



InSPIRE
Innovation Summit for
Preparedness & Resilience

Preparedness in Uncertain Times



Connect with Sanborn
and join our talk at the 2025



PREPAREDNESS IN UNCERTAIN TIMES

📅 May 29, 2:20PM 📍 Baton Rouge, LA



Jenna Leveille
VP, State & Local Gov.



Richard Butgereit
CIO



sanborn
geospatial

Proud Gold
Sponsor



Sanborn
5,279 followers
1w • 🌐



💡 We're proud to be part of InSPIRE 2025 – the Innovation Summit for Preparedness and Resilience, hosted by **NAPSG Foundation!** 💡 Our own **Richard Butgereit**, GISP Butgereit, CIO at Sanborn, serves on NAPSG's exceptional Steering Committee from federal, state, local, academic, and private sectors — many of whom played pivotal roles in geospatial response efforts following Hurricanes Katrina and Rita.

With deep experience in disaster response from his time leading geospatial efforts in Florida, Richard will be joined by **Jenna Leveille**, who brings a strong pedigree in practical preparedness to our customers, turning challenges into opportunities with actionable strategies and solutions. ...more

Jenna Leveille

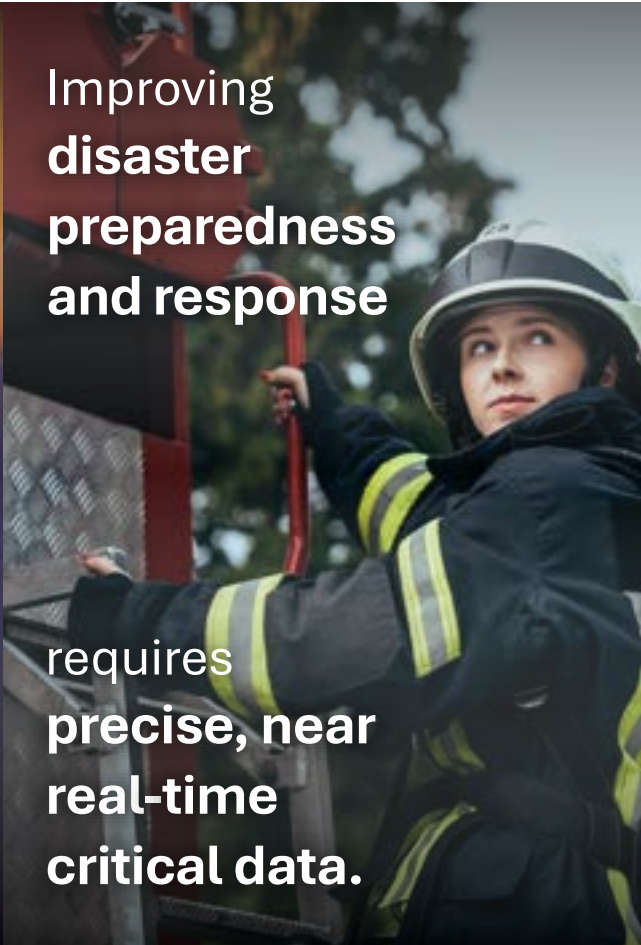
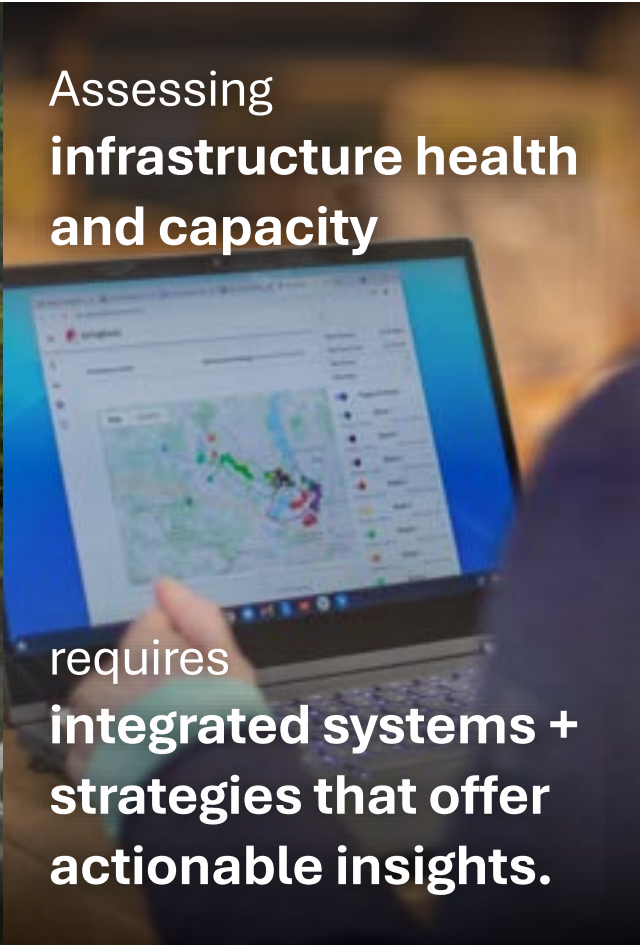
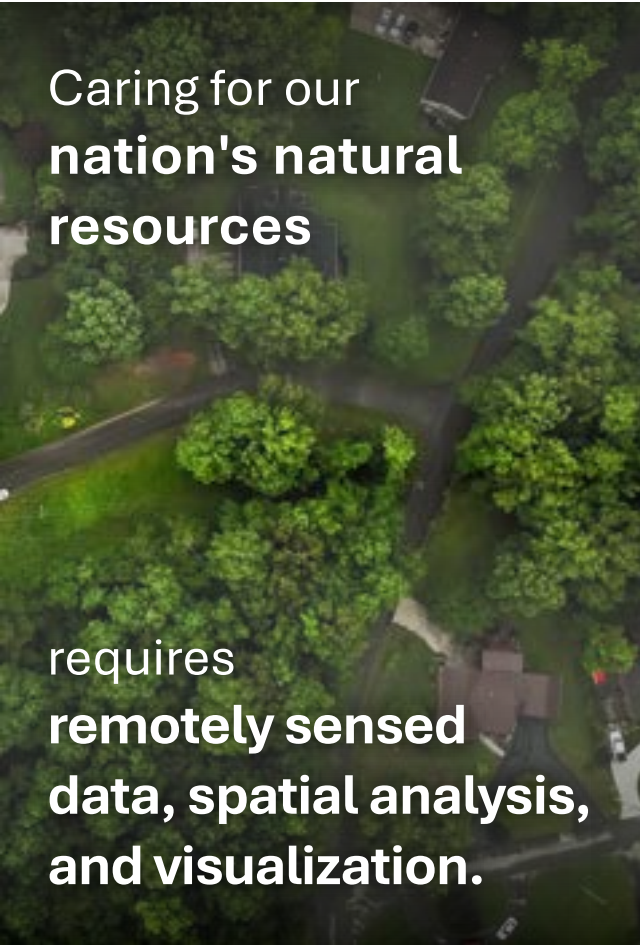
VP State & Local Government
jleveille@sanborn.com

Richard Butgereit

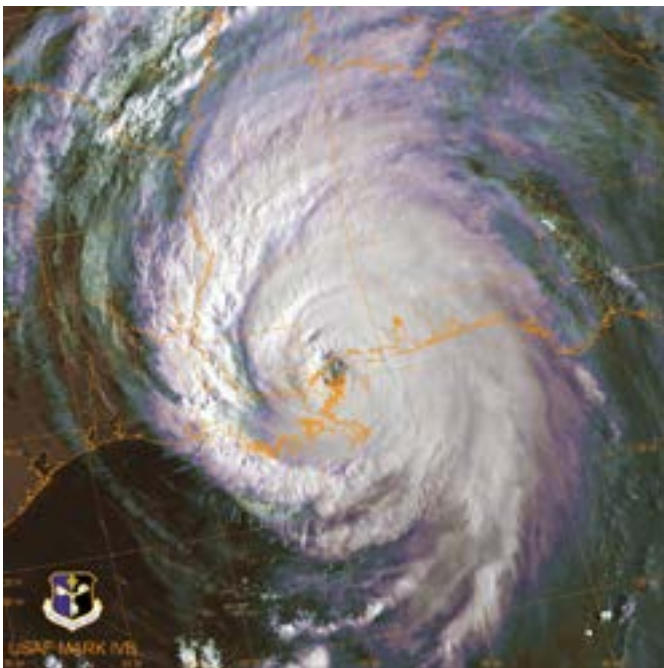
Chief Information Officer
rbutgereit@sanborn.com



Today's complex challenges...



