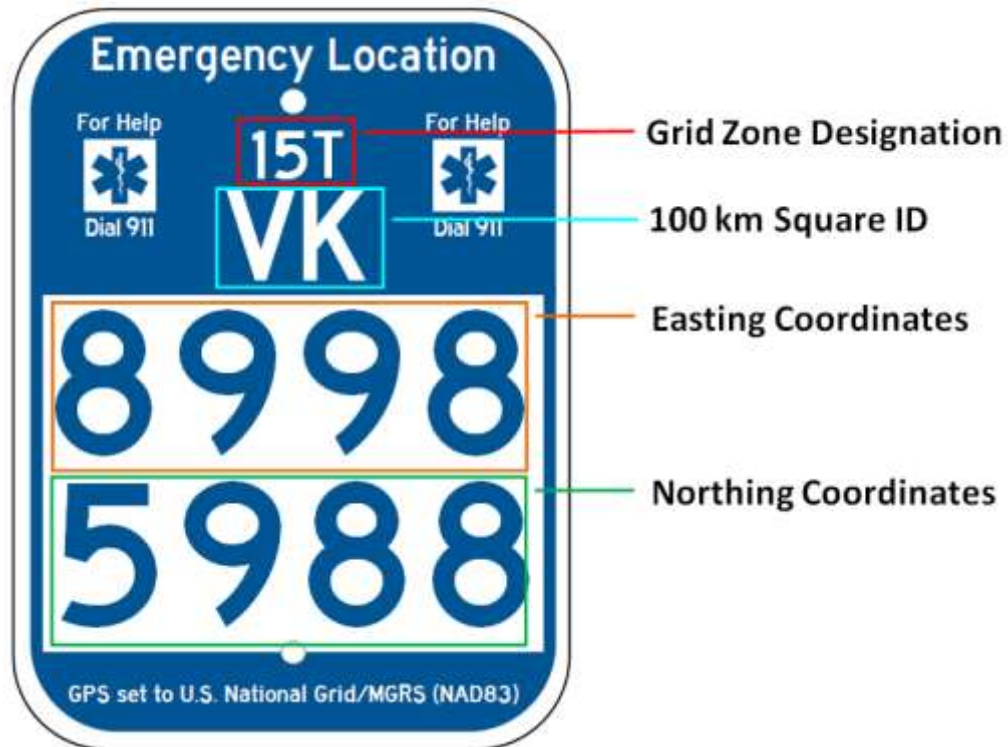
- Met our DOT and state requirements for signage, reflectivity and format
- Expandable program to other local counties that our trails connect with
- Nationwide standard grid system, used by federal agencies
- We use this grid system for our CERT (Citizen rescue teams)
- Although the FIRST county in Georgia, not the first in the US



HOW DOES IT WORK?

ELM = Emergency Location Markers

USNG = US National Grid



SIX DIGITS: 899 598 locates a point within a 100 m square (football field size).

EIGHT DIGITS: 8998 5988 locates a point within a 10 m square (within a standard home).





What do these numbers mean?

Emergency Location Markers

- Cobb County Logo
- Placed every ¼ mile on trails
- Metal Poles
- Co-located where possible
- 6x9 signs



Informational Signs placed at Trailheads, Parking lots, Call Boxes, Major intersections and various county Parks.

12x12 signs

IN CASE OF EMERGENCY



Using the Cobb County Emergency Location Marker (ELM) System



1. Dial 911, tell them your emergency, and then read the 8 large numbers (Fig. 1) to describe your location. These numbers are U.S. National Grid (USNG) coordinates. If requested by the dispatcher, also read the small numbers and letters at the top (Fig. 2).

Fig 1. Read numbers left to right, top row, then bottom row



Fig 2. Only read text at top if requested

2. Dispatchers can then quickly transmit your location to multiple agencies and responders in the region. Responders will use the coordinates with GPS units and USNG gridded maps to locate your position.
3. Be patient. It may take some time for responders to reach you. In many cases they will have to travel the same trails as you did to get to your location.

USED ARCGIS ONLINE GROUP TO MANAGE PROJECT

The screenshot displays the ArcGIS Online interface for a group named 'Cobb County ELM Viewers'. The browser address bar shows the URL: <https://cobbcountyga.maps.arcgis.com/home/group.html?id=e44170d24a784073f8ade412f1bd9ecc#overview>. The top navigation bar includes links for Home, Gallery, Map, Scene, Groups, Content, and Organization. The group's name 'Cobb County ELM Viewers' is prominently displayed, along with tabs for Overview, Content, and Members. The group is owned by 'nicholas_tspatial'. A description states: 'This group is used for sharing GIS data between the Cobb County ELM Project Team.' The 'Latest Content' section features a grid of eight items, each with a thumbnail, title, author, creation/update dates, and view count. The items are: 'Emergency Signs on Cobb C...' by wilcorald, 'Cobb_ELM_Data' by nicholas_tspatial, 'ELM Sign Status Map' by wilcorald, 'Cobb County Dashboard' by nicholas_tspatial, 'New_Posts', 'Info_Signs', 'Cobb ELM Dashboard Map', and 'Access_Points'. On the right side, the 'Details' section provides metadata: Created: October 10, 2017; Viewable by: Only group members; Contributors: Members; 16 members and 13 items. It also shows the owner 'nicholas_tspatial' and a 'Leave Group' button. The 'Membership' section confirms 'You are a member'. The 'Tags' section lists 'Cobb'.

Cobb County ELM Viewers

Overview Content Members

Cobb County ELM Group
owned by nicholas_tspatial

Description
This group is used for sharing GIS data between the Cobb County ELM Project Team.

Latest Content

View All Group Content

Emergency Signs on Cobb C...
by wilcorald
Created: Feb 8, 2019
Updated: Apr 25, 2019
View Count: 1,182

Cobb_ELM_Data
by nicholas_tspatial
Created: Oct 8, 2018
Updated: Apr 15, 2019
View Count: 95

ELM Sign Status Map
by wilcorald
Created: Feb 28, 2019
Updated: Mar 7, 2019
View Count: 59

Cobb County Dashboard
by nicholas_tspatial
Created: Feb 5, 2018
Updated: Feb 5, 2019
View Count: 653

New_Posts

Info_Signs

Cobb ELM Dashboard Map

Access_Points

Details
Created: October 10, 2017
Viewable by: Only group members
Contributors: Members
16 13
Owner: nicholas_tspatial
Membership: You are a member
Tags: Cobb

