Texas Emergency

GIS Response Team

Executive Summary

Standard operating guidelines (SOGs) are necessary for clarifying the Geographic Information System (GIS) business needs and functional standards for GIS in support of all-hazard incidents. These SOGs were developed to provide consistency in information delivery of GIS products and services. These SOGs focus on the work performed by GIS Specialists to fulfill the needs of the emergency response in an EOC through the Planning Section, Operation Section, Logistics Section, or other members of the Incident Management teams.

These SOGs were produced by the Texas EGRT board for Region 1 (Texas EGRT.ORG). The SOGs that are covered in this document pertain to GIS data management, map product development and analysis, incident GIS documentation and archiving, team transition and general guidance for the GIS Specialist, or those who are performing the mapping function at the incident or through remote response means.

This document contains SOGs that should be met by all participating members and agencies. Guidelines are specified throughout the SOGs to encourage adherence. However, it is acknowledged that under some extenuating circumstances, compliance with these guidelines may not be possible, or in the best interest of the response teams.

Introduction

This document was produced by the Region 1 EGRT coordinators to provide an organizational framework for the EGRT teams, and provide SOGs for the use of GIS on all-hazard emergency response events.

The purpose of this document is to standardize GIS products and methods and improve service to decision makers, including Incident Management Teams (IMTs) and others who rely on this critical information. The absence of SOGs for GIS support on incidents has created consistency-in-service issues such as data management problems for IMTs—especially during team transition periods. The primary audience for this document is the GIS Specialist performing work on an all-hazards incident, other members of the Incident Management Team who need to display incident information, and other personnel reliant on mapping and GIS analysis products.

The training segment of this manual will serve to provide exercise and drill materials for practice and pre-incident training. Each of the response types shown in the training section have been researched with response personnel familiar with each category. For instance, the unit on mapping for a chemical spill response was researched with the NEFDA haz-mat response team to identify their expectations of GIS mapping during this type of response.

The following application areas are addressed:

1. Incident Procedures – describes the hierarchy of the EGRT command structure , the activation process for assigning EGRT members to an incident, and the expectations of the EGRT personnel on-site.

2. Incident Responsibilities – includes guidelines on when to expect deployment, how to check in and out of an incident, how to act while deployed, paperwork associated with an incident, and guidelines on handling sensitive data.

3. Data Catalog – identifies map templates and geographic data from various sources that may be used in incident mapping. This includes standard state-wide datasets, region 1 specific datasets, local datasets, and file naming conventions used during the planning and incident scenarios.

4. Standard Map Products – describes and shows examples of standard and ad-hoc maps that may be produced for various incident types. Each example will detail the steps necessary for the map or analysis, show a sample map, and include a symbology key for the incident type.

5. Training – designates the minimum training requirements for team membership, and discusses the map templates and stock data that can be used for primary mapping, as well as the importance of drills and tabletop exercises.

SOGs are subject to review and modification. Requests for changes will be evaluated every year. This review is necessary to verify that the SOGs continue to meet the needs of the incident management teams and the GIS responders in the field.

Emergency events are handled by local jurisdictions, and the existence of this regional team doesn't change that. The local GIS responders for the affected jurisdiction(s) have the primary responsibility and are in charge. If they are overwhelmed, they may have their Emergency Management personnel contact the EGRT District Coordinator and request help. If it is a large or multi-day response, the EGRT Regional Coordinator can coordinate with other District Coordinators to bring in additional GIS responders.

Mission Statement

The purpose of the Texas Emergency GIS Response Team (Texas EGRT) system is to provide mapping and analysis products in support of any deployment of emergency response personnel, whether that be local or regional. This is accomplished by training GIS professionals to provide mapping support for a wide variety of incident types, compiling data that can be used for incident response, and establishing an activation protocol for deployment.

About the Texas EGRT

The Texas EGRT is designed to provide mapping support for all hazard types and all incidents. This may be common incidents handled by a single jurisdiction, or a disaster event handled by multiple jurisdictions or agencies. The SOGs for response will be the same.

Members must meet the minimum training requirements to become an active member. Members may call for support with any incident they are handling and have addition members assigned to help with their event; or may be called upon to help other members handle an event outside of their jurisdiction. Membership and training are voluntary and deployment to an outside event is not mandatory but is handled on an “as-available” basis.

