



COUNTY OF SAN DIEGO GEOGRAPHIC INFORMATION SYSTEMS

EMERGENCY STANDARDS OF OPERATION

FEBRUARY 2008



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1 INTRODUCTION

Purpose: This Standards of Operation (SOP) document was prepared to facilitate the dissemination of Geographic Information Systems (GIS) services and products during emergency events affecting the County of San Diego. This document provides guidelines for the organization and management of GIS data and map creation and output. Additionally, proper internal and external communication channels for sharing these products are addressed and outlined.

Audience: The intended audience for this document includes all County staff assigned GIS positions in the event of an emergency, including field and first response, Emergency Operation Center (EOC), Department Operation Center (DOC) and Emergency Medical Services Medical Operations Center (EMS MOC) support responsibilities.

NOTE: If the County of San Diego Fire Services Branch GIS support is detached to the State or Federal Government in an emergency event, the Fire Services Branch will follow the ICS and data under their purview must be cleared through the appropriate State/Federal Agency they are assisting prior to sharing with County of San Diego, GIS staff.

This SOP document was developed by a team of County GIS and incident support subject matter experts. The [National Wildfire Coordinating Group GIS Standard Operating Procedures \(GSTOP, June 2006\)](#) served as our primary reference and guide to developing these SOPs. Four objectives were set by the County GIS team in order to adequately address GIS needs and practices in an emergency event:

1. Determine key GIS Supplies and Tools for EOC/DOC/MOC and Field Responders
2. Determine Data and Mapping Protocols
3. Determine and Document Protocols for Data/Map Dissemination/Sharing via WebEOC
4. Determine Data and Map Sharing practices with External Contacts

In order to meet these four objectives this document is broken down into the following seven chapters:

- o GIS Minimum Expectations – Outlines the hardware, software, data, map and general resources necessary for GIS staff to perform their job as well as the GIS knowledge, skills and abilities that are required to adequately function in the many GIS emergency support roles that exist.
- o File Naming and Directory Structure – Provides standardized naming conventions for GIS files and directory structure to support data management and facilitate identification.
- o Incident Data Acquisition and Availability Expectations – Provides information on briefing cycles and when incident and damage assessment data become available and accessible to GIS users.
- o Documentation and Metadata – Outlines the documentation expectations and procedures.
- o Data Protocols – Details data format conventions, backup policy, data sharing and the use of WebEOC.
- o Mapping Protocols – Details required map elements, format conventions, distribution regulations, symbology guidelines and QA/QC.
- o Staffing and Team Transition – Outlines the procedure for requesting additional GIS support, tracking GIS requests and handling shift changes.

2 GIS RESOURCES AND STAFFING

Purpose: This chapter details the resources and skill sets required for GIS Disaster Service Workers to fulfill County of San Diego GIS expectations in an emergency event, including:

- Hardware, software and other resources required to function at a basic level of operation
 - Please Note – Field staff and Command Center (i.e. EOC/DOC/MOC) staff have different requirements
- GIS Operator Skill Sets – GPS data collection, analysis, data management, map making, etc

2.1 RESOURCE REQUIREMENTS

Figure 1 - GIS SUPPLY LIST

	REQUIRED		Location		
	Office	Field	Primary	Secondary	Tertiary
HARDWARE					
Laptop and/or Desktop	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ArcGIS Dongle	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plotter	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projector	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GPS Hardware		√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projection Screen			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Gb Flash Drive	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portable, External Hard Drive	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Backup Laptop Battery		√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SOFTWARE					
ArcGIS licensed to machine	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MS Office	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adobe Reader	√	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adobe Acrobat Full Version			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trimble Pathfinder		√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VPN Access	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metric Converter	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DATA RESOURCES					
SANGIS Base Map Data CDs	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SANGIS Eagle Aerial DVDs	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spare Copies of the above	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MAP RESOURCES					
Department Specific Maps			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wall Maps			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thomas Bros CDs and Books	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Campus Maps			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transit Maps			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tourist (POI) Maps			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GENERAL RESOURCES					
GIS Deskbook*	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Markers(Dry Erase)/Pens/Pencils	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compass			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protractor			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CDs/DVDs	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Push Pins	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plotter Ink Cartridges	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plotter Paper (to include Mylar)	√		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phone Books			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAFETY					
Phone	√	√			

* GIS Desk book to include – SOP, Contact List, Data/Map Matrix, Symbology Quick Guide, GIS EOC Staff Checklist, Map/Schematic of the Room (where are resources located), ArcGIS Tips/Tricks, How to Access/Use WebEOC.

