



Disasters & The Disaster Response Inspector

Presenter: William Bracken

Tuesday, September 12, 2017

8:00 AM - 9:30 AM



Disaster Planning and the Disaster Response Inspector



Disaster Planning and the Disaster Response Inspector



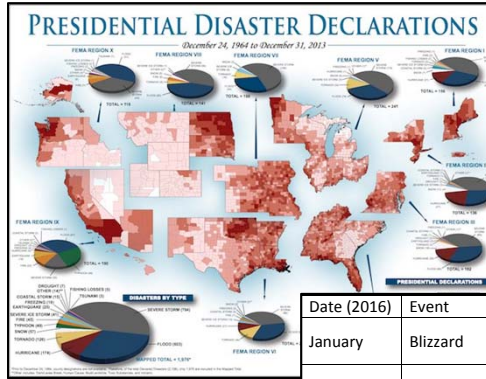
Course Objectives

Review disaster planning basics

*Review the contribution and
qualifications of Disaster Response
Inspectors*

*Review the National Disaster
Response Network*

No Community is Immune



In 2016 more than 100 million people within the US (1/3 of it's population) were adversely impacted by a natural disaster

Date (2016)	Event	Area	Effected
January	Blizzard	Southeast, Mid Atlantic & Northeast (11 States)	103 M people & 10,000's Buildings
June	Flood	Appellation Mountains (2 States)	Infrastructure & 1000's of buildings
August	Flood	Louisiana	Infrastructure & 1000's of buildings
August / September	Tropical Storm & Flood	Southeast (3 States)	Infrastructure & 1000's of buildings

What Is Recovery?

The task of restoring infrastructure and returning a community to normal operation

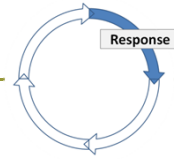
Outline

- **Event Phases**
- Disaster Planning
- Post-Disaster Assessments
- Disaster Response Inspectors

Disaster Planning: Event Phases

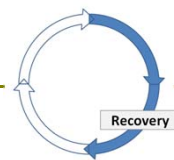


Event Phases: Response



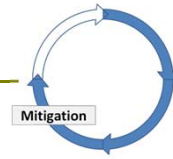
- **Begins at the time of the event**
- **Activities taken during or directly after an emergency occurs based on the unique conditions set by the disaster**
- **Involves 1st and 2nd responders**

Event Phases: Recovery



- **Begins after the initial response but before the response concludes**
- **Coordinated through or in conjunction with Emergency Management**
- **Involves 2nd responders and normal operations**

Event Phases: Mitigation



- **Begins within the recovery phase**
- **Preventive actions taken to minimize the long-term effects of a disaster on persons, property and the community**
- **Includes the development of disaster plans**

Event Phases: Preparedness



- **Begins within the mitigation phase**
- **Actions taken in advance of an emergency to build and maintain a local jurisdiction's capability to manage a disaster**
- **Includes training and implementation of the disaster plan**

When Does Recovery Begin?

Immediately after the event
during the *Response* phase

Outline

- Event Phases
- **Disaster Planning**
- Post-Disaster Assessments
- Disaster Response Inspectors

Disaster Planning

**Our Disaster Recovery Plan
Goes Something Like This...**



Disaster Planning: Disaster Plan Development

The Disaster Plan

- **Coordinated with the jurisdiction**
- **Prepares department to assist community**
- **Prepares department to work with outside support**

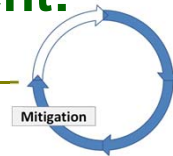
Disaster Plan Development: 5 Basic Rules



1) Keep it simple

Keeping a plan simple increases its longevity

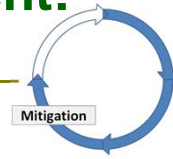
Disaster Plan Development: 5 Basic Rules



2) Based the plan on an org chart not personalities

Attrition is the greatest enemy of a disaster response plan

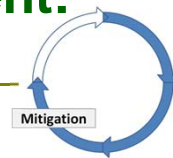
Disaster Plan Development: 5 Basic Rules



3) Based the plan on incidents most likely to occur

*Regional and seasonal factors
need to be considered*

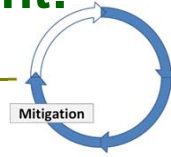
Disaster Plan Development: 5 Basic Rules



4) Publish the plan

- *Staff*
- *Management*
- *Emergency Management*
- *other departments*
- *elected official*