Chapter 1 – Incident Procedures

Purpose:

This chapter contains information on the activation and assignment process for EGRT members to an incident, the hierarchy of the EGRT command structure, and the expectations of the EGRT personnel remotely or on-site.

Specifications:

The organization structure includes the following membership types with a general description of their duties:

Coordinating Board

Regional Coordinator – oversees the work of the District Coordinators; coordinates responses that span multiple districts; coordinates the training efforts; coordinates the participation of EGRT in local drills and exercises, is an active member.

District Coordinator –is the first point of contact for EGRT support within the district; maintains a list of members in their district that have completed the training and are available for response; contacts and makes assignments of EGRT volunteers to incidents within their district when requested; supports the participation of EGRT in local drills and exercises, is an active member.

Deputy Coordinator – assists the District Coordinator in all duties; assumes responsibilities of District Coordinator when District Coordinator is not available, is an active member.

General Membership

Trainers – has completed the standard EGRT training; has completed the FEMA IS-120 web course; is authorized as an EGRT trainer, is an active member.

EGRT Members – has completed the EGRT training; has completed the EGRT MOU, is a practicing GIS professional. Members shall designate their ability to respond into one of four levels:

- Level I (able to respond to any incidents within the region for up to three days)
- Level II (able to respond locally within their district)
- Level III (able to respond only within their local jurisdiction or county)
- Level IV (able to lend assistance remotely but not respond onsite)

The Coordinating Board consists of the Regional Coordinator, the District Coordinators, and the Deputy Coordinators. The terms of service shall be as follows:

- The Regional Coordinator is selected by a majority vote of the District Coordinators. A member may not serve as both a Regional Coordinator and a District Coordinator. The Regional Coordinator may designate a Regional Coordinator Pro-Tem that will assume all duties if the Regional Coordinator is not available. The term is 2 years with no maximum number of terms. An outgoing Regional Coordinator may be replaced by an existing board member, or they may bring in an active member not currently on the board.
- One District Coordinator is selected for each district in the region by the Regional Coordinator from a list of members who have volunteered for the position. The term of service is 2 years with no maximum number of terms.
- Each District Coordinator may recruit and select their own Deputy District Coordinator. The term of service is two years with no maximum number of terms.

The General Membership consists of members authorized as EGRT Trainers, and members that have completed the training requirements. The terms of service shall be as follows:

- EGRT Trainers will be authorized to conduct training sessions for a period of five years. They may extend their term by participating in a drill or exercise with another trainer, either as a participant or assistant. Their term will then be five years from the date of that training session.
- EGRT Members will remain on the active response list for as long as they are willing to volunteer. Membership terms do not expire, however a new MOU shall be executed and submitted every 5 years and Members will be required to keep their contact information up to date in the EGRT database to remain active. While not required, it is advised that members participate in local and regional drills and exercises as often as allowable.

Procedures:

There are two scenarios under which the EGRT team can be activated.

Type I – assistance to an emergency management organization at the request of an Emergency Management Coordinator

If a local, county, or state operation center responds to an incident and determines that they need GIS support, they may contact EGRT for assignments. A completed MOU may need to be on file which covers the liability issues between agencies.

Type II – assistance between members

If a member responds to an incident within their own jurisdiction and needs additional GIS support, they may contact EGRT for assignments.

Note that the EGRT system does not allow for self-deployment. EGRT members are not to show up to an incident unless they have specifically been requested to do so.

Note also that the EGRT system does not provide or guarantee reimbursement of expenses for deployment. Some local or regional incidents may fall into a reimbursable category and some may not.

All member responses are voluntary and any member may pass on an assignment for any reason. The protocol for requesting GIS support is the same for both scenarios.

1. The person making the request shall contact the District Coordinator for the district in which the incident has occurred. The following information will help them choose members for assignment.

Location	
Incident Type	
Number of responders requested	
Expected length of event	
Resources Available	
Resources Needed	

2. The District Coordinator will consult the member list and select candidates for the incident based on the information provided.
3. Candidates will be contacted and given the opportunity to accept or refuse the assignment.
4. The District Coordinator will determine the number of personnel required for the response, and will develop a shift schedule of volunteers if multiple operational periods are expected.
5. The selected team will respond to the incident. Once there, they may respond back to the District Coordinator if additional support is needed.
6. If the event is larger than one district, or if adequate candidates cannot be found, the District Coordinator will contact the Regional Coordinator. The Regional Coordinator will contact other District Coordinators to get enough responders.