2.2 TECHNICAL SKILL SET REQUIREMENTS

The skills required for a GIS support staff are varied by the event and duration of the event. Here is the basic break down of roles and responsibilities for supporting the GIS operations during a disaster by role. These roles can be directly matched to the responsibility matrix in this document. Refer to [Attachment #1](#) document for a full description of County of San Diego, GIS emergency roles and responsibilities. Provided directly below is an example of one County GIS Role and its associated skill set requirements and responsibilities.

Figure 2 - EXAMPLE GIS ROLE AND RESPONSIBILITIES

ROLE: GIS ANALYST - This position can perform research, database queries and statistical analysis for the GIS specialist. Frequently during emergencies, data comes into the EOPERATION CENTER in less than pristine condition. The analyst will massage the data into a usable format. Having a database expert on site will free up the GIS specialist to concentrate on simple GIS analysis and map production. This role is required to respond to the operation center or duty station.		
SKILL	DUTY/TASK	FREQUENCY
Administering and Operating GIS Application	Use ArcINFO9.x to identify, evaluate, and input spatial data.	Often (weekly)
	Use ArcINFO 9.x to query data.	Often (weekly)
	Convert or import digital data using digitizers, scanners or GPS.	Often (weekly)
	Analyze raster data sets with Spatial Analyst/Grid or Imagine	Often (weekly)
	Analyze vector data sets with Geoprocessing	Often (weekly)
	Project spatial data	Often (weekly)
GIS Product Development	Create FDGC Metadata	Often (weekly)
	Collect field location data via GPS	Often (weekly)
	Edit GIS data	Often (weekly)
	Convert data (i.e., geodatabase, shapefiles, coverage, DWG,...etc)	Often (weekly)
	Generate statistics	Often (weekly)
	Geocode data	Often (weekly)
	Perform image analysis	Often (weekly)
	Map and Create new GIS data	Often (weekly)
Maintain existing GIS data (QA/QC)	Often (weekly)	
GIS Services to End Users	Creating maps	Often (weekly)
	Create reports based upon GIS Analysis	Often (weekly)
	Create charts	Often (weekly)
	Create tables	Often (weekly)
	Interpret analysis for client	Often (weekly)
	Determining design format of GIS data layers or database used with GIS layers	Often (weekly)
	Directly working with clients to meet their GIS need or further their understanding of GIS	Occasionally (every month)

3 FILE NAMING AND DIRECTORY STRUCTURE

Purpose: This chapter provides GIS staff with a common, standardized file naming convention and directory structure. The structure and naming conventions set herein are intended to support an efficient work flow process by providing self evident naming protocols that are specific not only to each individual incident but also to each incident's time(s) and date(s). Clearly labeled folders and subfolders that follow a repeatable year/month/data/hour naming convention facilitate identification of files as well as archiving of data and products.

3.1 GIS File Directory Structure

During an emergency event incident related data and maps can be retrieved from 2 locations: WebEOC and P:\EOCGIS per the file structure outline and guidelines defined below. Conversely, in order to share data and maps with external agencies and the County Sheriff's Department and District Attorney's Office we will use a secure FTP server (TBD). The FTP server must also be used to share/access data, maps etc that are larger than 10Mb as that is the WebEOC file size threshold. Figure 3 on the following page serves as an example of how this directory structure and naming convention would be practiced in an actual event.

NOTE: In addition to incident related maps and data, resources such as basemap data, ArcGIS templates, layer files, scripts and other tools will be accessible on both the FTP server and Enterprise GIS Folder.

