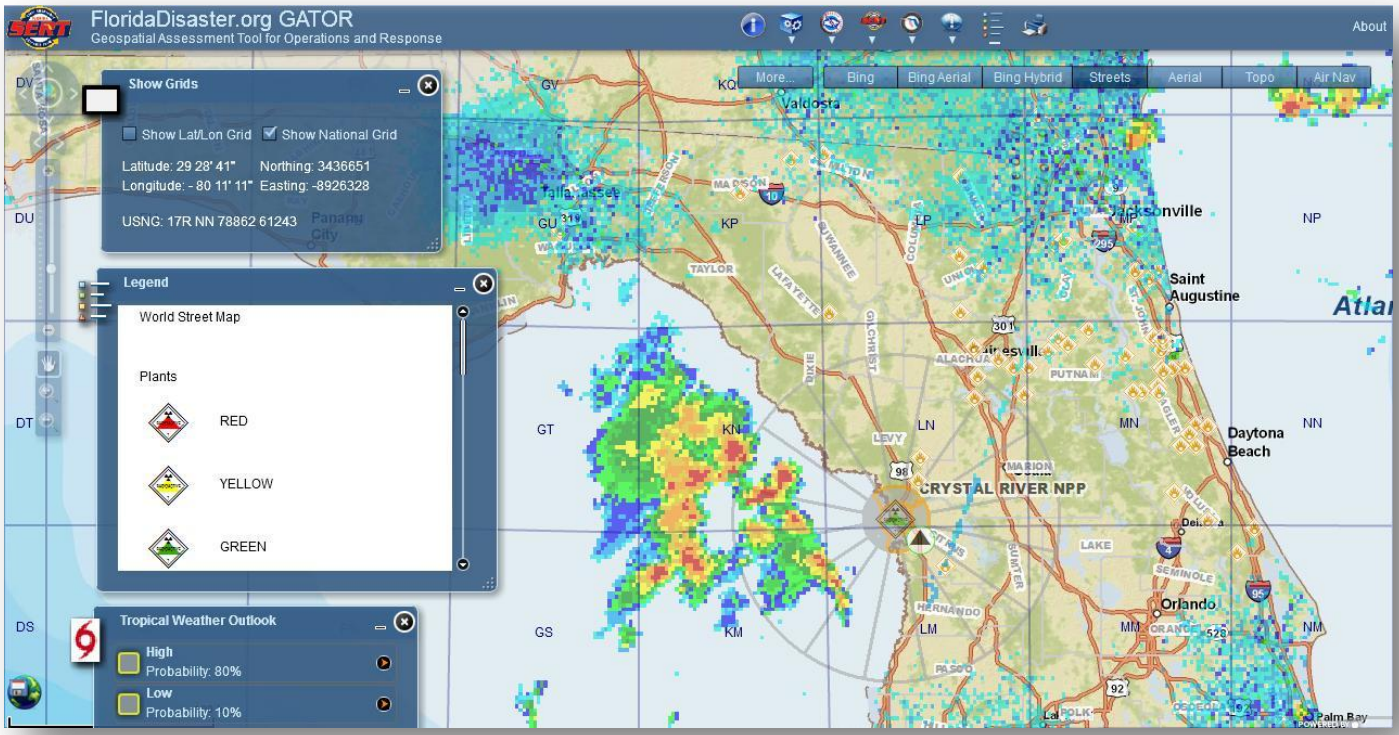
Quick Guide to the NAPSG MACC SOG

What is the Standard Operating Guidance document for Multi-Agency Coordination Centers?

The Geospatial Operating Guidance for Multi-Agency Coordination Centers (MACCs) document proposes a set of guidelines for coordinating geospatial emergency response efforts. These guidelines are intended to serve as a shared foundation, encouraging improved communication and collaboration among GIS and other emergency response staff. This is a living document that provides a starting point to produce guidelines for the organization and management of geospatial data, map creation and output within MACCs. It is anticipated that this document will be updated as more and more local agencies adopt GIS operating procedures for emergency management and provide lessons learned back to the NAPSG Foundation.