While on-site the most senior member of the EGRT team will be designated as the Team Leader, which he may delegate to another. If the team is split between different units, a leadership role will be established in each unit but may still report back to the team leader. All

GIS support personnel that are deployed to an incident will follow the incident command structure of their section.

Chapter 2 – Incident Responsibilities

Purpose:

This chapter defines the actions and responsibilities of an EGRT member during an assignment. It is the EGRT members responsibility to deliver the highest standard of work in the fastest time.

Specifications:

It is important to remember that all actions of an EGRT team member are to fall within the guidelines of the ICS, and all work is considered confidential. If work of an EGRT team member is to be released to other units or the general public, it will be done by the team member's assigned supervisor per ICS.

Procedures:

The responsibilities of EGRT members include checking in to an event, handling and prioritizing work requests, briefing your replacements, and checking out of an event.

Responding / Checking in to an incident

When contacted for a deployment, the EGRT member should receive the following information:

- Incident type
- Travel authorization
- Specific job assignment
- Name and phone number of supervisor
- Reporting location and expected time of arrival
- Transportation arrangements (if other than personal vehicle)
- Contact procedures during travel
- Expected duration of assignment
- Expected working conditions.

The assigning member should contact the member with any changes in the details, if they occur, and the member should contact the assigning member if their status changes before arrival.

When deployed, members should report to the Joint Field Office (or alternate location if it is included in the assignment) and sign in with the registration desk. The sign in is necessary for accountability of all people working the incident and can be done either manually on paper or through a computer program. This may vary depending on the jurisdiction. Whichever method is used, the information you will need to provide will most commonly be derived from the form ICS 211, and an example is provided below.

Personnel and equipment arriving at the incident can check in at various incident locations. Members should have some form of government issued ID for identity verification upon arrival. Check-in consists of reporting specific information, which is recorded on the Incident Check-In List (ICS 211).

Staff check in may be initiated at a number of incident locations including: Staging Areas, Base, and Incident Command Post (ICP).

Consult this sample of a completed ICS 211 for an EGRT deployment and be prepared to provide this information upon arrival:

INCIDENT CHECK-IN LIST

Check one: ☐ Personnel ☐ Engines ☐ Helicopters ☐ Handcrew ☐ Dozers ☐ Aircraft ☐ Misc.

1. Incident Name (Name assigned to the incident): Tyler Train Derailment

2. Check-In Location (complete all that apply) (Check appropriate box & enter check-in location. Under each box, indicate specific information regarding the locations. ICP is Incident Command Post.): ☒ Base ☐ Camp ☐ Staging Area ☐ ICP Restrict ☐ Helibase

3. Date/Time (Date (month/day/year) and time (using the 24-hour clock) that the form was started.): 08/27/2014 13:55

Check-In Information

4. List Personnel (overhead) by Agency & Name -OR- List equipment by the following format: Agency	Single	Kind	Type	I.D. No/Name	5. Order/Request Number	6. Date/ Time Check-in	7. Leader's Name	8. Total No. Personnel	9. Manifest Yes	9. Manifest No	10. Crew or Individual's Weight	11. Home Base	12. Departure Point	13. Method of Travel	14. Incident Assignment	15. Other Qualifications	16. Sent to RESTAT Time/Init
EGRT	S	GIS		Johnny Mapper	DPS-22	7/9/2014 09:54	Justin Cura	1				Command Post	LongView 09:22	Personal V&R	GIS Mapping	EGRT Member	
EGRT	S	GIS		Susie Hargis	DPS-22	7/9/2014 10:06	Justin Cura	1				Command Post	Tyler 09:45	Personal V&R	GIS Mapping	EGRT Member	
Agency will be EGRT for our organization.	*Indicate if resource is a single resource, or part of a Strike Team or Task Force.*	*List the resource kind based on NIMS discipline, or jurisdiction guidance.*	*List the resource type based on NIMS discipline, or jurisdiction guidance.*	*Enter unique ID number or resource name.*	*This number is assigned by the agency dispatching resources or personnel to the incident.*	*Date (month/day/year) and time (using the 24-hour clock) to the incident.*	*For equipment, enter the operator's name. Enter the Strike Team or Task Force leader's name. Leave blank for single resource personnel (overhead)*	*Total number of personnel associated with the resource. Include leaders.*			*Enter the home unit or agency to which the resource or individual is normally assigned.*	*Location from which the resource or individual departed for this incident. Enter departure time using the 24-hour clock.*	*Enter the means of travel the individual used to bring himself/herself to the incident (e.g. bus, truck, engine, personal vehicle, etc...*	*Incident assignment at time of dispatch.*	*Additional duties (ICS positions) pertinent to the incident that the resource/individual is qualified to perform.*	

