Situation Manual

Tornado Operation Aid

Exercise Only

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Conducted at the 2016 National Geospatial Preparedness Summit

National Alliance for Public Safety GIS (NAPSG) Foundation
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Contents

1 Introduction

This National Geospatial Preparedness Summit (NGPS) integrated table-top exercise (TTx) is a hybrid functional and discussion-based exercise intended to facilitate a better understanding among and between operators and GIS/IT staff of decision points essential to promoting operational coordination, and the data, analysis, products, and technology requirements needed to support effective decision making.

This scenario-driven discussion is structured to explore two key questions and associated objectives, including:

1.1 Mutual Aid Technology

What *incident-specific trigger points* identify a need for mutual aid system integration and information sharing to support effective operational coordination?

- Identify and validate trigger points that indicate ***when*** mutual aid technologies should integrate and readily share information.
    - How does incident scope, scale, and complexity of multi-jurisdictional responses shape requirements for integration of mutual aid technology?
    - Are there unique trigger points for single jurisdiction or complex cross discipline responses?
- Identify ***to what extent*** mutual aid systems need to integrate and share information.
- Identify common operational ***information requirements*** specific to resource management, and associated mission critical attributes.
- Identify key ***operational workflows*** and existing mutual aid hierarchies need to be supported or enabled.

1.2 Geospatial Preparedness

What feature and/or functional ***enhancements*** to decision support tools are needed to address information requirements for decision making around operational coordination?

- Identify and validate ***common operational coordination decision points*** and information required to support decision making.
- Identify feature and functional enhancements for decision making capabilities that could be provided by the IT and GIS staff.
- Identify ***potential shortfalls*** in how location-enabled decision support tools are provided and used for emergency or disaster operations.

- Identify ***technical workflows*** and information management integration requirements between mutual aid technologies, traditional GIS capabilities, and other resource management systems.

This Situation Manual provides objectives and desired outcomes, a detailed scenario, and proposed facilitator questions for discussions during the exercise.

2 Exercise Goals

To facilitate a better understanding among and between operators and GIS/IT staff of decision points essential to promoting operational coordination, and the data, analysis, products, and technology requirements needed to support effective decision making.

2.1 National Organizations and Agencies

- Verified trigger points for when mutual aid technologies need to integrate and share information
- Confirmed extent mutual aid systems need to integrate and share information
- Validated common operational coordination decision points that need to be made, information requirements, potential shortfalls in tool capabilities, and other decision making requirements that need to be incorporated into national guidelines, standards, tools, and templates
- Gain sufficient insight to develop the initial mutual aid technology and information sharing architecture for review and input by mutual aid stakeholders.

2.2 Local, State, Territorial, and Tribal Agencies

- Gain a clear understanding of operational decision points and information required to make informed decisions around operational coordination during emergency or disaster operations requiring mutual aid
- GIS/IT staff have a better understanding of how to develop and deliver the right information products to decision makers at the right time to inform operational coordination
- Bridged communication gap between Operators and GIS/IT staff that foster anticipating and fulfilling information requirements
- Local, state, territorial, and tribal practitioners apply the skills and knowledge gained in their home agencies and mutual aid groups in planning, updates to mutual aid technologies, decision support tools, and in response operations

3 Exercise Format

This tabletop exercise will be structured as a facilitated and primarily discussion-based exercise however, there will be a companion technical hands-on component for GIS/IT staff and some functional elements for operators and decision makers.

3.1 Breakout Groups

NGPS participants will be grouped into three (3) facilitated breakout groups. Each group will consist of approximately 30-40 participants and reflect blended and balanced participation by operators and GIS/IT staff. Participants will be preassigned and directed to their assigned groups.

3.2 Scenario

All breakout groups will use a single scenario and receive injects at the same time. The exercise scenario focuses on the potential for a catastrophic/complex incident affecting a broad regional area resulting in an incident of national significance. In addition to a number of mass casualty events, residential, commercial, educational, health and medical, public safety, energy, communications, water/wastewater, and transportation infrastructure will be significantly affected.

3.3 Simulation

Each Breakout Group represents a different agency/jurisdictional perspective affected by the scenario. The Facilitator/Controller should guide players into exercise play based on the agency/jurisdiction they are simulating.

