



WebEOC Users Symposium

Esri Community



1,100 National Government Agencies

2,200 States & Regional Agencies

20,000 Cities & Local Governments

30,000+ Businesses

3,300 Utilities

5,000 NGO's

7,000 Colleges & Universities

Our Relationship With Our Users Is Key

Esri in the NCR

337 Employees



DC Regional Office
Global National Government
Global Public Safety
Tysons R&D Center
Arlington R&D Center

What Is GIS?

A System for Managing, Analyzing,
and Applying Geographic Information

Integration

Leveraging Location . . .
. . . and Technology

Analytics

Geographic Sciences . . .
. . . and Modeling

Communication

. . . Maps and Visualization

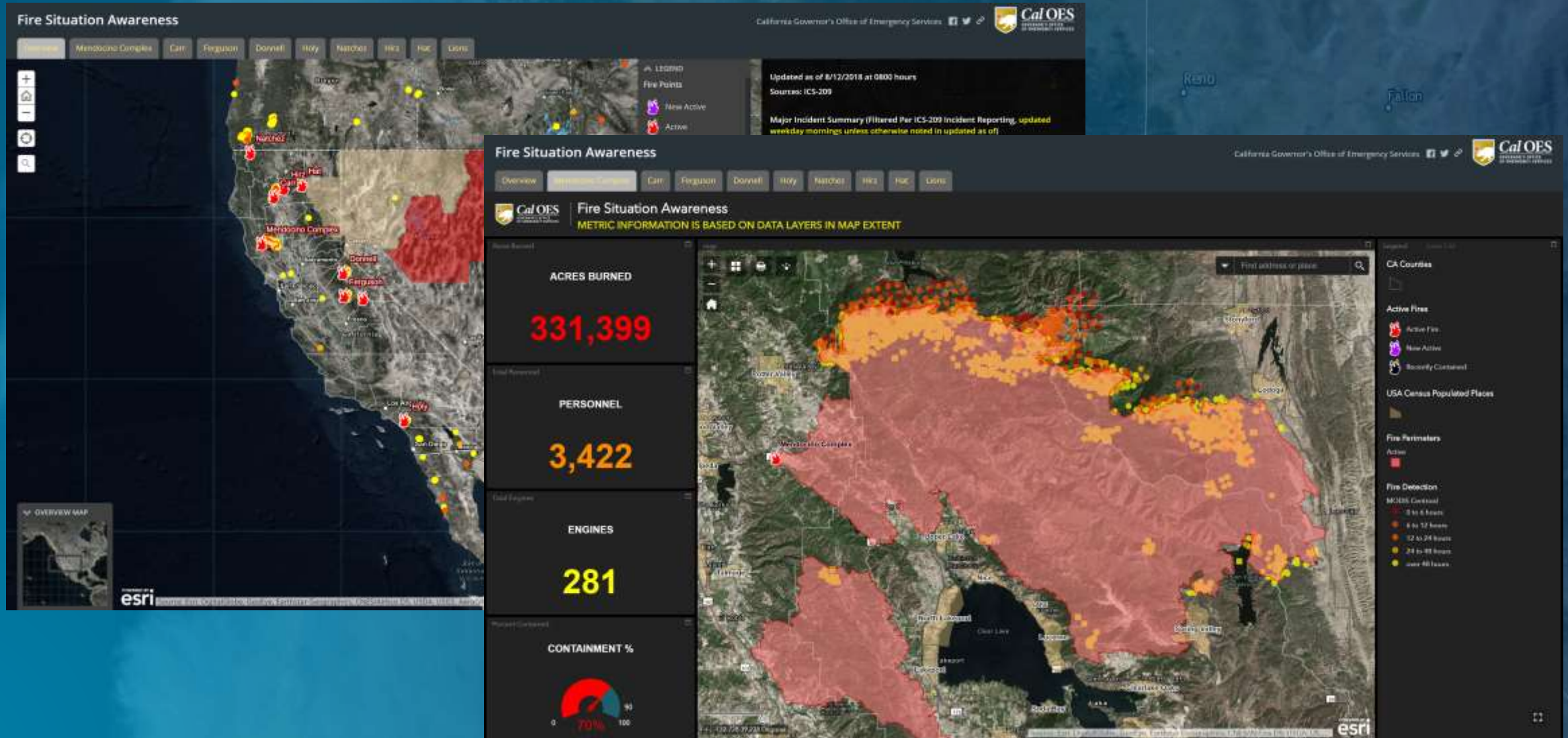
. . . and Solving
Problems Holistically



Understanding