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17. Prepared by (Name and Position) Use back for remarks or comments

EGRT involvement is on a "bring your own toys" basis, so responders should bring all equipment they feel might be necessary for their deployment unless otherwise specified. This may include a laptop with ArcGIS installed and the EGRT data disk, as well as any other local data that may be available. For multi-day deployments, members should bring comfort items and food.

EGRT members are there on a volunteer basis to use their unique talents to support the mission. They should be courteous, mindful of their duties, maintain a high standard of ethics, and perform the tasks they are directed to do.

Performing duties during incident

Members will be shown their work area and identified to their supervisor. **Members should not leave their assigned area for any reason unless approved to do so by their supervisor.**

All work requests will be funneled through the EGRT team leader. From there they will be assigned to individual members as necessary. Requests should be documented in writing and used to verify that the final product meets the request. This is also helpful if the request spans more than one operational period, and for post incident analysis.

When a request comes in, discuss the request with your supervisor and:

- Determine feasibility of the request
- Verify request against available data
- Determine restrictions or security issues related to request
- Make sure you understand the request – request addition resources if necessary
- Know the time frame for the request – prioritize and relay realistic completion times
- Collect Data – review existing sources or get other sources
- Perform analysis / mapping task
- Prepare the output – include any explanations or restrictions for sensitive data (FOUO)
- Have product reviewed by another EGRT member
- Deliver to requestor
- Note: All map outputs are considered sensitive and should only be released to the requesting person or unit. **Do not release any information to anyone other than the requesting person or unit.**

Communication between units may be handled either on paper or through digital means, but will include the type of information typically included on form ICS 213, the General Message form. It is good practice to use written requests and responses to both clarify the request and have a retrievable record of the request. Below is a sample of a completed General Message:

GENERAL MESSAGE			
TO: Justin Cure *Enter the name the General Message is intended for. For all individuals, use at least the first initial and last name.*		POSITION: GIS Mapping Team Leader *Enter the position the General Message is intended for. For Unified Command, include agency names.*	
FROM: William Graves *Enter the name of the individual sending the General Message. For all individuals, use at least the first initial and last name.*		POSITION: Planning Section Chief *Enter the position of the individual sending the General Message. For Unified Command, include agency names.*	
SUBJECT: IAP *Subject of the message.*		DATE: 7/9/2014 *Date (month/day/year) of the message.*	TIME: 10:44 pm *Time (using the 24-hour clock) of the message.*
MESSAGE:			
The IAP from 09:30 has been completed and a new IAP is required. Consult with Lt. Adams to prepare a new IAP for blocking the water runoff from the site and collecting the spilled chemical. We will need to designate a route for bringing the recover trucks in and out of the hot zone and a decontamination station for the workers entering and exiting the hot zone. *Content of the message. Try to be as concise as possible.*			
SIGNATURE: XXXXXXX *Signature of person approving the message.*		POSITION: Planning Section Chief *Position of the person approving the message.*	
REPLY:			
Received and understood. The new IAP will be ready at 11:00. *The intended recipient will enter a reply to the message and return it to the originator.*			
DATE: 7/9/2014 *Date (month/day/year)*	TIME: 10:45 *Time prepared (24-hour clock).*	SIGNATURE/POSITION: XXXXXXX	

The general message form is important to document any specific requests, establish a timeline of when actions were taken, and provide information for a post incident review.

I addition to documenting messages and requests, it is important that the EGRT members track all of their activities during an incident using either electronic means or a form similar to ICS 214, the Unit Log. Each EGRT team leader will initiate a unit log for their team and maintain it during the operational period. Each time the incident moves to a new operation period, a new unit log will be started. The unit log will contain the name of the unit and a list of its members. The Activity Log portion of the form is used to document each major task that the team performs and the time it is completed. This example shows an EGRT team in the first operational period and the tasks they have completed.