3.4 Facilitators/Controllers

NAPSG Foundation Facilitator/Controllers will be assigned to each breakout group. Facilitators/Controllers will possess a combination of operational experience and technical knowledge.

3.5 Technical Support

Each breakout group will be assigned 1-2 NAPSG Foundation Technical Support experts. They will be available to provide technical assistance to GIS/IT staff during conduct to support developing and producing decision support products.

3.6 Technical Preparation

All NGPS participants will be set-up in applicable technology platforms, including the NAPSG Center (NAPSG's instance of ArcGIS Online and PrepToolkit), prior to the day of the exercise. NAPSG Foundation will use its existing process to pre-establish user accounts and provide them to participants.

3.7 Observation and Evaluation

Each breakout group will have 2-3 individuals assigned as exercise evaluators/observers. One will evaluate against mutual aid technology objectives and the other will evaluate against geospatial preparedness objectives.

This exercise is a two-hour facilitated event. Facilitator questions and injects allow participants to discuss potential consequences; roles, responsibilities, and key decision points; and associated decision support tools/functionality related to response and recovery mission areas. Discussions are structured around three core capabilities, critical coordination points, desired outcomes, priorities, requirements, and potential challenges or shortfalls.

4 Participants

Exercise participants include public safety decision makers, operators, and GIS staff from local, state, and Federal agencies nationwide.

4.1 Scope and Assumptions

Exercises play a vital role in geospatial preparedness by enabling emergency management practitioners, geospatial technologists, and mutual aid coordinators to build, sustain, and validate capabilities as well as identify potential capability shortfalls and areas for improvement. A well-designed exercise provides a low-risk environment to share understanding of roles, requirements, challenges, and critical coordination points that foster collaborative problem solving and communication across organizations.

Facilitators and coaches will ensure all participants have an opportunity to contribute. While questions may be directed to specific players at times, all participants are encouraged to share their perspectives. It may be necessary to move discussions forward or move to other questions to maximize opportunity for diverse participants to engage in the exercise. Time constraints and flow of discussion may not allow all proposed questions to be addressed.

Participants should consider the following exercise ground rules to ensure exercise objectives are met in a reasonable amount of time and that the exercise runs smoothly:

Keep exercise objectives in-mind throughout the exercise.

Participate openly and focus discussions on appropriate topics related to exercise objectives. Asking questions; sharing thoughts; and offering forward-looking, problem-solving suggestions are strongly encouraged, as these will enhance everyone's exercise experience.

Focus your comments and consider time constraints.

In any exercise, assumptions may be necessary to complete discussions in the time allotted. During this exercise, the following assumptions apply:

- The scenario and likely affects to the communities and surrounding area(s) are plausible, and events occur as they are presented.
- There is no hidden agenda, or trick questions.

- Players receive information at the same time.

4.2 Observations and Evaluation

Exercise observation and evaluation strategies for this facilitated discussion are consistent with Homeland Security Exercise and Evaluation Program (HSEEP) Guidance and appropriate for use with exercises intended to provide learning opportunities rather than test individuals or plans.

Mutual Aid Technology Observation & Evaluation Criteria:

1) Were trigger points identified for timing of mutual aid technology integration and information sharing?
   a) If yes, what trigger points were identified?
   b) If no, why not?
2) Given the scenario, participants, and courses of action for requesting appropriate and timely mutual aid, where did operators indicate they would look to find available resources?
   a) D-24
   b) D-36
   c) D-48
3) What information did participants immediately indicate needing to know about needed mutual aid resources prior to making a request?

Geospatial Preparedness Evaluation and Observation Criteria:

1) Did GIS practitioners produce an enhanced and predictive consequence assessment that effectively supported operator decision making? (i.e. Did the products inform and change or affirm decisions using sound location-enabled analysis?)
2) Did GIS practitioners successfully incorporate operator-driven critical information points that successfully aided in operational decision making?
   a) If yes, what critical information points were incorporated and why did they prove effective?
   b) If no, why not? What challenges were experienced?
3) Did GIS practitioners successfully incorporate USNG to identify areas of interest, describe areas of responsibility, and communicate consequences to increase accuracy or confirm planning assumptions to support each discipline? (e.g. rather than communicate projected consequences by entire county, city – were GIS practitioners able to use USNG to “zero” in on affected areas?)
   a) If no, why not? What challenges did they experience?

