

THE AMERICAN INSTITUTE OF ARCHITECTS

# DISASTER ASSISTANCE



**AIA**

April 17, 2019

Sandi Worthman

Executive Director, AIA Maryland

# **DelMarVa is not immune to disasters:**

**1952 – Able**

**1954 – Hazel**

**1955 – Connie, Diane**

**1969 – Camille**

**1972 – Agnes**

**1974 – Eloise**

**1979 – Bob, David**

**1985 – Gloria**

**1988 – Chris**

**1996 – Bertha, Fran**

**1999 – Floyd**

**2003 – Isabel**

**2004 – Ivan, Jeanne**

**2005 – Cindy**

**2006 – Ernesto**

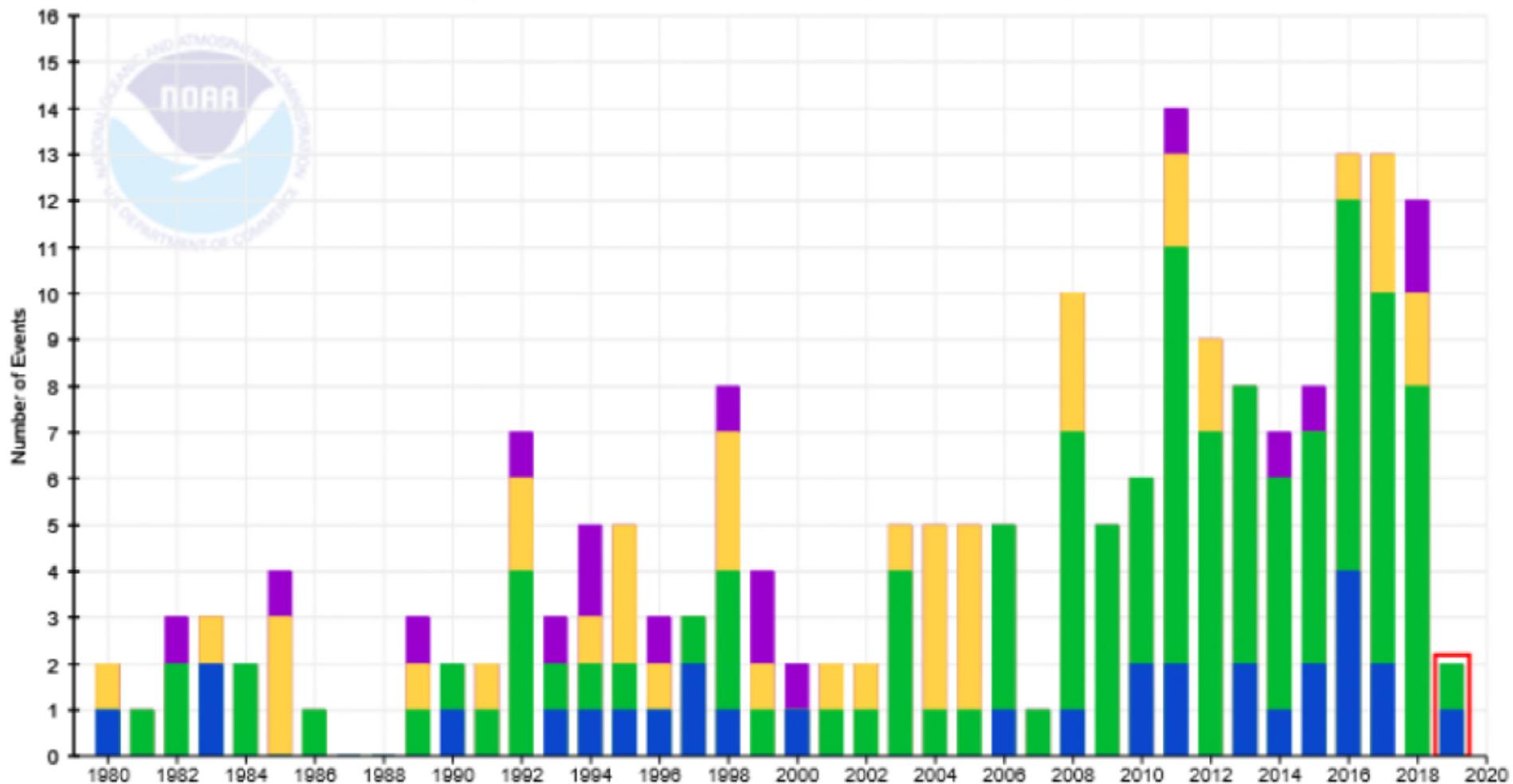
**2008 – Hanna**

**2011 – Irene**

**Data from National Weather Service - NOAA**

## Billion-Dollar Disaster Event Types by Year (CPI-Adjusted)

■ Winter Storm   
 ■ Trop Cycl   
 ■ Severe Storm   
 ■ Flooding



Number of events  
as of April 9, 2019

NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2019). <https://www.ncdc.noaa.gov/billions/>