Disaster Plan Development: 5 Basic Rules



5) Update and review the plan regularly

Update the plan with basic information monthly

Review the plan annually

Disaster Planning: Disaster Plan Development

Training & plan implementation

Development of the plan

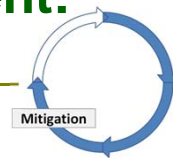


Disaster Planning: Disaster Plan Development

Plan Basics

- Internal information
- External information
- Event preplanning

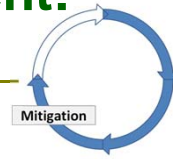
Disaster Plan Development: Internal Information



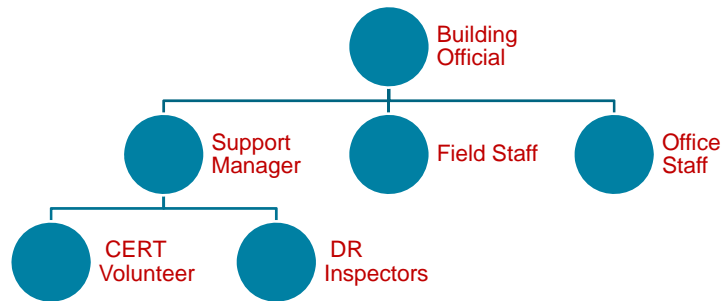
Questions to Answer

- Who will be in charge?
- Where will they meet?
- How will they communicate?
- How will they keep track of what is going on?
- Who is tracking the money?

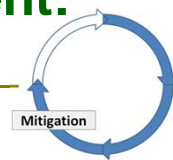
Disaster Plan Development: Internal Information



- Department Org chart with positions and responsibilities



Disaster Plan Development: Internal Information

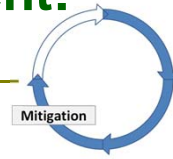


- Detailed contact information for department personnel

Current Staff Name	Position	Tasks
Ken Jemison	Director	Direction and control.
Mary Rodriguez	Support Staff	Maintain disaster information - emergency public information.
Lisa Highland	Building Inspector	Damage Assessment Team 1
Rich Becker	Mechanical Inspector	Damage Assessment Team 1
Mike Carroll	Building Inspector	Damage Assessment Team 2
Jack Jones	Electrical Inspector	Damage Assessment Team 2
Paul Rice	Plumbing Inspector	Coordinate field information - information systems.

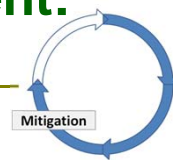
- Cell phone
- Office phone
- Home Address
- Vehicle
- Equipment Issued

Disaster Plan Development: Internal Information



- **Identify how will you keep track of what you spent above and beyond your normal operating costs**
 - **Equipment purchases**
 - **Staff overtime**
 - **Temp help**
 - **Food budget for mutual aid workers**

Disaster Plan Development: Internal Information



- **Be sure to stay within the parameters of the emergency authorities provided under law**
- **Be sure to comply with appropriate federal and state laws**
- **Identify how to manage day-to-day operations while dealing with the event**

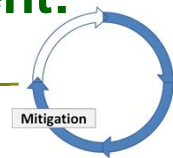
Disaster Plan Development: External Information



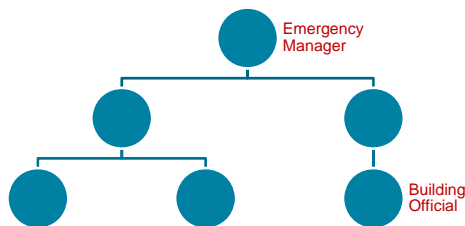
Questions to Answer

- Who will your department answer to / work with?
- What information is essential to be communicated?
- How will you communicate your need for volunteers?