UNIT LOG	1. Incident Name Tyler Train Derailment *Name assigned to the incident.*	2. Date Prepared 7/9/2014 *Date (month/day/year)*	3. Time Prepared 08:15 *Time (using the 24-hour clock)*
4. Unit Name/Designator GIS Mapping *Title of the organizational unit or resource designator*	5. Unit Leader (Name and Position) Justin Cure *Name and ICS position of the individual in charge of the Unit.*		6. Operational Period First *Which operation period the unit is working in*

7. Personnel Roster Assigned		
Name	ICS Position	Home Base
Justin Cure	GIS Specialist	Command Post
Johnny Mapper	GIS Specialist	Command Post
Suzie Hargis	GIS Specialist	Command Post
Names of personnel	*Titles of personnel*	*Home base of personnel*

8. Activity Log	
Time	Major Events
08:15	Activated the GIS Mapping Unit
08:22	Prepared the COP display in the EOC
08:40	Prepared the IAP for Cpt. Bellows
09:15	Generated a plume model for the escaping chemicals
09:30	Received request for new IAP for evacuation of area
09:45	IAP completed and delivered
10:13	Received request for three 20 x 30 maps for field crew to take to staging area
10:22	Maps printed for staging area
Time (using the 24-hour clock) for the activity.	*Briefly describe individual notable activities. Note the date as well if the operational period covers more than one day. Activities described may include notable occurrences or events such as task assignments, task completions, injuries, difficulties encountered, etc.*

9. Prepared by (Name and Position)
Justin Cure – GIS Specialist
ICS position/title, and signature of the person preparing the form.

When the operation period is completed, the unit log can be used to brief the incoming team and is then turned in to the supervisor when the team is demobilized. It is recommended that individuals retain a copy for their own records, and a copy is maintained for the unit as reference from one operational period to the next.

Briefing your replacement and checking out

If a mission will span more the one operational period, it is important to brief the replacement team before completing the deployment. The District Coordinator may send more members to replace you and they will need to know what assignments you were performing, and the status of those assignments. Your briefing should include:

- Incident type
- Name and contact information of supervisor
- Folder location of all working files
- Name and location of any specialized data that is being used or has been collected
- Templates being used and any new map documents that have been created

- A review of the unit log
- A briefing on any active assignments or ongoing projects

Check out of incident

When a member has completed their assignment and is release from the incident, they should make sure to complete the full check-out process. This includes:

- Complete demobilizing forms / Return all equipment
- Sign off on all final project documents and return to assigned supervisor
- Pack up any personal items
- Sign out of command post and leave the location

Successful completion of an assignment includes performing all of these tasks.

It is important to note that the duties of the EGRT team aren't always well known to others in the EOC, and requests that the team may receive don't always fit the standard expectations. During the incident it may be necessary for the EGRT team lead to brief others on the team's capabilities and ensure that any geospatial tasks are being done in the most efficient manner possible.

By the same token, the requests coming in to the EGRT team may not be ones that strictly follow the standard EGRT training manual. It may be necessary for members to work with other units to develop new information and techniques on the fly during the incident. If this occurs, notes should be taken and returned to the EGRT board for consideration of inclusion in the EGRT training manual.

Chapter 3 - Data Catalog

Purpose:

Establish a data catalog that can be used for emergency response.

Specifications:

A base set of data has been created for the pilot study area of Region 1 which will support many of the mapping activities. Additional local dataset may be integrated if available. This dataset will be distributed to EGRT members as they complete the training. One important tenet of the EGRT structure is to maintain the ability to perform most of the mapping functions at an event with this minimum dataset, in a stand- alone environment. The addition of web access and local data is a plus but EGRT duties will not be hampered if these things are not available.

Arrangements are being made for storage of these datasets at other data warehouse locations. TNRIS is working on a product called GEMS 2, which will be a state-wide dataset for emergency response. The Univ. of North Texas is building the infrastructure to become a regional data clearinghouse. This may become the repository for the Region 1 datasets. Negotiations are also underway for use of proprietary public utility data for emergency response use.

In addition to the response duties, members may be called upon to perform data preparation tasks to enhance the response dataset. This may include compiling data from various sources or preparing standard datasets for Region 1. To this purpose, an event geodatabase template has been developed that can be used to quickly set up the data storage medium for any event.