- **EnterpriseGISFolder\YYYY_Incidents** - This is the top tier GIS Emergency Response directory located at an FTP site TBD:
 - **YYYY_IncidentName** – This is the top tier Folder for a unique event. 4-digit year and the name of the Unique Incident (e.g. 2003_CedarFire)
 - **Base Data** – This folder contains base map data (i.e. SANGIS Emergency CD Data); Data specific or derived from the event are **NOT** stored here.
 - **DEMs** - Digital Elevation Models
 - **Logos** – SANGIS logo and data disclaimer, County Seal, Eagle Aerial Imagery
 - **Raster** – Hillshade, Eagle Aerial Imagery, Air Photo Imagery
 - **Vector** – Transportation, Admin Boundaries, Points of Interest, etc
 - **Incident Data** – All data stored in this folder are data that are specific to the incident and include a date/time stamp - **DO NOT POST THIS DATA TO WebEOC/FTP SERVER UNTIL THE PRODUCT IS READY FOR USE/DISSEMINATION**
 - **yyyymmdd** – date/time stamped incident spatial data layers; one folder for each day of the incident
 - **GPS** – gps data, field gps downloads – pre and post processed
 - **Modified Base Data** – any base data (SANGIS) that were especially edited for/in support of the incident
 - **Products** – GIS analysis and map products
 - **yyyymmdd** - date/time stamped maps and other GIS products specific to each day of the incident
 - **Maps** – daily mxd(s) folder
 - **Graphics** – daily jpg and pdf storage folder
 - **Tools** – extensions, scripts, models, DMS-DD conversion macro/script, other software used during the incident

3.2 GIS File Naming Convention

All data files (*.shp, *.xls, *.dbf, etc) must contain date/time, incident and subject matter qualifiers. Similarly, map document names (*.pdf, *.jpg, etc) must contain date/time, incident name, subject matter information as well as size (e.g. ANSI A, ANSI B, Custom, etc) and orientation (i.e. portrait vs. landscape) of the map.

- Data file – yyyymmdd_hhss_IncidentName_Subjectmatter.***
- Map document - yyyymmdd_hhss_IncidentName_Subjectmatter_Size_Orientation.***

For field collected data, also include a Source Code tag when naming the data file:

- o GPS_Name = Global Positioning System_Collector's Name
- o FOBS = Field Observer
- o SITL = Situation Unit Leader

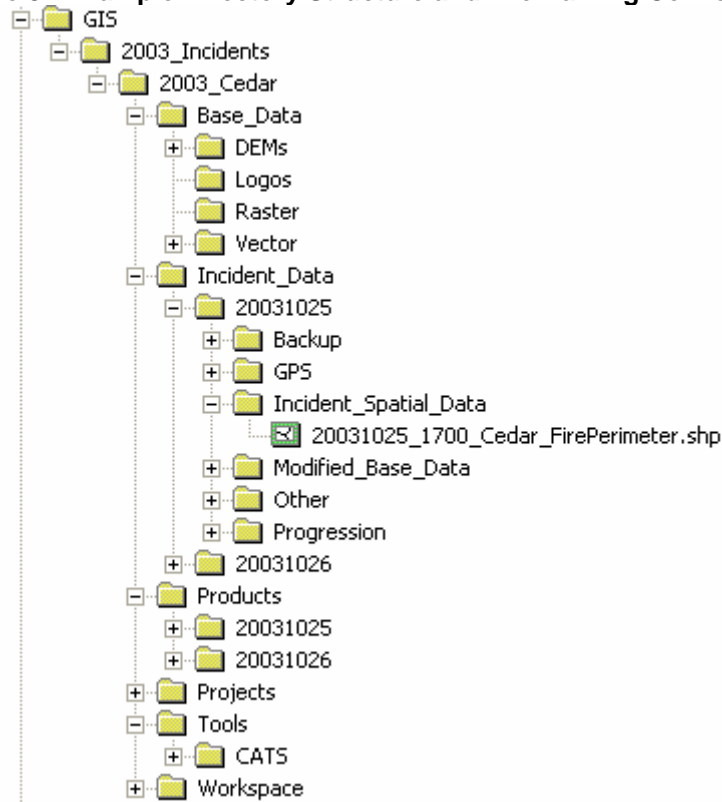
For data/maps that were provided by State or Federal Agency tag with Agency's Acronym:

- o CDF
- o CDC
- o etc

NOTE: When adding non-standard tags *ALWAYS* notify GIS staff of their presence and meaning.

NOTE: It is the responsibility of each GIS responder to *ALWAYS* communicate the file naming convention that they are using to those with whom they are sharing the data.