A Platform for Organizations . . .
. . . and Society

Integration - Cal OES Fire Situation Awareness



Living Atlas

Home ▾ My Map

Details

Add ▾

Basemap

About

Browse Living Atlas Layers

Browse Subscription Layer

Add Layer from Web

Add Layer from File

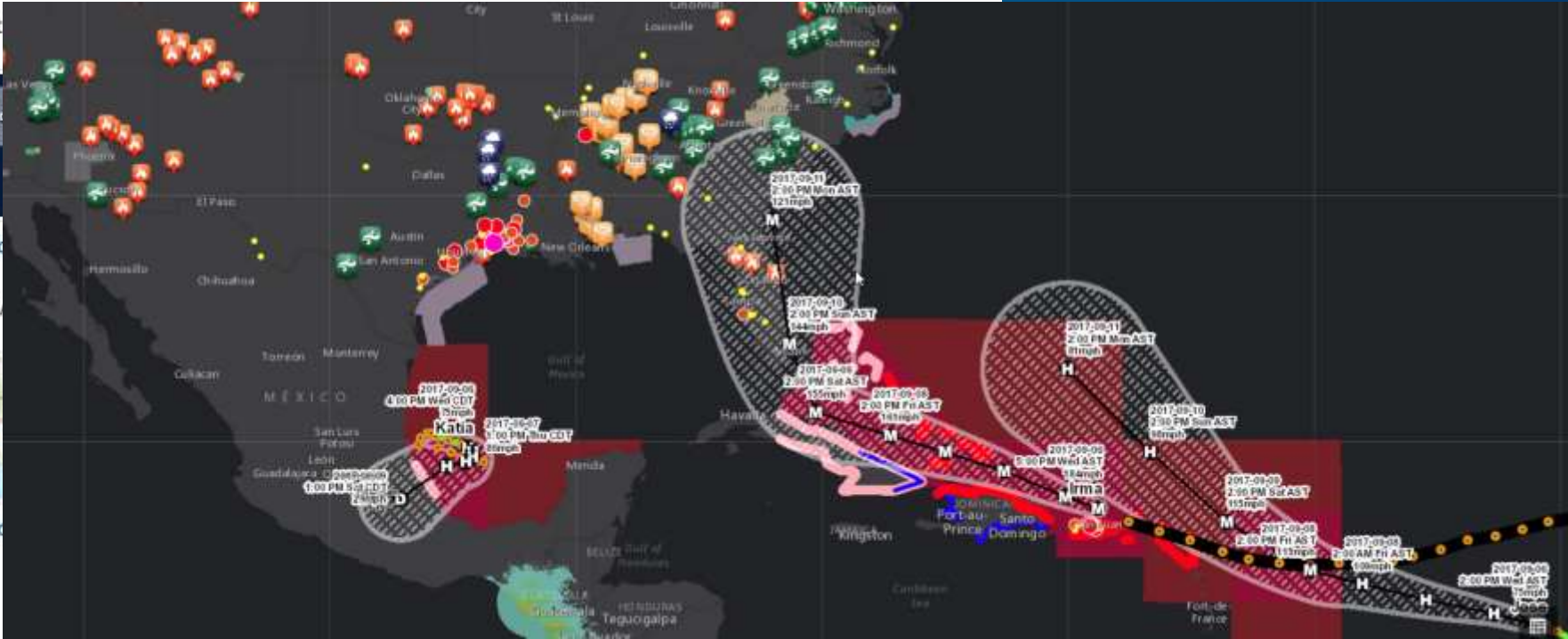
Add Map Notes

Learn to style a map

Browse Living Atlas Layers

☐ Show Esri Layers Only ☒ Within map area

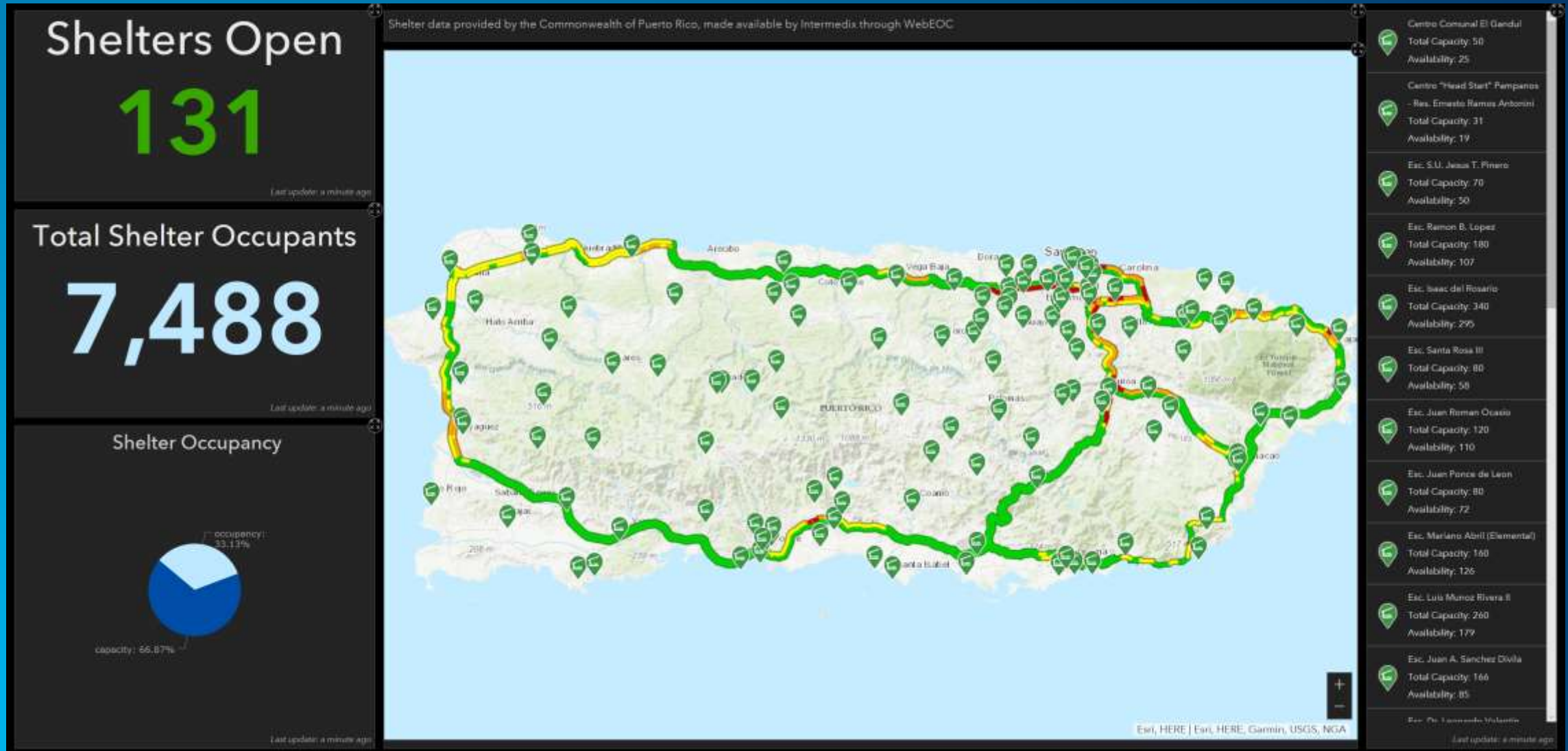
Earth Observations



CLOSE

An aerial photograph of a construction site, likely a bridge or large infrastructure project, with a blue grid overlay. The grid consists of a network of lines connecting various points, with some points highlighted in red. The background shows a mix of green vegetation and grey construction materials.