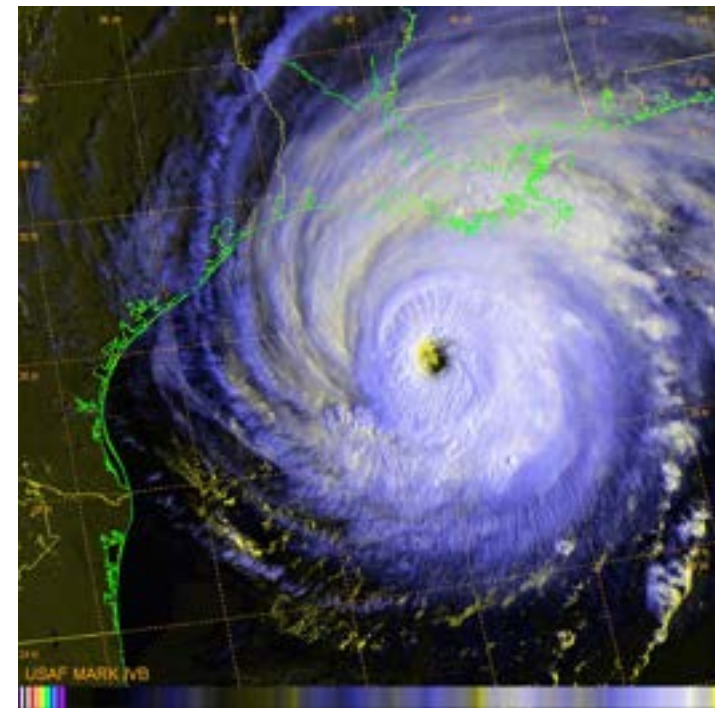
require comprehensive solutions.



Hurricane Katrina Aug-29-2005

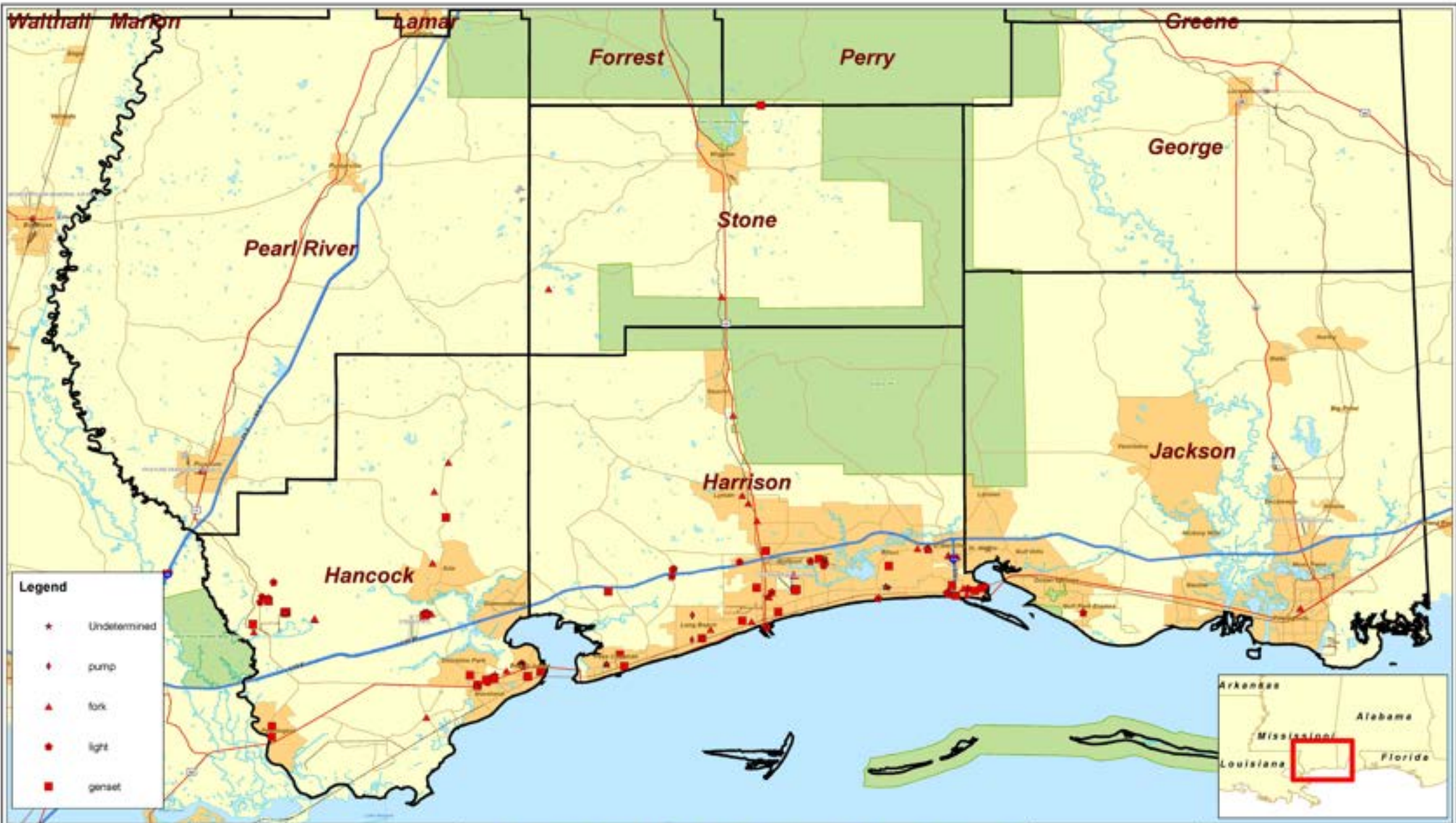
The past as prologue...

- 1999 - ArcIMS
- 2004 – ArcGIS Server
- 2005 – Google Maps and Google Earth
- 2006 – Amazon S3 for cloud computing
- 2006 - Microsoft and Yahoo web mapping APIs
- 2006 – FAA enacts COA requirements for drones
- 2007 – iPhone
- 2010 – ArcGIS Viewer for Flex
- 2012 - ArcGIS Online