# Disasters may overwhelm local capacity



# Architects can help

- Determine if buildings are safe for re-occupancy
- Reduce need for temporary shelters and emergency services – fewer resources required from NGOs
- Reduce post-disaster injuries



AIA Illinois architects respond to the 2013 Washington, IL Tornado

# Why Architects?

**TRAINED EXPERTS** Architectural training, licensure and experience give architects a sound understanding of building safety and building code principles

**DISASTER READY** Architects locally and across the nation have made the commitment to become trained for effective support of local disaster planning, response and recovery efforts

**PROJECT LEADERS** Architects are experienced at working as part of a collaborative multi-disciplinary team



AIA Wisconsin architects prepare to respond to 2018 flooding with Dane County Emergency Management

**PUBLIC SERVANTS** whose license comes with the obligation to “protect the health, safety and wellbeing” of the public

**FEMA FUNDING** Volunteer time donations can be credited toward the local contribution in FEMA funding calculations

## AIA CODE OF ETHICS

The AIA Code of Ethics and Professional Conduct, Canon II, states that...

“Members should promote and serve the public interest in their personal and professional activities.”

# AIA Disaster Assistance Program

## **SAFETY ASSESSMENT TRAINING & RESPONSE**

AIA trains licensed architects, engineers, and building inspectors to provide building safety assessments post-disaster per ATC 20 and ATC 40 methodology

**HAZARD MITIGATION** best practices for risk reduction and hazard mitigation are shared across the institute and with industry colleagues

## **EMERGENCY PREPAREDNESS**

Architects participate in scenario planning exercises and engage in public awareness campaigns like the Great ShakeOut.



AIA Rhode Island architects assess homes after Superstorm Sandy

## **COMMUNITY RECOVERY**

Architects support their communities by making code and land use recommendations, leading participatory visioning processes and providing technical expertise

# How architects contribute

Disaster occurs



## Preparedness

Vulnerability assessment

Building performance analysis

Business continuity planning

Disaster scenario planning

Training

## Mitigation

Building code and  
land-use updates

Incentive retrofit programs

Design innovation

Renovations & retrofits



## Response

Rapid safety assessments

Temporary housing

Policy recommendations

Permitting assistance

## Recovery

Detailed building assessments

Repair, rebuild, relocate

Transitional housing

Community & land-use planning

Community charrettes

# How have architects helped post-disaster?



**AIA**

Video

# Preparedness Pays: Hurricane Matthew, 2016 | a case study

Mere  
Category 1  
Hurricane

15+ inches  
of rain

100,000  
homes  
affected



# Preparedness Pays: Hurricane Matthew, 2016 | a case study

## **A recipe for AIA's successful disaster response:**

- Liability protection: Good Samaritan legislation
  - Professionals volunteer with peace of mind
  - Gives the public access to crucial services during major disasters
- Established city/state relationships
  - Builds trust and awareness
  - Allows for efficient communication and activation
- Licensed, trained or credentialed volunteers
  - Facilitates accurate and dependable assessments
  - Maintains readiness

# Preparedness Pays: Hurricane Matthew, 2016 | a case study

- **Liability Protection:** North Carolina had enacted Good Samaritan Legislation to protect licensed design professionals volunteering during a declared disaster
- **Established City/State Relationships:** MOU established between the North Carolina Office of Emergency Management and three professional organizations (AIA, SEA & ASCE) in 2015 to assist the state with building safety assessments following a declared disaster



**AIA**  
North Carolina



**Structural Engineers Association  
of North Carolina**



# Preparedness Pays: Hurricane Matthew, 2016 | a case study

## Licensed, Trained and Credentialed:

- Three Safety Assessment Program (SAP) trainings held resulting in 160 design professionals trained in ATC 20 and ATC 45 methodology.
- Trainees also completed FEMA ICS 100 and 200 courses as required by the state of North Carolina