4.3 Core Capabilities

The National Preparedness Goal, released in September 2011 and revised in 2015, defines what it means for the whole community to be prepared for all types of disasters and emergencies. It also identified five mission areas encompassing 32 “core capabilities,” or the distinct critical elements needed to achieve the National Preparedness Goal of a secure and resilient Nation.

Three core capabilities will be explored during this exercise: Operational Coordination, Planning, and Situational Assessment. Definitions1 for these core capabilities are as follows:

<table>
<tr><th>Core Capability</th><th colspan="2">Description</th></tr>
<tr><td rowspan="3">Operational Coordination</td><td colspan="2">Establish a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports all disaster operations.</td></tr>
<tr><td>Response</td><td>Recovery</td></tr>
<tr><td>• Mobilize all critical resources and establish command, control, and coordination structures within the affected community and other coordinating bodies in surrounding communities and across the Nation and maintain as needed throughout the duration of an incident
• Enhance and maintain command, control, and coordination structures, consistent with the National Incident Management System (NIMS), to meet basic human needs, stabilize the incident, and transition to recovery</td><td>• Establish tiered, integrated leadership, and inclusive coordinating organizations that operate with a unity of effort and are supported by sufficient assessment and analysis to provide defined structure and decision-making processes for recovery activities.
• Define the path and timeline for recovery leadership to achieve the jurisdiction's objectives that effectively coordinates and uses appropriate local, state, tribal, territorial, insular area, and federal assistance, as well as nongovernmental and private sector resources. This plan is to be implemented with the established timeline.</td></tr>
<tr><td rowspan="3">Planning</td><td colspan="2">Conduct a systematic planning process engaging all installation components and tenant units as well as relevant mission partners as appropriate in developing strategic and operational approaches to meet defined objectives.</td></tr>
<tr><td>Response</td><td>Recovery</td></tr>
<tr><td>• Develop operational plans that adequately identify critical objectives based on planning requirements, provide a complete and integrated picture of the sequence and scope of the tasks to achieve objectives, and can be implemented within time frames contemplated in the plan using available resources</td><td>• Convene the core of an inclusive planning team (identified pre-disaster), which will oversee disaster recovery planning.
• Complete an initial recovery plan that provides an overall strategy and timeline, addresses all core capabilities, and integrates socioeconomic, demographic, accessibility, technology, and risk assessment considerations (including projected climate change impacts), which will be implemented in accordance with the timeline contained in the plan</td></tr>
<tr><td rowspan="2">Situational Assessment</td><td colspan="2">Provide all decision makers and Senior Leaders with decision-relevant information regarding the nature and extent of the incident, any cascading effects, and the status of operations.</td></tr>
<tr><td colspan="2">Deliver information sufficient to inform decision making regarding immediate lifesaving and life-sustaining activities and engage governmental, private, and civic sector resources within and outside affected areas to meet basic human needs and stabilize the incident.
Deliver enhanced information to reinforce ongoing lifesaving and life-sustaining activities, and engage governmental, private, and civic sector resources within and outside of the affected area to meet basic human needs, stabilize the incident, and support recovery.</td></tr>
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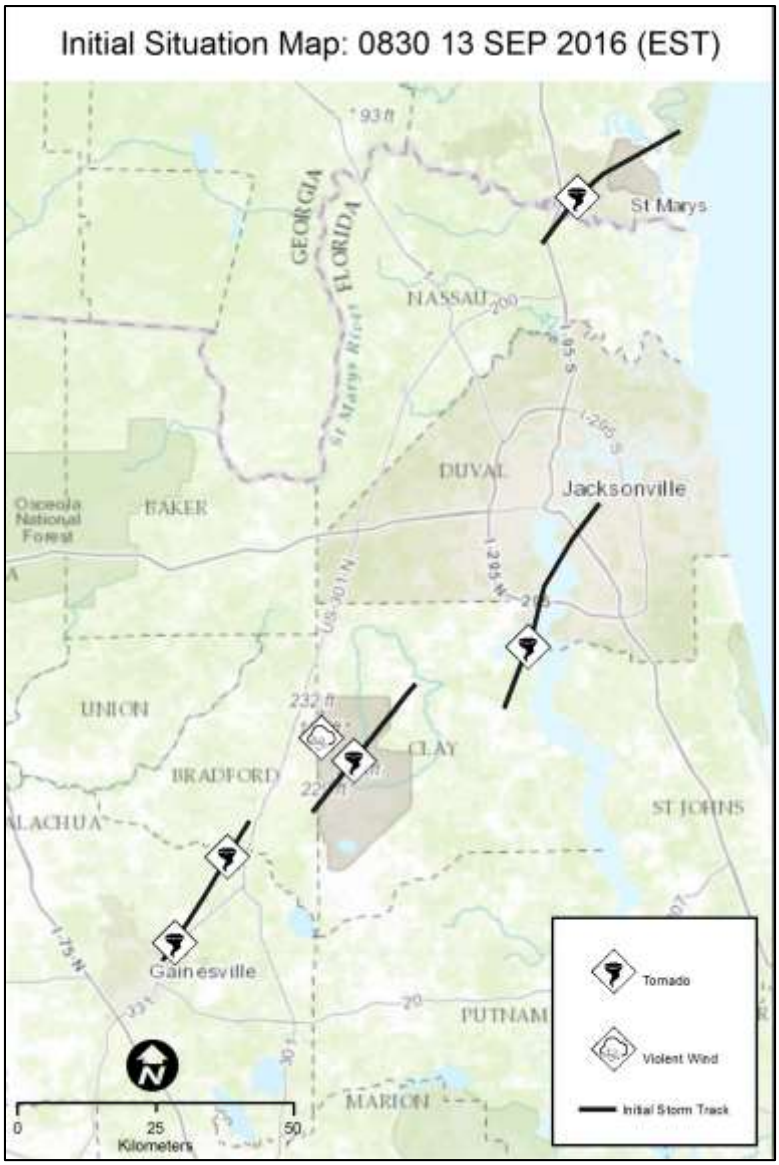
1 Department of Homeland Security. *National Preparedness Goal*; 2015.