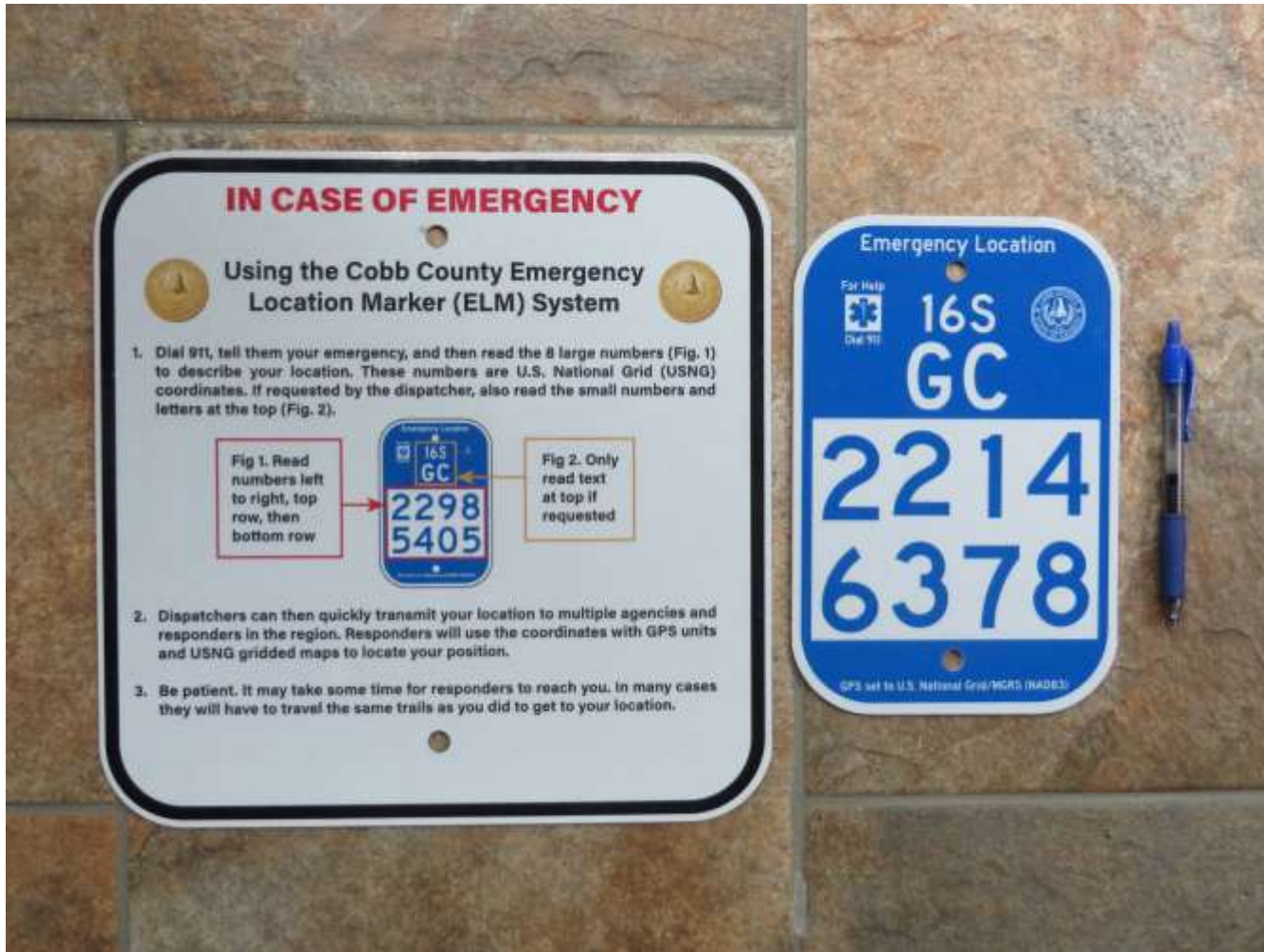




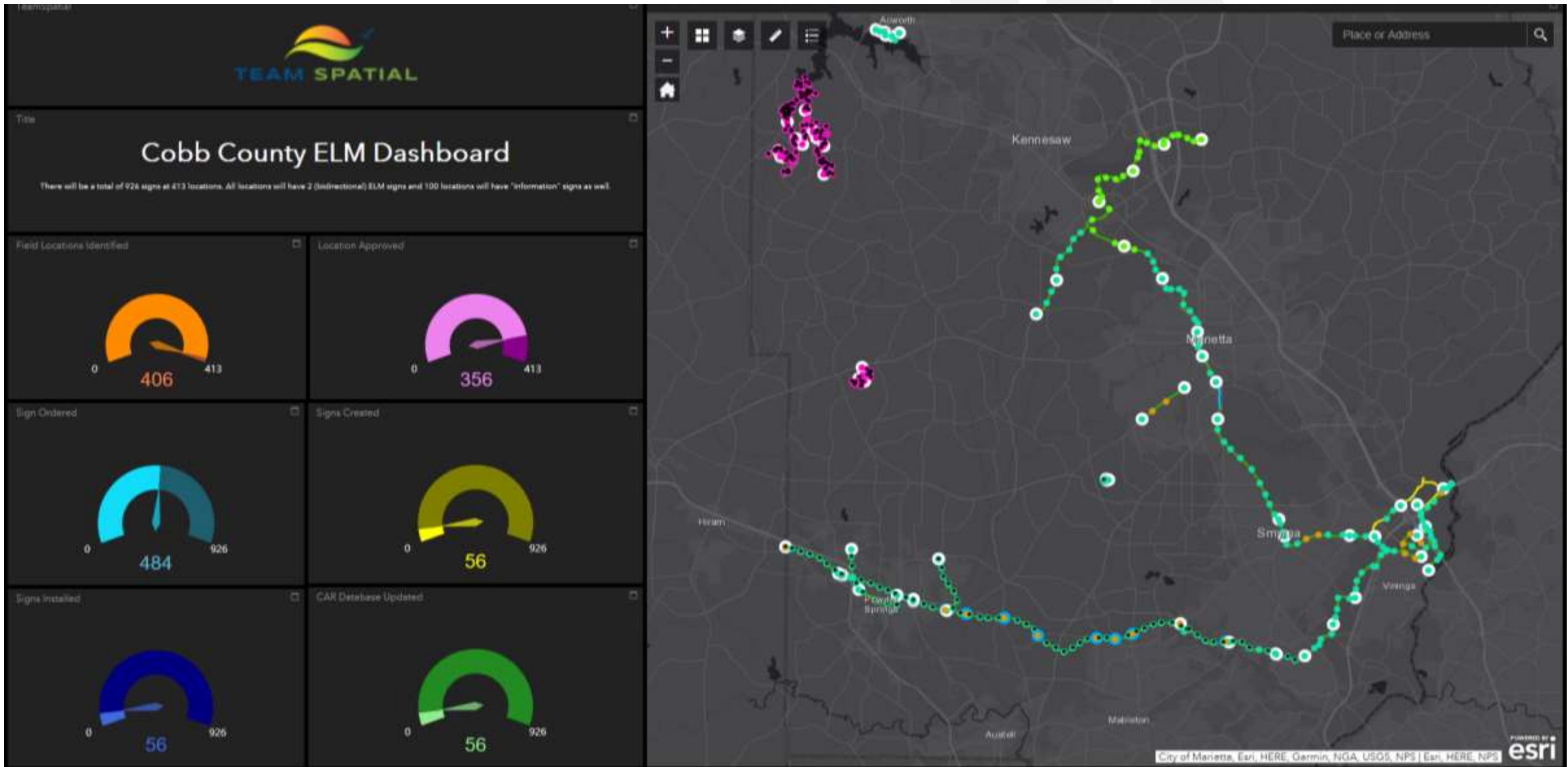
- For EVERY trail, our Parks, PD & Fire staff worked with our contractors for sign placement.
- Used ESRI Collector to gather ELM location and attribute data.

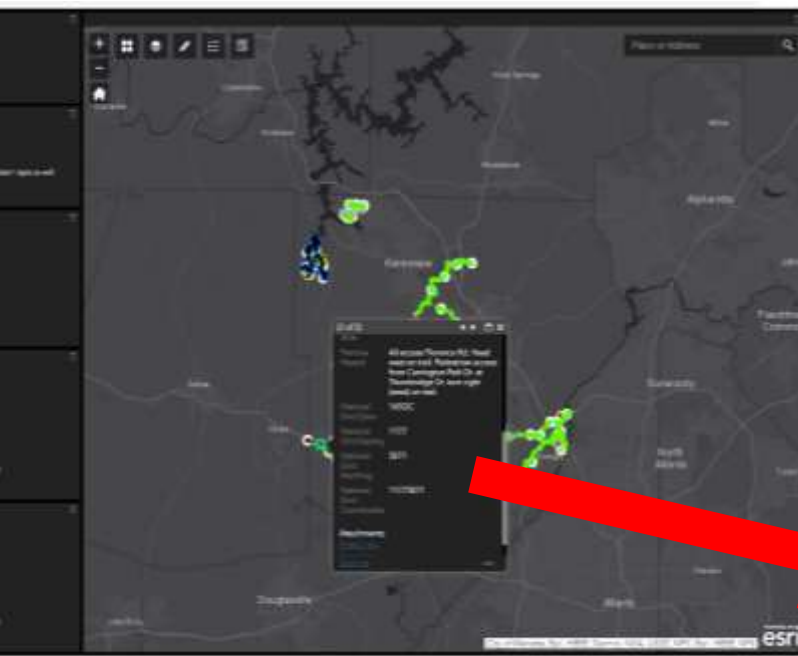


FIRST SIGN ORDER RECEIVED!



TEAM SPATIAL: ESRI DASHBOARD, FOR PROJECT STATUS





(2 of 5)

11775071

Trail Name	Silver Comet Trail
Status	Database Update
Size	Carsonite - 5'
Field Date	10/9/2018, 4:46 PM
Installation Date	1/15/2019, 4:44 PM
Trail Type	Paved
Trail Width	12
Number of Signs	2
Sign Post	New Post
Co-locate With	
Premise Hazard	All access Florence Rd. Head west on trail. Pedestrian access from Carrington Park Dr. at Thornbridge Dr. turn right (west) on trail.
National Grid Zone	16SGC
National Grid Easting	1177
National Grid Northing	5071
National Grid Coordinates	11775071

Attachments:

[Photo1.jpg](#)

[Zoom to](#)



KEY ATTRIBUTES:

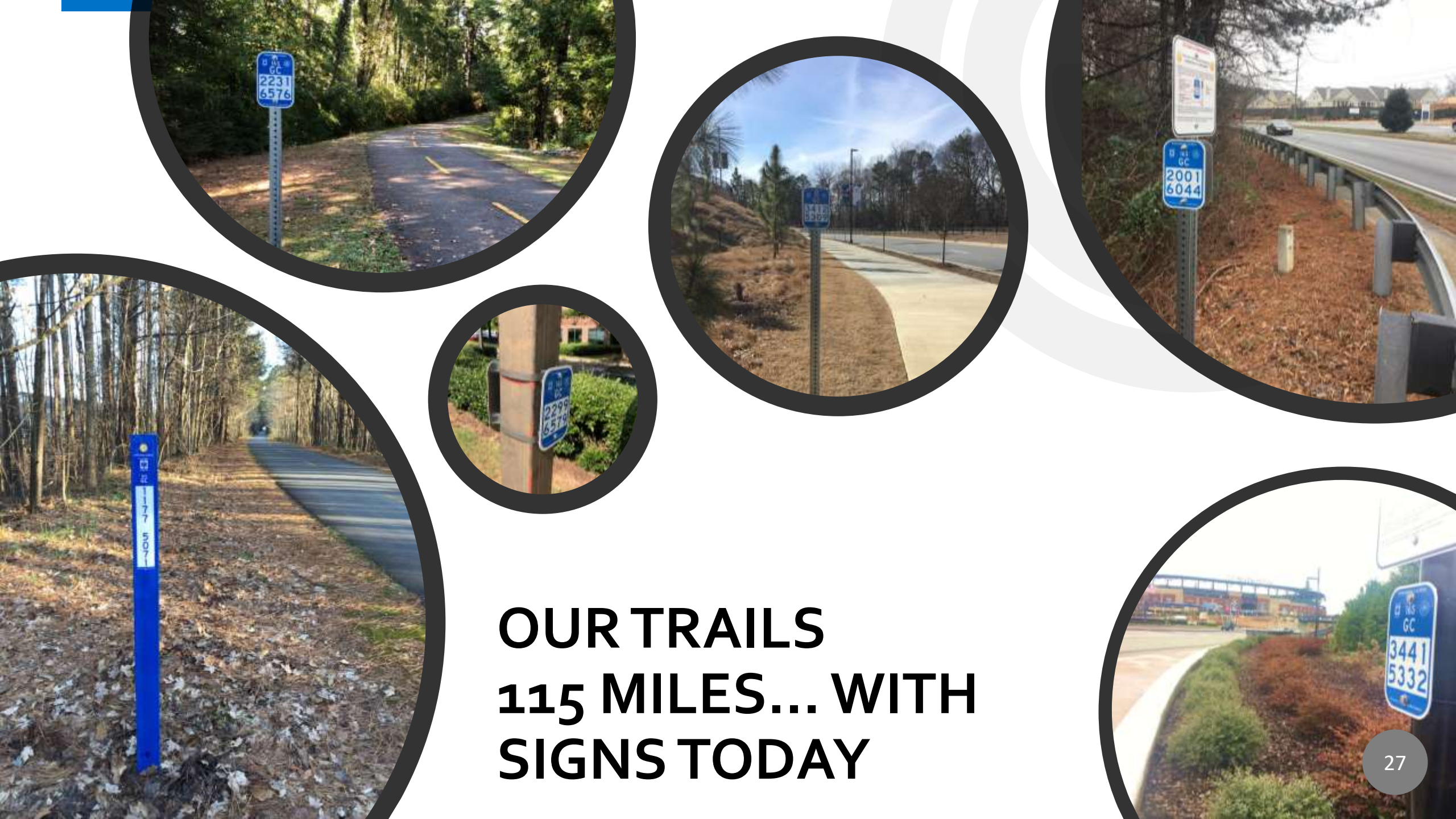
TRAIL TYPE

TRAIL WIDTH

PREMISE HAZARD
(NOTES FOR RESPONDERS)

PICTURES





**OUR TRAILS
115 MILES... WITH
SIGNS TODAY**



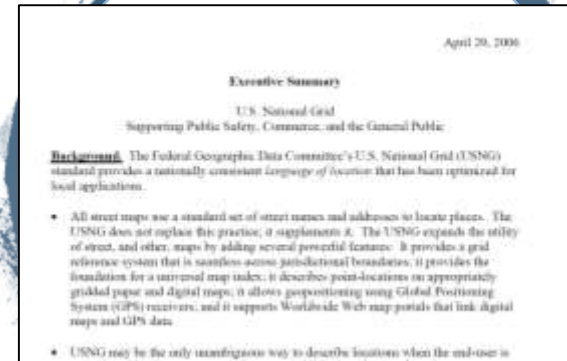
WHAT'S NEXT FOR COBB USNG PROJECT...

