



FEMA

# Be Prepared: Disaster Operations and the EMS Role in Emergency Management

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# Disasters



- ◆ Disasters take many forms.
- ◆ Causes:
  - Gale force winds
  - Sudden floods
  - Releases of deadly chemicals
  - Fire
  - Ice
  - Earthquakes
  - Hurricanes

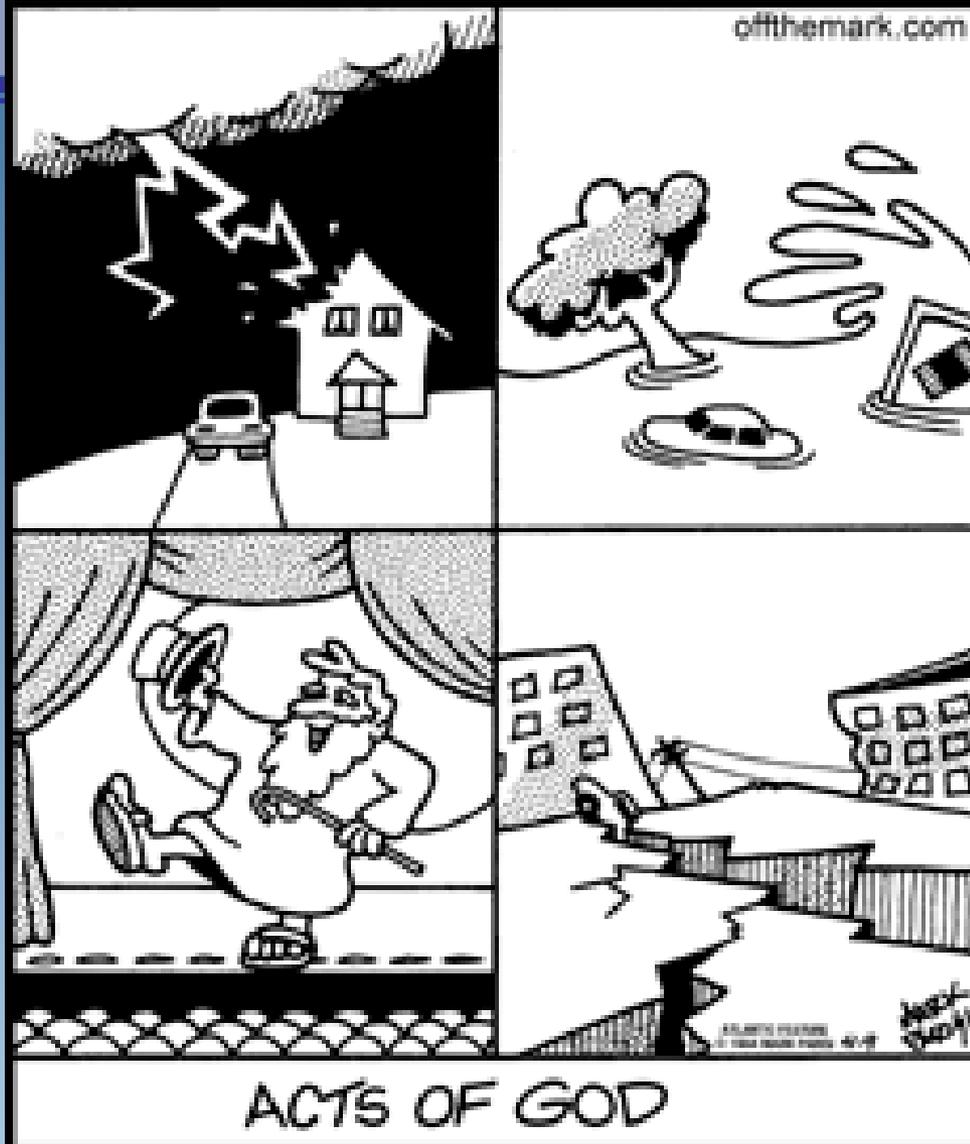
When disaster strikes, the best protection is knowing what to do.

# off the mark

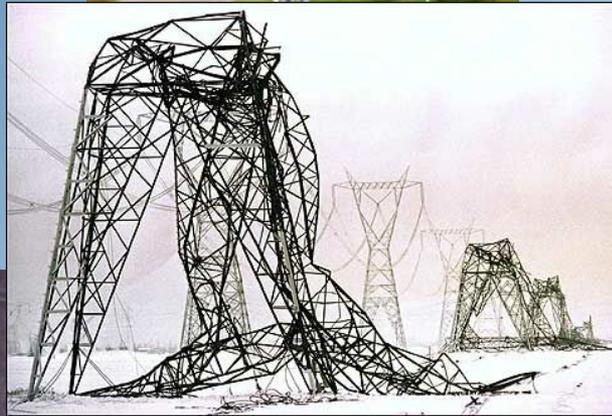
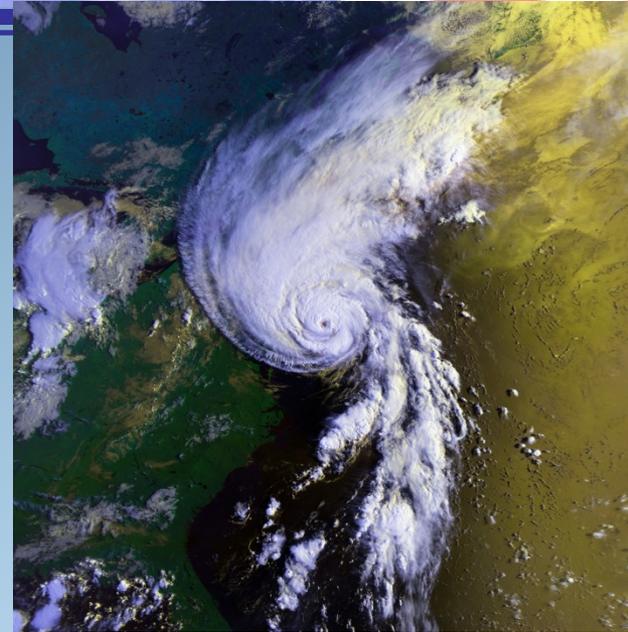
by Mark Parisi