5 Scenario Narrative

5.1 SITUATION



A late season tornado outbreak has affected a broad regional area spanning from Gainesville to Jacksonville, FL and across state lines into Kingsland, GA. Initial reports indicate as many as five (5) tornadoes have affected Florida Counties of Alachua, Bradford, Clay, and Duval and Camden (GA). A severe line of thunderstorms associated with a rare convergence of frontal boundaries from the north with a large low pressure tropical system form the south resulted in several mass casualty incidents, severe damage to community lifelines (power/communications) in affected areas.

This event occurred at 0830 13 SEP 2016 (EST)

Initial casualty estimates (based on affected county populations/demographics) project 13,530 INJURED AND 1,811 DECEASED
Search and Rescue (SAR) continues for missing and entrapped persons (civilians and soldiers from 53rd Brigade) aided by a variety of intra- and interstate mutual aid, survivors and spontaneous volunteers including 53rd Brigade troops

Initial damage assessments below are based on reports received by Sheriffs and 911 calls or media coverage. Nearly 25% of housing stock in affected areas of Fleming Island, FL (Clay County) and Kingsland, GA (Camden County) is destroyed or majorly damaged along the path of the storm. Significant damage to community lifelines (power, and communications – including internet) resulting in power outages, fuel shortages / delayed resupply, and strained communications capabilities.

Alachua County is reporting several severely damaged or destroyed structures including (15) residential structures, one occupied day care w/75 students and staff, and several mobile

homes near Waldo, FL; debris field (vegetative, building materials, household goods, powerlines/poles) extends for > 1mile.

On Camp Blanding, several collapsed buildings including structures at the Youth Challenge Program, Troop Training Barracks (occupied by 3500 soldiers from the 53rd Brigade), and vacation rental units (see damage Assessment); Camp Liberty recreation areas including the campground at full capacity were destroyed; debris field extends across the entire Troop Training area in the 4600, 4700, & 4800 blocks, Youth Challenge area, and campground.

