# Virtual Training: Using the GIS Inventory for Mutual Aid Planning and Data Sharing

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- Our Vision A Nation of emergency responders and leaders equipped with the knowledge and skills in applying technology and data to change the outcome for survivors.
- Our Mission To equip emergency management & public safety with the knowledge, skills, and resources to apply decision support technology and data in enhancing preparedness and building a more resilient nation.



Our Mission – To promote statewide geospatial coordination activities in all states and to be an effective advocate for states in national geospatial policy initiatives that support a national spatial data infrastructure.

Our Goals – Provide a unified voice on geographic information and technology issues, advocate State interests, and support our membership in their statewide initiatives.





Provide awareness level training on features in the GIS Inventory and how it can be used to enhance mutual aid planning and readiness at the local and state levels.





- Learn about features currently available in Version 6 of the GIS Inventory and how they can be used to support data sharing
- Learn about new features in Version 7 to be released in the July August timeframe
- Learn how to use the GIS Inventory to aid your agency's preparedness and mutual aid efforts
- Learn about best practices from the field in applying the GIS Inventory as a data sharing tool for enhanced mutual aid and planning efforts





GIS Inventory: Web-based system for inventorying and tracking data availability and the status of GIS implementation in state and local government

Mutual Aid: Arrangements made to request and receive assistance across political and social subdivisions

Data Sharing: Process of making data available to others





- Rest Services: A software architecture style consisting of guidelines and best practices for creating scalable web services
- ISP: Or "Internet Service Provider", is an organization that provides services for accessing, using, or participating in the Internet
- RAID: A data storage virtualization technology that combines multiple disk drive components into a single logical unit for the purposes of data redundancy

# Key Terminology - 3

- SON: JavaScript Object Notation is a lightweight data-interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate. It is based on a subset of the JavaScript Programming Language
- Bootstrap: Bootstrap is a popular HTML, CSS, and JS framework for developing responsive, mobile applications on the web.





- Overview of the GIS Inventory
- Review of the new data sharing features in the GIS Inventory and what they mean for public safety
- Use Case Scenario: Urban Search & Rescue
- GIS Inventory In Context to Mutual Aid
- Live Demonstration
- Question and Answer





Dedicated system hardware hosted by a commercial ISP

- Developed and managed by NSGIC
- RAID configuration to help ensure uptime
- Onboard backup of system data
- Daily remote backups of system data at Project Manager's Office
- Currently operating Version 6 with planned release of Version 7 by July/August





5,400 existing users/participants

23,500 data layers identified in system

#### Need more participation

 Ideally every county and State would be inventorying 30-100 data layers





- Does this community want to continually 'chase' the newest technology, or does it want to use an established platform to meet its basic requirements?
- The geospatial community tends to move very quickly to new technologies and abandon previous efforts
- Some stability and framework systems are necessary to effectively work together





- The GIS Inventory is typically 1 to 2 years behind the latest technologies in its development cycles
- Complex system that is adapted to user preferences over time
- Newer technologies and trends are often based on quickly changing and variable standards ("look what I can do")
- System reliability in this environment can be very difficult and stability is a challenge







Participating in the GIS Inventory is like learning CPR

You don't do it for yourself. You know about your own data

You do it for others, to help support:

- Mutual Aid
- Efficient Operations
- Effective Planning
- Local > State > Federal communication



Photo: Australian Resuscitation Council



### **Bottom Line**





Improved Value to Participants Increased Preparedness Local to National





# Use Case Scenario: Urban Search & Rescue and Missouri Task Force 1





US&R Task Forces are deployed when local infrastructure is likely to be destroyed

- Team members are often not familiar with the locations in which they are deployed
- Maps and geospatial data are critical to successful deployments

Not being part of the local community means that US&R Task Force must rely on national tools to locate maps and data



- Activated on October 29
- Departed Missouri on October 30
  - 10 vehicles, 80 members, 50 tons of equipment
- Arrived McGuire AFB (NJ) on October 31
- Received first mission assignment on November 2









Primary Mission was humanitarian

- Door to door search
- Provide info; assess needs
- Data collection, aggregation and reporting
- Attending to basic needs



34 miles of streets covered

4,195 homes and 3,540 citizens contacted



# Where We Struggled



Inability to get data
Data Agreements
Access (Internet & travel)
Limited access to maps
Zone assignments



- Restricted access to mapping unit
- Lack of situational awareness





Embrace US&R and mutual aid responders

- Stage agreement-free data
  - External hard drives
  - Simple universal data agreements if needed
- Use the GIS Inventory
- Provide statewide map books
- GIS professionals and volunteers available to US&R and mutual aid responders





Local and state resources are requested and deployed everyday

In many cases, responders deployed through mutual aid rely on their own organization for initial mapping support

Pre- and Early-Deployment

Once integrated into the command structure at the event, responders will typically receive and use the map products provided by the requesting agency





#### Wildland fire resources can be requested and deployed nationwide to assist with suppression activities









A community in need of mutual aid assistance can be completely devastated and unable to provide mapping support for arriving crews







Being able to find and use geospatial data and map services in unfamiliar areas allows you to be 'in control' and knowledgeable about your surroundings



http://my.firefighternation.com/







Continuity of operations requires redundancy

- If you are unable to operate, you must preplan for failover
  - Tools like the GIS Inventory can aid your efforts and make your information discoverable to others







### Live Demonstration: GIS Inventory





# **New Features in Version 7**

July to August Release Date





### Harvest JSON Data and Map Services

382

Total records harvested

#### Select a layer to manage

Layer Category	Total Harvested	New Records	Updated Records	In The Inventory	
No Layer assignment made					minage »
Biota	Ø	0			munage a
Boundaries	0	0			
Climatology/Meteorology/Atmosphere	0	0			manage +
Economy	0	0			managa e
Elevation	0	0			manage +
Environment	0	0			manage »
Farming	0	0			managera
Geo-Scientific Information	0	0			managa e
Health	0	0			manage +
Imagery/Base Maps/Earth Cover	0	0			managa e
Inland Waters	0	0			manage +
Intelligence/Military	0	0			manage +
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#### Dynamic resizing and feature location for phones and tablets







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www.napsgfoundation.org