- Expand ELM's to all trails and all future programmed trails
- Continued Outreach: schools & public
- Help other counties/cities with their projects
- Work with private groups/companies to 'adopt' trails and fund more outreach
- Add Cameras
- Add more call boxes



RESOURCES

- USNG ELM web-site:
<https://usngcenter.org/>
- Cobb County ELM Story Map:
www.CobbELM.com
- FGDC Executive Summary on USNG





THANK YOU

JENNIFER.LANA@COBBCOUNTY.ORG

WWW.COBBCOUNTY.ORG/GIS

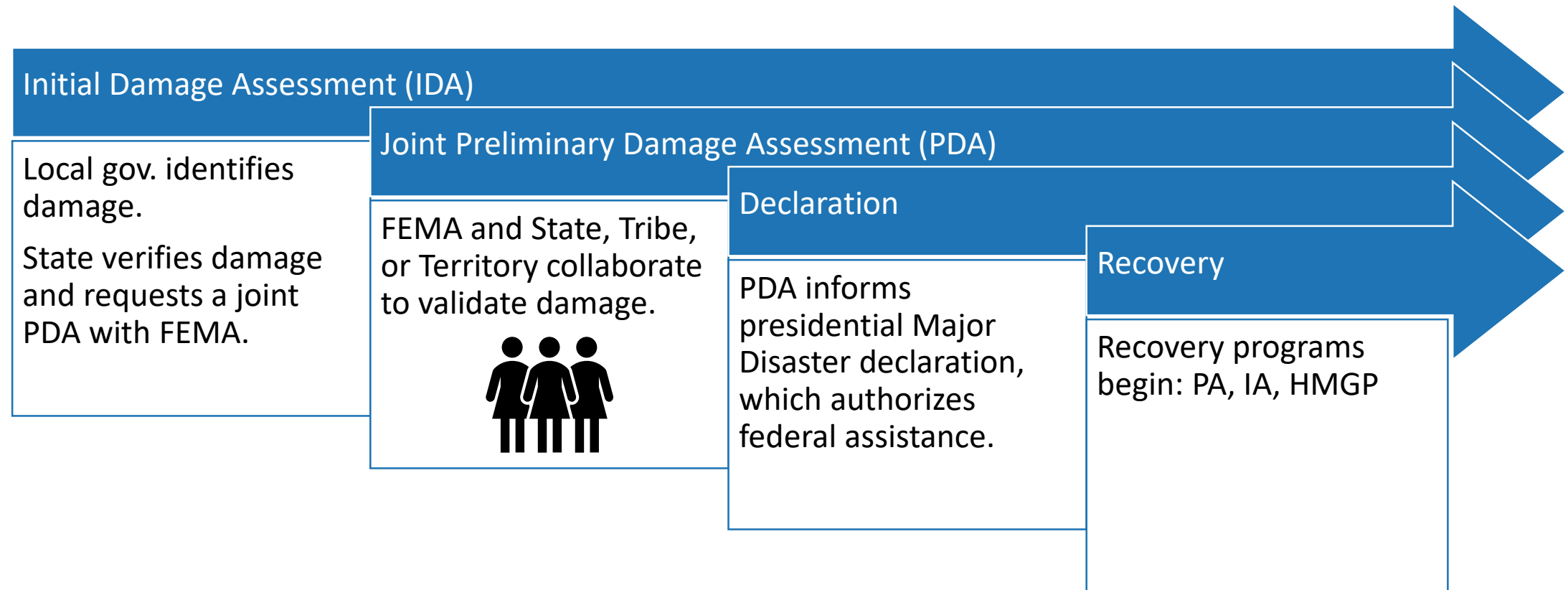
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Debris Management

Katie Picchione, FEMA

Initial and Preliminary Damage Assessments (IDAs and PDAs) are used to determine if Federal assistance is needed



FEMA's Public Assistance (PA) program provides federal funding for debris removal, emergency work, and infrastructure repairs



Debris

Photo Credit: Katie Picchione, 2018



Infrastructure

Imagery collected during Search and Rescue operations could be used to:

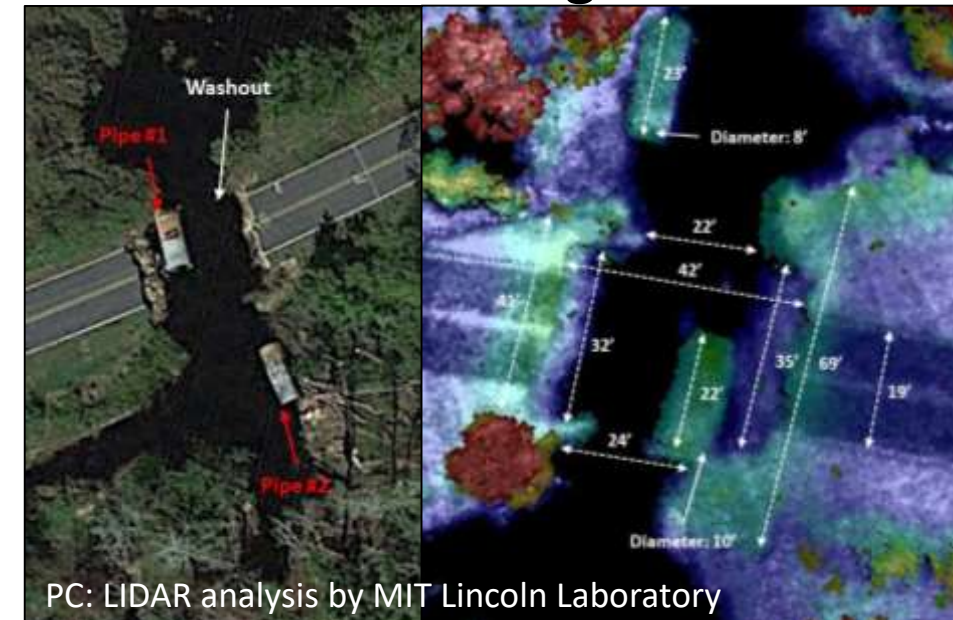
Identify location and type of debris



Prioritize recovery ops.



Identify and quantify infrastructure damage



Summary: PDA Data Applications and Challenges

Data on damaged infrastructure captured during Search and Rescue can inform recovery

- Applications of PDADData

- Capture dimensions and descriptions to estimate repair costs
- Monitor debris operations, electrification, repair progress
- Record damage to substantiate claims

- Challenges

- Interpretation of unfamiliar image types
- Data processing and sharing (permissions, quantity)
- Personally-identifiable information/privacy
- Contracting and deploying assets
- Using coarse resolution data to optimize allocation of high-resolution assets

FEMA PDA Templates

IA Express: <http://fema.maps.arcgis.com/home/item.html?id=9f59e65d42344a4d935146d536b62053>

IA: <http://fema.maps.arcgis.com/home/item.html?id=5cd25aa3d91344dd89cdf653d1130b73>

PA: <http://fema.maps.arcgis.com/home/item.html?id=7c0312f38def45928586cbf941439dd3>

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SAR & First Responders Geospatial Toolkit

Preparedness Technology Talk: June 26th

PREPAREDNESS TECHNOLOGY TALK: GEO-ENABLE SEARCH & RESCUE IN DISASTERS

All Categories

SEARCH

On June 26th, 2019, NAPSG Foundation launched the new Virtual Seminar Series called Preparedness Technology Talks – **PrepTech Talks**.

The first seminar in the PrepTech Talk series, "Geo-Enable Search & Rescue in Disasters", provided participants the opportunity to train and gain access to a standardized [suite of tools](#) and common framework for geo-enabling Search and Rescue (SAR) missions for disaster response.

TRAINING OBJECTIVES:

- Learn who to contact in order to gain access to the existing field apps hosted by FEMA Urban Search & Rescue (USAR) and the International Association of Fire Chiefs (IAFC).
- Understand how to use basic field data collection tools (Survey123 configured with the SAR and First Responder Survey template).
- Understand how to quickly analyze and report against live field data for situational awareness.
- Begin to develop your own geospatial game-plan and access additional resources.

Provided below is a link to the materials used in the training and a recording of the full training seminar.

- [SAR & First Responder Toolkit](#) – This is the website shown during the PrepTech Talk. It includes resources and access to the "SAR Sandbox" for training with Survey123 and additional apps that will be used in the 2019 Hurricane Season.
- [Link to Recording](#)

SAR & First Responders Geospatial Toolkit

Story Map Website with:

1. Resources by capability
2. Links to training videos
3. Points of contact
 - FEMA Urban Search and Rescue
 - International Association of Fire Chiefs
 - NSARC Geospatial Working Group*
4. Sandbox for testing geospatial tools –
NOT FOR REAL-WORLD RESPONSE



<https://arcg.is/00L58f>

SAR Terminology



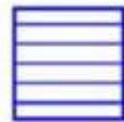
1 Recon Preliminary survey (not search), assessing structures, safety, and HAZMAT



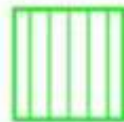
2 Rapid/Hasty Search Quick surface search of areas likely to contain victims, focusing on detection