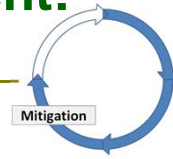
Disaster Plan Development: External Information



- Emergency Management Org chart with positions and responsibilities
- Mutual Aid agreements and MOUs

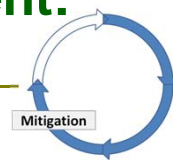


Disaster Plan Development: External Information



- **Establish a relationship with your jurisdiction's PIO**
- **Identify your "best" department spokesperson**
- **Identify how your department will use and coordinate volunteers**

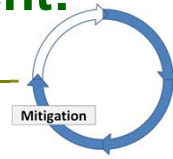
Disaster Plan Development: Event Planning



Questions to Answer

- **What are the major threats and vulnerability?**
- **What are the major tasks?**
- **What must be completed within 24-hours? Within 72-hours?**

Disaster Plan Development: Event Preplanning



- Identify the greatest threats that your community faces
- Identify the areas most vulnerable to the threats identified
- Identify scope of response and needs
- Identify appropriate forms and record keeping

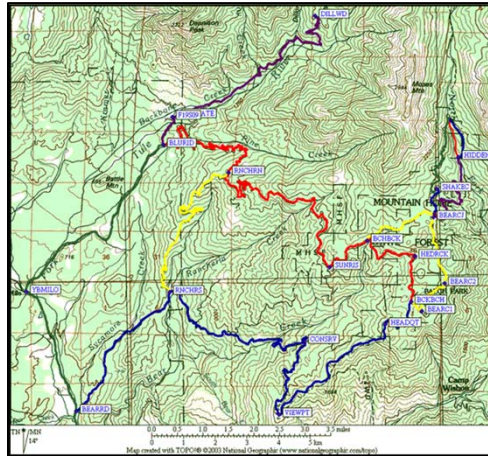
Disaster Planning: Available Planning Materials

- Vulnerability Data
- Wind Data
- Flood Data
- Seismic Data

Available Planning Materials: Wind Data



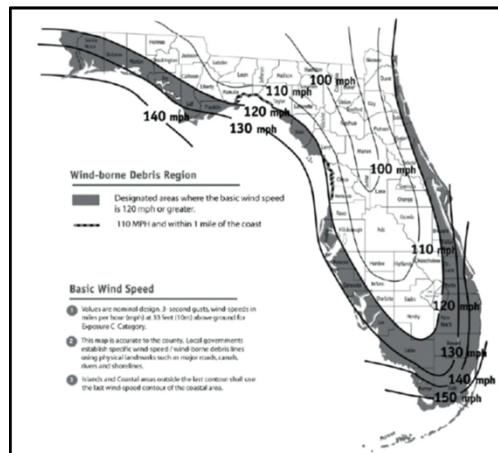
Topography Maps



Available Planning Materials: Wind Data



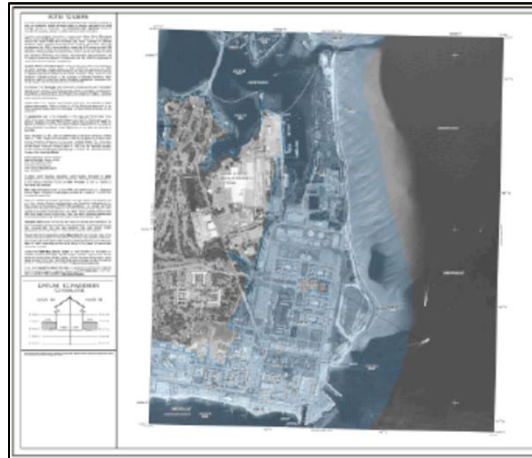
Wind Speed Maps



Available Planning Materials: Flood Data



Flood Maps



Available Planning Materials: Flood Data

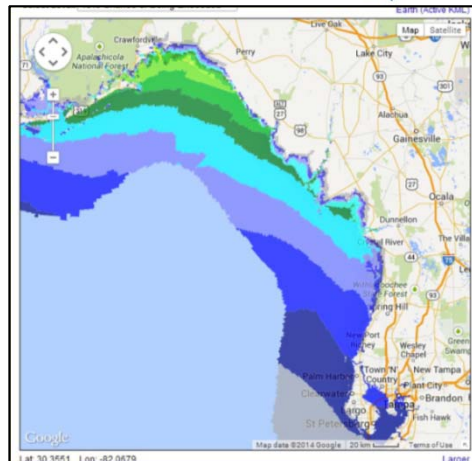


NOAA Surge

Legend

Height above ground (feet)

0 to < 2	11 to < 13	23 to < 25
2 to < 3	13 to < 15	25 to < 27
3 to < 5	15 to < 17	27 to < 29
5 to < 7	17 to < 19	29 to < 36
7 to < 9	19 to < 21	
9 to < 11	21 to < 23	