www.offthemark.com

offthemark.com



# Common Disasters



# EMS and Disasters



## Natural Disasters

- ◆ Floods
- ◆ Hurricanes
- ◆ Snow and ice storms
- ◆ Wildfires
- ◆ Landslide
- ◆ Extreme heat
- ◆ Erosion
- ◆ Thunderstorms/hail
- ◆ Avalanche

## Not so common on East Coast

- ◆ Tornado
- ◆ Storm surge
- ◆ Earthquakes
- ◆ Tsunami
- ◆ Volcano
- ◆ Drought

## Other concerns

- ◆ MCI/MVC Crashes
- ◆ Terrorism
- ◆ Pandemics

# Man-made Disasters

- ◆ Dam failure
- ◆ Haz-mat
- ◆ Nuclear
- ◆ Terrorism
- ◆ WMD



# 10/16/12 Maine Earthquake

- ◆ Centered 4 mi west of Hollis, ME Lake Arrowhead/Waterboro



**2012 MAINE EARTHQUAKE**



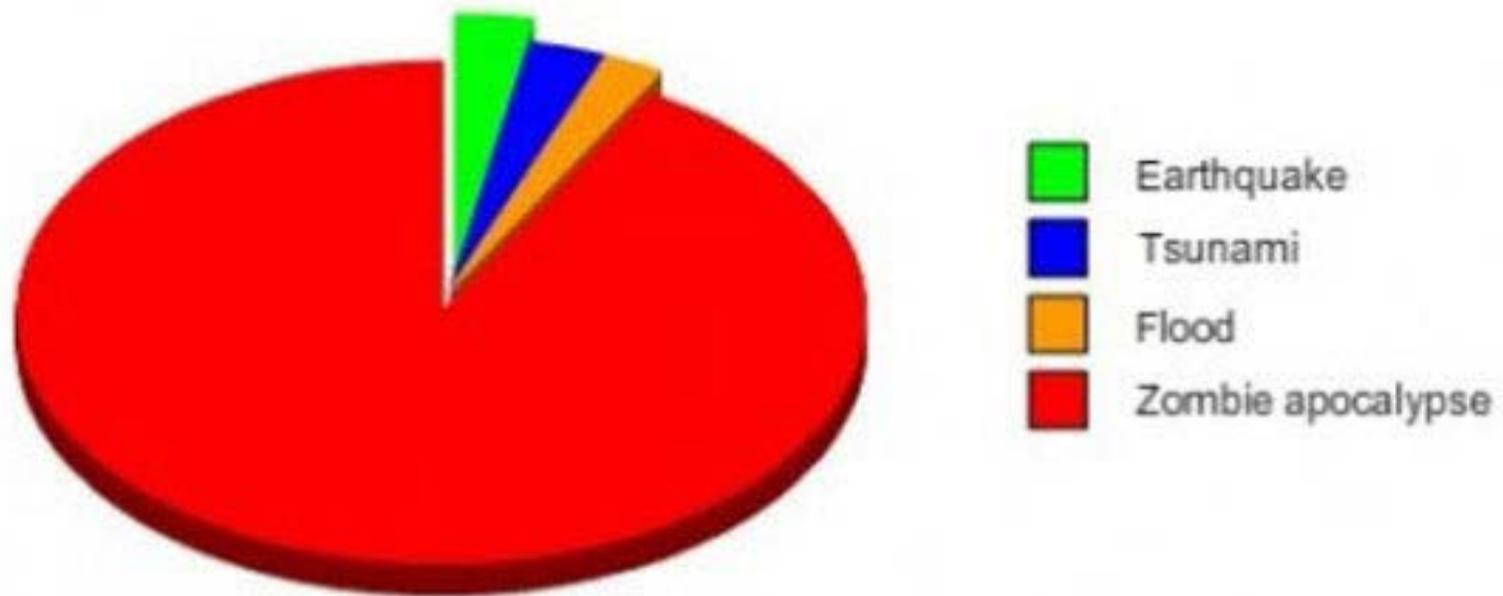
**WE WILL REBUILD**



**10/16/2012**

Never forget the New England earthquake

# How much I've thought about what I'd do in a disaster





If you're ready for a zombie apocalypse, then you're ready for any emergency

[emergency.cdc.gov](http://emergency.cdc.gov)