3 Primary Search Minimum 360 of every structure may include a quick interior search per the ROE



4 Secondary Search (Low) Systematic search of the interior and exterior of every structure



5 Secondary Search (High) Exhaustive de-layering, complete search of every void space in an affected area

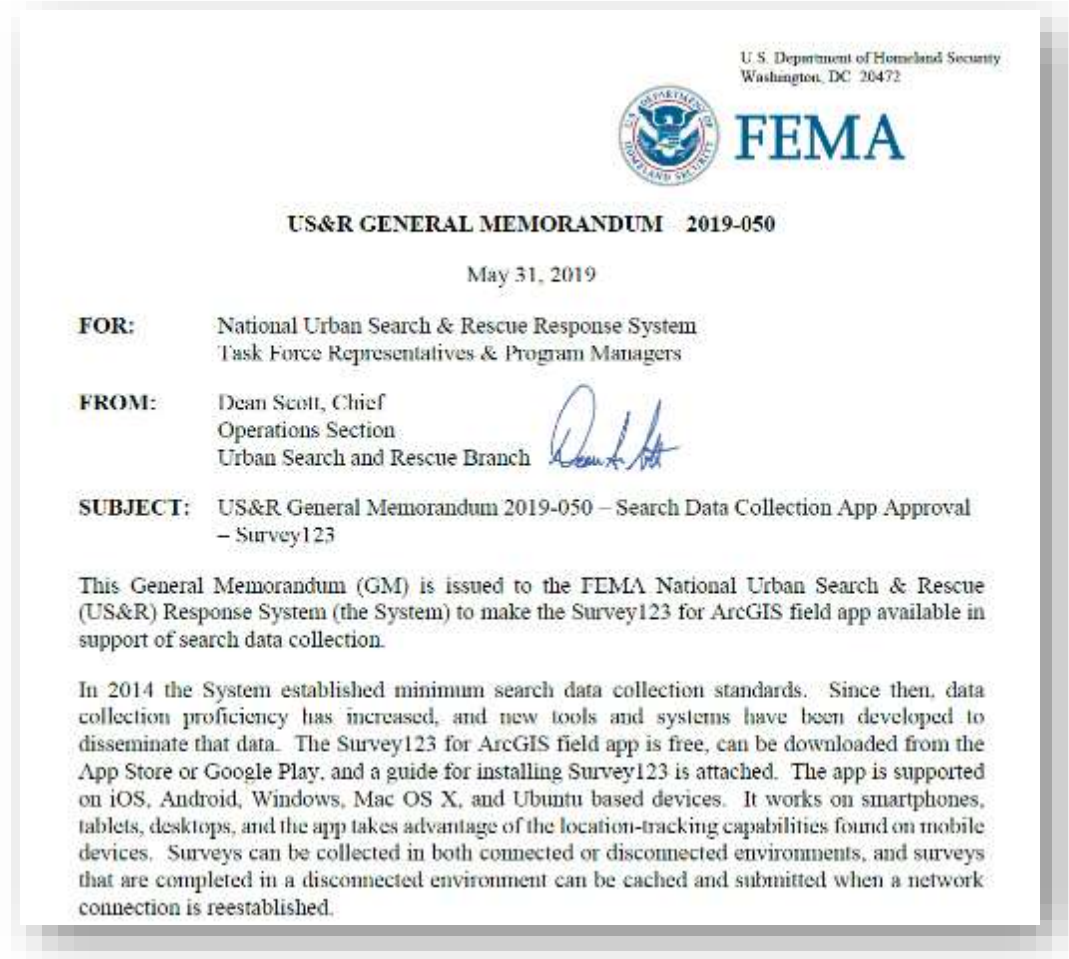


6 Targeted Search Priority search at a specific location requiring immediate attention and amplified effort

Symbol	Name	Description (based on MOTF-1 guide)
Victims		
	Assisted	Material assistance provided to residents
	Evacuated	Survivors transported to collection point
	Rescued	Technical rescue that required physical intervention
	Victim Detected	Potential victim detected (including canine alert or intelligence)
	Confirmed Victim	Confirmed live survivor (visual, audible, physical confirmation)
	Human Remains	Confirmed victim determined to be deceased
	Human Remains Removed	Human remains removed from specific location
	Shelter in Place	Survivors have chosen to remain at location
Hazards		
	Fire Incident	General fire occurrence
	Hazardous Material Incident	Nuclear, biological, or chemical incident
	Flood/Water Level	Predetermined site for documentation of water line
	Route Blocked	Inaccessible route by land or water
Damage		
	Structure No Damage	Low Risk, low probability of further collapse
	Structure Damaged	Medium Risk, structure is moderately damaged
	Structure Failed	High Risk, may be subject to sudden collapse
	Structure Destroyed	Complete destruction of structure
Other		
	Targeted Search	Specific location or condition requiring increased search effort
	Helicopter Landing Site	Appropriate site for landing zone
	Animal Issue	Issue including aggression, location, assistance needed, etc.
	Follow-Up Form	Additional information required not adequately described by symbol set
	Extra 21	Mission specific placeholder to be determined (e.g. abandoned vehicle, commercial structure, evidence)
	Extra 22	Mission specific placeholder to be determined
	Extra 23	Mission specific placeholder to be determined
	Extra 24	Mission specific placeholder to be determined

FEMA Urban Search and Rescue

- General Memo 2019-050
- GovDelivery List
- Geospatial Game Plan
 - Who to contact?
lance.gilmore@fema.dhs.gov
 - How to access?
 1. Read memo,
 2. Sign-in with your team username
(1 for TIS and 1 for Ops)



State & Local SAR Teams

- **Scenario A** – you have ArcGIS Online usernames and want to deploy the SAR and First Responder Survey into your own environment for local response, you can use the Deployment Kit to host it yourself.
- **Scenario B** – you have ArcGIS Online usernames, but you want to be interoperable with other teams for a common operational picture for large disasters (e.g. earthquakes, hurricane).
 - Inquire with your state ESF 4/9 Lead and/or State Emergency Management and the to see if they will be hosting the standard templates and capability for teams within your state.
 - Request access and support from IAFC by granting access to their ArcGIS Online Group to use SAR Survey and general Dashboard.
- **Scenario C** – you don't have ArcGIS Online or your GIS staff don't have usernames or time to support you? You can purchase ArcGIS Online usernames and request access to the IAFC ArcGIS Online organization.
- **ALL Scenarios** – Ensure you are using the data collected only for it's intended use – operational coordination. Be sure you are sharing the data in interoperable formats and with appropriate data sharing agreements in-place.

Deployment Kit

Deployment Kits - SAR and First Responder Field Data Collection Form

OverviewUsageSettings

Edit Thumbnail



Add to Favorites

Zip file with .xlsx document and associated media files that you can download and use as a template to deploy a Survey123 survey for recording the location of human interactions, hazards, damage surveys, and operation support. Updated June 26, 2019.

Edit

Desktop Application Template by NAPSG Foundation

Created: May 21, 2019 Updated: Nov 7, 2019 Number of Downloads: 81

Authoritative

Description

Summary

This item links to a zip file that you can download and use as a template to deploy a Survey123 survey for recording the location of human interactions, hazards, damage assessments, and operational support for Urban Search and Rescue incidents. This is v6 uploaded on June 26th, 2019.

Important Note: If you represent a FEMA Type 1 USAR Team, a similar survey has already been published in the FEMA ArcGIS Online Organization. Please contact Lance Gilmore at Lance.Gilmore@fema.dhs.gov to gain access to the survey.

If you represent a state USAR team, you may be eligible to use a similar survey published and administered by the International Association of Fire Chiefs. Please contact Jeff Dulin at JDulin@iafc.org.

Contents: The zip file contains a read me text file with folder content descriptions, an .xlsx form that can be used as a template for publishing a Survey123 survey in Survey123 connect; a pdf with deployment instructions; a pdf with waypoint descriptions; associated media files for use in Survey123 Connect; a thumbnail that you may choose to use if you do not have a designated thumbnail.

Audience: This item is designed to assist a GIS Specialist, Tech Info Specialist, or other person trained in the use and deployment of Survey123. For training materials that you can provide to field teams see this [Website](#) and [YouTube](#) playlist.

Download

Update

Share

Metadata

Item Information

Learn more

Low

High

Details

Size: 1,001 KB

Shared with: Everyone (public), Resource: Tech Innovation for Preparedness & Operations Tutorial, Resource: All-Hazards Core Information Needs Group, R&D: NAPSG Foundation Urban Search and Rescue Sandbox

★★★★★



Owner

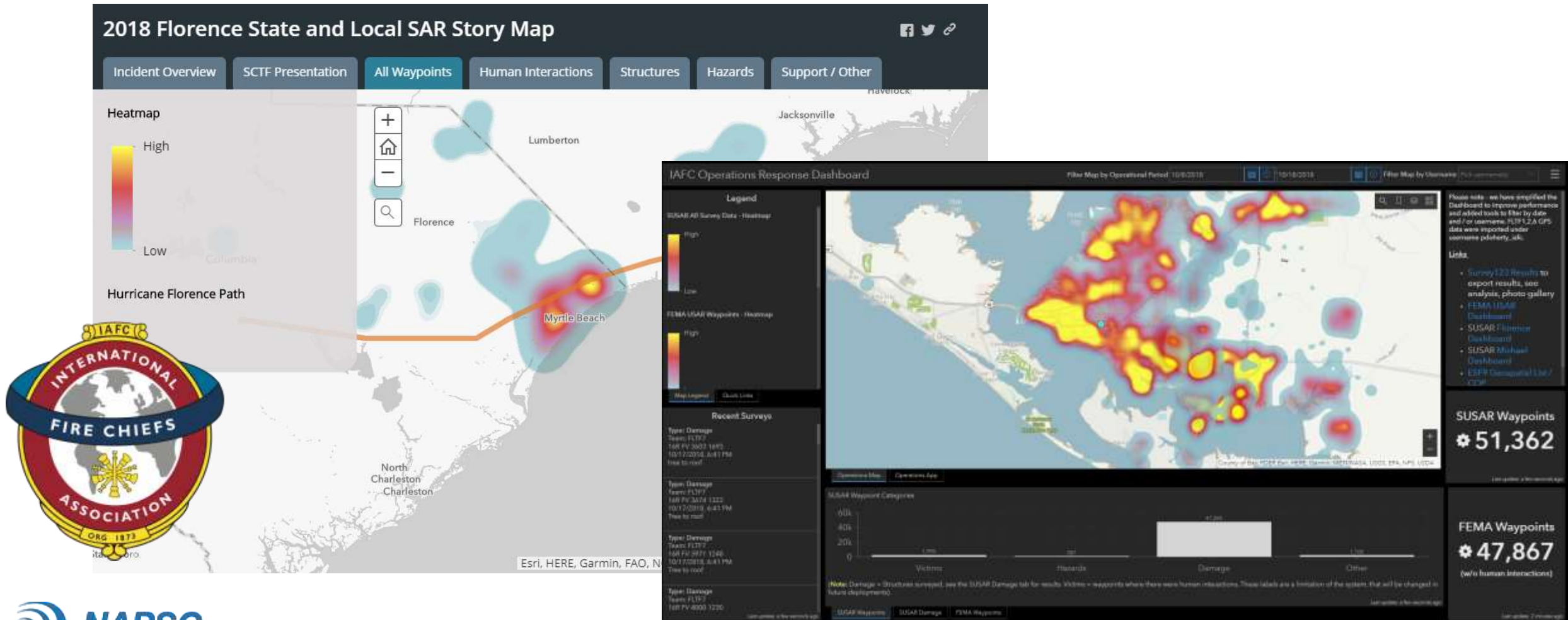
Change Owner

 NAPSG Foundation

Managed by:

 jdoke_napsg

Interagency Coordination – One Team, One Fight



Inspections/Assessments after a Disaster

Assessments are an essential part of the response and recovery process and are critical for assessing the size, scope, and severity of an event.

THE CHALLENGE

When a home is damaged as a result of a natural or man-made disaster, numerous damage assessments are performed to assess the safety of the structure, quantify the damage, and determine financial aid from the government and/or insurance company. While each assessment is conducted for a specific purpose, this puts a significant burden on the survivors and community and often times delays recovery efforts.

THE SOLUTION

Consistent standards and data sharing mechanisms are needed so various programs and agencies (e.g., state and local authorities, federal agencies, statutory authorities, non-profit organizations) can leverage the same data collected during the preliminary damage assessment. This will help avoid duplication of effort, conflicting information, and delays in bringing relief to the homeowner.



Urban Search and Rescue (US&R)

Assess if the house is safe to enter for rescue operations.



Individual Assistance (IA)

Public Assistance (PA)

National Flood Insurance Program (NFIP)

Environmental and Historic Preservation (EHP)

Mitigation (Building Code inspections)

Disaster Survivor Assistance Teams

Small Business Administration (SBA)

Housing and Urban Development (HUD)

U.S. Army Corps of Engineers (USACE)

Homeowner Insurance Adjuster

Auto Insurance Adjuster

State Inspectors

Local Inspectors

American Red Cross

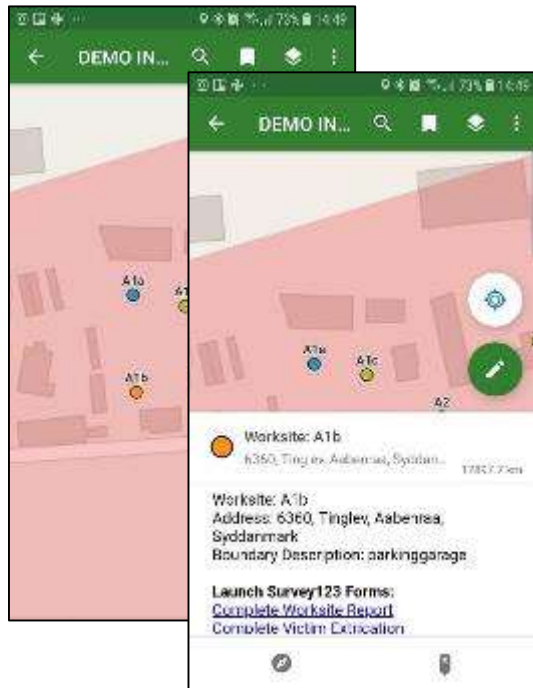


FEMA

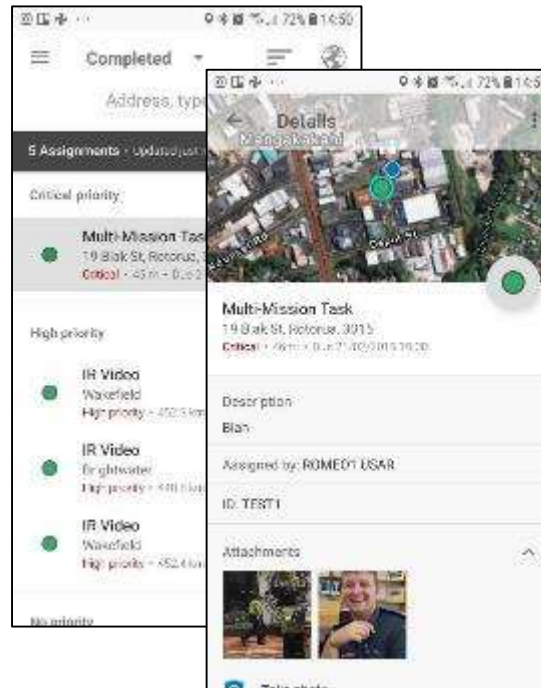
Collection systems



Survey 123



Explorer



Workforce

Key Learnings

1. Use integrated data where ever possible. Only collect data once
2. Prepopulate as much as possible
3. Use of Explorer and Workforce to assign and task teams
4. Links to Survey123 from Explorer and Workforce
5. Clever system, easy UI
6. Tested on wide range of field users
7. Possible to integrate data from other systems, but requires effort.