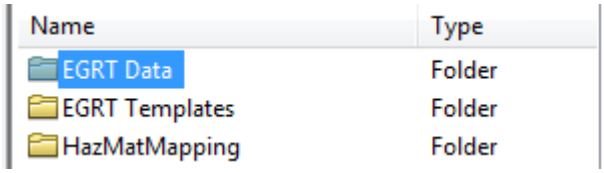
Procedures:

For most response activities, the standard EGRT datasets will be sufficient. In some circumstances, local datasets may be acquired or created in support of the event. In any event, metadata should be developed for all datasets in use.

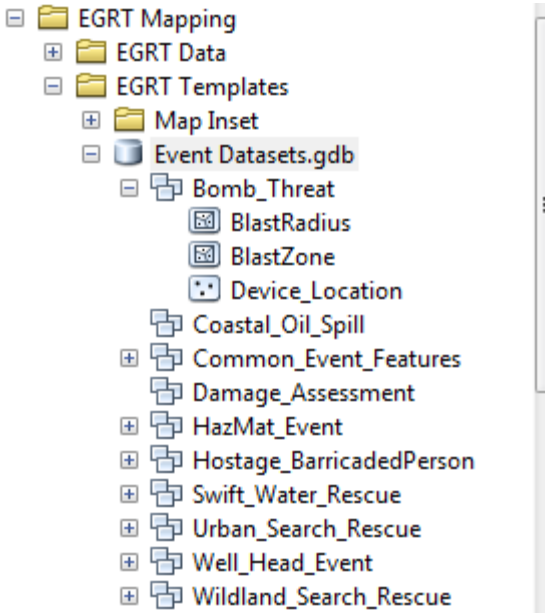
If outside datasets are acquired and used, these obstacles may present themselves :

- Verify that all data respects copyright and trademark concerns
- Identify any contributing private sector sources on all maps
- Identify any data that is proprietary and cannot be distributed as part of the public domain
- Restrict any datasets that cannot be released to the media

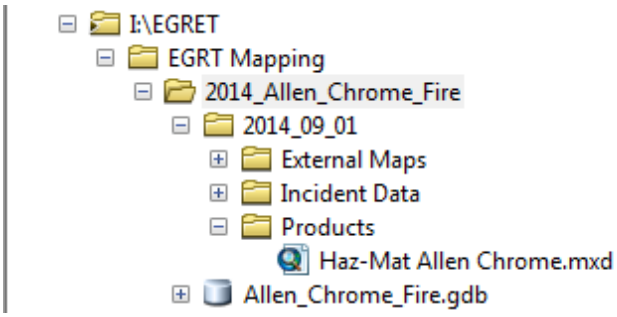
The provided base data on the EGRT disk is located in a folder called \EGRT Mapping. This contains a folder called EGRT Data which contains all the standard EGRT datasets, a folder called EGRT Templates which contains all the map templates for use (discussed in Chapter 4), and a folder called HazMap Mapping which contains all the files necessary to install the Aloha plume modeling software and generate a plume model.



In addition to these datasets, the EGRT board has developed a response geodatabase called Event Datasets.gdb to hold all data pertaining to the incident. The geodatabase contains a Feature Dataset for each incident type identified in the EGRT training with predefined feature classes for the features that incident type will require. For instance the Bomb_Threat feature dataset contains three feature classes for a bomb threat scenario.

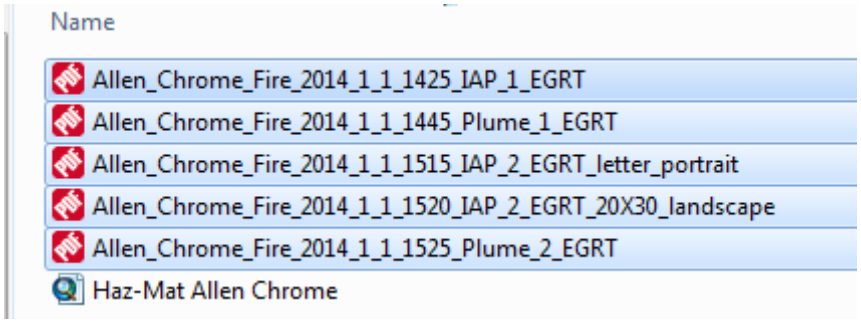


For each new incident, members should make a folder in the EGRT Mapping folder with the year, and underscore, and the incident name (YYYY_IncidentName). The template geodatabase should be copied to this location and the name changed to be the incident name. Within that folder, you should also create a folder named using the year, month, and day of the current operational period. Within this folder can be folders containing items specific to that day's workload, including things such as External Maps, Incident Data (not stored in the template GDB), and Products. An example for an incident called "Allen Chrome Fire" might have a data structure as shown below:



The template geodatabase can be copied and renamed, then edited with any of the standard EGRT templates listed in Chapter 4.