Figure 3 - Example Directory Structure and File Naming Convention



This directory structure convention was borrowed from the National Wildfire Coordinating Group (NWCG) SOPs. This structure will be accessible on the Enterprise GIS Folder however; it is also suggested to maintain a copy on your desktop/laptop C:\ drive in the event that a network connection is not possible.

4 DATA ACQUISITION AND AVAILABILITY EXPECTATIONS

4.1 BRIEFING CYCLES

During an emergency event, the County of San Diego operates on a 12-hour briefing cycle. At 6 am and 6pm, the Chairman of the County Board of Supervisors, Director of the Office of Emergency Services and additional command staff as necessary brief the media/public as to the extent of the area and population affected as well as actions enlisted by the County and other agencies to perturb progression (if applicable) and reconcile the damage. Between scheduled briefings field responders send data, in various formats, to EOC staff. GIS staff is responsible for compiling these data, conducting analyses and providing maps to help staff make decisions regarding susceptible vulnerable populations, County facility closures, potential environmental health hazards, etc. GIS staff is also responsible for providing maps for the briefings that illustrate the extent of damage and evacuation areas.

4.2 INCIDENT DATA

Typical types of incident data include: Road Closures, Shelters, Evacuation Areas, Incident Perimeters or Site Location. Incident data comes from a number of sources: GPS data, remotely sensed imagery, reverse 9-1-1, word of mouth, scratch paper. There is an element of latency inherent in the distribution of GIS data, for a number of reasons:

- Data need to be transferred from the field.
- Data are often converted or created from scratch in a GIS friendly format before being validated.
- Data must be released/approved for release by the data owner.
- Ability to commission reconnaissance flights/aerial surveys.
- Data analysis and computation time.
- Quality control of the data inputs and outputs.

4.3 DAMAGE ASSESSMENT DATA

Following a disaster, OES may request activation of a Damage Assessment Team. Or, in the event of a fire, this request may come from CALFIRE or the Fire Authority having Jurisdiction. The damage assessment team allows the County to assess loss of property and consequently supports the determination of Local Assistance Center activation and location and substantiates funding needs to FEMA. The damage assessment team collects data which is also compiled into GIS format.

Damage Assessment teams are ideally made up of a building inspector, structural engineer, fire expert (for safety reasons during a wildfire), a GIS person, and Red Cross shelters representative. Two standing Damage Assessment Teams exist. These two teams can support most incidents. However, to support large scale events, such as Firestorm 2007 and 2003, additional teams need to be assembled.

The data collected by the Damage Assessment Team are in GIS format. If a standing County team is activated, data could be available through WebEOC **GIS Significant Event Board** by the end of the collection day. The intent is to provide data at a time which coincides with the media cycle. Incidents which require paper forms and GPS coordinates (i.e. large scale incidents) take longer b/c the forms need to be vetted and GPS data needs to be downloaded from the data collection devices.

Damage Assessment data report extent of damage by parcel. For a full description of all the attribution collected, refer to the DPLU SOP for Emergency Response and Damage Assessment (*status: IN REVISION, Contact County Building Inspector*).

5 DOCUMENTATION AND METADATA

Purpose: This chapter provides guidance for the creation of metadata for all incident data and modified base data.

5.1 DISSEMINATION OF METADATA

Metadata should be created/updated in ArcCatalog using the FGDC (Federal Geographic Data Committee) ESRI Style sheet and following the County of San Diego GIS Emergency Group's guidelines set in [METADATA ELEMENTS 2 27 07.PPT](#). This supporting document identifies all required metadata elements.

The metadata file can be exported in HTML, SGML or .txt format and should be named in the same convention as the data to which it refers (date/time stamp, incident name, etc).

6 DATA PROTOCOLS

Purpose: This chapter discusses data format conventions, data backup and data sharing policies.