# History of Local Disasters

- ◆ 1886 Charleston, SC Earthquake-7.3 M, 60 deaths, \$5-6 mil damage
- ◆ 2011 Virginia (Piedmont Epicenter) 5.8 M, 0 deaths, minor injuries, Approx \$200 mil damage
- ◆ July 1985 Hurricane Bob (Cat 1) - went inland in So. Carolina through to W. VA. Widespread damage reported up to \$20 mil, 5 indirect deaths. Spawned 3 tornadoes in VA.
- ◆ August 1998 Hurricane Bonnie (Cat 3). 5 deaths, \$1B damage, 950k people evacuated from Carolinas, 115mph gusts
- ◆ August 2004 Hurricane Gaston, (Cat 1) \$130M damage, 9 deaths, torrential rains in Richmond, VA.
- ◆ Hurricane Irene, August 2011, (Cat 3) hits NC, high winds, heavy rains, and flash flooding, 49 total deaths, \$16B damage.

# More Disasters

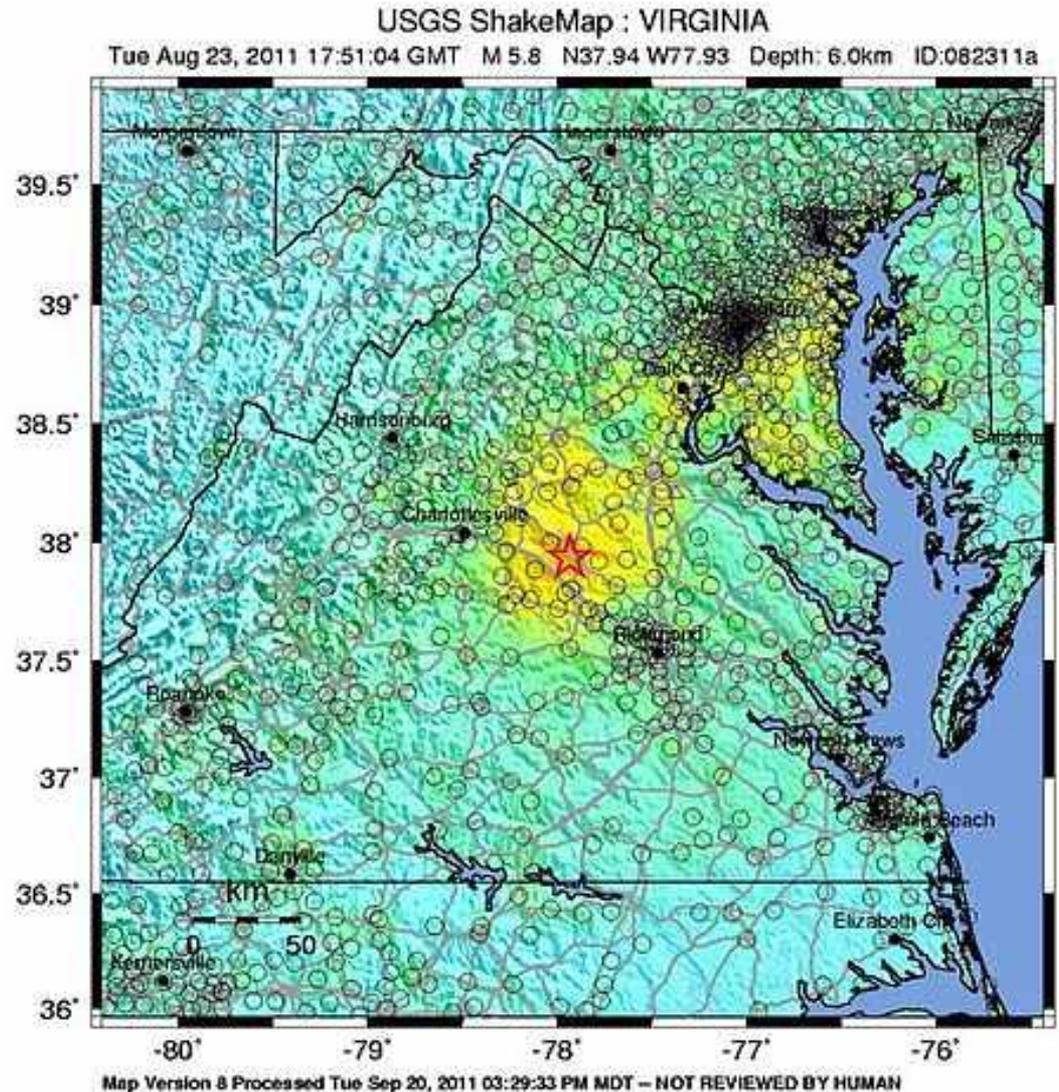
- ◆ Feb 2010, SNOWMAGEDDON!!! 13 deaths in US, up to 38" snow in some areas in mid-Atlantic states, average 20-25"
- ◆ 33k people out of power in VA
- ◆ Bus, rail, air transport down.
- ◆ Roof collapses including a VA fire station



Irene!