Connect to other Business Systems – WebEOC Example



Geospatially Enable Systems of Record

Welcome, Esri (Logout). You are logged in as ArcGIS Extension In Demo

Home = MD Shelters

Legend

MD_Shelters

- Closed
- Open
- Alert
- Standby
- Unknown

Filter by

Name ^	Status	ADA Com
1st Baptist Church of Suitland	Open	No
1st Bilingual Christian Church of Baltimore	Open	Yes
1st Spanish Christian	Open	Yes
1st Step 2 School	Open	No
4 Corners Community Nursery	Open	No
75th Street Medical Center	Open	No
A & K Family Learning Place	Open	No
A Busy Bee Learning Center	Open	Yes
Aba Productions	Closed	No
ABC & 123 Childcare Center	Closed	Yes

Map

Choptank Community Health System

Status: Standby

Capacity: 231

Occupancy: 58

Availability: 175

ADA Compliant: No

Pet Friendly: No

Generator: Yes

Address: 933 S Talbot St

Phone: (703) 923-2900

Hours:

Zoom to Get Directions Edit

Page 1 of 67

Disable Refresh?

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Local Situation Reports

Incident: VDEM - 2018-09-10 Hurricane Florence

Filter: All

Search:

Jurisdiction	Current EOC Status	Current Emergency Declaration Status	Government Offices Status	School Systems Status	Current Shelter Status	Evacuation Status
Accomack County	Closed	None	Closed	Closed	Closed	None
Albemarle County	Open	Declared	Open	Open	Closed	None
Alexandria City	Closed	Declared	Open	Open	Closed	None
Appomattox County	Closed	None	Open	Open	Closed	None
Arlington County	Closed	None	Open	Open	Closed	None
Augusta County	Closed	Declared	Open	Open	Closed	None
Bath County	Closed	Declared	Open	Open	Closed	None
Bedford County	Closed	None	Open	Open	Closed	None
Bland County	Closed	None	Open	Open	Closed	None
Botetourt County	Closed	None	Open	Open	Closed	None
Bristol City	Closed	None	Open	Open	Closed	None
Brunswick County	Closed					
Buckingham County	Closed					
Buena Vista City	Closed					
Campbell County	Closed					
Caroline County	Closed					
Carroll County	Open					
Charles City County	Closed					
Charlotte County	Closed					
Chesapeake City	Closed					
Chesterfield County	Closed					
Chincoteague Town	Closed					
Clarke County	Closed					
Colonial Heights City	Closed					

VDEM State Status

Filter by Current Declaration:

Declared None Rescinded Terminated

Filter by EOC Status (Open/Closed):

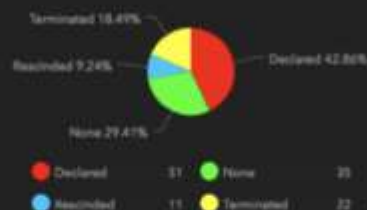
No Filter Closed Open

Jurisdictions declaring emergencies



Last update: a few seconds ago

Emergency Declarations by Type



Last update: a few seconds ago

EOCs Open

9

Jurisdictions

Last update: a few seconds ago

EOCs Closed

110

Jurisdictions

Last update: a few seconds ago



1 of 116

Appomattox County

Anticipated Issues: No further issues anticipated at this time.

Evacuation: None

Government Office Status: Open

Impact Summary: We received over 3" of rain with only minor incidents.

Emergency Declaration Status: None

Current EOC Status: Closed

Estimated # Evacuated: 0

Email: john.vannoy@appomattoxcountyva.gov

Prepared by: John Vannoy

Call Back #: 434-352-3950

Job Title: 911 Center Communications Supervisor

School System Status: Open

Shelter Status: Closed

Significant Issues: No current issues

SITREP Status: Final

Select an EOC from the list for details:

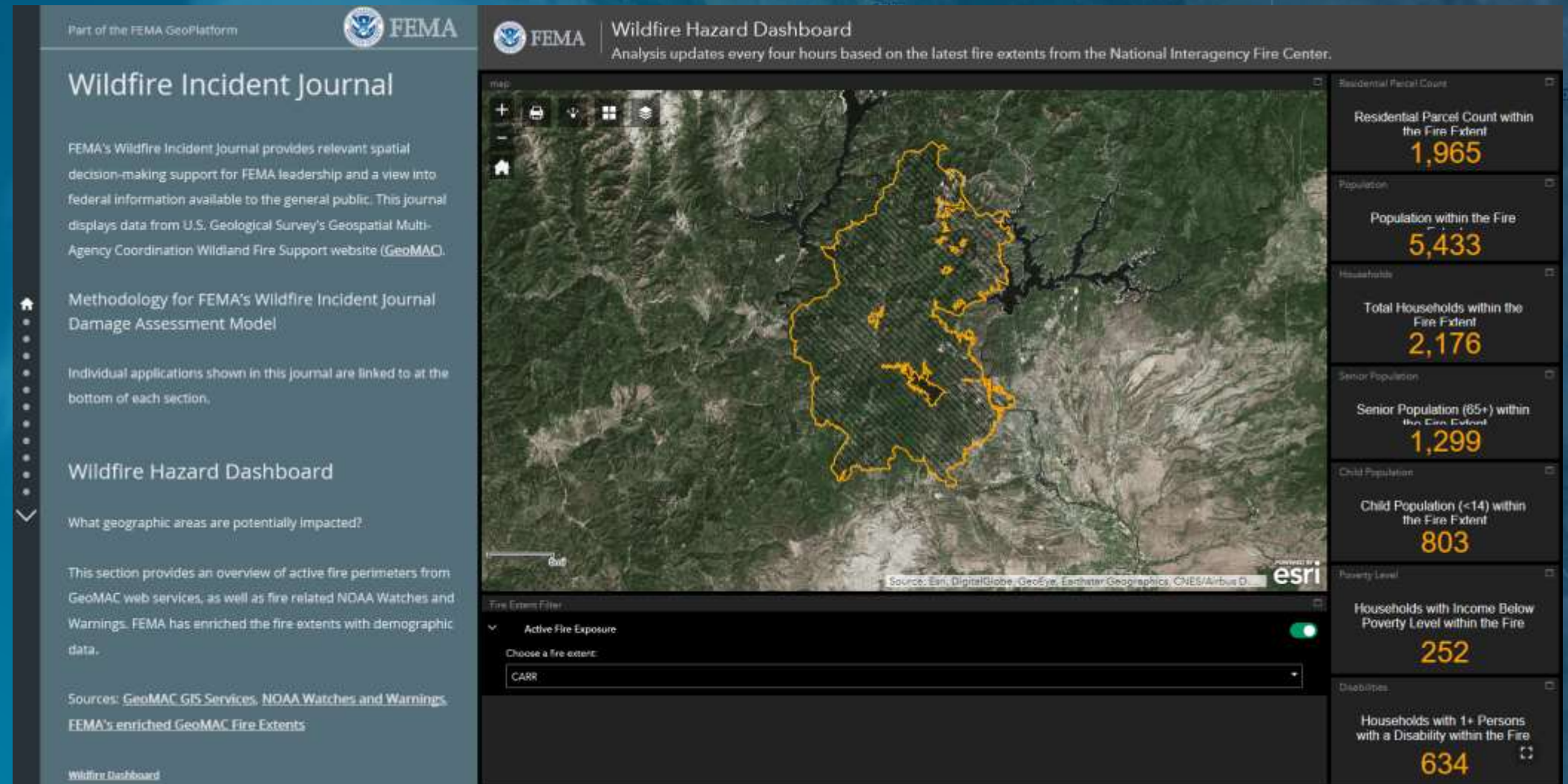
- Accomack County**
Emergency Declaration: None
Status: Closed
- Albemarle County**
Emergency Declaration: Declared
Status: Closed
- Alexandria City**
Emergency Declaration: Declared
Status: Closed
- Appomattox County**
Emergency Declaration: None
Status: Closed
- Arlington County**
Emergency Declaration: None
Status: Closed
- Augusta County**
Emergency Declaration: Declared
Status: Closed
- Bath County**
Emergency Declaration: Rescinded
Status: Closed
- Bedford County**
Emergency Declaration: None
Status: Closed
- Bland County**
Emergency Declaration: None
Status: Closed
- Botetourt County**
Emergency Declaration: None
Status: Closed
- Bristol City**
Emergency Declaration: None
Status: Closed