6.1 DATA FORMAT CONVENTIONS

GIS staff should adhere to the following Data Format Conventions when sharing/transferring files with other GIS staff:

- Acceptable Data Formats include - .xls, .dbf, .shp
 - Post tables for GIS staff as .dbf for quick import into ArcGIS
 - When working with Excel spreadsheets remember that cell values linked to Calculations will not be translated between .xls and .dbf. If there are values of consequence that are linked to a calculation, create a new field for the data values and perform a paste special (Values only) before converting to .dbf
 - Tables posted to WebEOC **File Library – Incident Data** for consumption of use outside of GIS should be in an MS Excel format to avoid software compatibility warnings when opening the file.
- Acceptable Map [Output] Formats include - .jpg, .pdf, .mxd
 - Use Relative Paths Option (Figure 5.1) when sharing .mxds with others

NOTE: When posting zip files, use same naming convention as associated data file (refer to above naming conventions)

6.2 DATA BACKUP POLICY

To avoid duplication of effort and loss of work products GIS staff should adhere to the following practices:

- Perform and save all work in the Workspace directory (or on your C: Drive if the network is unavailable or sluggish)
- Create backup copies of the files you are working on, on a regular basis
 - After each edit
 - At a specific time interval, it is recommended this be done every 2-4 hours
- Save/Backup work to USB memory stick or to portable, external hard drive
 - **Tip:** Purchase a portable, external hard drive with backup software.

If files are lost or corrupted on a network drive, contact Northrup Grumman to restore. Northrup Grumman has a daily backup policy with the County of San Diego. Backup of local drives on workstations is the responsibility of each department.

6.3 DATA SHARING/EXCHANGE POLICY

GIS staff will communicate and post alerts about the presence of updated incident datasets and maps through the GIS Significant Events and File Library boards within WebEOC. The GIS Significant Events board is to be used to share data and maps between GIS staff. Conversely, the File Library board is to be used to share data and maps with non-GIS emergency personnel. Refer to **ATTACHMENT #2** for instructions on how to Log In to Web EOC and **ATTACHMENT #3** for instructions on how to use the GIS Significant Events Board.

To further ensure the security and/or confidentiality of all incident related data:

- Do not add modified base data, incident data or map products to the ftp server until the data are complete, ready-for-use, and where applicable you have been given the proper authority.
- Do not share files through WebEOC unless the data are complete, ready-for-use, and where applicable you have been given the proper authority.
- When sharing GIS files (shp, personal geodatabase, etc) through WebEOC, **ALWAYS** attach a projection file. Projection files are **REQUIRED** to be posted with all GIS data file formats.
- When using WebEOC to share files, use the meta_tag to alert GIS users whether the data/map/etc are/is FACT, RUMOR, DRAFT, GO.

- Clear data and map transfer with your Operation Center Manager, as needed, when sharing data and map products between EOC, DOC and/or MOC GIS Staff and/or through WebEOC.
- For a list of external agencies with emergency GIS support staff and access to WebEOC, refer to [ATTACHMENT #4](#).
- The Public Information Officer is responsible for sharing **ALL** data and/or maps with the media.

6.4 DATA CONNECTIONS

Connect to one of the following sources for SANGIS base data: County Internal SDE, SANGIS SDE, City of San Diego SDE or SANGIS Emergency CD.

6.4.1 HOW TO CONNECT TO A SPATIAL DATABASE

- Open **ArcCatalog**
- Double Click **Database Connections**
- Select **Add Spatial Database Connection**

To Connect to County SDE

- Enter the following information into the **Spatial Database Connection Properties**
 - Server:
 - Service:
 - Username: Generic emergency GIS username
 - Password: Generic emergency GIS username
- Select OK connect to County Internal SDE

To Connect to SANGIS

- Enter the following information into the **Spatial Database Connection Properties**
 - Server:
 - Service: Username: Generic emergency GIS username
 - Password: Generic emergency GIS username
- Select OK connect to SANGIS SDE