# Whole Lotta Shakin' Going On!

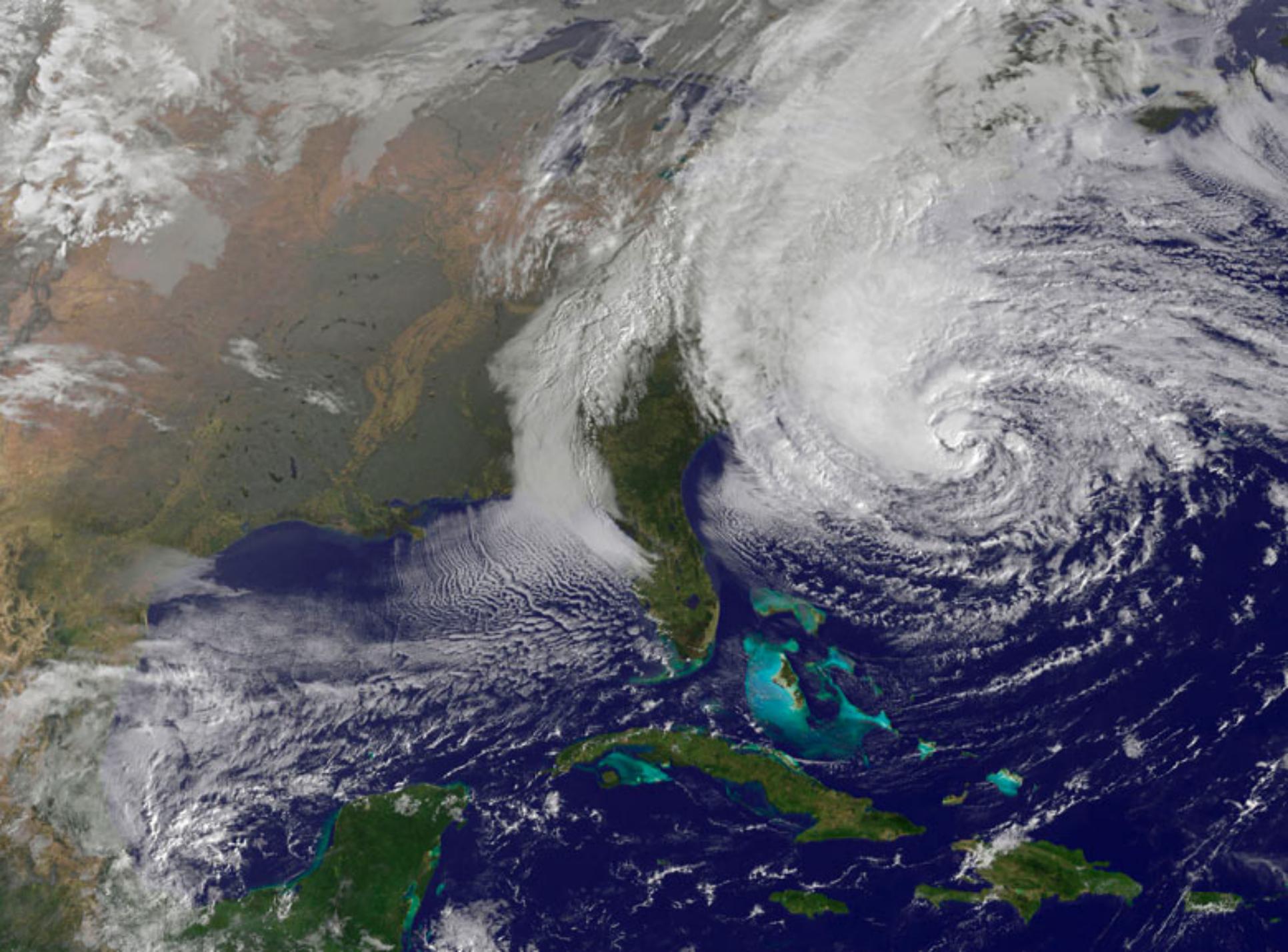


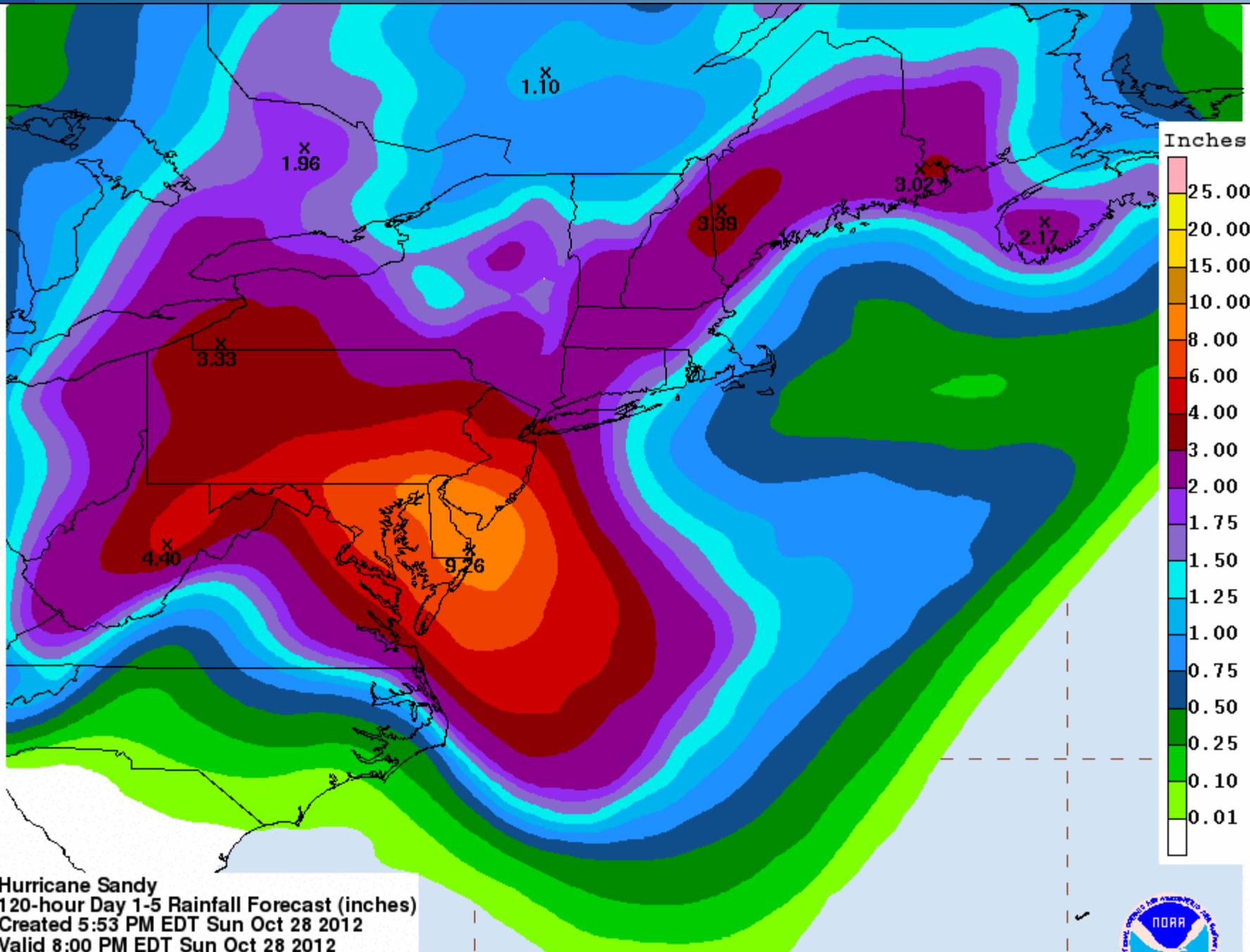
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC (%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL (cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X

# Frankenstorm!

- ◆ Cat 1 Hurricane Sandy combining with cold front to NW
- ◆ Widespread outages for up to 1 week in multiple cities
- ◆ Record high storm surges, high winds and heavy rains