Last update: a few seconds ago

Last update: a few seconds ago

Analysis - FEMA Wildfire Incident Journal

<https://fema.maps.arcgis.com/apps/MapJournal/index.html?appid=58585e471e484cffbc398c5830d0b4dd>



Communication - City of Redding Before and After

<https://redding.maps.arcgis.com/apps/StorytellingSwipe/index.html?appid=60abe6c7170244cfbf784ff828627f66#>



Esri Public Safety

US

Federal



State and Local



- Nonprofit
- Utilities
- Commercial
- Associations

International



An Emerging Geospatial Cloud for the Public Safety Community



Preparing for and Responding to Disasters

Damage Survey Reporting



NOAA – National Weather Service

Emergency Supply Distribution



American Red Cross
Texas

Tracking Feeding Activities



Green Infrastructure for Flood Mitigation



FEMA
Florida

Digital Flood Insurance Rate Map



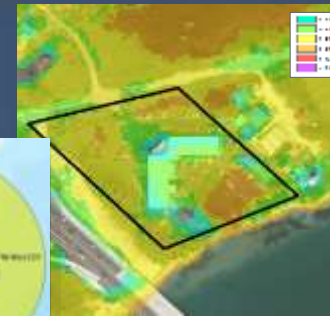
The City of Marco Island
Florida

Storm Surge on GSA Buildings



GSA

Storm Surge Modeling



Coastal Risk Consulting
Florida

Legal Vulnerability Index



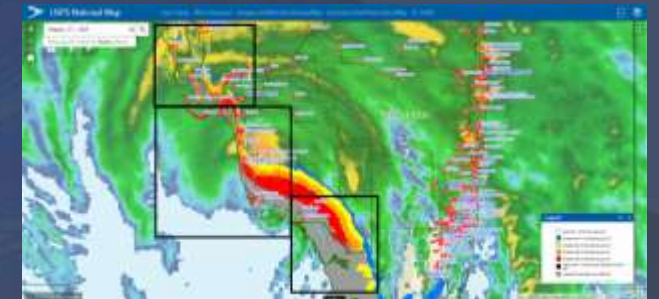
The Florida
Bar Association

Natural Hazard Risk Index



FEMA / ABS Consulting
Denver, CO

Post Office Closures

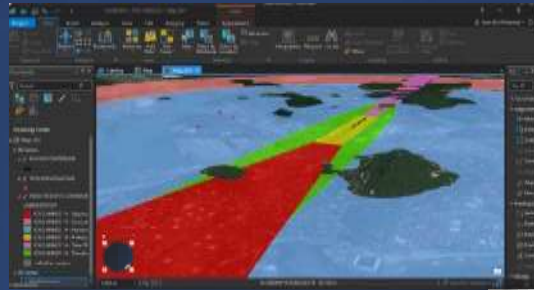


USPS / NOAA

Transportation Planning and Management

Airports

Approach Charting



Panama
Autoridad Aeronáutica Civil

Ramp Management



Las Vegas
McCarran International Airport

Roads

Roadway Status



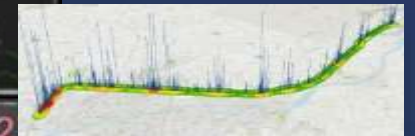
Mongolia
Monmap

Road Safety



Serbia
GDI Solutions

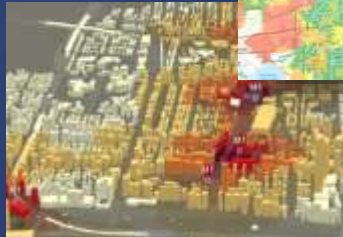
Accident Analysis



Wisconsin
ECWRPC

Transit

Bus Route Planning



Abu Dhabi

Walk Times To Bus Stops



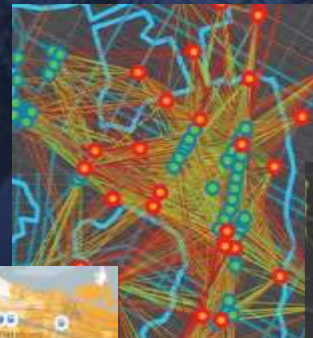
Texas
DART

Low-Stress Bike Networks



California
CCTA

Bicycle Sharing Suitability



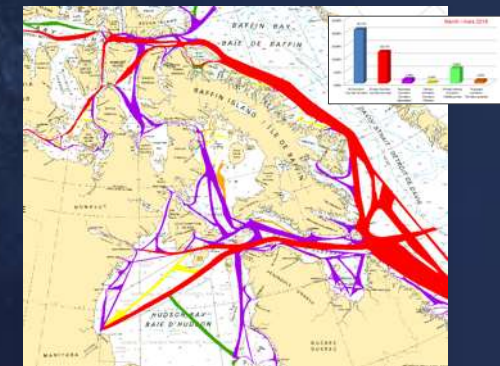
New York

Regional Transit Modeling



Spain
CRTM

Maritime Shipping Corridors



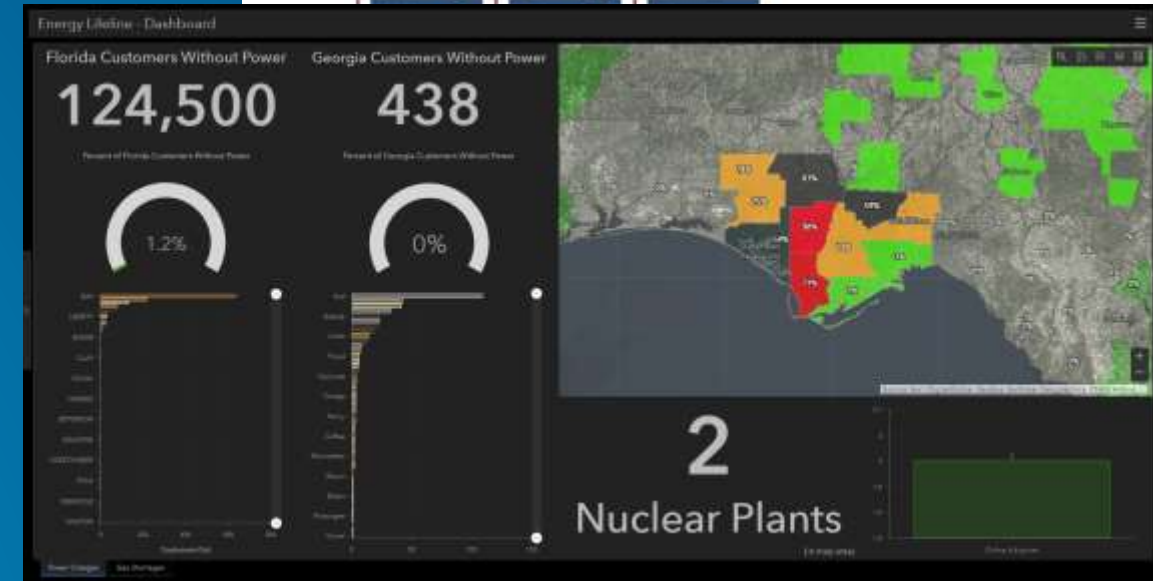
Canada
CHS

FEMA GeoPlatform