SAR and First Responder Geospatial Toolkit

SAR and First Responder Geospatial Toolkit

No issues detected

1 Introduction

What is the SAR and First Responders Geospatial Toolkit?

Use this Story Map template to adopt a *common geospatial framework* and train for disaster response search and rescue (SAR) missions. Interoperability between SAR teams is critical to response and recovery.

Next Steps

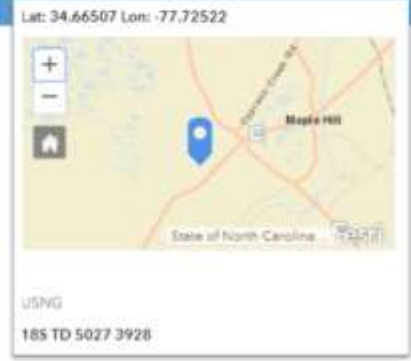
Each section below provides core geospatial capabilities that your team will need to prepare in advance. The left-hand side panel of each section will have a list of resources for the geospatial lead on your team, and the main stage on the right will have an opportunity to "try it live".

This Story Map is produced & maintained by the NAPSG Foundation based on work done by the USAR FIELD DATA WORKING GROUP. This is a group of search and rescue professionals that convened in 2018 with the purpose of preparing for hurricane season and developing a common data schema for field data collection.

USAR FIELD DATA WORKING GROUP

2 Common Location Language

3 Readiness



Lat: 34.66507 Lon: -77.72522

USNG
18S TD 5027 3928

SAR & First Responder Geospatial Toolkit

NAPSG Foundation Search and Rescue Working Group

NAPSG Foundation

Today's Agenda

- ~~1440 Introductions~~
- ~~1445 Pre-planning: USNG Trail Markers – Jennifer Lana, Cobb County~~
- ~~1455 Debris Management – Katie Picchione, FEMA~~
- ~~1505 Search and Rescue & First Responder Survey – Paul Doherty, NAPSG SAR Working Group~~
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- 1630 Adjourned

Hands-on Exercise

1 Open Camera

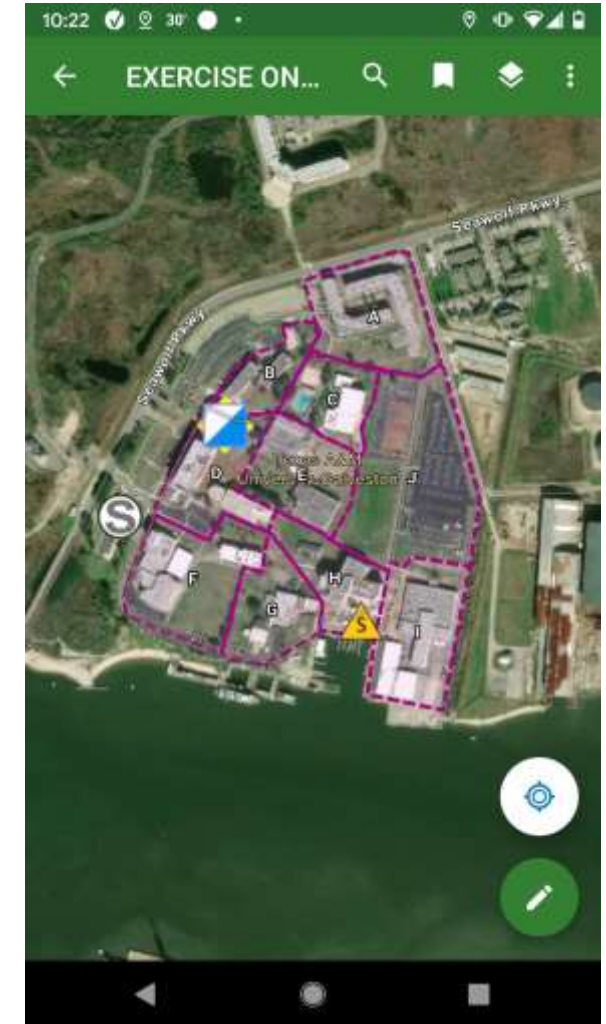
2 *Point At Code →

3 Open in Explorer
for ArcGIS
(or install the app)

**some phones require a QR app or to hold down the home button
while scanning with camera*



SAR and First Responder Sandbox Webmap
(9d5ea40c36c24500a129c3ea4c739c2a)





Survey123 – SAR and First Responder

1 Open Camera

2 *Point At Code →

3 Open in Survey123
(or install the app)

**some phones require a QR app or to hold down the home button while scanning with camera*



Version 6 - Sandbox
c69bf75ac2c34a23be34511f4bb6083c

Safari 10:02 99%

x6 SAR and First Responder Field Data Collection Form

Survey instructions, tips, and sharable QR code. Click arrow to left to open.

Event Details: ★ *Open to complete event details and "Set as favorite answers" (using instructions above) to pre-populate future forms. Be sure to reset favorite answers at the beginning of each search operation.*

Location *

Select the map to improve location accuracy or search an address / place / USNG. For damage surveys - be sure to "drag" the pin to the building footprint where available.

11S MT 8119 6723 ± 5 m

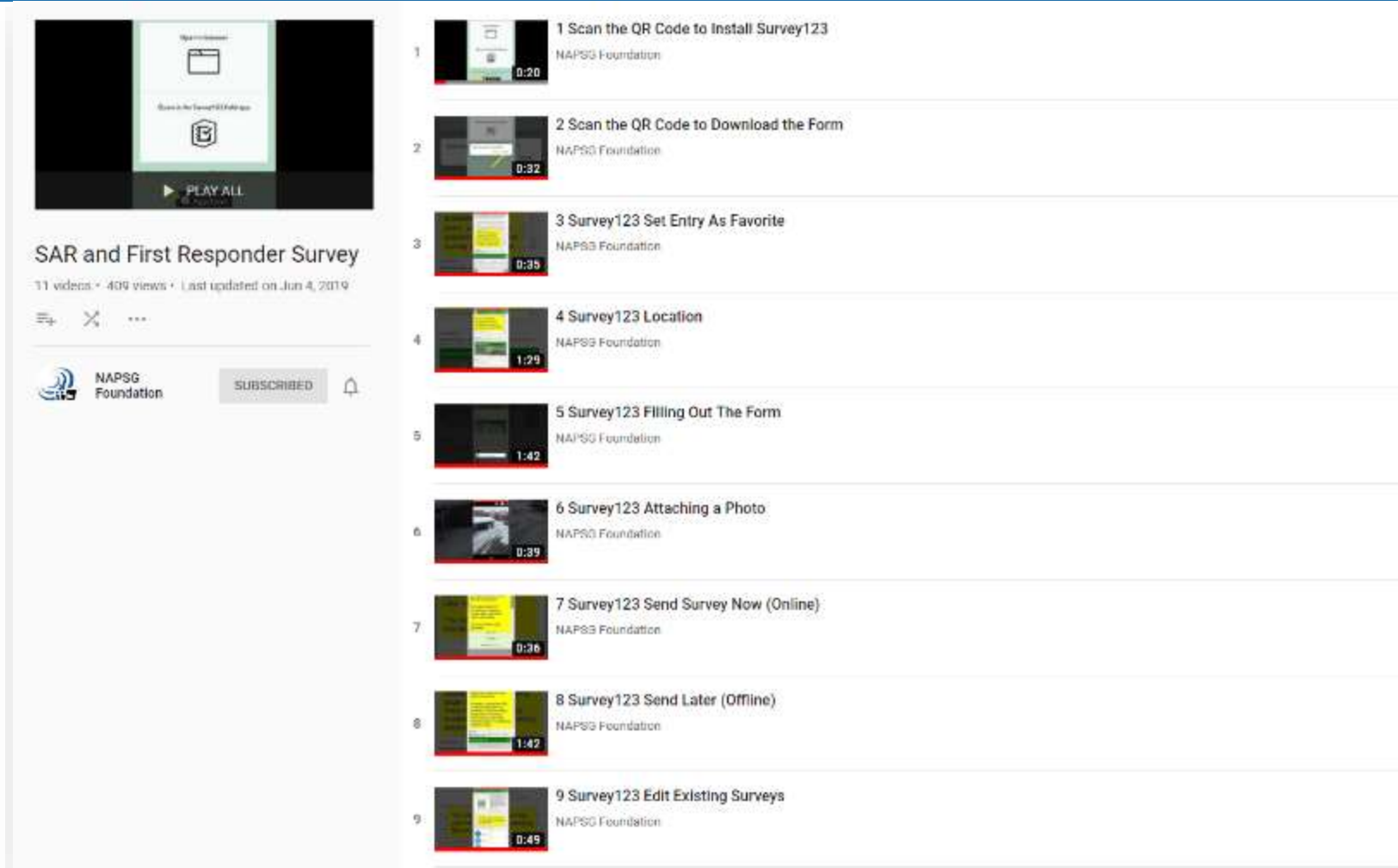
Esri contributors

USNG

11S MT 8119 6723

✓

Training Playlist



SAR and First Responder Survey
11 videos • 409 views • Last updated on Jun 4, 2019

NAPSG Foundation SUBSCRIBED

- 1 Scan the QR Code to Install Survey123
NAPSG Foundation 0:20
- 2 Scan the QR Code to Download the Form
NAPSG Foundation 0:32
- 3 Survey123 Set Entry As Favorite
NAPSG Foundation 0:35
- 4 Survey123 Location
NAPSG Foundation 1:29
- 5 Survey123 Filling Out The Form
NAPSG Foundation 1:42
- 6 Survey123 Attaching a Photo
NAPSG Foundation 0:39
- 7 Survey123 Send Survey Now (Online)
NAPSG Foundation 0:36
- 8 Survey123 Send Later (Offline)
NAPSG Foundation 1:42
- 9 Survey123 Edit Existing Surveys
NAPSG Foundation 0:49

SAR and First Responder Field Data Collection Form (v6)

Live Demo

The screenshot shows a mobile application interface for data collection. At the top, a green header bar contains a close button (X), the title "v6 SAR and First Responder Field Data Collection Form", a location icon, and a menu icon (three horizontal lines). Below the header, the form is divided into sections:

- Survey instructions, tips, and sharable QR code.** A right-pointing arrow icon is visible to the left of the text.
- Event Details:** A red star icon is followed by the text: "★ *Open to complete event details and "Set as favorite answers" (using instructions above) to pre-populate future forms. Be sure to reset favorite answers at the beginning of each search operation.*"
- Location *** A section with instructions: "Select the map to improve location accuracy or search an address / place / USNG. For damage surveys - be sure to 'drag' the pin to the building footprint where available." Below this is a green bar displaying "11S MT 8119 6723 ± 5 m" and a map showing a satellite view of a city with a red location pin. The map is credited to "© Esri contributors".
- USNG** A text input field containing "11S MT 8119 6723" with a clear button (X) to its right.