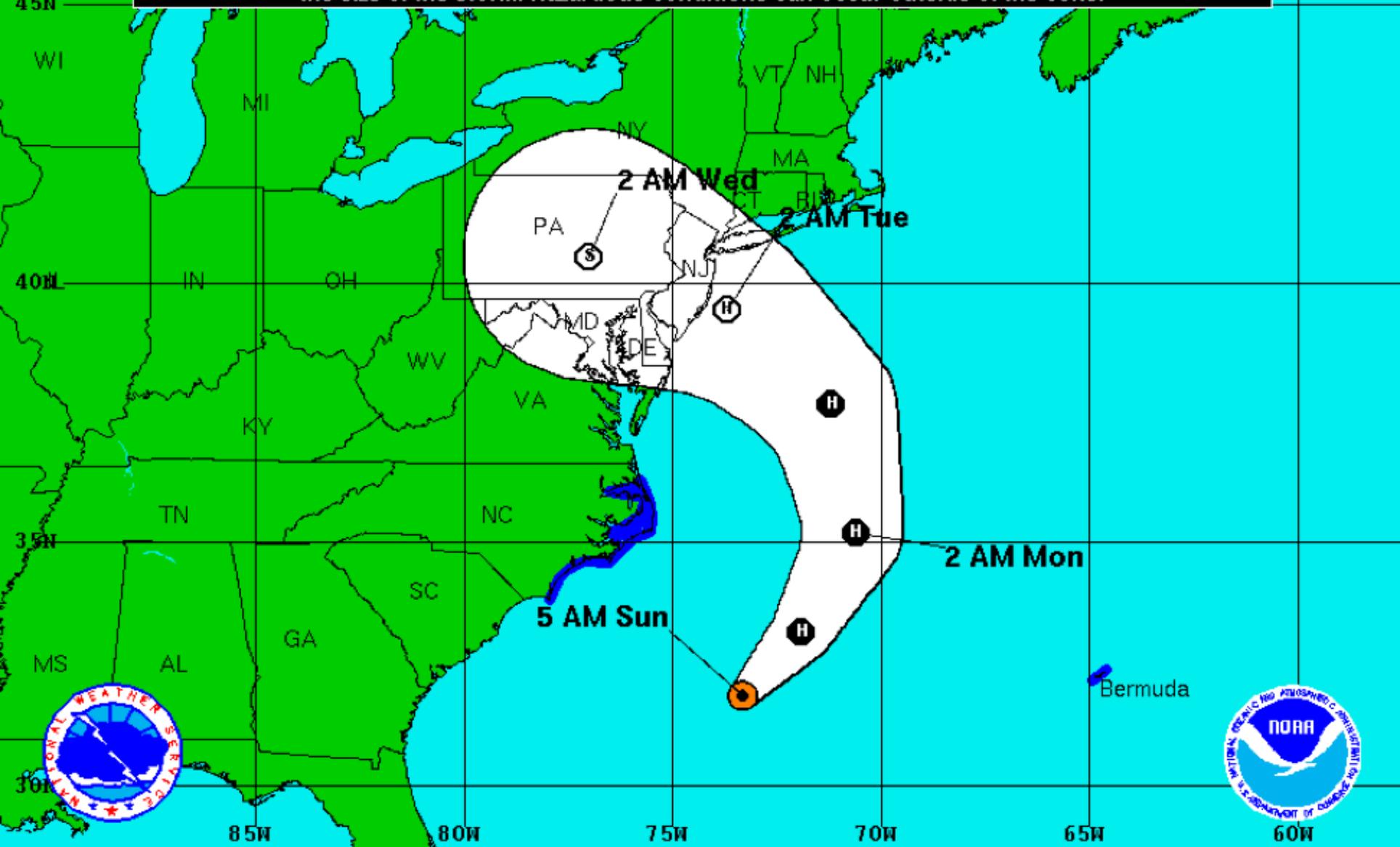


**Hurricane Sandy**  
 120-hour Day 1-5 Rainfall Forecast (inches)  
 Created 5:53 PM EDT Sun Oct 28 2012  
 Valid 8:00 PM EDT Sun Oct 28 2012  
 through 8:00 PM EDT Fri Nov 2 2012  
 NOAA/NWS/NCEP/HPC