FEMA Geoplatform facelift to improve discoverability of critical information during disasters

- Authoritative content by Community Lifeline
- Useful Apps to present actionable information**
- Operation Dashboards by Community Lifeline

*“This is EXACTLY what we’re looking for
...oh – my – goodness...
un be liev a ble.”* – Chris Vaughan, FEMA GIO



Improved Hurricane Support

American Red Cross

- **RCView** Deployed for all major events in 2018, including Hurricanes Michael, and Florence
- **RCView** assisted in doing Damage Assessments both using geospatial analytics and mobile data collection with Survey123
- **RCView** academy and custom training built
- The Red Cross has operationalized on Story Maps
- The **National Shelter System** was worked on for Phase 1 with expected operations being deployed in 2019

Quote – “GIS analytics supporting in getting millions of dollars of assistance out to survivors saving weeks of time”



Key Activities from 2018

Disaster Response Program

“Esri has outdone themselves in providing useful products for emergency managers and other first responders.”

Eric Holdeman, Emergency Management Magazine



Search and Rescue

- **What have we done:**
 - IAFC and NAPSG joint solution development
 - Refined from 2018 (Harvey) through 2019 (Michael)
 - ArcGIS Tracker
- **Successes:**
 - Survey123 SAR Data Collection Form
 - Story Map with all training tools
 - Single Common Operating Picture created
- **What's Next:**
 - FEMA on Type I USAR Teams use of Survey 123
 - After Action to gather requirements for potential solution



"The speed of survey availability through the Survey123 app was a critical success... Iron Sights has been effective for many years but we still need to assess benefits that other technologies may now bring to the table."

Legend

SUSAR All Survey Data - Heatmap



FEMA USAR Waypoints - Heatmap



FEMA Force Laydown

- RRCC
- ISB

[Map Legend](#) [Quick Links](#)

Recent Surveys

Type: Hazards
Team: LA RRT 6
15R WQ 5394 6564
11/5/2018, 11:39 AM
Tree and power lines across main and Reagan