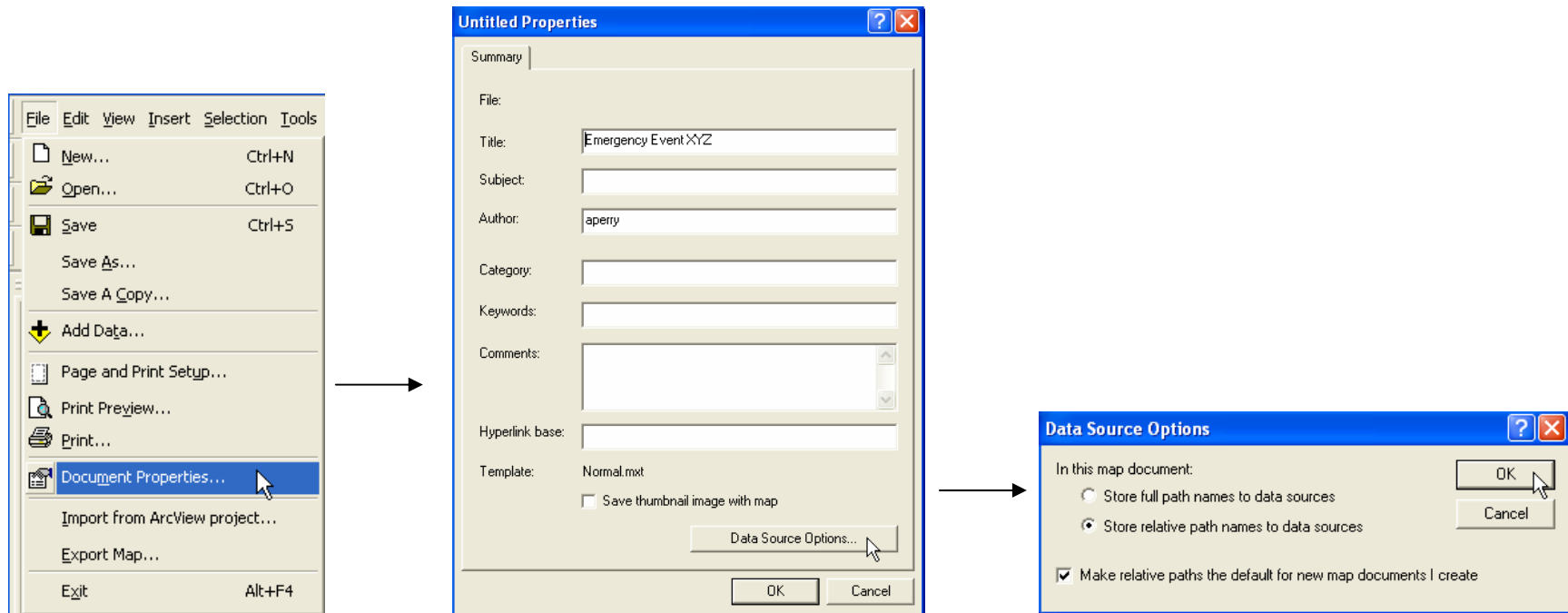
To Connect to City SDE

- Enter the following information into the **Spatial Database Connection Properties**
 - Server:
 - Service:
 - Username: Generic emergency GIS username
 - Password: Generic emergency GIS username
- Select OK connect to City SDE

SANGIS EMERGENCY CD

- Every department should have a copy of the SanGIS Emergency CD that contains a subset of SANGIS SDE data that were identified as necessary during an emergency. This CD is updated every six months and distributed at the GIS Coordinators Meeting.

Figure 4 - Store relative Paths



Select the **Document Properties** option from the **File Menu**, followed by the **Data Sources** button in the “**Map Title**” **Properties** dialog. Then select “**Store relative path names to data sources**” and “**Make relative paths the default for new map documents I create.**”

7 MAPPING PROTOCOLS

Purpose: In order to maintain a uniform look and feel, to facilitate interpretability and ease of use all GIS Staff will follow the guidelines listed below when creating map products in support of an emergency event.

7.1 MAP TEMPLATES

- Map Templates are available in the Enterprise GIS Folder (**Figure 6.1**)
- Use the Templates available at this location to create all map products

7.2 REQUIRED MAP ELEMENTS

- **Title** – Includes Incident Name, Map theme, Geographic Extent, time/date stamp of data
- **Legend**
- **Scale Bar**
- **Logos and Data Disclaimers**
 - Logo and data disclaimer to recognize data sources – SANGIS , Eagle, etc
 - Logo and data disclaimer to recognize County Group/Dept/Division
 - NIFC has state and federal logos available at <ftp://ftp.nifc.gov>
- **File Location**– provide the full path name for the network location of the mxd;
C:\GIS\Incidents\yyyy_IncidentName\Products\yyyymmdd\Subjectmatter\Size\Orientation.mxd
OR
C:\GIS\Incidents\yyyy_IncidentName\Projects\yyyymmdd\Subjectmatter\Size\Orientation.mxd
- **North Arrow**
- **Projection** – Name of the projection, datum, and units
- **Data Sources** – who, what, where, when, why and how (source codes -refer to page 21 of [NWCG SOP](#))
- **“Time Sensitive Data” Disclaimer Stamp** – for all maps that are time sensitive
- **“DRAFT” stamp** – if map is a draft