Local point maximum rainfall may be higher than shown.  
 See the NHC public advisories for the latest tropical cyclone information.



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.

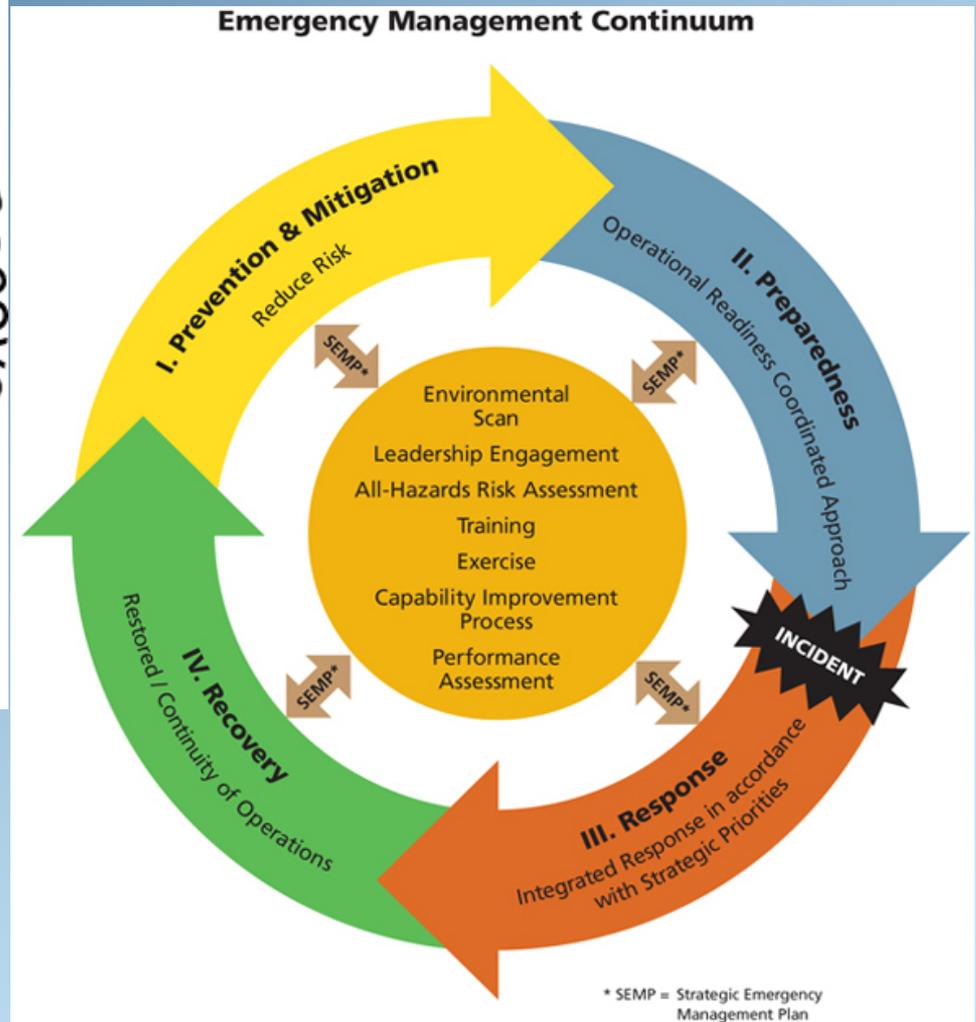
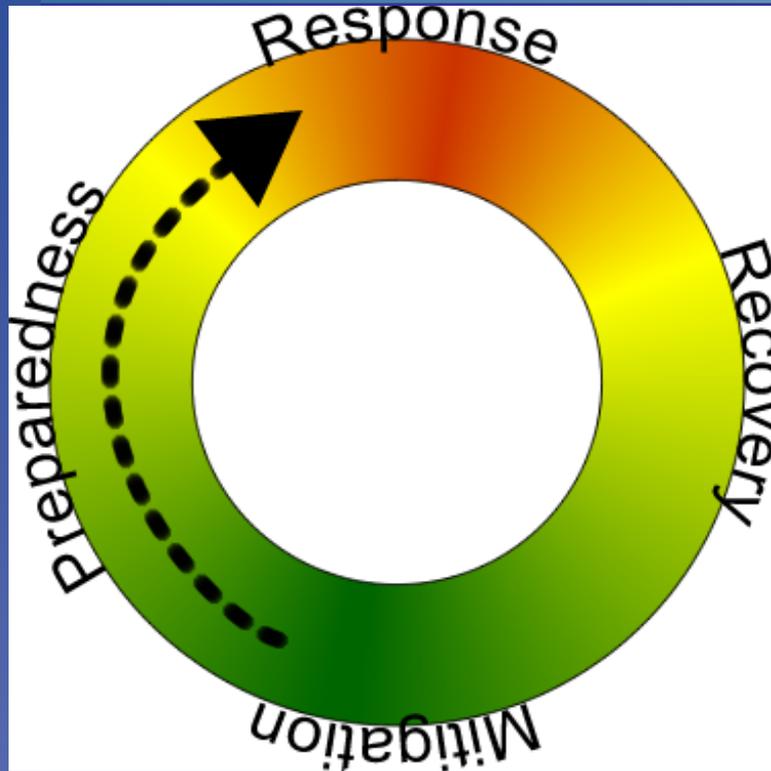