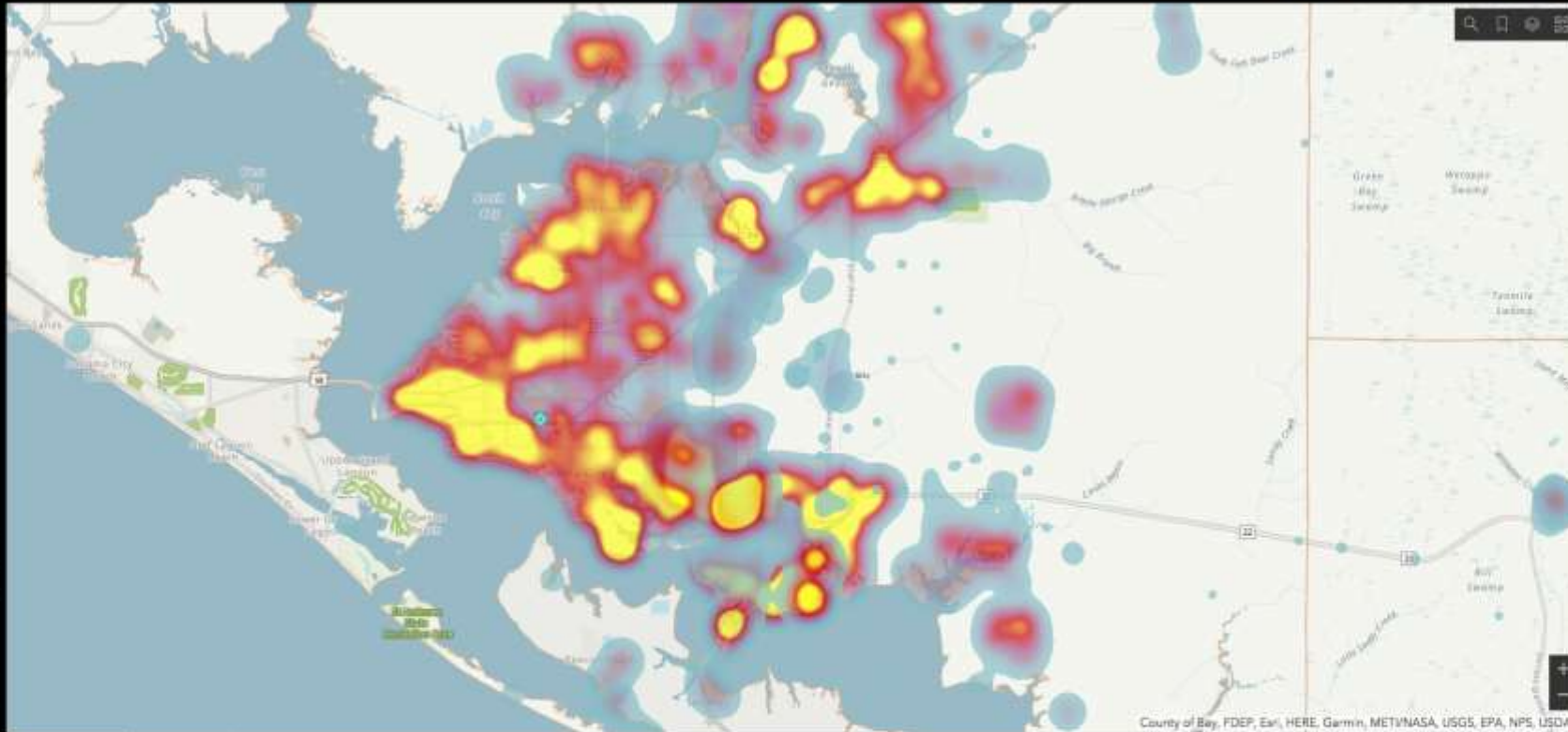
Type: Other
Team: LA RRT 6
15R WQ 5414 6556
11/5/2018, 11:32 AM
Testing

Type: Damage
Team: FLTF7
16R FU 5114 1493
10/19/2018, 1:24 PM
Vehicle

Type: Other Maroon vehicle submerged FL tag 339KBT
Team: FLTF7
16R FU 5216 1455
10/19/2018, 1:24 PM
Unable to search due to access

Type: Other Submerged Chevrolet pick-up
Team: FLTF7
16R FU 5236 1463
10/19/2018, 1:24 PM

Last update: a few seconds ago

[Operations Map](#) [Operations App](#)[SUSAR Waypoints](#) [SUSAR Damage](#) [FEMA Waypoints](#)

Please note - we have simplified the Dashboard to improve performance and added tools to filter by date and / or username. FLTF1,2,6 GPS data were imported under username pdoherty_jalc.

Links

- [Survey123 Results](#) to export results, see analysis, photo gallery
- [FEMA USAR Dashboard](#)
- [SUSAR Florence Dashboard](#)
- [SUSAR Michael Dashboard](#)
- [ESF9 Geospatial List / COP](#)

SUSAR Waypoints

*51,371

Last update: a few seconds ago

FEMA Waypoints

*47,867

(w/o human interactions)

Last update: a minute ago

FirstNet

- **What have we done:**

- Explorer Listed in FirstNet App Store
- Developer SDK/API listed in Marketplace

- **Successes:**

- NCAA Final Four
- Alabama Cold Case
- Hurricane Response



FirstNet™, the nation's communications ecosystem for public safety, empowers first responders with reliable access to voice, text, data, and video when and where they need it. With always-on smartphones and purpose-built devices, FirstNet enables situational awareness – an ability to understand, analyze and share conditions, assets, and hazards in real-time for true situational awareness. Esri provides a complete solution suite for the most mission-critical operational challenges. When incidents occur, you will be ready to respond with a set of integrated tools for situational awareness, impact analysis, damage assessment, operational briefings, and public information. Esri solutions enable mission-critical decisions that can help you save lives.

FirstNet Ready Mobile Damage Assessment Solution from Esri

Mobilize field teams, monitor progress, and report damage status. With lives at risk and disaster recovery funds on the line, time is critical.

Navigating the community and conducting an accurate assessment of the damage after an incident can be chaotic. With disaster recovery funds on the line, quickly assessing the initial damage and creating a historical record for the joint preliminary damage assessment (PDA) is vital for recovery.

Esri's mobile damage assessment solution for FirstNet provides your agency with the ability to rapidly deploy field teams to conduct an initial damage assessment, collect photo evidence, and monitor the progress toward your reporting thresholds in real-time over the FirstNet network. Your field teams can work with or without connectivity as your work never stops during critical times.

What's included?

Esri's solution for mobile damage assessment includes the following technology and implementation services for your agency:

Mobile Damage Assessment App: A mobile application for iOS or Android for use by field inspectors to conduct commercial structure, public facility, and residential structure damage assessments in a connected or disconnected environment. You also have access to FEMA Preliminary Damage Assessment (PDA) forms for Individual Assistance (IA) and Public Assistance (PA).

Damage Assessment Dashboard: An application used to monitor field assessments and determine whether damage costs exceed State or Federal declaration thresholds.

ArcGIS Online: A complete, cloud-based mapping and analysis platform from Esri that allows you to make maps, share, and collaborate with partners, and analyze data to identify trends and patterns for reporting.

Implementation Services and Technical Transfer: Esri's subject matter experts will quickly configure and deploy an operational capability for your damage assessment process.



By Bob Sloan, Chief Operating Officer, FirstNet at AT&T
October 18, 2016

FirstNet

The FirstNet App Catalog is where FirstNet users can go to get innovative solutions tailored to them. Over the last few months, the FirstNet team has been hard at work stocking the app catalog's virtual shelves with powerful and intuitive applications to help public safety users.

Heavily vetted and solutions have been added to the FirstNet App Catalog, including:

- Explorer for ArcGIS – a lightweight mapping app and data viewer from Esri that allows first responders to create, markup and interact with their maps, even offline. This gives public safety scalable ways to collect and translate location information into a clear and actionable picture.

Search News

Search News

Recent News

DIRECTV SPORTS ONCE AGAIN BRINGS THE SPANISH "EL CLÁSICO" EXCLUSIVELY TO SOCCER FANS

On Oct. 31, DIRECTV Sports will broadcast in HD 4K UHD and on its online platforms, the game between FC Barcelona and Real Madrid, the first of the 2016-2017 season.