Hurricane Rita Sep-24-2005





Legend

- ★ Undetermined
- ◆ pump
- ▲ fork
- light
- genset



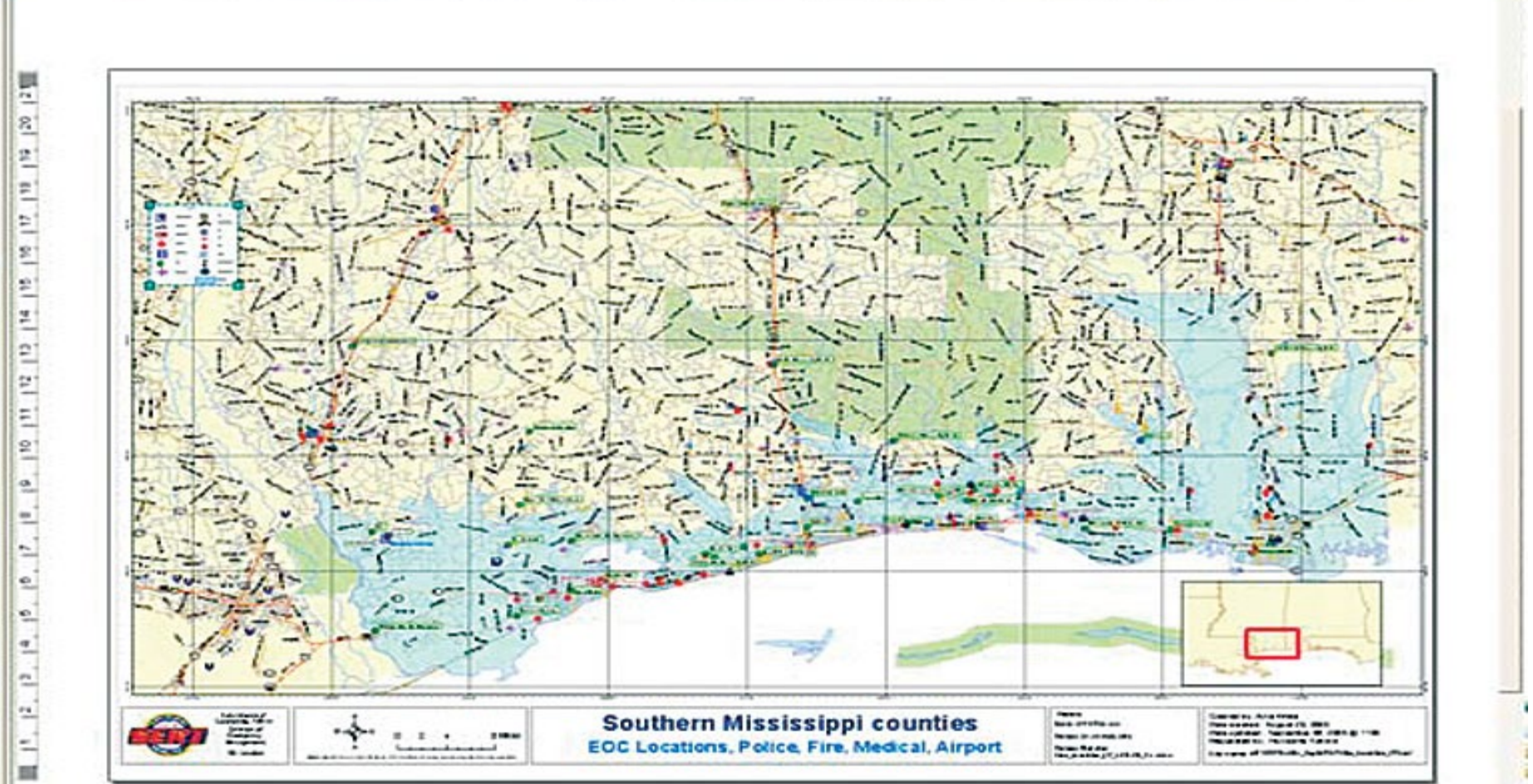
Katrina EMAC - Southern Mississippi
Logical Assets - Sunday, September 28th

Notes:
 Assets shown demonstrate the location of
 generator assets according to LULong as well
 as GPS satellite tracking and matched to field
 reports using SattID number

Created by: CJB
 Date created: November 05, 2005
 Requested by: Tamperill
 File name:
 C:\GIS\Operational Assets\Mississippi\logicalassets.pdf



- ShennetSpaceStation
- CampShelby
- IRTFs
- POOS
- Airports
- PubPoliceStation
- Health Care Facilities
- Fire Stations
- Law Enforcement
- School
- Police Station
- Fire Station
- Medical Center
- Airport Facility
- Civil Defense
- School
- KATRINA_I
- FloodClipped
- CountyBoundaries
- <all other values>
- Trundation
- StreetMap USA



Uncertain times...

Reduced Preparedness and Planning Capacity

- EMPG and EMPA are foundational for maintaining emergency management staff, training, and planning at the state and local levels.
- Cuts to these programs mean fewer resources for updating emergency operations plans, conducting exercises, and maintaining readiness for disasters.

Loss of Mitigation Funding (BRIC Program Termination)

- The termination of the BRIC program in April 2025 halted over \$3.3 billion in hazard mitigation funding.
- BRIC supported projects like: Flood control systems, Wildfire prevention infrastructure, Stormwater upgrades, Emergency shelters and resilient building codes
- Without BRIC, communities lose a critical funding stream for proactive disaster risk reduction, shifting focus back to reactive response and recovery.



Uncertain times...

Increased Vulnerability to Disasters

- As climate change drives more frequent and severe disasters, the loss of mitigation funding increases the risk of loss of life, property damage, and economic disruption.
- Studies have shown that every \$1 spent on mitigation saves \$6–\$13 in disaster recovery costs.

Disproportionate Impact on Underserved Communities

- BRIC prioritized funding for low-income and high-risk communities. Its cancellation disproportionately affects areas with fewer local resources to invest in resilience.
- This may widen the equity gap in disaster preparedness and recovery.



Uncertain times...



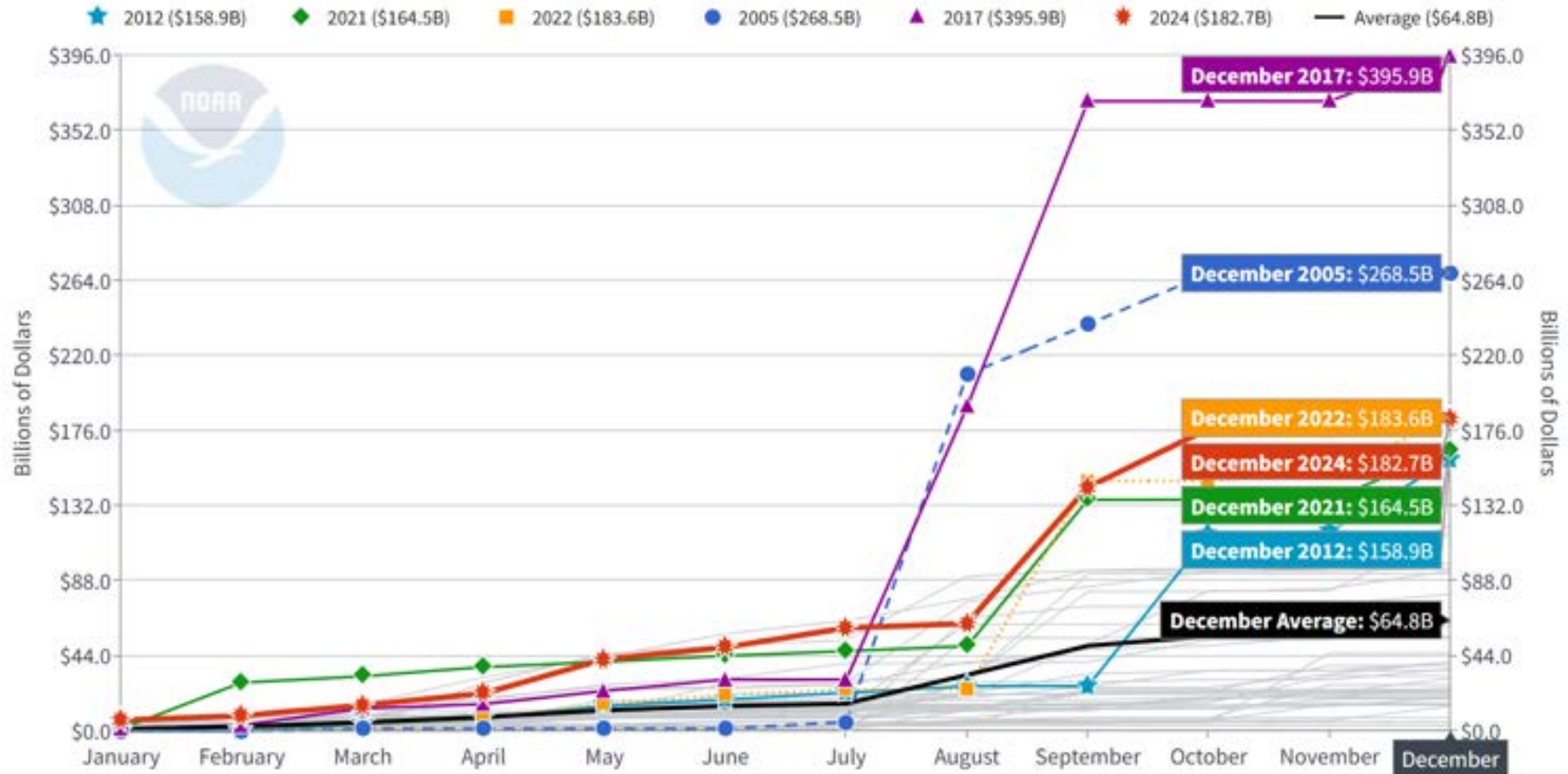
Strain on Local Budgets and Insurance Markets

- Local governments may now need to divert funds from other services to maintain emergency management functions.
- Insurance companies are already raising rates or pulling out of high-risk areas, and the lack of mitigation funding could worsen this trend.