# COASTAL FLOODING SUN-MON

- MOST EXTREME
- SEVERE
- MODERATE

5'-10' STORM SURGE

# The EM Cycle



# Mitigation



# Mitigation

- ◆ “Sustained action that reduces or eliminates long-term risk to people & property from natural hazards and their effects.”
- ◆ Ongoing effort at the Federal, State, local, and individual levels to lessen the impact of disasters upon families, homes, communities and economy.



# Mitigation (cont'd)

- ◆ Mitigation is the cornerstone of emergency management.
- ◆ Mitigation involves:
  - Keeping homes away from floodplains
  - Engineering bridges to withstand earthquakes
  - Creating and enforcing effective building codes to protect property from hurricanes
  - and more!

# EMS and Mitigation: Risk Assessments

- ◆ EMS should be involved
- ◆ All-hazards planning
- ◆ Work to incorporate education in mitigation efforts



# Risk Assessment Steps



## Steps:

1. Identify and characterize the hazard.
2. Evaluate each hazard for the severity and frequency
3. Estimate the risk
4. Determine the potential societal and economic (direct) effects and the indirect effects or costs
5. Determine the acceptable level of risk.
6. Identify risk-reduction opportunities.

# Preparedness

- ◆ Preparedness is everyone's job.
  - Government agencies
  - Service providers
  - Businesses
  - Civic and volunteer groups
  - Industry associations
  - Neighborhood associations
  - Individual citizens