7.3 MAP PRODUCT FORMAT CONVENTIONS

- Share completed map products in PDF or JPG format

7.4 MAP DISTRIBUTION REGULATIONS

- Not at liberty to distribute maps or GIS incident data to media or public. This is the decision of incident command.
- Incident maps may be distributed to the Public if requested/instructed by EOC management.

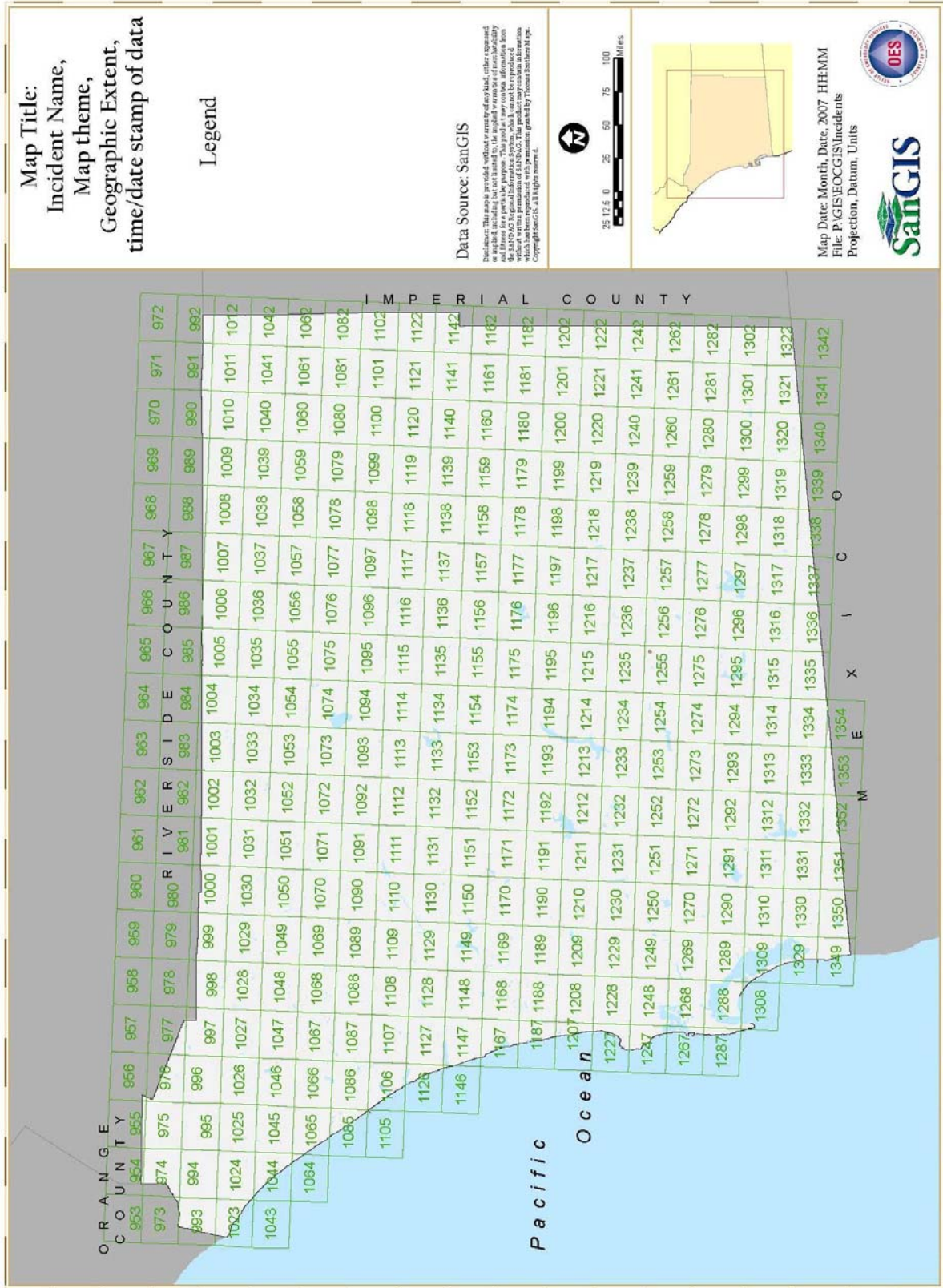
7.5 MAP SYMBOLOGY GUIDELINES

- All GIS responders will have the DHS, HAZUS and Fire symbology sets made available to them (when applicable) complimented with a quick guide
- To date we do not have a required symbol set until instructed by Federal or State agency (FEMA, DHS, etc)

7.6 QA/QC

- Strive for excellence on the first go. If bad map/data is/are discovered, update the GIS Unit Leader immediately. The GIS group (and all individuals referring to map/data) will be notified via WEBEOC and all necessary forms of communication, identify what exactly the flaw is and work to correct the map and redistribute immediately.
- Remove bad data or maps from locations such as WebEOC and/or the FTP server as soon as possible, but do not delete the bad information from the disk drive. Instead, add a tag to the file name indicating that it is bad data and should not be used. A record of any bad data that was released may need to be accessed at some point during or after the event.

Figure 5 - GIS EMERGENCY MAP TEMPLATE



8 STAFFING AND TEAM TRANSITION

Purpose: In order to facilitate a smooth transition between shifts it is important that GIS staff accurately maintain record of all requests and their priority level as well as what has been delivered and what is pending.

8.1 DISASTER SERVICE WORKER EXPECTATIONS

Per California Government Code Section 3100-3109, "...all public employees are hereby declared to be disaster service workers..." Additionally, GIS is considered an essential emergency function and GIS Staff are consequently considered essential personnel during an emergency event. Staff that are directly affected by the event are not expected to report to work. It is the responsibility of GIS staff to communicate their availability status to the Incident GIS Coordination/Logistics Support Role. The Incident GIS Coordination/Logistics Support Role will keep track of which staff are available to report and which staff have been affected by the event and unable to report.

8.2 EOC/DOC/MOC GIS STAFFING