Meanwhile...

1980-2024 United States Billion-Dollar Disaster Year-to-Date Event Cost (CPI-Adjusted)

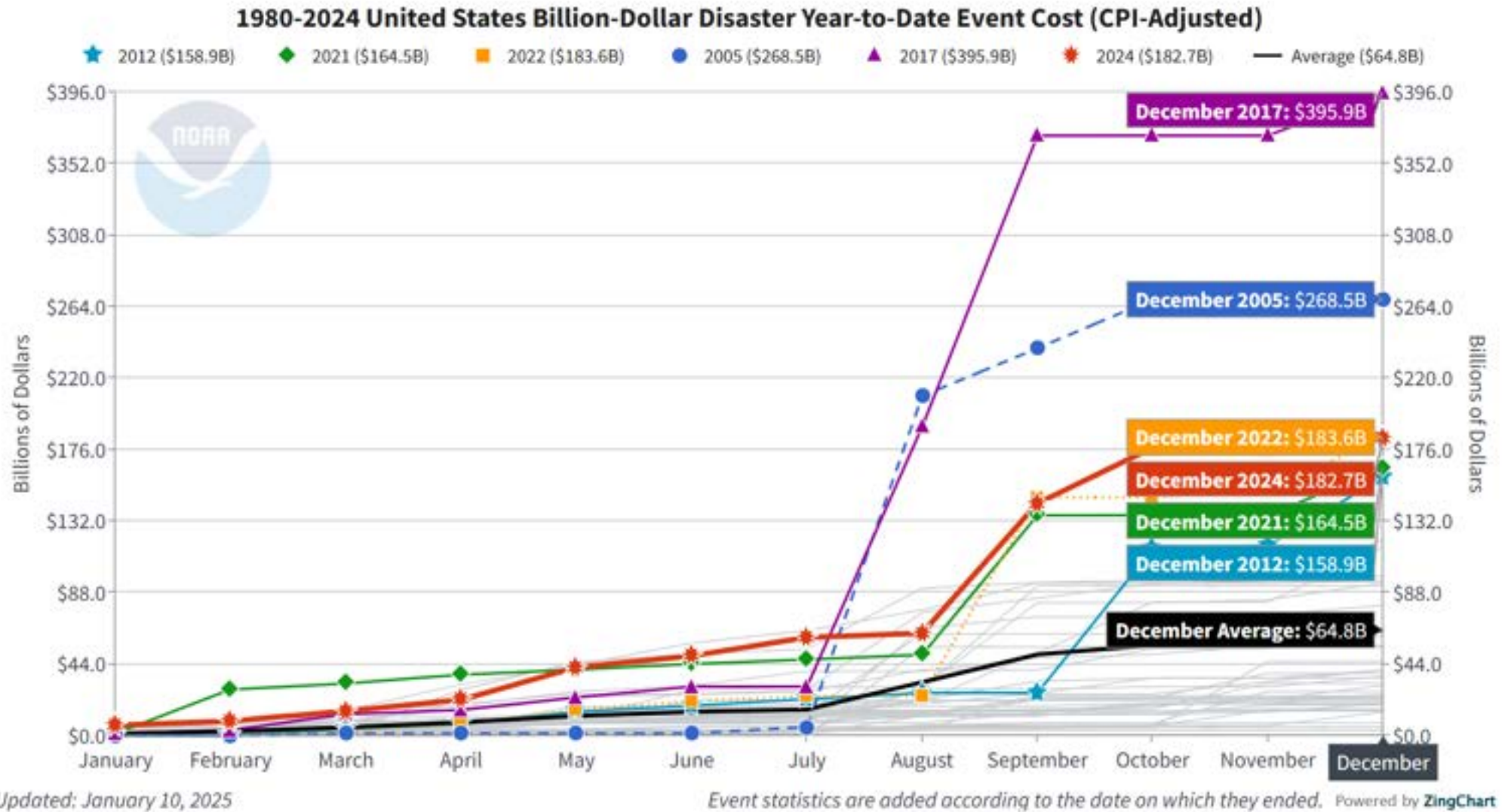


Updated: January 10, 2025

Event statistics are added according to the date on which they ended. Powered by ZingChart



Meanwhile...



In alignment with evolving priorities, statutory mandates, and staffing changes, NOAA's National Centers for Environmental Information (NCEI) will no longer be updating the Billion Dollar Weather and Climate Disasters product. Additional details and the opportunity to submit comments are available at the [NESDIS Notice of Changes website](#). All past reports, spanning 1980-2024, and their underlying data remain authoritative, archived, and available via the [Billion-Dollar Disasters dataset landing page](#).

So what do we do...

- How do we continue to prepare & innovate?
- How do we leverage the technology of today while facing economic and social constraints AND build on lessons from the past?
- How do we effectively leverage all available resources (people, assets, technology) to ensure we are prepared and able to maximize our collective impact?



According to Mike Delorenzo...

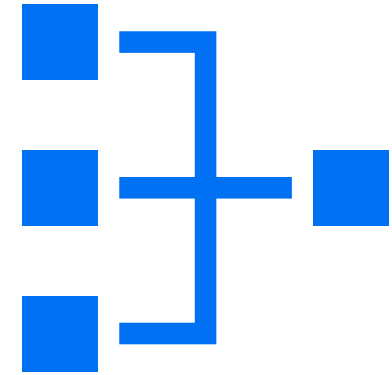
Effective Emergency Management Requires 3 Things:



TEAM



BUILDING



SYSTEM



Let's evolve that a little bit...



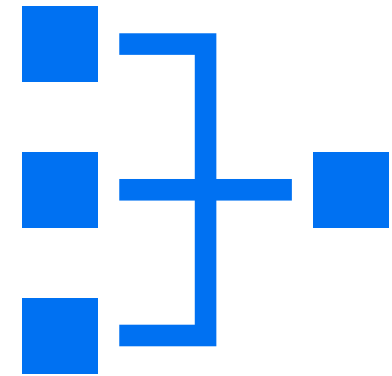
TEAM

PEOPLE



BUILDING

PLACE



SYSTEM

TECHNOLOGY



Who are your people?



PEOPLE

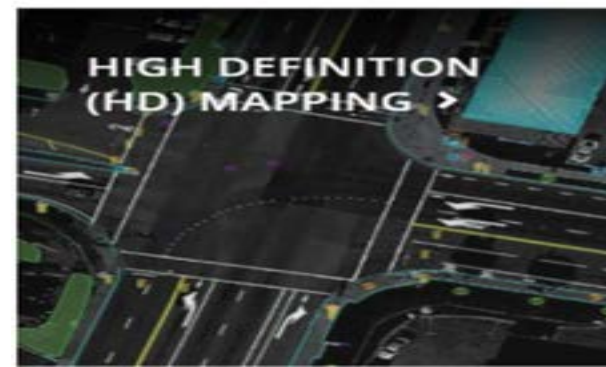
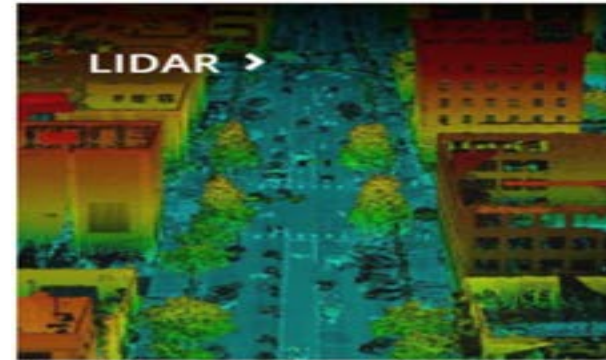
- How do you prepare?
- How do you train?
- What are your Standard Operating Procedures?
- Who is your professional network?
- Who are your allies?
- How do you engage your people?
- What is your strategic plan?