**Activated:** Design professionals activated by State within days of the event

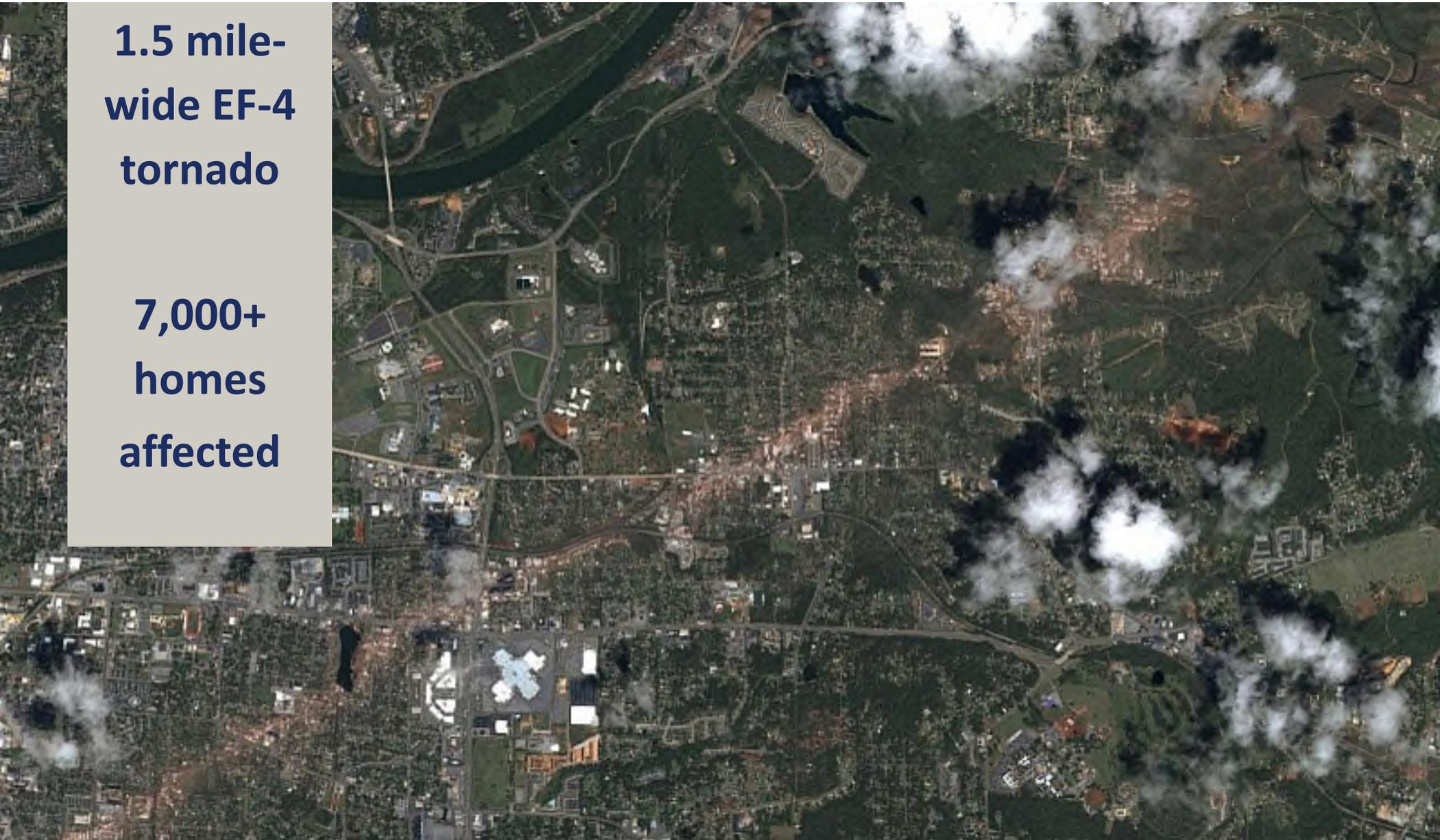
**Volunteers successfully completed over 400 building assessments in just 4 days.**