The County of San Diego EOC, DOCs and MOC employ 12-hr shifts. During some emergency events the County EOC, DOCs and MOC are staffed 24 hrs/day. During some emergency events the County EOC, DOCs and MOC are activated 24 hrs/day. The County EOC, DOCs and MOC have assigned GIS staff to provide support during activation. Refer to [ATTACHMENT #5](#).

In a large scale event, the EOC, DOCs or MOC may have to call in reserve assistance. If your DOC or MOC requires additional GIS support, contact the Incident GIS Coordination/Logistics Support Role at the EOC (presently Ross Martin and Paul Hardwick) as soon as you anticipate needing additional support. Reserve GIS support will be drawn from the County of San Diego Emergency GIS Staff contact list as well as from GIS professionals from within the County of San Diego with whom the County has entered into a retainer agreement for their services.

8.3 TEAM TRANSITION

8.3.1 START OF SHIFT

At the beginning of a shift, GIS staff should complete the following tasks:

- Sign-In on your operations centers Staffing Log.
- Sign on to WebEOC and post a comment to the GIS Significant Events board to identify yourself and what operations center you represent.
- Assess GIS needs of your operations center and the needs of fellow GISers at other operations centers.
- As necessary or requested, post data, map products and progress reports to WebEOC GIS Significant Events Board and/or File Library.

8.3.2 END OF SHIFT

At the end of a work shift, GIS staff will debrief their replacement with the following information:

- Wrap up the project/map/data that you are working on to the best of your ability.
- Post a message to WebEOC with the name of your replacement.
- Debrief your replacement as to what deliverables have been requested.
- Debrief your replacement as to what has been created, what is left to be created?
 - Where are the necessary scratch files?
 - What base data have been modified?
 - Where are your notes?
 - What are the relevant points of the last Media Report?
 - What next steps have been identified?
- Provide your replacement with your contact information.
- Provide your replacement with contact information for other GIS Staff that are currently staffing the event or that are due to report.
- Provide your replacement with direct report information – to whom they are reporting; who is reporting to them.
- Sign-Out on your operations center Staffing Log.