Any files produced should have identifies in the name that will show the agency responsible for creating it, the incident name, the date (YYYYMMDD), the time (24 hour clock), the products name, and the agency responsible for making the map. Optionally, for maps you could add the size and orientation if it is necessary to identify the map uniquely from other products produced. This may seem like a lot of data to encode into a file name, but it will do two important things: keep the files in the order in which they were created, and provide necessary information to multiple users who may be viewing or printing the files. These sample files in the Products folder show maps created by the EGRT team for a haz-mat incident using the recommended naming conventions.



Members should make note of other agencies providing or producing documents and their abbreviations noted so that all members will understand the coding.

Chapter 4 – Standard Map Products

Purpose:

This chapter will discuss some of the mapping processes that may be required on all incident responses.

Specifications:

EGRT has developed mapping templates for many of the incident types you may encounter, which use the standard EGRT datasets but can be modified to include other datasets that are available. The templates are used to create each of the types of mapping products discussed here.

Procedures:

EGRT team members may be asked to produce a variety of map and analysis products, which generally fall into one of three frequency categories:

- Cyclic maps – produced on a regular cycle
- Intermittently updated maps – produce infrequently
- Ad hoc maps – produced only when needed, possibly only once

Cyclic maps are produced at regular time intervals to show changes in the nature of the incident. A good example of this type of map is the Common Operational Picture map (or display). The map is updated frequently or as information comes in. It is not generally necessary to display a date/time of the last update on these map types, but the title may reflect the update frequency. A map called "Current Conditions" would indicate that the map is updated frequently.

Intermittent maps are typically something that is being tracked over time but does not lend itself to constant updating. They should include a display of the date/time of the most current update. For instance, a map called "Hourly Water Levels as of 13:00" would convey the message of what this map displays and when it was last updated.

Ad Hoc maps are typically done only once to meet a single map request, not something that will be tracked. This may include the Incident Action Plan. One of these is produced to help guide the efforts of all the units. If the plan is successful, then another would not be needed. On incidents that span multiple operational periods, a new IAP may be produced at each change of command. Another example might be a display of the locations of shelters. The map might be produced for distribution but the data on the maps won't change.

When taking a map request, members should determine under which of these map types the request falls. This will help transfer duties when transitioning to other team members. Members should also export a PDF snapshot of each map when it is created or updated. By using the standard naming conventions described in chapter 3 the files will automatically be stored in chronologic order.

The maps that members produce will fall into one of these product types:

- Incident Specific Maps: ie. Declaration maps, Incident area maps, Resource tracking maps, Facility management maps
- Reference Maps: ie. Aerial photos, jurisdictional boundaries, Census data, Critical Facilities
- Thematic Maps: ie. quantifying an observation such as damage type
- Interactive Mapping: web based

Typically the first maps produced will be general reference maps. These are needed to start getting resources into the area and deciding where to stage them. Then the mapping work will shift towards incident tracking. As actions are planned and executed, the maps will be changed to reflect the progresses made in the incident. Periodically thematic maps may be made to show a specific topic of feature of the incident. Where available, web mapping may be used for any of these map products.

The three most common maps that will be produced for almost all incidents are the Common Operational Picture(COP), the Incident Action Plan (IAP), and the Damage Assessment (DA). Following is a brief description of these maps and how/when they should be produced, but refer to the training manual for more specific information.

The COP can be a printed map but is more commonly projected onto a screen or wall in the EOC. It should be used to record all actions that take place during an incident. Common features added to this map are the location of the command post, staging areas, hot zones, evacuation routes, and closed streets. The map should be simple and concise so that people in the EOC can get an overview of the incident in a glance. While EGRT members are more commonly assigned to the Planning Section, they may be assigned to the Operations Section and perform this function in the EOC. In most scenarios and single member can handle this assignment, but in a large or fast moving incident it may be necessary to have two or more people working on this task – one updating the display while the others gather and compile the information necessary.