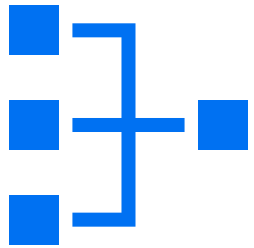
Where is your place?



- What is your foundational data?
- Where are the gaps in your data?
- What are your risks?
- Where are your vulnerabilities, your most vulnerable?
- How do you maintain operational stability in a dynamic environment?



What are your tools?



TECHNOLOGY

- Are they accessible?
- Are they interoperable
- How will you operate in disconnected environments?
- How do you share your data?
- How do you share your knowledge?



ANIMETRIC FEATURE CLASSIFICATION FOR INFRASTRUCTURE

Feature Type	Color
Production Buildings	Red
Gas Production Infra. 1	Pink
Gas Production Infra. 2	Green



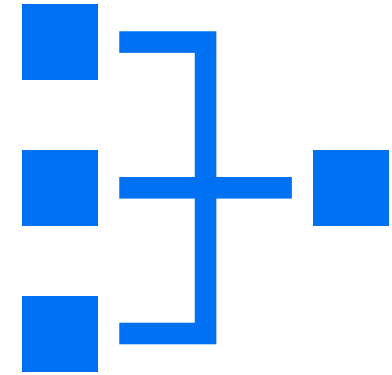
Given today's shifting governmental priorities



PEOPLE



PLACE



TECHNOLOGY

How can commercial partners be a resource for preparedness?



Aerial acquisition before and after the disaster



Fleet of single & twin-engine aircrafts

Sanborn fixed wing aircraft assets

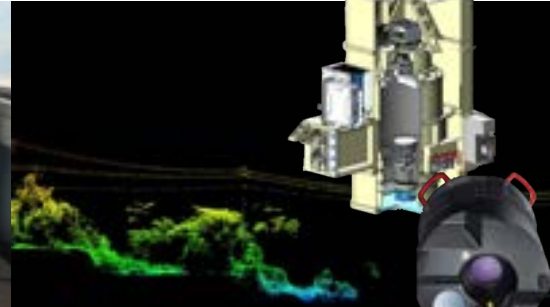


High-res digital imaging systems

Large format photogrammetric aerial cameras

Oblique aerial imagery sensors

Airborne GPS and inertial navigation systems



Lidar acquisition technologies

Linear and photon-counting LiDAR systems

Terrestrial mobile lidar and imagery mapping systems



Geophysics sensors & systems

Passive and active acquisition technologies

Sensor manufacturing:

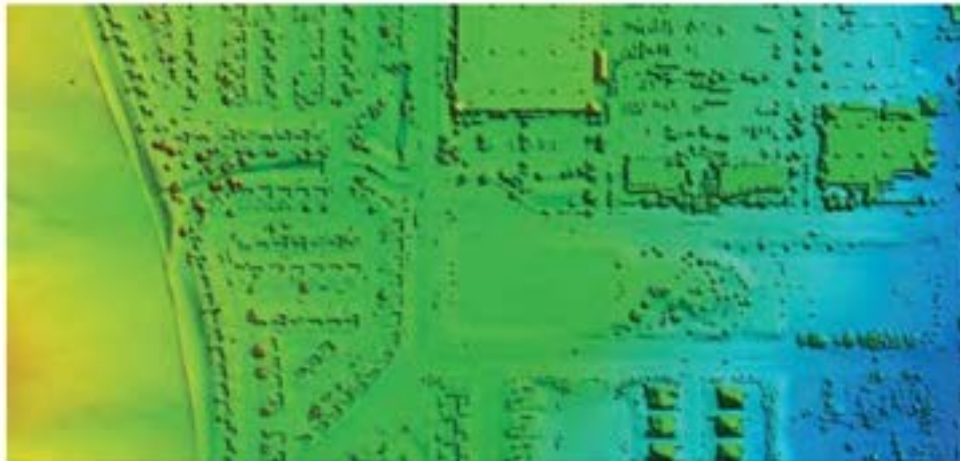
- Advanced Gamma-Ray Spectrometer
- Portable Gamma-Ray Spectrometer
- Integrated Multi-Parameter Airborne Console
- Power Distribution System
- Time Domain EM System



Damage Assessment



Baseline data (2020 Lidar Digital Surface Model)



Post-event data (2022 Lidar Digital Surface Model)

Remote sensing data is a great resource to support consistent, up-to-date information for incident management programs. At Sanborn, we leverage a combination of remote sensing, GIS, and other collateral data into cost-effective, targeted solutions for regional and community-sized applications.

Our solution consists of the following processing steps:

Identify Existing Baseline Data

- Lidar point density necessary to meet the requirements
- Additional classification involving buildings, vegetation, etc.
- Feature extraction leading to creation of building footprints

Acquire and Analyze Post-Event Data

- Normalize data to match baseline
- Perform automated change detection

Assess Damage and Provide Analytics

- Determine volumetric change from baseline data to post-event data using building footprints
- Integrate data by coupling of property value/parcel information with damaged structures



Damage Assessment



Baseline data (



Post-event data

Remote sensing data is a great resource to support consistent, up-to-date information for incident management programs. At Sanborn, we leverage a



Strategic Planning

Five questions to motivate and focus your approach to strategic planning.

- Does the program have a current goals, objectives, and implementation plan?
- Are current GIS program funding and staff resources adequate for meeting objectives in the near and long term?
- Are roles and responsibilities of all parties clear and aligned with the work, goals, and objectives?
- Are stakeholders engaged and contributing to the program, and getting what they need from it?
- Are the data, technology, systems, and processes up-to-date and appropriate for meeting the performance, security, and functional requirements?



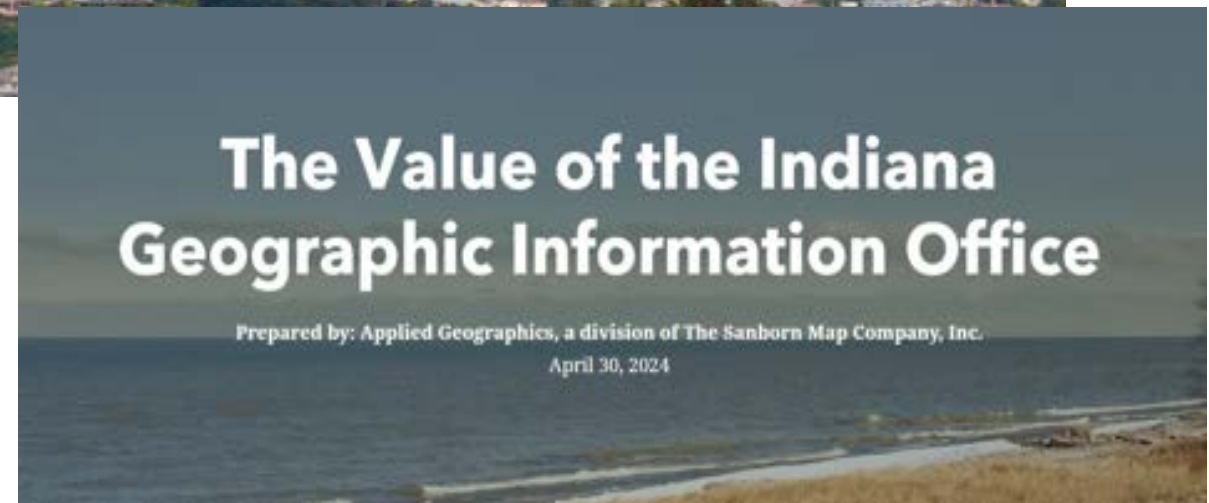
Strategic Planning Process

- Provides program and resource assessment
- Identifies priorities and benefits
- Communicates value and needs
- Quantifies impact
- Justifies investment
- Creates a roadmap for resilience



Strategic Planning Results

- Sanborn's AppGeo Division supported and developed the best practices and guidance for the FGDC Strategic Planning CAP Grants in early 2000's
- Successful efforts include the 2019 CalFire Strategic Plan
- Strategic plans for Michigan and Georgia
- Imagery benefits study for State of Washington Commerce
- Indiana's 2024 GIO Strategic Plan and associated Benefit Study resulting in \$7 million annual appropriated funding



Key Takeaways

In these uncertain times, Sanborn is your ally. We want to help you to ...