[Read More](#)



Asset Tracking and Resource Assignment

Hazardous Materials Incident

More than 150 Gallons?
☒ Yes
☐ No

DEQ Region
Piedmont

Incident Description

Notification List

VDEM Regional HAZMAT Officer
☐ Craig Buckley

DEQ Regional Duty Officer
☐ Piedmont Regional Duty Officer

Actions

- ☐ DEQ Report Only
- ☐ Federal Response
- ☐ Notification Only
- ☐ Regional HM Team Response
- ☐ RHMO Onscene Response
- ☐ Telephone Assistance

Hazardous Materials Incident

Incident Location

Petroleum Spills of 100 Gallons or More or if an Unknown Quantity

Initial Report Date/Time
Thursday, December 6, 2018 3:49 PM

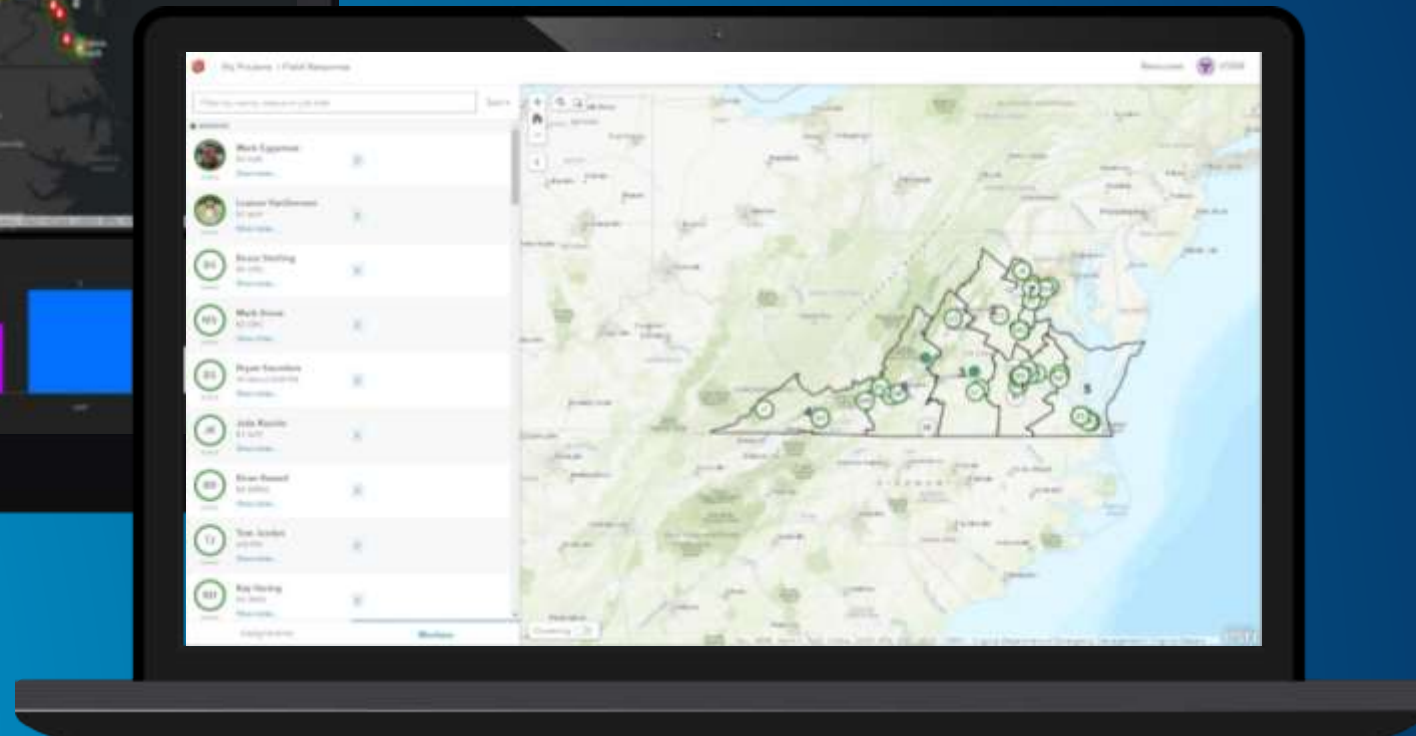
Hazard Class

Jurisdiction

- ☐ Albemarle Co
- ☐ Amelia Co
- ☐ Amherst Co
- ☐ Appomattox Co
- ☐ Arlington Co
- ☐ Augusta Co

VDEM Region / Hazard List
VDEM Region 1

Workforce Tracking and Resource Allocation





Hurricane Florence - Preparedness, Response and Recovery

Understanding Potential Life-Threatening Impacts

Virginia's tiered evacuation zone program, known by its marketing slogan, "Know Your Zone," serves 1.27 million residents who live in Coastal Virginia, a region highly vulnerable to hurricanes and other tropical storms. Twenty-three localities participate in the tiered evacuation zones system, which was developed in close coordination with local emergency managers throughout Hampton Roads, the Northern Neck, the Middle Peninsula and the Eastern Shore based on the most up-to-date storm surge modeling and flood-impact data for the region. The system was put into place in 2017.