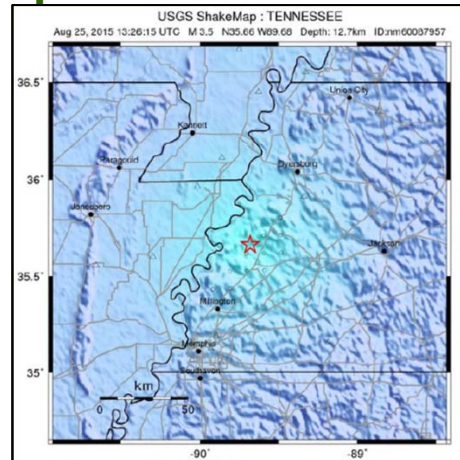


Available Planning Materials: Seismic Data



USGS Seismic Maps

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod. heavy	Heavy	Very heavy
PEAK ACC (mg)	<0.007	0.36	1.0	5.0	8.8	15	27	47	>83
PEAK VEL (cm/s)	<0.002	0.04	0.2	2.0	4.2	14	30	62	>120
NUMERICAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X



Disaster Planning: Training

Trained and knowledgeable personnel are essential for the prompt and effective execution of the emergency management plan

Disaster Planning: Training



Education and certification along with exercising the plan make up the preparedness phase of the event cycle

Training: Exercising the Plan



Methods

- Orientation seminar
- Drill
- Tabletop exercise
- Functional exercise
- Full-scale exercise

Training: Exercising the Plan



Benefits

- Reveals plan weakness
- Reveals gaps in resources
- Improves coordination
- Clarifies roles and responsibilities
- Improves individual performance

Outline

- Event Phases
- Disaster Planning
- **Post-Disaster Assessments**
- Disaster Response Inspectors

How Does Recovery Begin?

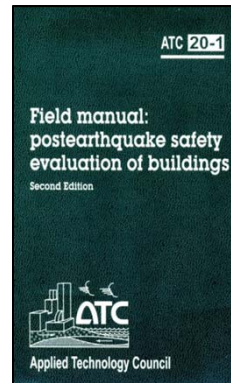
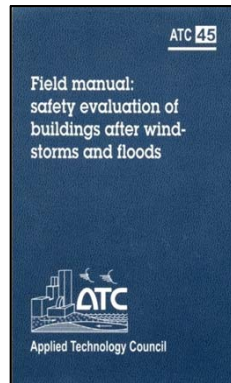
By utilizing 2nd Responders to
determine whether structures are
suitable for re-habitation

Post-Disaster Assessments

- **ATC 20 & 45 Assessments**
- **Earthquake Evaluations**
- **Wind & Flood Evaluations**
- **Practice Examples**

Post-Disaster Assessments: ATC 20 & 45

*Using the ATC procedures used to
classify buildings*



Post-Disaster Assessments: ATC 20 & 45

The image displays three overlapping inspection placards. The top-left placard is green and titled "INSPECTED" with the sub-heading "LAWFUL OCCUPANCY PERMITTED". It contains fields for "Date" and "Time", checkboxes for "Inspected Exterior Only" and "Inspected Exterior and Interior", a section for "Inspector comments", and a field for "Facility Name and Address". The middle placard is yellow and titled "RESTRICTED USE". It includes a "Caution" section, a field for "Date" and "Time", a section for "Entry, occupancy and lawful use are restricted as indicated below:", and a field for "Facility Name and Address". At the bottom, it says "Do Not Remove, Alter or Cover until Authorized by Government". The bottom-right placard is red and titled "UNSAFE" with the sub-heading "DO NOT ENTER OR OCCUPY (THIS PLACARD IS NOT A DEMOLITION ORDER)". It contains fields for "Date" and "Time", a section for "This facility was inspected under emergency conditions by:", a field for "Inspector ID / Agency", and a field for "Facility Name and Address".

**Post-Disaster Assessments:
ATC 20 & 45**

*Re-Habitation is based on
Life Safety (egress) and
Structural Safety (load path)*



**Post-Disaster Assessments:
ATC 20 & 45**

*Life safety is based on
adequate egress*

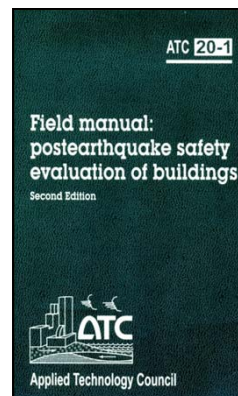
Post-Disaster Assessments: ATC 20 & 45

*Structural safety is based on
an adequate load path
within the structural system*