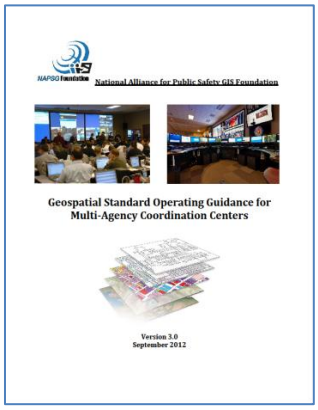


Why use GIS?

The questions asking "where" are endless in effective emergency management, and they range from the mitigation stage through to the recovery stage. Where is the earthquake epicenter? Where is the storm line? Where does the dam inundation run and who/what is in that path? Where are evacuation routes and how are they effected by the disaster? And so on.

The integration of geospatial tools for disaster response efforts is emerging as an effective and potentially invaluable resource for answering the all so important "where" of emergency management.

GIS allows hazards such as fire perimeters, earthquake fault lines/USGS ShakeMaps, dam inundation pathways, tsunami inundation zones and any other piece of locational information to be overlaid and viewed with base map data such as census information, streets, critical facilities, and power grids, so that emergency managers can begin to see the situation as whole. With that whole view, they can better formulate a response and even foresee recovery needs.



Why create Standard Operating Procedures?

Standard Operating Procedures, or SOPs, clearly define and outline what is expected and required of personnel during emergency operations and non-emergency activities. SOPs create a playbook for how response activities should be coordinated making all participants aware of their responsibilities. Having these plans in place and practiced prior to a disaster can be invaluable for a smooth response in the Multi-Agency Coordination Center.

How to use the Geospatial Operating Guidance for Multi-Agency Coordination Centers document

Intended as a template, agencies are encouraged to modify document content to accommodate local and regional-specific details. Modifications may include, among other things, referencing local datasets and file locations or adjusting standard map products to better account for local hazards or values at risk. It is recommended that you work with your local emergency service coordinators to create an SOP or SOG that meets the unique needs of your agency and/or

How to get started…

If you are curious where to begin, it may be beneficial to reach out to your GIS and/or emergency response counterparts and find out what resources already exist. It's always good to integrate current procedures before re-inventing the wheel.

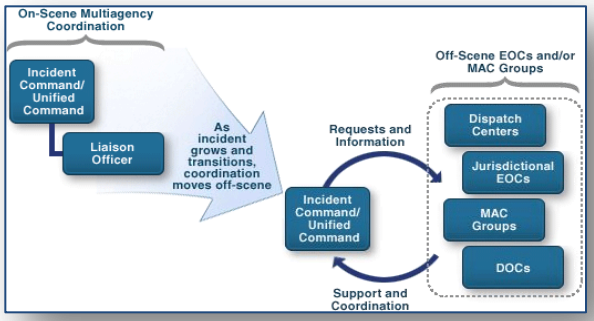
Once you have identified current procedures, it's now time to begin writing the necessary procedures.

Within the SOG, four objectives are set to adequately address GIS needs and practices in an emergency event:

1. Determine key GIS supplies and tools for MACCs (EOC, DOC, or MOC)
2. Determine data and mapping protocols
3. Determine and document protocols for data/map dissemination/sharing via web applications
4. Determine data and map sharing practices with external contacts

In order to meet these four objectives, the SOG is broken down into the following eight chapters:

<u>Emergency Management Systems</u> - Outlines the various emergency management organizational structures and physical layout of the MACCs to aid GIS Staff when responding to an Emergency Operations Center (EOC), Department Operations Center (DOC), or Medical Operations Center (MOC).



GIS Staffing and Resource Requirements – Outlines the hardware, software, data, map and general resources necessary for GIS staff to perform their jobs as well as the GIS knowledge, skills and abilities that are required to adequately function in the many GIS emergency support roles that exist.