At the bottom of the form is a green bar with a white checkmark icon, indicating successful completion or saving.



Survey123 – Public Assistance

1 Open Camera

2 *Point At Code →

3 Open in Survey123
(or install the app)

**some phones require a QR app or to hold down the home button while scanning with camera*

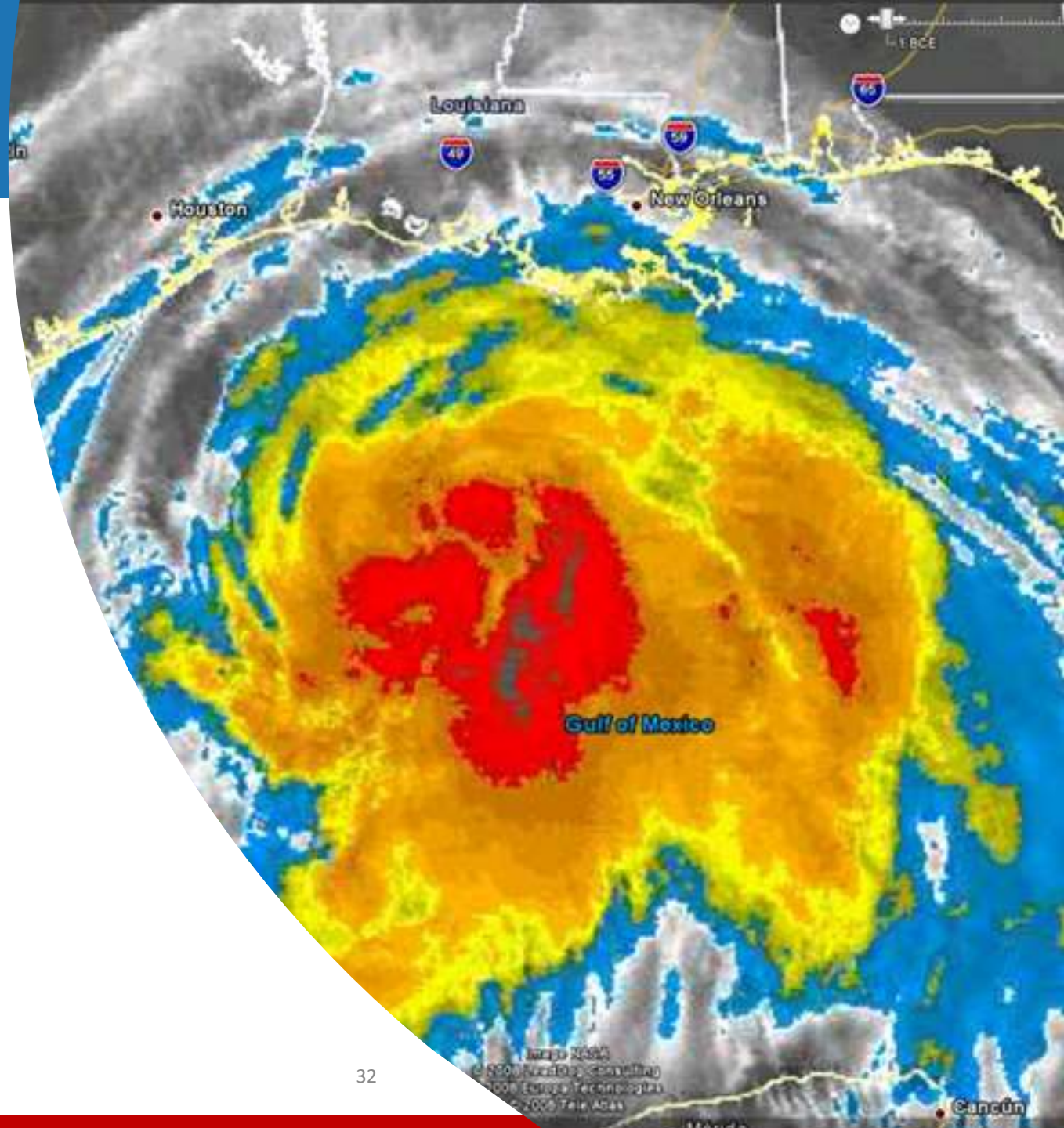


Exercise Only – Public Assistance (PA) PDA v3_0
ef7c656d8f784db98529e5823c318a9b

The screenshot shows the Survey123 app interface for the 'Public Assistance Field Collection Survey'. The top status bar shows the time as 8:23 and battery level at 30%. The app header is green with a close button (X) and the text 'Exercise Only: v3.0 Public Assistance PDA Survey'. Below the header, there is a link to 'FEMA's Damage Assessment Operations Manual'. The main form section is titled 'Public Assistance Field Collection Survey' and includes the following fields: 'Incident Begin Date: *' with a date picker set to 'Friday, November 8, 2019'; 'Location Information:' section with 'Street Address: 2472 Raywood Vw', 'City/Town: Galveston', and 'State/Territory: *'. The bottom of the screen shows a green bar with a white checkmark icon, indicating a successful save or completion.

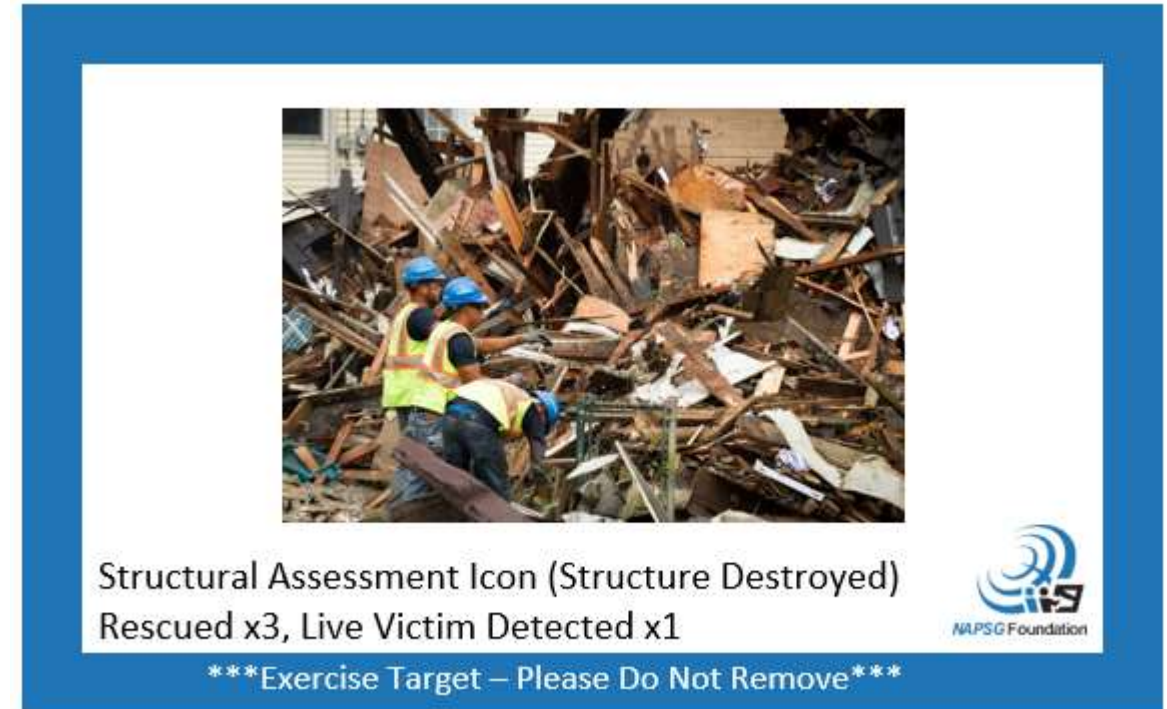
Great Galveston Hurricane

- EXERCISE ONLY: A Category 2 Hurricane has just swept through the Galveston area.
- SAR Teams are being tasked with conducting Primary Searches of the Texas A&M University at Galveston Campus.
- Use the SAR and First Responder Field Data Collection Form to document field observations and note areas in need of Debris Management.
- Debris Teams will follow up on areas identified by SAR Teams.



Concept of Operations

- First 10 Teams of “First Responders” deploy using the Search and Rescue Survey
 - 5 Targets per assignment area. Use Explorer for ArcGIS to navigate to the “targets” in your identified Search Segment.
 - 2 targets will contain debris related information. Flag this as Public Infrastructure > Debris Removal
 - SAR Teams, please remove the SAR Target Card (Blue Border) and take it with you to return to us. Please leave any targets with a green boarder in place.



SAR/First Responder Target

Concept of Operations Continued

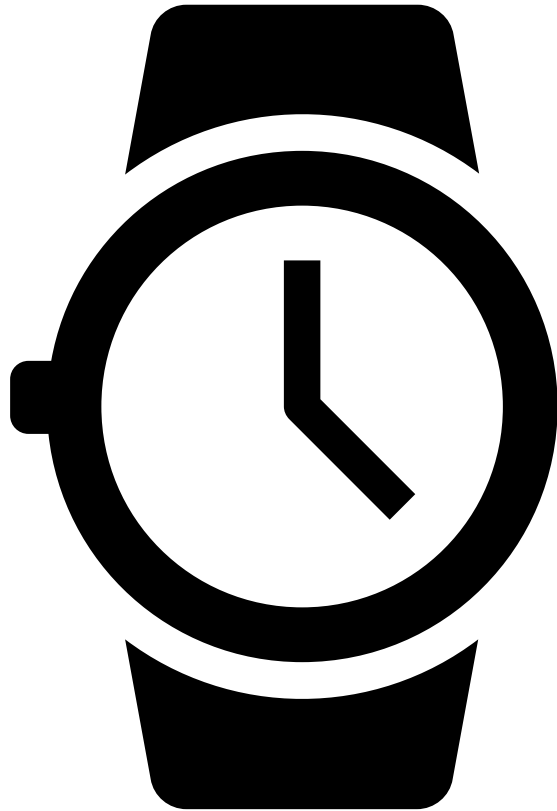
After 20 minutes, 10 “Debris Teams” use the Preliminary Damage Assessment – Public Assistance Survey to document debris locations

- 2 Debris targets per assignment area.
- These teams will locate the “debris targets” using Explore for ArcGIS
- Debris Teams, please remove the Debris Target Card (Green Border) and take it with you to return to us.



Debris Target

Turn off your Wi-Fi to
reduce issues when
you leave the building



All Teams Return By 16:15!