The IAP is done to help formulate the plan of action for an operation period. These are typically done in the Planning Section once the initial deployment of resources has occurred. The final map will show actions that different sections will be performing to bring the incident under control. It should have clear steps listed and labels on the map to identify various features. It can hold some very complex information but should still be easy to read. The IAP is distributed to all units involved in the incident to coordinate their efforts.

The DA map is generally done in two phases. Phase one is a quick, down and dirty process using generalized information referred to as the ‘rapid assessment’. These are important to get done quickly because the map and the data it provides are necessary for the disaster declaration documents. The amount and severity of damage is provided to the Governor, who will include this in his request to the President of the United States for federal assistance.

The second phase of the DA map is a more detailed accounting of damage, typically known as a ‘windshield survey’. Trained volunteers will drive the streets in the damaged area and fill out a specific assessment form. When the results are returned, members may have to consolidate the collected data and produce a map. There are other maps associated with damage assessment that are not done for all incidents such as qualifications for small business loans, housing assistance, or emergency public works repairs, so be prepared for ad hoc maps associated with this topic.

Chapter 5 - Training

Purpose:

Develop training requirements and procedures.

Specifications:

Some required training will be in-person and some will be online, including ICS training from the FEMA website. There are also resources for becoming a trainer.

Procedures:

Becoming an EGRT Member
There are three steps to becoming an EGRT member. The first requires that you complete a series of online training provided by FEMA through their website. This training will give you a background on the Incident Command System (ICS) that establishes the hierarchy of responders at every incident and the means to control events. The FEMA training also includes two specialty courses that deal with GIS. These give a good overview of how GIS is used in the Emergency management world.

The required FEMA courses are:

IS-100.b: Introduction to Incident Command System

https://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-100.b

IS-200.b: ICS for Single Resources and Initial Action Incidents

https://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-200.b

IS-700.a: National Incident Management System (NIMS) – An Introduction

https://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-700.a

IS-800.b: National Response Framework – An Introduction

https://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-800.b

IS-103: GIS Specialist

http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-103

IS-922: Applications of GIS for Emergency Management

http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-922

If you are also interested in becoming a trainer in Texas EGRT, you will need to complete the following course and attend a specialty 'train-the-trainer' session (check with your District Coordinator for more details):

IS-120.A: An Introduction to Exercises

http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-120.a

The next part of the training is the EGRT specific training. This includes both an online and in-person component.

The online component should be completed first. Its format is similar to the FEMA courses with descriptive text and questions along the way. This course covers many of the EGRT standards included in this document as well as some scenario based questions on what to do while responding to an incident. You must pass the online course to be eligible for the in-person training.

The EGRT online course is available at (to be determined).

The last part of the training is the in-person component. This is a half-day course that will be given at locations around the region. The EGRT website will have the locations and dates of training across the region.

The first part of the course will be going over some of the materials from the FEMA and EGRT online courses. This will mostly be review but how members act in the EOC is very important.

Next the course will go over the EGRT Response Guide. This contains step-by-step instructions, data collection sheets, and sample maps for a wide range of scenarios to which GIS responders may be called. A few sample maps using the EGRT templates and EGRT datasets will be done to demonstrate how the guide is used.

Finally the class will do a short 'real-time' exercise using the EGRT materials. This will give students a feel for how map requests and field data are brought to the GIS unit. Students will assume different rolls in the scenario and be asked to do a variety of maps including the three most common maps describe above.

After successfully completing the training, each EGRT member will receive the EGRT Response Guide, a disk with the EGRT response data, and will be placed on the call-up list for possible deployment.

Maintaining Membership

EGRT membership doesn't expire, but as new materials and response techniques are developed members will want to learn them and keep their skills sharp. To this end EGRT will host training

exercises that will run like a real incident and provide data and map requests in a real time frame. Members are encouraged to attend these periodically and will be available to a large number of people.

In addition, the local emergency management community holds training scenarios and exercises on a regular basis. EGRT will participate in many of these and dispatch members to provide GIS support. These typically run on a real timeline and are hosted at region EOC locations. This may only provide an opportunity for four or five members at a time. Members may also participate in any emergency disaster drills hosted by their employer.

Texas EGRT Response Guide

Purpose:

Provide training materials for all interested GIS professionals that will show them how to perform emergency response mapping for all hazards.

This guide is available as a separate document.