# **“On Demand” response effort Tuscaloosa, AL, 2011 | a case study**

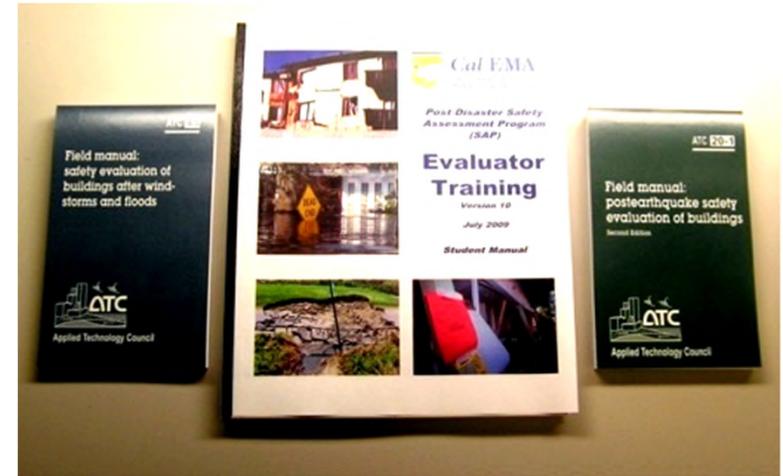
**1.5 mile-  
wide EF-4  
tornado**

**7,000+  
homes  
affected**

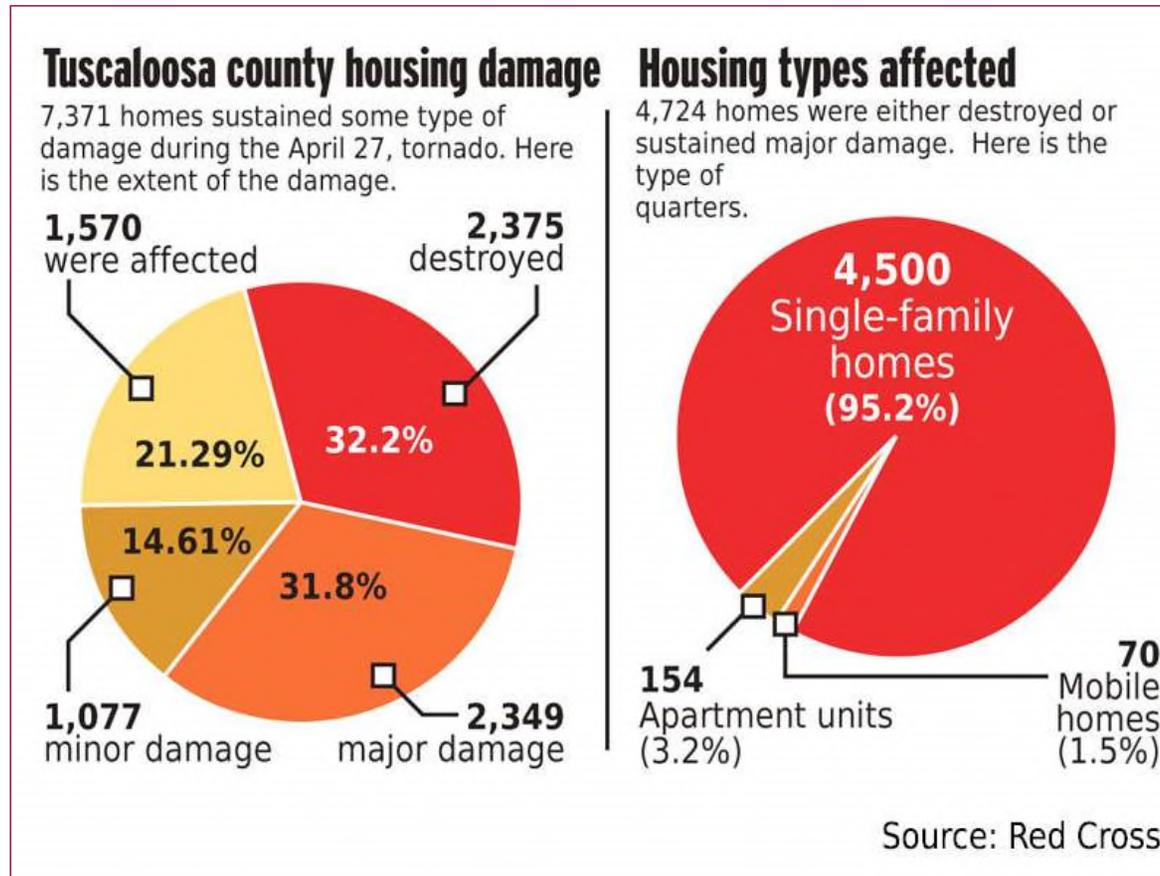


# “On Demand” response effort Tuscaloosa, AL, 2011 | a case study

- No MOU in place ahead of time
- **Working with AIA National, on-demand SAP Training Certification Course equipped 166 new volunteers to perform Building Safety Assessments using ATC 20 and ATC 45 methodology**