For Quick After-Action Review

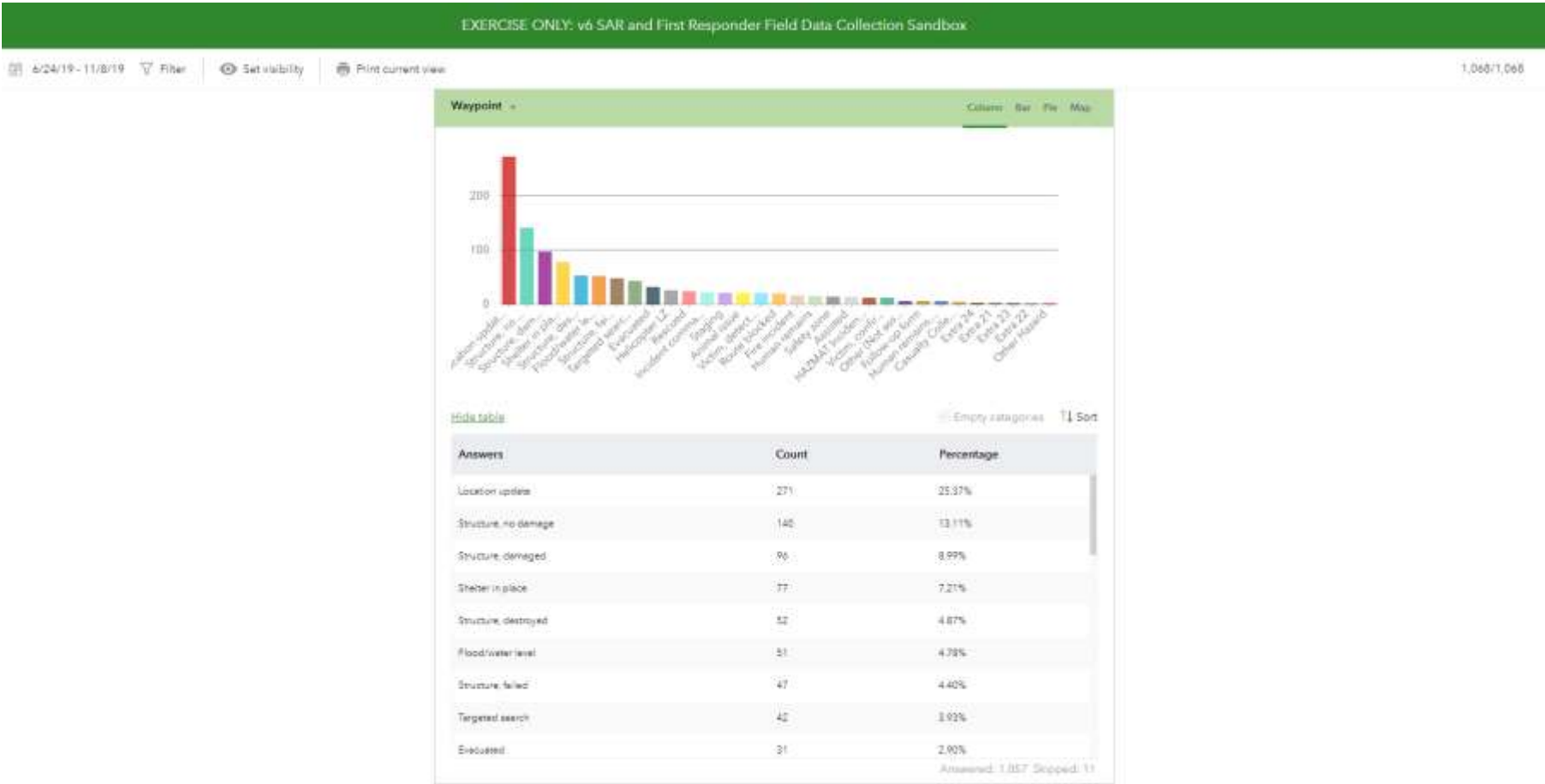
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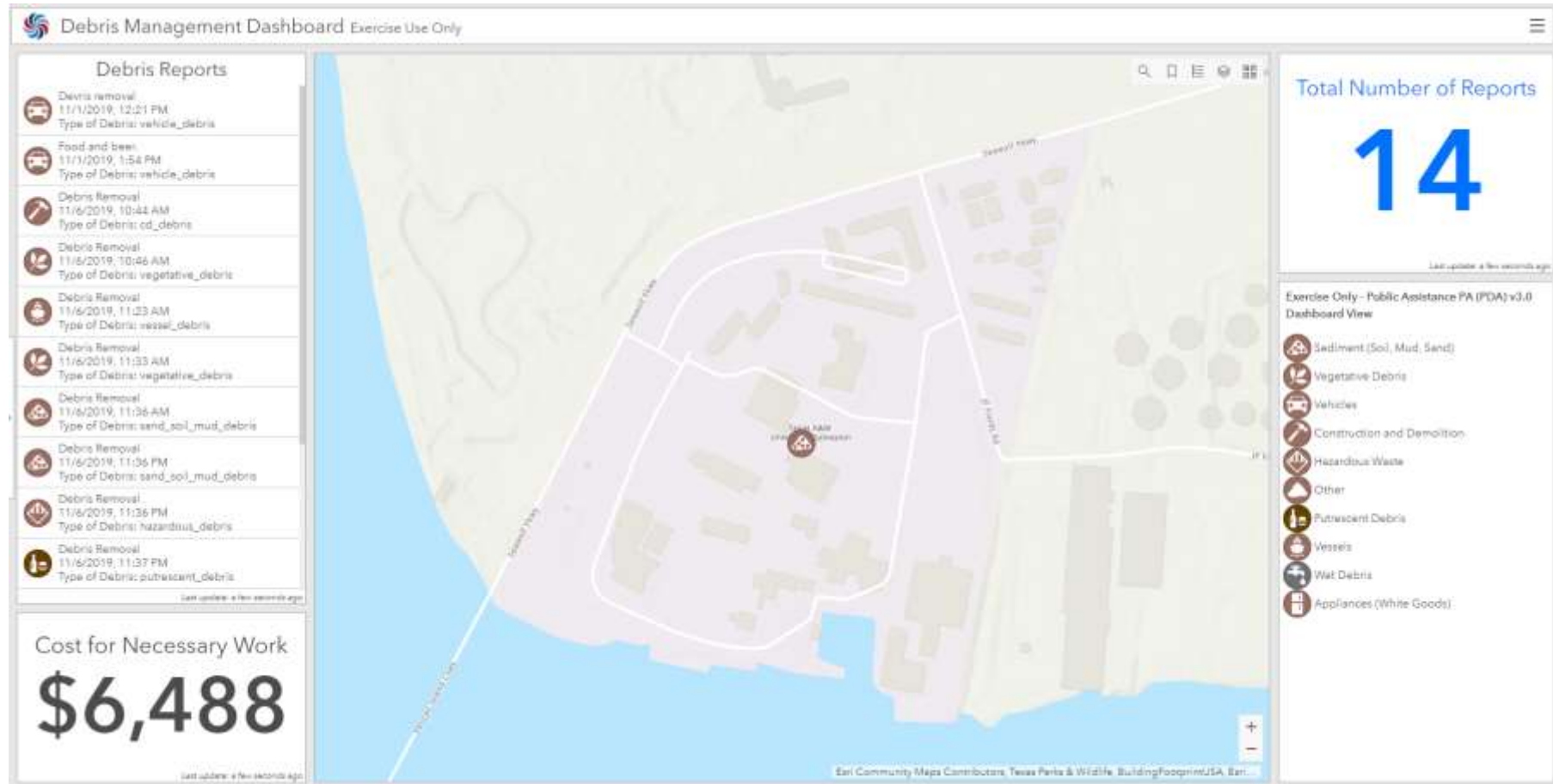
Exercise Dashboard



Survey123 Backend



Debris Management Dashboard



<https://arcg.is/0mSGSr>

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After Action

Not So Well? Technology

Bugs (Need to fix)

Enhancements (Need to add / change)

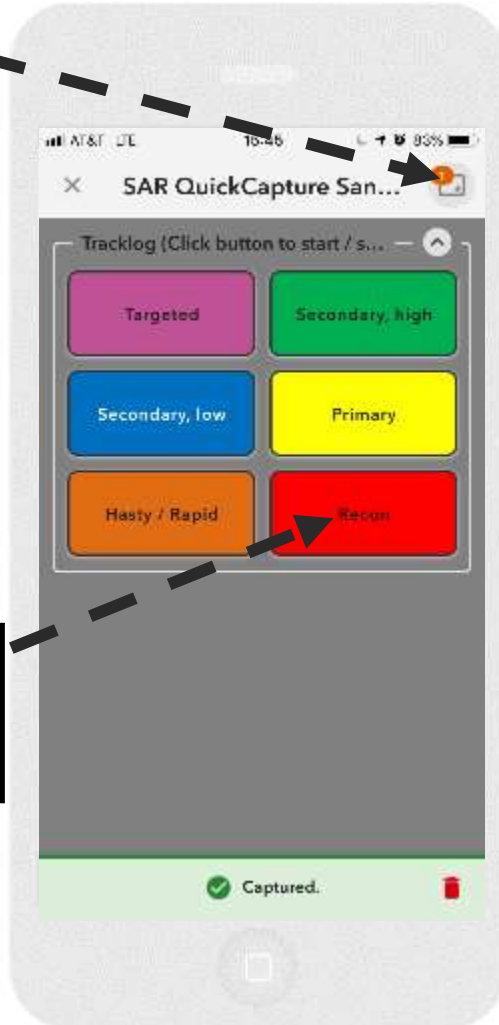
Not So Well? Operations

What's Next?