Emergency managers consider many factors when deciding on an evacuation

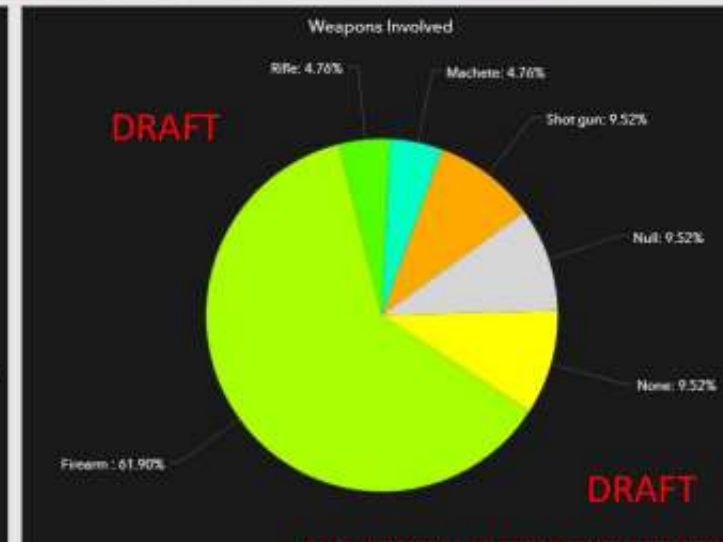
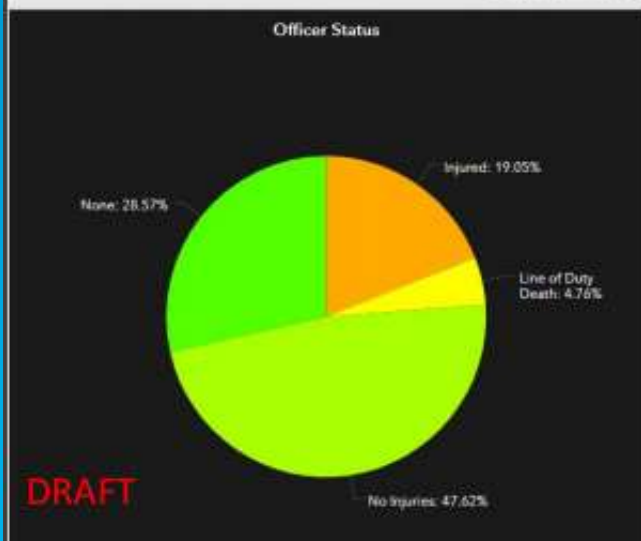
DRAFT 21

Race of Subjects

Race of Subjects	Count
Black	10
White	9
UKN	2

DRAFT

Last update: a minute ago



NCR Critical Infrastructure

Select a sector

Select a Subsector



NCR Infrastructure Situational Awareness with Web AppBuilder for ArcGIS

Find address or place



Info Summary



Infrastructure

645

Chemical	1
Commercial	5
Communications	11
Dams	2
Defense Industrial Base	1
Emergency Services	175
Energy	166
Financial Services	5
Government	47
Healthcare and Public Health	54
Information Technology	37
Transportation Systems	107



-77.032 39.277 Degrees

Shenandoah
6mi

105.7 ft.

Culpeper

Prince William
Forest Park

Indian Head

St Charles

Charles

5

esri

SAR Field Data Collection

38.977°N 76.487°W

© Esri contributors

USNG
18S UJ 7119 1532

Waypoint *

☒ Victims
☐ Hazards
☐ Damage
☐ Other

Victim Type
Evacuated

Victim Count
- 5 +

▼ Patient Identification

SAR Field Data Collection

38.977°N 76.487°W

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USNG
18S UJ 7119 1532

Waypoint *

☐ Victims
☒ Hazards
☐ Damage
☐ Other

Select Hazard Present
Flood/Water Level

Flood Level
Please specify ft, in, etc.

Hazard Comments





Florence

Emergency Management Operations Solution

- **What You Get:**

- 5 Days Esri Professional Services + 5 Hours Remote Support for:
 - Setup of ArcGIS Online Organization
 - Configuration of apps in Emergency Management Offering
 - Technical knowledge transfer to your staff for operation and maintenance of apps



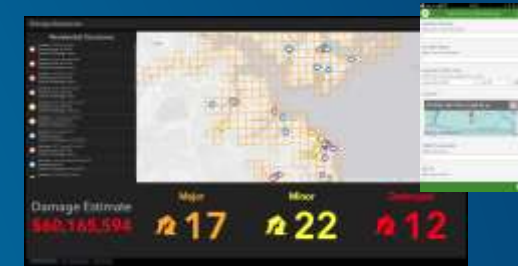
Emergency Management Maps



Situational Awareness Viewer



Incident Status Dashboard



Initial Damage Assessment



Incident Briefing



Operations Response Viewer



Public Information Map

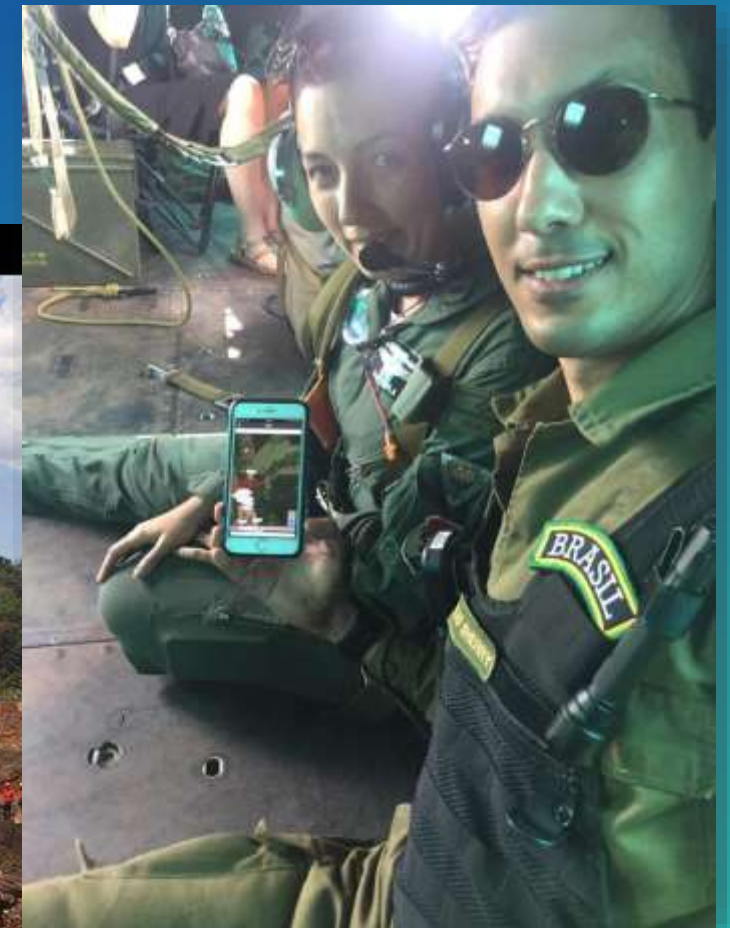
What's Next?

THE SCIENCE OF WHERE



Augmented Reality

Israeli Home Front Command SAR Mission in Brazil



Mike Cox | Fire & EMS Industry Manager

8615 Westwood Center Dr, Vienna, VA 22182

Phone: 703-506-9515 x 2758 | Email: mike_cox@esri.com



esri

THE
SCIENCE
OF
WHERE