# “On Demand” response effort Tuscaloosa, AL, 2011 | a case study



**Volunteers completed 5,000 residential and commercial Building Safety Assessments within 6 Days**

# Recovery Case Study: Greensburg, KS, 2007

1.7 mile-  
wide EF-5  
tornado

22 sq. miles  
destroyed

1,400  
people  
affected



# Recovery Case Study: Greensburg, KS



Main street symbolizes a spine that connects key elements downtown. Greensburg came together to have charrettes and give ideas and feedback to design a town core that relates to the goals of rain, community, environment, family, wind, growth, and prosperity.



# Recovery Case Study: Greensburg, KS

Greensburg is “*blessed with a unique opportunity to create a strong community devoted to family, fostering business, working together for future generations*”

## Recovery Successes

- Sustainable Comprehensive Master Plan
- US Green Building Council: LEED Platinum score for all public buildings

**More than 50% of residents returned and rebuilt better**



# Recovery Case Study: Hurricane Sandy 2012

**650,000+**  
homes  
damaged/  
destroyed

**8 million+**  
people  
affected



# Recovery Case Study: Hurricane Sandy 2012

## Sandy Help Desk

NYC neighborhood  
“open house”

Trained volunteer architects  
and designers provided  
technical expertise on:

- Data on base flood elevations
- Building elevation requirements
- Safe locations for electrical and mechanical equipment
- Building codes and zoning
- Flood-resistant construction



# Post-Disaster Mitigation Case Study: Hurricane Sandy

AIA NY convened wide range of professional organizations and concerned individuals

Working groups focused on:

- Transportation and infrastructure
- Housing
- Critical and commercial buildings
- Codes and zoning and waterfront areas

Recommendations published in Post-Sandy Initiative Report.

Effort informed several guidelines and reports for the city and region.



# How to engage architects in post-disaster safety assessments:



**AIA**

# Mobilizing volunteer responders

## **Provide liability protection:**

State legislatures throughout the country express a willingness to protect architects from liability claims that may arise from voluntary work during emergencies by establishing Good Samaritan laws.

## Good Samaritan State Statute Compendium

AIA Disaster Assistance

AIA's Model Good Sam Law can help states without liability protection get started

# Mobilizing volunteer responders

## Determine method of activation:

The AIA State Coordinator creates and maintains relationships with key public officials and dispatches trained volunteers when requested by the local building department or state emergency management agency. State-and/or county-level emergency managers and the state AIA Disaster Assistance Coordinator establish appropriate protocol and methods of communication for post-disaster activation of volunteers.



In some states, volunteers become deputized as agents of the state before deploying

# Mobilizing volunteer responders

## **Clarify worker's compensation:**

If an architect experiences an injury or fatality while performing pro-bono safety assessment services post-disaster; who will cover medical costs and associated expenses? Determine appropriate workers compensation before building safety assessments commence.



# Mobilizing volunteer responders

## Recommend portability of licensure:

During a large-scale disaster, a trained, local volunteer force may be insufficient to meet the demands of public safety evaluations, and therefore trained out-of-state architects can be invaluable. To overcome this, the state architectural licensing board can advocate for regulations that allow out-of-state licensed architects to serve as “emergency workers” during a disaster declaration.



*The National Council of Architectural Registration Boards has model language detailing an exception allowing licensed architects to perform uncompensated professional services at the scene of an emergency at the request of the authority having jurisdictions*

# Preparing to respond

- **Maintain the conversation - build familiarity across organizations**
- **Disaster Response Training Exercises**
- **Pre-disaster planning efforts**



Members of the RI Architects & Engineers Emergency Response Task Force joined federal, state, and local governments in [Vigilant Guard](#), a 2012 state-wide preparedness exercise.



**Architects should be part of  
your disaster assistance plan!**

# THANK YOU.

**SANDI WORTHMAN**

Executive Director, AIA Maryland

[sworthman@aiamd.org](mailto:sworthman@aiamd.org)

410-263-0916

**[WWW.AIA.ORG/DISASTER](http://WWW.AIA.ORG/DISASTER)**

**[WWW.AIA.ORG/RESILIENCE](http://WWW.AIA.ORG/RESILIENCE)**



# AIA