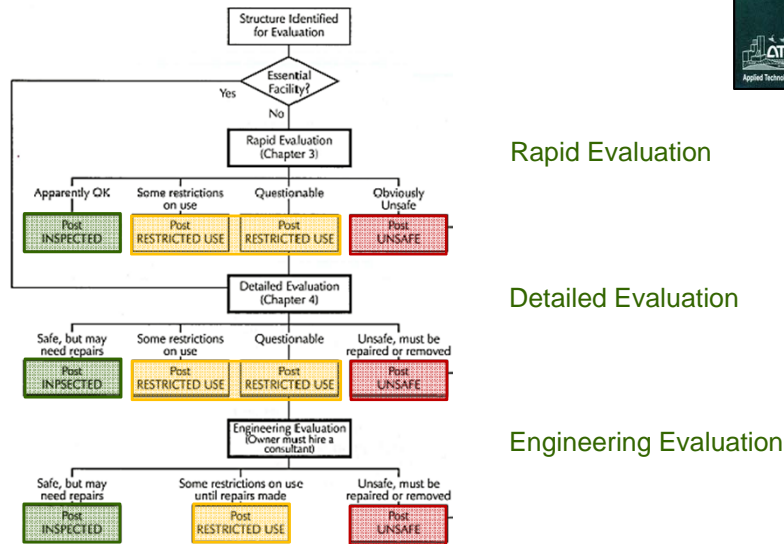
Post-Disaster Assessments:

Post-Earthquake Safety Evaluation of Buildings

- **Earthquake Damage**



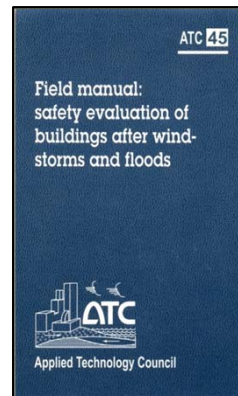
Post-Disaster Assessments: Earthquake (ATC 20)



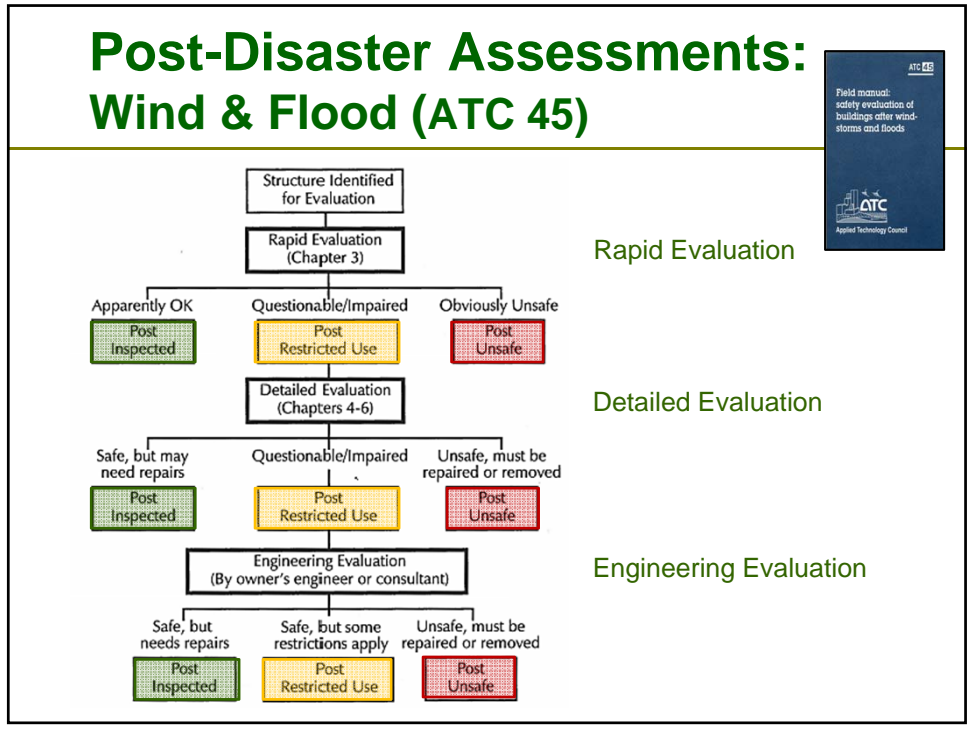
Post-Disaster Assessments:

Safety Evaluation of Buildings after Wind-Storms and Floods

- Tornado
- Hurricane
- Flooding

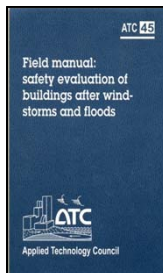


Post-Disaster Assessments: Wind & Flood (ATC 45)



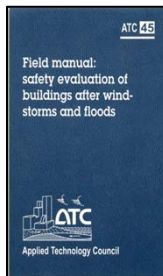
Practice Examples:

ATC 45 Detailed



Practice Examples:

ATC 45 Detailed



Posting

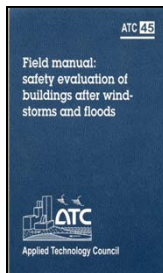
Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting. Post INSPECTED placard at main entrance. Post RESTRICTED USE and UNSAFE placards at all entrances.

INSPECTED (Green placard) RESTRICTED USE (Yellow placard) UNSAFE (Red placard)

Record any use and entry restrictions exactly as written on placard: **SUBJECT TO COLLAPSE**

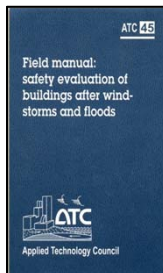
Practice Examples:

ATC 45 Detailed



Practice Examples:

ATC 45 Detailed



Posting
Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting. Post INSPECTED placard at main entrance. Post RESTRICTED USE and UNSAFE placards at all entrances.

INSPECTED (Green placard) RESTRICTED USE (Yellow placard) UNSAFE (Red placard)

Record any use and entry restrictions exactly as written on placard:
DO NOT ENERGIZE / ELEVATOR OUT OF SERVICE

Outline

- Event Phases
- Disaster Planning
- Post-Disaster Assessments
- Disaster Response Inspectors

*What is a Disaster Response
Inspector?*

A trained and qualified individual
(resource) capable of performing
post-disaster damage
assessments

**Disaster Response Inspector:
Basic Types**

- **Structure Condition Evaluator**
- **ICC Disaster Response Inspector**
- **CalOES SAP Assessor**
- **ATC Damage Assessor**

Disaster Response Inspector: Basic Types

Greatest

↑

Training and Certification Levels

↓

Least

	Activity	Title	Certification Required
FEMA / NIMS Resource	First Responder	Structures Specialist (FEMA / USACE)	Yes ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾
	2 nd Responder	Structure Condition Evaluator SCE – Type 1	Yes ⁽⁵⁾
	2 nd Responder	Structure Condition Evaluator SCE – Type 2	Yes ⁽⁵⁾
	2 nd Responder	Structure Condition Evaluator SCE – Type 3	Yes ⁽⁵⁾
Mutual Aid / EMAC Resource	2 nd Responder	ICC: Disaster Response Inspector DR Inspector	Yes ⁽⁶⁾
	2 nd Responder	CalOES: Safety Assessment Program SAP Assessor	Yes ⁽⁷⁾⁽⁸⁾
Non-Affiliate	2 nd Responder	ATC Damage Assessor	No

Disaster Response Inspector: ICC's DR Inspector

A trained and qualified individual (resource) capable of performing post-disaster damage assessments of structures





Disaster Response Network

A listing of building safety professionals who have volunteered to help affected jurisdictions with building damage assessment, building inspections and other code-related functions



2nd Responder Roster

A database of trained and certified 2nd responders who are willing to assist with post-disaster condition assessments of structures at a local, State or national level

2nd Responder Roster

NCSEA-SEER Volunteer System

WELCOME to the NCSEA Structural Engineers Emergency Response (SEER) volunteer system. This system is a database of Structural Engineers who have various levels of post-disaster training and are interested in assisting with post-disaster condition assessments of structures (ATC-20 and ATC-45 type assessments).

PLEASE NOTE this database is a self-reporting system used to track individuals willing to participate in post-disaster assessments. Contact information contained within this database will be shared with local, state and federal agencies requesting post-disaster assessment assistance on an as-requested basis. NCSEA will also utilize contact information contained within the database to disseminate information relevant to Disaster Response professionals such as event notices, training opportunities and credentialing initiatives.