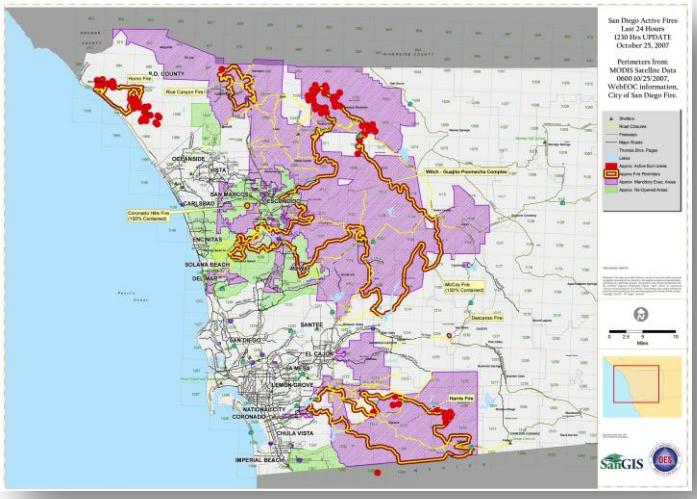
Staffing and Team Transition – Outlines the procedure for requesting additional GIS support, tracking GIS requests and handling shift changes.

File Naming and Directory Structure – Provides standardized naming conventions for GIS files and directory structure to support data management and facilitate identification of GIS data during shift changes.

Example GIS Supply List

The table below serves as an example for the "GIS Supply List". The needs and availability of resources for each agency or jurisdiction will vary. Use this list as a guiding example and not as a fixed set of requirements.

	REQUIRED		Location		
	Office	Field	Primary	Secondary	Tertiary
HARDWARE (Where possible, field hardware should be ruggedized)					
Laptop and/or Desktop	√	√	☐	☐	☐
License keys, dongles and codes written down	√	√	☐	☐	☐
Plotter	√		☐	☐	☐
Projector	√		☐	☐	☐
GPS Hardware		√	☐	☐	☐
Projection Screen			☐	☐	☐
Multi-Gb Flash Drive (32 Gb or more)	√	√	☐	☐	☐
Portable, External Hard Drive (1 Terabyte or more)	√	√	☐	☐	☐
Backup Laptop Battery		√	☐	☐	☐
3G Broadband Access Card Activated	√	√	☐	☐	☐
Cell phone with published number and	√	√	☐	☐	☐



Mapping Protocols – Details required map elements, data content and format conventions, distribution regulations, symbology guidelines and QA/QC procedures. This section also outlines agency specific cartographic standards for map products.

Data Protocols – Details data format conventions, backup policy, data sharing and the use of web applications to support GIS staff as well as data/map end users.

Data Acquisition and Dissemination – Provides information for briefing cycles and when incident data become available and accessible to GIS staff.

Documentation and Metadata – Outlines the documentation/metadata expectations and procedures.

Tips for using the Geospatial Operating Guidance for Multi-Agency Coordination Centers document…

Within this document, *background information* on each section is offered in blue text boxes at the beginning of each chapter. The background information is intended to guide the user on how to utilize the associated guidance. Text that is bold, italicized, and in carrots delineates where ***<<local jurisdictional input is needed>>***.

Examples are given in motion quotes and are intended to provide the reader with tips on how to use and interpret the examples provided. Diagrams are also marked as examples to indicate where local inputs are required. These examples and diagrams are offered only for reference purposes and are not intended to set a standard.

After your own SOP is created…

It is recommended that once your agency has created a GIS operations document that it should be exercised in conjunction with emergency management agency or first responder exercises. This is a good opportunity to see if the document needs to be adjusted and provides useful information. If possible, GIS staff should provide injections to exercises that specifically test different elements within the document. Exercise after action reports should identify areas of the document and GIS response that worked and did not work. The document should be updated after each exercise to improve its effectiveness.

To download the latest version of the SOG, please visit the NAPSG Foundation website at http://www.napsgfoundation.org/blog/napsg-blog/134-sog-v3

National Alliance for Public Safety GIS