- Continue to prepare & innovate
- Leverage the technology of today while facing economic and social constraints AND build on lessons from the past
- Effectively leverage all available resources (people, assets, technology) to ensure we are prepared and able to maximize our collective impact

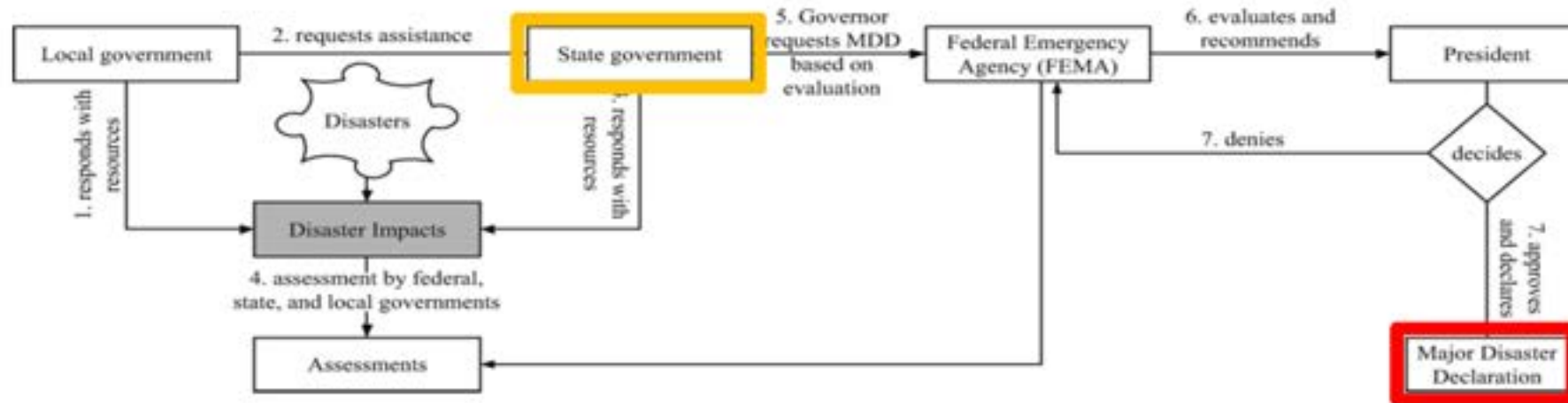


Thank you!

Questions?



Post-Disaster Remote Sensing



- **State of Florida** – SERT and Civil Air Patrol (CAP) geotagged photos, FDOT aerial photos, commercial
- **NOAA** – NOAA aerial photos, contracted aerials
- **National Geospatial-Intelligence Agency (NGA)** – satellite imagery (commercial/military), must be coordinated through FEMA, NGA and/or FEMA may activate **Interagency Remote Sensing Coordination Cell**
- **FEMA** – contracted aerials, CAP photos, request data from NGA
- **USGS** – **Remote Sensing Work Group** coordinates products like US satellite data (Landsat, SPOT, EagleVision), some licensed data, may activate **International Charter** (for international space agency satellite data)





7/15/2010 7:40:26 AM (-4.0 hrs) Lat=30.39617 Lon=-84.35383 Alt=66ft MSL WGS 1984



Incident Mapper - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.floridadisaster.org/gis/html/viewer.htm

Incident Mapper

FloridaDisaster
Florida Division of Emergency Management
Information Management

Search Go USNG Zones 100k grid

Search Directions

Map Satellite Hybrid Topo Earth

Hide Legend >

Deepwater Horizon Response

This mapping site contains georeferenced photos taken to support [Deepwater Horizon Response](#). As of 08/19/10, daily flights are suspended.

For data download, maps, and links please see [Deepwater Horizon Response GIS Resources](#).

- [Emergency Operations Centers](#)
- [CAP - 08/26/10](#)
- [CAP - 08/25/10](#)
- [CAP EAST - 08/19/10](#)
- [CAP CENTRAL - 08/19/10](#)
- [CAP EAST - 08/18/10](#)
- [CAP CENTRAL - 08/18/10](#)
- [FWC - 08/18/10](#)
- [CAP EAST - 08/17/10](#)
- [CAP EAST - 08/16/10](#)
- [CAP CENTRAL - 08/16/10](#)
- [CAP EAST - 08/14/10](#)
- [CAP CENTRAL - 08/14/10](#)
- [CAP EAST - 08/13/10](#)
- [CAP EAST - 08/11/10](#)
- [FWC - 08/11/10](#)
- [CAP EAST - 08/10/10](#)

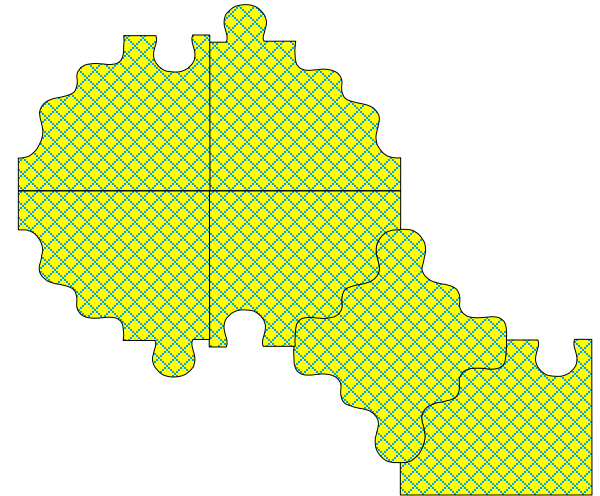
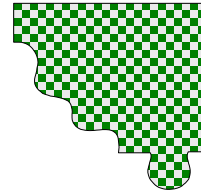
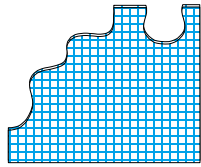
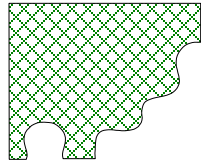
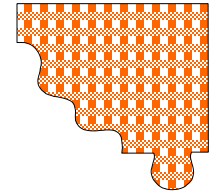
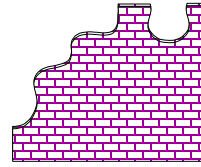
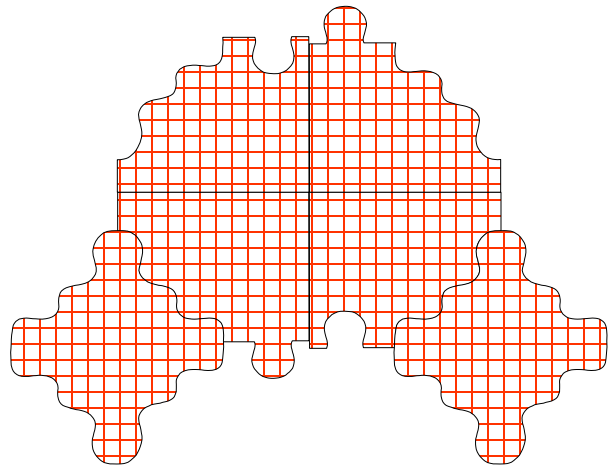
Full Size