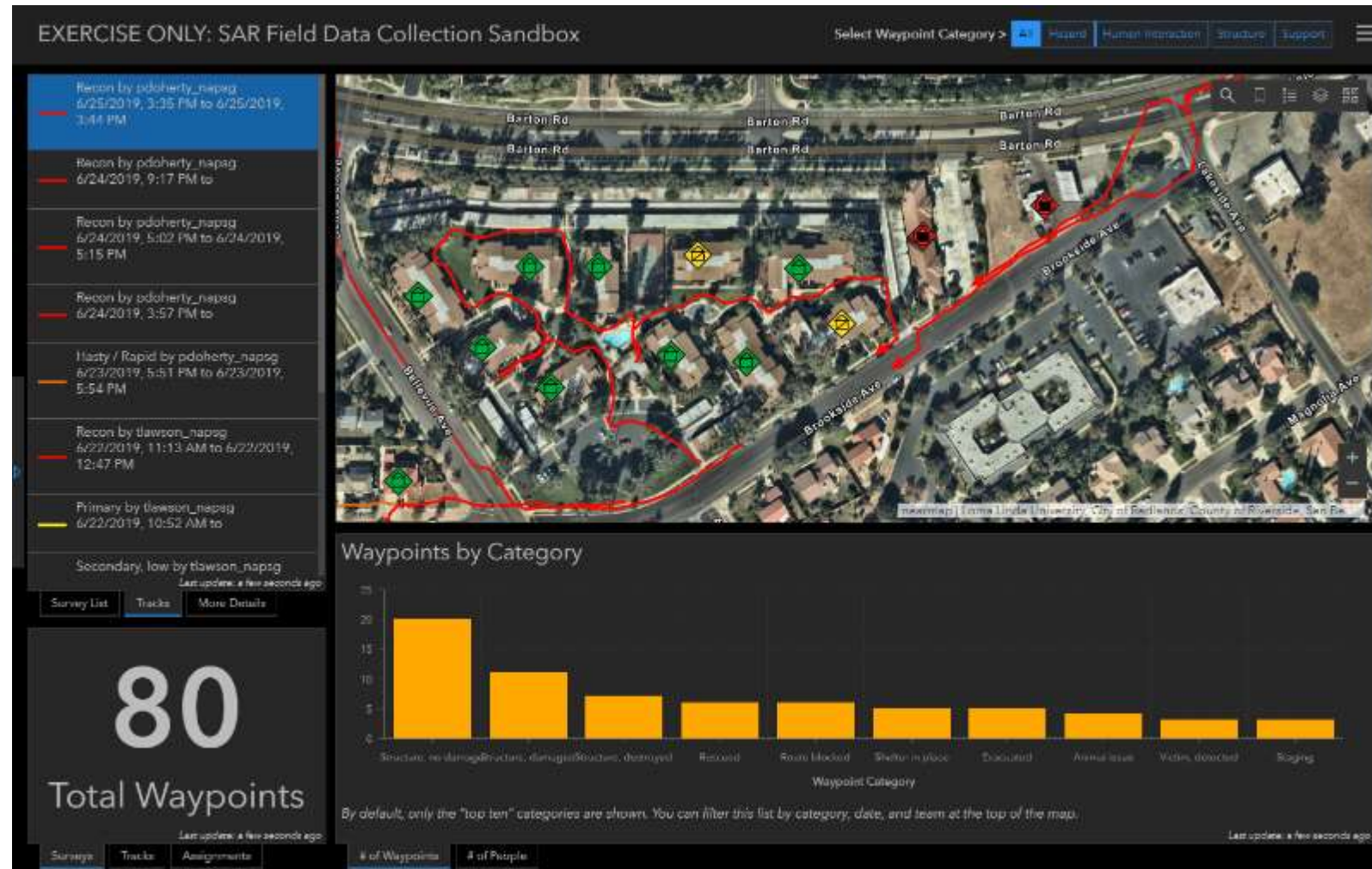
- Re-Convene the SAR Working Group
- Data Dictionary between SAR Damage and Preliminary Damage Assessment
- Survey123 Improvements for v7 in 2020
 - Remove Repeats and related table ([#16](#))
 - Status / Action Field ([#19](#))
 - Reverse Geocode ([#26](#))
- Adoption of QuickCapture for tracks and rapid point collection
- Adoption of “triggers” for priority action (see Survey123 – Zapier – Slack integration)

R&D: QuickCapture

Auto-send or manual



Tap to start /
tap to stop
recording tracks



Resources

SAR and First Responder Geospatial Toolkit

SAR and First Responder Geospatial Toolkit

[No issues detected](#)
[CRM](#)
[Facebook](#)
[Twitter](#)
[LinkedIn](#)

NAPSG Foundation

1 Introduction

What is the SAR and First Responders Geospatial Toolkit?

Use this Story Map template to adopt a common geospatial framework and train for disaster response search and rescue (SAR) missions. Interoperability between SAR teams is critical to response and recovery.

Next Steps

Each section below provides core geospatial capabilities that your team will need to prepare in advance. The left-hand side panel of each section will have a list of resources for the geospatial lead on your team, and the main stage on the right will have an opportunity to "try it live".

This Story Map is produced & maintained by the NAPSG Foundation based on work done by the USAR FIELD DATA WORKING GROUP. This is a group of search and rescue professionals that convened in 2018 with the purpose of preparing for hurricane season and developing a common data schema for field data collection.

USAR FIELD DATA WORKING GROUP

2 Common Location Language

3 Readiness

R

Greensboro Fire Swiftwater Team 2A
09/18/2018 1649h

Lat: 34.66507 Lon: -77.72522

USNG
18S TD 5027 3928

SAR & First Responder Geospatial Toolkit

NAPSG Foundation Search and Rescue Working Group

PrepTech Talk

PREPAREDNESS TECHNOLOGY TALK: GEO-ENABLE SEARCH & RESCUE IN DISASTERS

All Categories

SEARCH

On June 26th, 2019, NAPSG Foundation launched the new Virtual Seminar Series called Preparedness Technology Talks – **PrepTech Talks**.

The first seminar in the PrepTech Talk series, “Geo-Enable Search & Rescue in Disasters”, provided participants the opportunity to train and gain access to a standardized [suite of tools](#) and common framework for geo-enabling Search and Rescue (SAR) missions for disaster response.

TRAINING OBJECTIVES:

- Learn who to contact in order to gain access to the existing field apps hosted by FEMA Urban Search & Rescue (USAR) and the International Association of Fire Chiefs (IAFC).
- Understand how to use basic field data collection tools (Survey123 configured with the SAR and First Responder Survey template).
- Understand how to quickly analyze and report against live field data for situational awareness.
- Begin to develop your own geospatial game-plan and access additional resources.

Provided below is a link to the materials used in the training and a recording of the full training seminar.

- [SAR & First Responder Toolkit](#) – This is the website shown during the PrepTech Talk. It includes resources and access to the “SAR Sandbox” for training with Survey123 and additional apps that will be used in the 2019 Hurricane Season.
- [Link to Recording](#)

Deployment Kit

Deployment Kits - SAR and First Responder Field Data Collection Form

OverviewUsageSettings

Edit Thumbnail



Add to Favorites

Zip file with .xlsx document and associated media files that you can download and use as a template to deploy a Survey123 survey for recording the location of human interactions, hazards, damage surveys, and operation support. Updated June 26, 2019.

Desktop Application Template by NAPSG Foundation

Created: May 21, 2019 Updated: Nov 7, 2019 Number of Downloads: 81

Authoritative

Description

Summary

This item links to a zip file that you can download and use as a template to deploy a Survey123 survey for recording the location of human interactions, hazards, damage assessments, and operational support for Urban Search and Rescue incidents. This is v6 uploaded on June 26th, 2019.

Important Note: If you represent a FEMA Type 1 USAR Team, a similar survey has already been published in the FEMA ArcGIS Online Organization. Please contact Lance Gilmore at Lance.Gilmore@fema.dhs.gov to gain access to the survey.

If you represent a state USAR team, you may be eligible to use a similar survey published and administered by the International Association of Fire Chiefs. Please contact Jeff Dulin at JDulin@iafc.org.

Contents: The zip file contains a read me text file with folder content descriptions, an .xlsx form that can be used as a template for publishing a Survey123 survey in Survey123 connect; a pdf with deployment instructions; a pdf with waypoint descriptions; associated media files for use in Survey123 Connect; a thumbnail that you may choose to use if you do not have a designated thumbnail.

Audience: This item is designed to assist a GIS Specialist, Tech Info Specialist, or other person trained in the use and deployment of Survey123. For training materials that you can provide to field teams see this [Website](#) and [YouTube](#) playlist.

Download

Update

Share

Metadata

Item Information

Learn more

Low

High

Details

Size: 1,001 KB

Shared with: Everyone (public), Resource: Tech Innovation for Preparedness & Operations Tutorial, Resource: All-Hazards Core Information Needs Group, R&D: NAPSG Foundation Urban Search and Rescue Sandbox

★★★★★

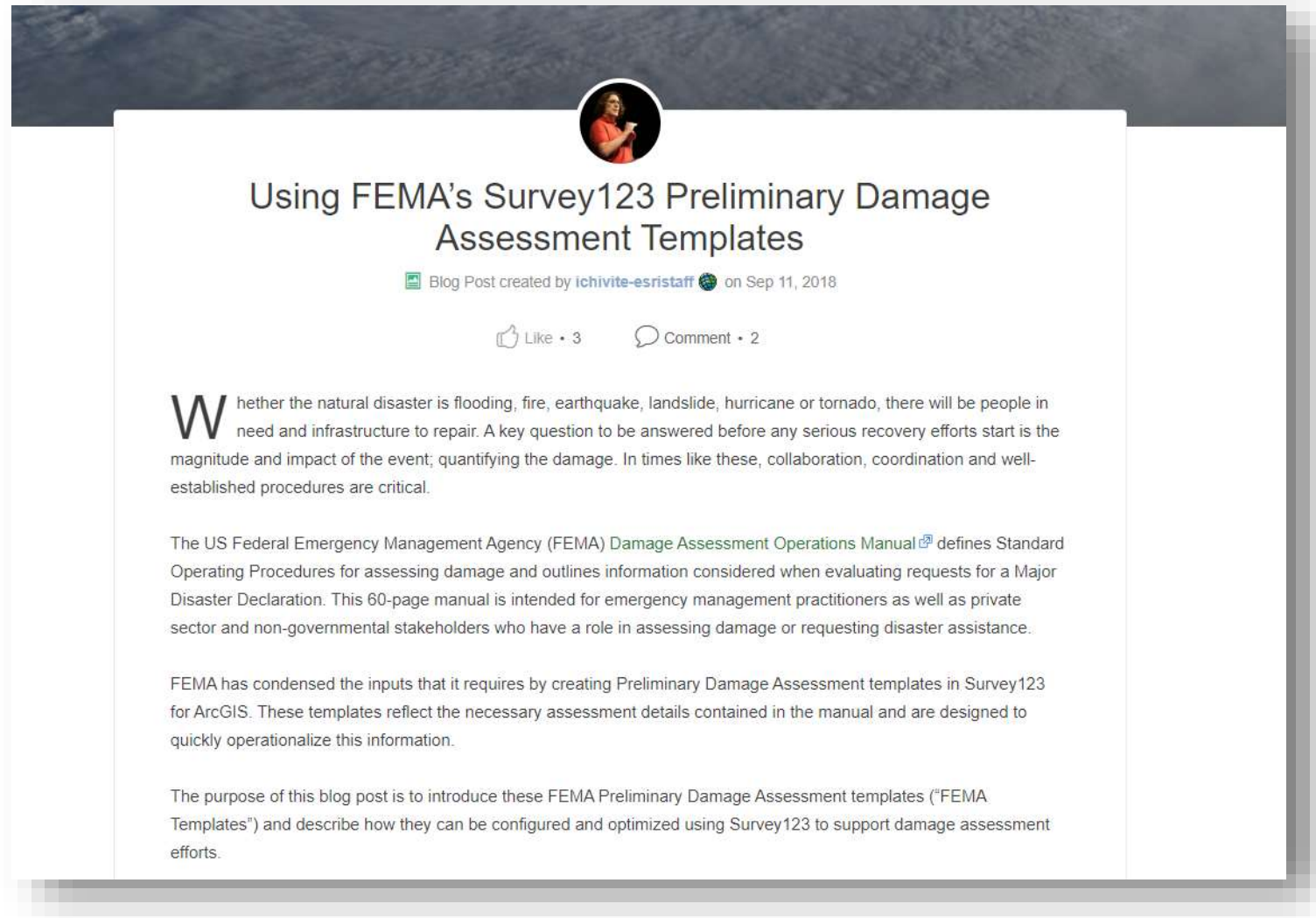
  

Owner [Change Owner](#)

 NAPSG Foundation

Managed by:  jdoke_napsg

FEMA Preliminary Damage Assessment Templates



Debris Management Solution



Thank you!



Interested in Geospatial Coordination for SAR?

Scan the QR code to open the survey on your device. [Click to download](https://arcg.is/1m88Tj)



<https://arcg.is/1m88Tj>



Thank you!

Paul Doherty

pdoherty@publicsafetygis.org

Jared Doke

jdoke@publicsafetygis.org

Scan the QR code to open the survey on your device. [Click to download](#)



Interested in
Geospatial
Coordination for
SAR?

<https://arcg.is/1m88Tj>