This system exists and is supported by NCSEA

<http://www.ncsea-seer.com/>



2nd Responder Roster

User Account

User account

[Create new account](#) [Log in](#) [Request new password](#)

Address

Street *

City *

State/Province *

Postal code *

Username *

E-mail address *

First Name *

MI

Last Name *

Cell Phone *

Volunteers are able to login and update contact, licensure & certification information



2nd Responder Roster

Licensure Upload & Experience

Licensure *

SE BO

PE CO

RA FM

Other

Other Licensure

- SE (Engineer)
- PE (Engineer)
- RA (Architect)
- BO (Building Official)
- CO (Code Official: Plans/Inspection/Compliance)
- FM (Fire Marshal)


Volunteers check licenses held and upload PDF copies of licenses

Engaged in Professional Practice *

Yes No

Previous Deployment Experience *

No Yes



NCSEA
National Council of Structural Engineers Associations

2nd Responder Roster

Training & Certification Upload

Formal Disaster Inspection Training *

None

FEMA/USACE Structures Specialist

FEMA/USACE Structures Specialist

NIMS/ICS IS-100

NIMS/ICS IS-200

NIMS/ICS IS-700

NIMS/ICS IS-800

NIMS/ICS IS-803

NIMS/ICS IS-809

ICC Disaster Response Inspector (DRI)

CalOES Safety Assessment Program (SAP)

Building Safety Assessment Leader

Building Safety Assessment Engineer


GPS Familiarization

CPR Certification

ATC 20

ATC 45

Volunteers check certifications held and upload PDF copies of certificates



NCSEA
National Council of Structural Engineers Associations

Locating 2nd Responders



Locating 2nd Responders

Roster Reports

Admin Users are able to locate volunteers by specifying:

- Desired Licensure
- Responder Classification
- Deployment Experience
- Distance from Incident

2nd Responder Roster

Enter a zip code and filter the results based on Licensure, Classification, and Deployment Experience. The results will be filtered according to the credentials selected and the response area.

Licensure	Responder Classification	Deployment Experience	Distance	Postal Code
SE PE RA Other	SIS SCE-I SCE-II SCE-III DRI CA/DES SAP ATC20 ATC 45	- Any -	33618	33618
			Distance from Incident	30

[Download Report](#) [Print PDF](#)

Locating 2nd Responders

Roster Reports

Currently the roster includes 625 volunteers

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Distance	Name	City	State	Postal Code	Cell Phone	Licensure	NCSEA Member Organization	Disaster Response Classifications	Deployment Experience	Where Deployed
	David Compton	Tampa	Florida	33618	813-477-7539	PE	FSEA Florida	ATC 20, ATC 45	Yes	Mississippi
	Geoffrey Chambers	Tampa	Florida	33618	9047424215	PE, Other	FSEA Florida	ATC 20, ATC 45	No	
	William Bracken	Tampa	Florida	33618	813-927-7055	SE, PE	FSEA Florida	SIS, SCE-III, DRI, CalOES SAP, ATC 20, ATC 45	Yes	9 Hurricanes, 2 tornados, 5 collapsed Structures / Gulf & Atlantic Coast / Eastern and Mid-West US



Contacting 2nd Responders

Roster Reports

The Roster can also be used to communicate with volunteers:

- Newsletters & Updates
- Deployment Notices
- Training Notices

Download Report Print PDF

Distance	Name	City	State	Postal Code	Cell P	Licensure	NCSEA Member Organization	Disaster Response Classifications	Deployment Experience	Where Deployed
	David Compton	Tampa	Florida	33618	813-477-7539					
	Geoffrey Chambers	Tampa	Florida	33618	9047424215					
	William Bracken	Tampa	Florida	33618	813-927-7055	SE, PE	FSEA Florida	SIS, SCE-III, DRI, CalOES SAP, ATC 20, ATC 45	Yes	9 Hurricanes, 2 tornados, 5 collapsed Structures / Gulf & Atlantic Coast / Eastern and Mid-West US



Disaster Response Inspector: Methods of Activation

**There are 4 methods of activating
2nd Responders:**

- Federal Resource (*Request Through EM*)
- State Resource (*Request Through EM or BOA*)
- Mutual Aid Resource (*Request Through BOA*)
- Volunteer (*Direct Request*)

Disaster Response Inspector: Getting Involved

▪ **ICC Disaster Network**

[http://iccsafe.org/about-icc/safety/
icc-disaster-response-network](http://iccsafe.org/about-icc/safety/icc-disaster-response-network)

▪ **2nd Responder Roster**

<http://ncsea-seer.com>