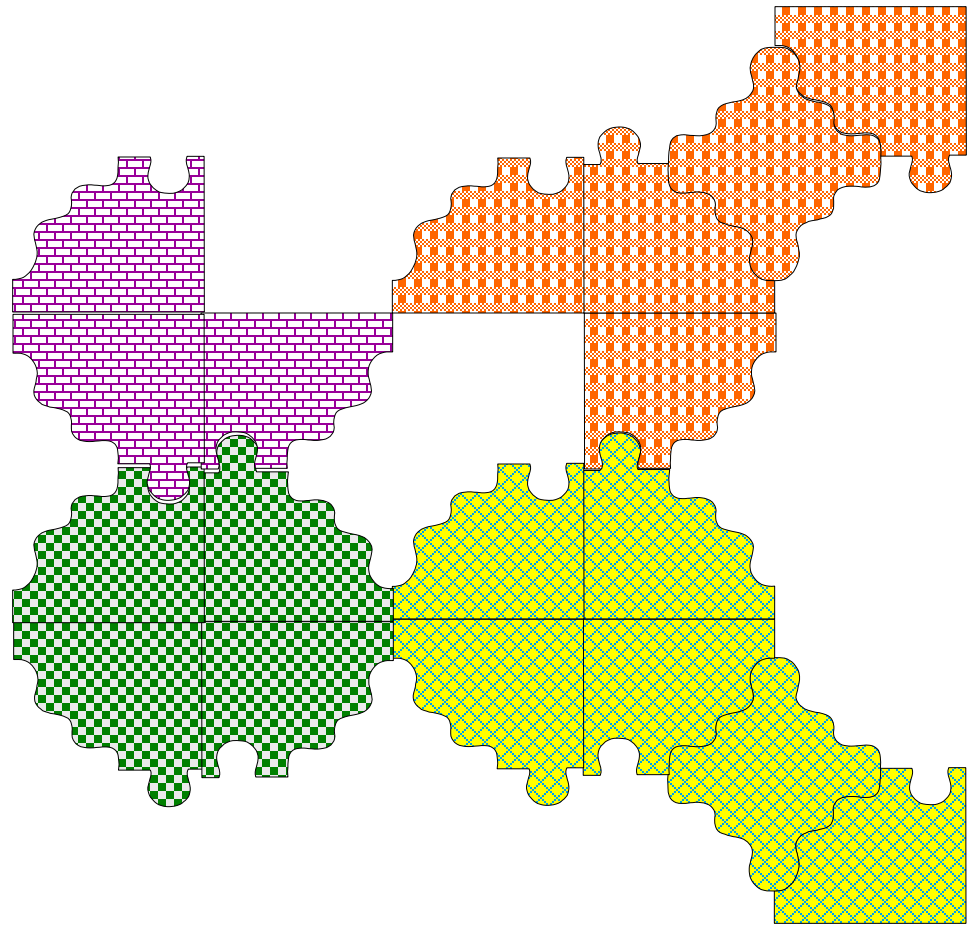
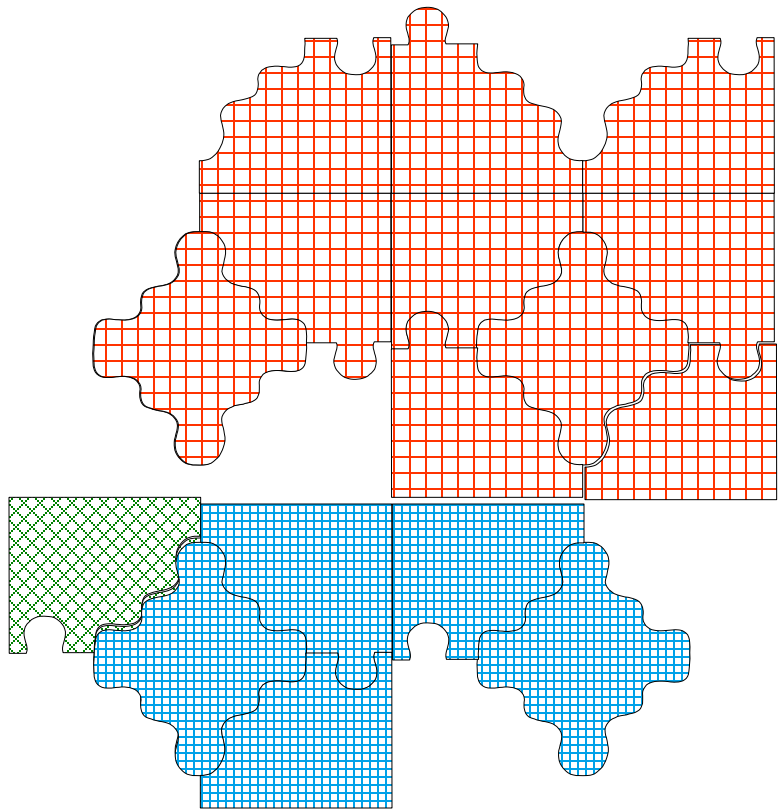
Map data ©2010 Google, NEOI