Table 1: Countywide Estimates (may include populations not directly affected)

D+12	Casualties	Juveniles	Adults	H+24	Casualties	Adults
Deceased	906	233	673	**Deceased**	1,811	1,345
Injured	6,765	1,795	4,970	**Injured**	13,530	9,940
Missing	345,915	91,779	254,135	**Missing**	338,244	248,493

Table 2: Demographics

Jurisdiction	Pop (2012)	Under 5	5 to 19 Years of Age	20 to 64 Years of Age	65+ Years of Age
Clay, FL	193,438	11,869	43,688	113,016	22,292
Bradford, FL	28,814	1,670	4,639	18,098	4,113
Putnam, FL	74,523	4,689	14,111	41,494	14,070
Duval, FL	877,062	59,501	168,614	539,979	96,168
Camden, GA	51,435	3,983	11,285	30,689	4,556
Surrounding Counties (FL)	369,284	19,811	65,141	231,303	43,045

Demographics above include directly and indirectly affected populations. Participants should consider strategies to refine and communicate each affected population group to include cascading effects from damage to or loss of community lifelines such as energy (electric/gas/fuel), communications, water/wastewater, and public health & medical services.

Table 3: Camp Blanding Housing/Structure Damages

Housing Areas (D+12)	Units	Person	Destroyed	Major	Minor	Entrapment
Troop Training Barracks	78	3,500	26	26	28	3
Youth Challenge Camp	8	200	3	3	5	0
Camp Liberty Campground (RV)	200	860	66	66	70	3
Camp Liberty Campground (Primitive)	125	288	41	41	43	4
Vacation Rentals	225	720	UNK	UNK	UNK	UNK
	636	**5,568**	**136**	**136**	**146**	**11**

5.2 Exercise Roles/Responsibilities:

Facilitator/Controller: Facilitates discussions and supporting release of injects, ensuring discussions stay on target in order to achieve workshop objectives.

Participants/Players: Participate by engaging in collaborative, forward thinking discussions and hands-on solution development – including examining and where possible validating capability and capacity needed to change outcomes, maintain mission assurance, and identify potential challenges or opportunities for improvement.

5.3 Discussion Questions

Exercise participants will engage in table discussions, and out-brief presentations focused around exercise-specific objectives. Facilitated discussions will be centered on discussions regarding desired outcomes, priorities, resources, and potential challenges.

<u>For Operators Players:</u>

1) Given the scenario, what decisions need to be made ***now***?
   a) What do you need to know to change outcomes for survivors and their communities?
   b) What information do you need to support decision making and establish or sustain operational coordination?
2) What information do you need to anticipate needs and requirements?
   a) What decisions need to be made ***soon*** to develop courses of action to stabilize the incident, including community lifelines, and
   b) reduce additional loss of life or injury,
   c) maintain public health and support medical treatment, and
   d) minimize damage to property or the environment?
3) Given the Scenario, do you have enough resources organically or through existing mutual aid agreements for pre-incident daily levels of service?
   a) What resources do you need for the next 24, 36, and 48 hour operational periods?
   b) What courses of action will you take to meet resource requirements for the next 24, 36, 48 hour operational periods?
   c) When do you anticipate needing to request resources through mutual aid beyond MOUs/MOAs existing pre-incident?
4) How are you going to find potentially available resources?
   a) What do you need to know about potential resources to determine if they meet your operational and other requirements before request through mutual aid?

<u>For GIS Staff Players:</u>

1) Can you immediately enhance initial consequence projections and refine operator planning assumptions to support immediate decision making in support of operational coordination?
2) Do your consequence assessments communicate critical information beyond historical documentation of the hazard – tornado track(s) and/or other already known information?
   a) Incorporate these information points/data into your decision support tools
      i) refined size/scope of directly affected area
      (i.e. not a whole city/town, county, or state)
      ii) potentially affected, critical facilities (schools, fire/ems, law enforcement, hospitals, assisted living facilities), including possible cascading effects

   iii) likely affected community lifelines such as energy (electric/gas), communications, water/wastewater, public health & medical services (dialysis, pharmacies, behavioral health), and transportation
   iv) access and functional needs (mobility, cognitive, autism/downs syndrome), electric dependent
   v) affected populations and demographics for time of incident (day/night)
3) Recommend and communicate recommendations by discipline for priority of effort/focus using the USNG
   a) Initial debris management (support entry/re-entry)
   b) Search and Rescue
   c) Security/Law Enforcement
   d) Mass Care
   e) Stabilization/Restoration of community lifelines
   f) Patient and human remains collection points
4) Do your decision support tools support shared situational awareness, course of action development, and decision making for D+12, D+24, D+36, and/or D+48?
   a) What other information could support decision making and operational coordination? When should they be included (incident timeline) to support which decision cycles?