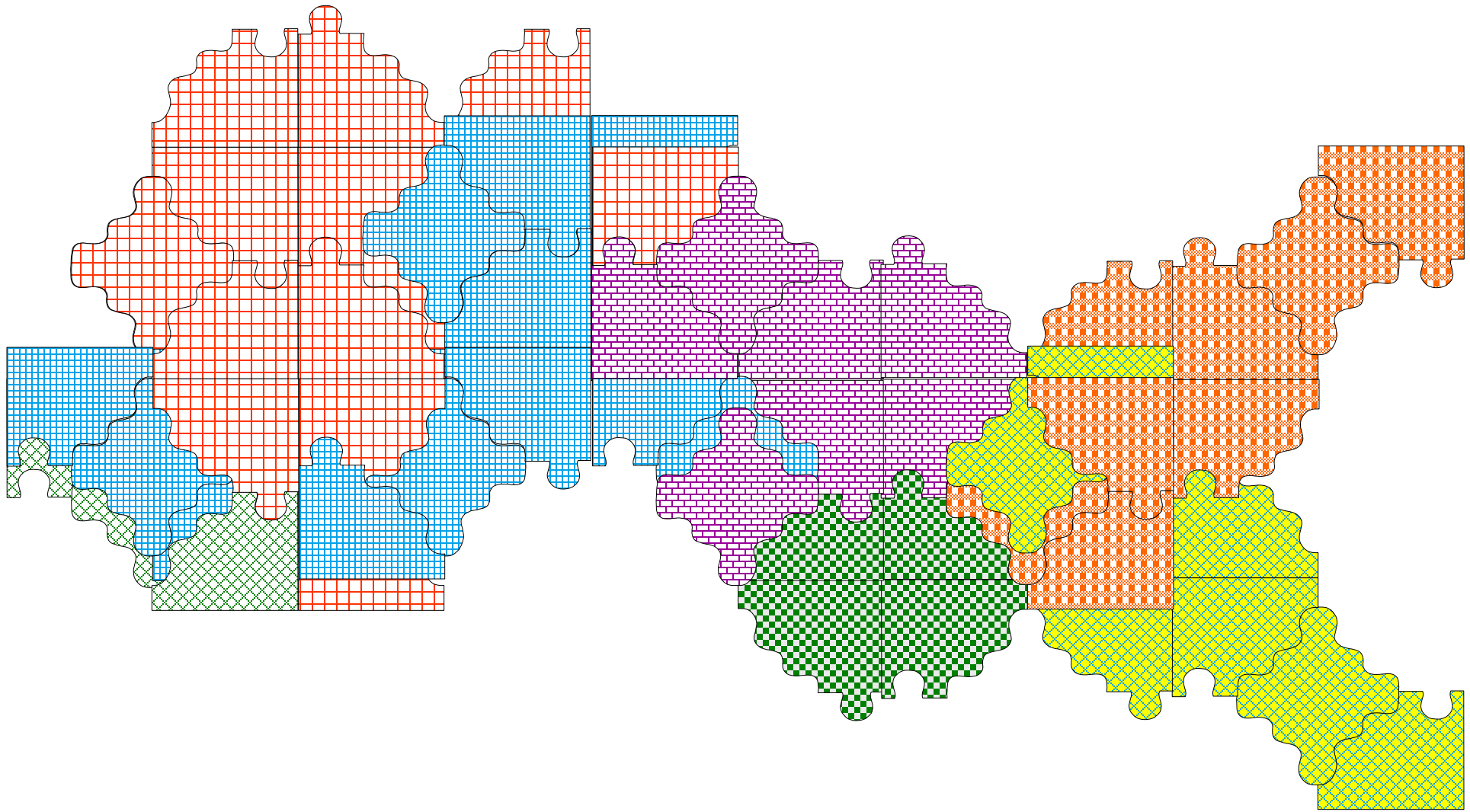
Done

Fiddler: Disabled





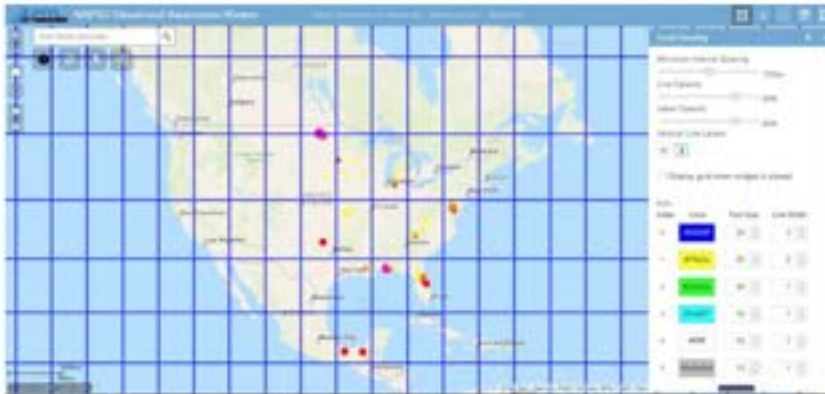




U.S. NATIONAL GRID RESOURCES

The U.S. National Grid (USNG) is a point and area reference system that provides for actionable location information in a uniform format. Its use helps achieve consistent situational awareness across all levels of government, disciplines, and threats & hazards – regardless of your role in an incident. One of the key resources NAPSG Foundation makes available to support emergency responders is a basic USNG situational awareness application.

Click below to access and use the app!



Why Use the USNG? Background Resources

1. [Applying the USNG for Enhanced Situational Awareness](#)
2. [Applying the USNG for Pre-Scripted Missions](#)

How to Get Started? Basic Implementation Guidance

All Categories

Search

SEARCH

FIND USNG COORDINATES

Find U.S. National Grid (USNG) coordinates for an address or common place name across the U.S. using NAPSG Foundation's free online app. Click below to access the app!



GUIDELINES AND TEMPLATES

NAPSG Foundation makes available a suite of guidelines and templates for coordinating and implementing the use of data, technology, and GIS by public safety nationwide. These tools are intended to serve as a shared foundation, encouraging improved communication and collaboration among GIS and other emergency management staff preparing for and responding to incidents.

NATIONAL MUTUAL AID TECHNOLOGY GUIDANCE AND RESOURCES

Provided below are several resources that NAPSG Foundation has developed in partnership with local, state, and federal public safety stakeholders to support the use of advanced technology and interoperability in mutual aid technology systems.

1. Guidance on Resource Management Dashboards

- Interactive Version: <http://arcg.is/0rf1TX>
- [Print Version](#)



2. Mutual Aid Information Requirements

- [Summary Report: Mutual Aid Information Requirements](#)

SEARCH RESOURCE

All Categories

Select Month ▾

Incident-Specific SOP Template Supplements provide users with further standard operating procedures necessary for responding to specific types of incidents:



[Tornado SOP Template](#)

[Tornado Geospatial Game Plan](#)



[Coastal Storms SOP Template](#)

[Hurricane Geospatial Game Plan](#)



[Wildfire SOP Template](#)



[Oil Spill SOP Template](#)

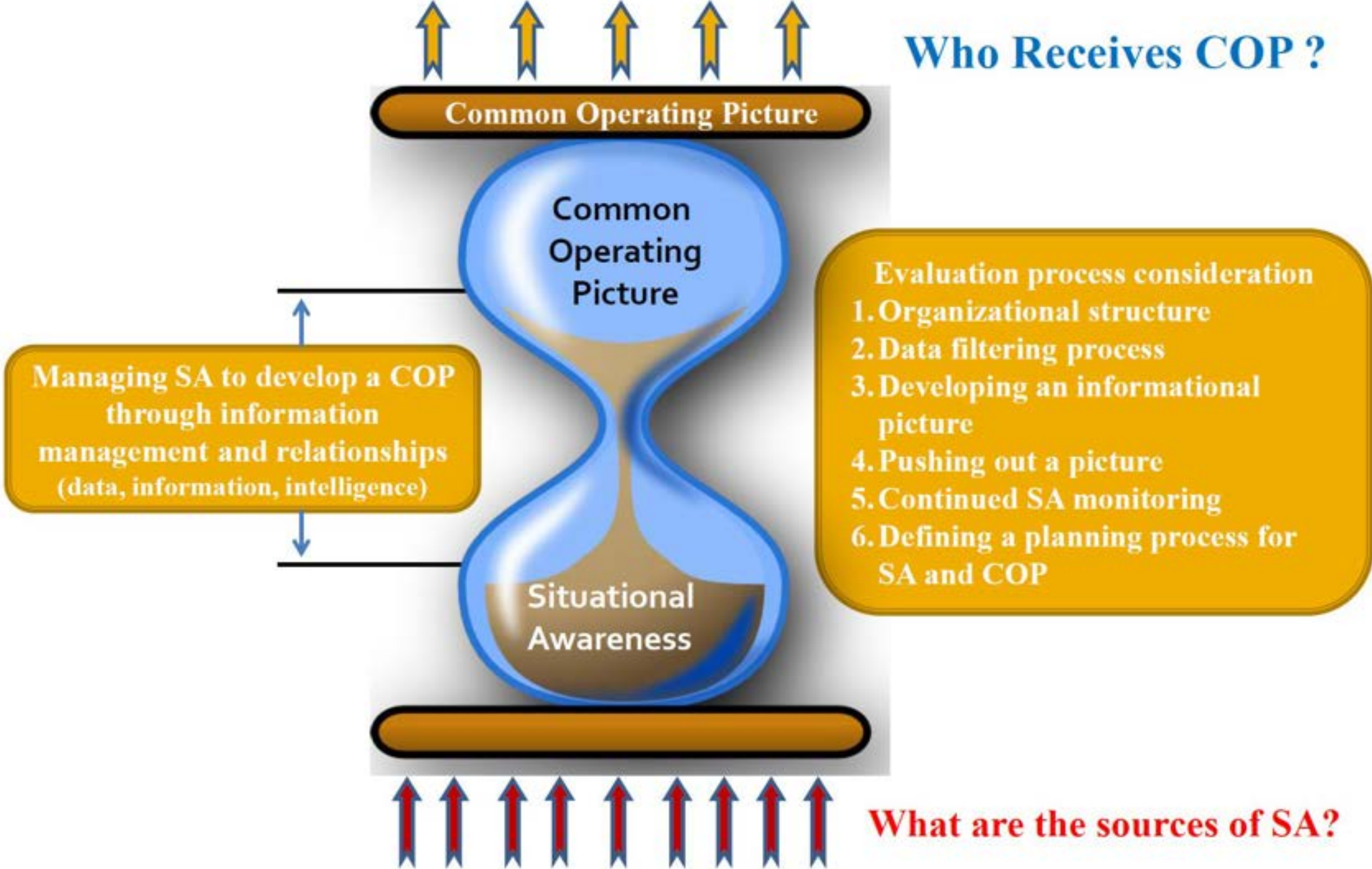
Agencies are encouraged to modify content in the templates to accommodate local and regional-specific details. How these guidelines are implemented will depend on the organization and the level of government responding to the incident. In the future, NAPSG will be enhancing each template to provide additional tools that aid agency-level implementation. Stay tuned!

Still Need Assistance with Public Safety Geospatial SOPs?

NAPSG also offers fee-for-service GIS SOP Technical Assistance for public safety agencies in need of support in the development and implementation of GIS SOPs. For more information, contact services@publicsafetygis.org or by phone at 202-895-1711.



Who Receives COP ?



What are the sources of SA?



BRANCH 3/BAY COUNTY

**SCAT IDENTIFIER AND BEACH
ACCESS NUMBERS**