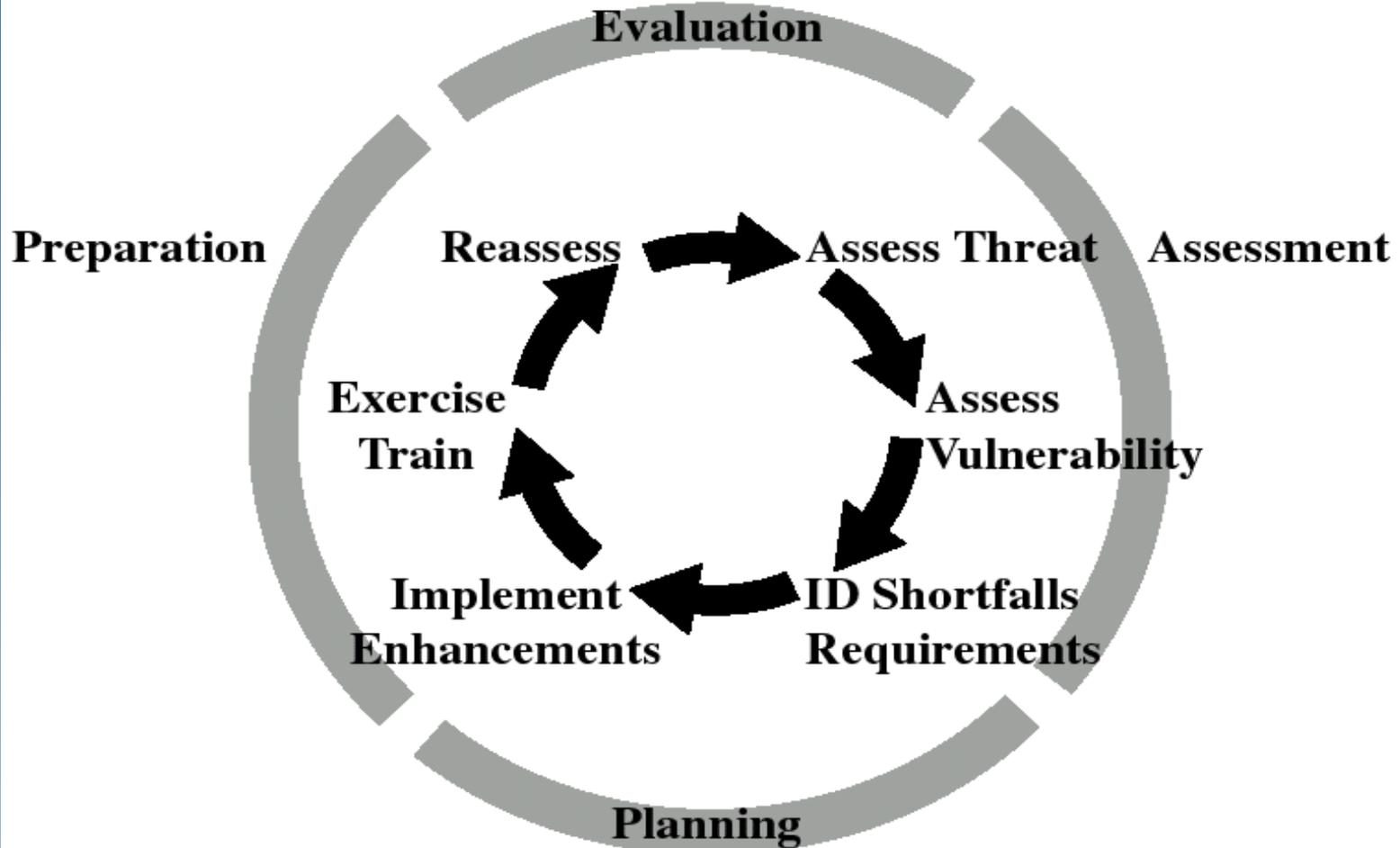


# Educate to Prepare!

- ◆ Plan ahead
- ◆ During the first few hours or days following a disaster, essential services may not be available.
- ◆ People must be ready to act on their own.



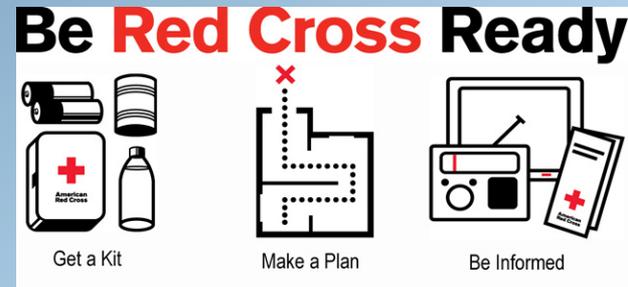
# Preparedness Cycle



# EMS and Preparedness

## ◆ What can EMS do?

- Preparedness programs
- Public Safety COOP
- Family disaster plans
- Evacuation planning
  - Nursing homes, hospitals, schools
- Special needs populations
- Education and training
- Develop CERT Teams



# Response



- ◆ Local responders, government agencies and private organizations take action.
- ◆ Destruction can surpass local and state capabilities.
- ◆ Federal Assistance is then needed.

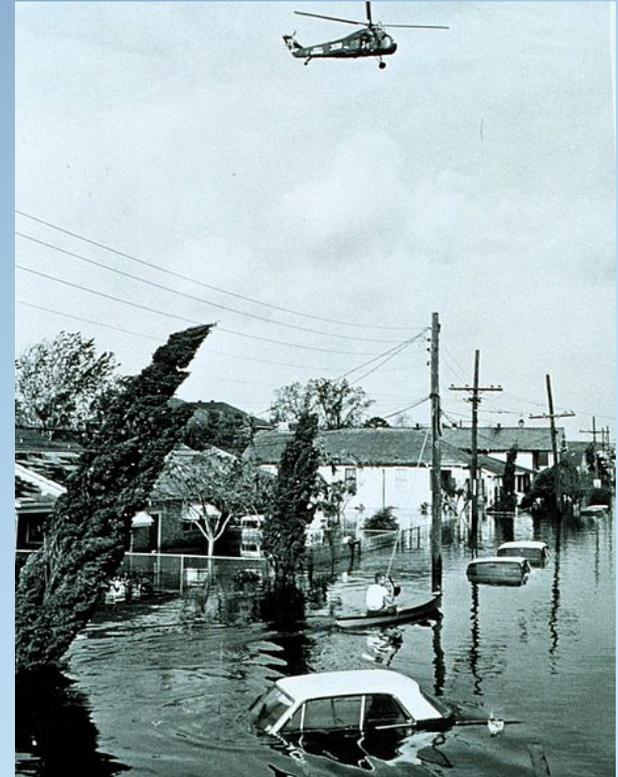
# Response in a Disaster



- ◆ Response begins as soon as a disaster is detected or threatens.
- ◆ Mobilizing and positioning emergency equipment
- ◆ Getting people out of danger
- ◆ Providing needed food, water, shelter and medical services
- ◆ Bringing damaged services and systems back on line.

# Response Planning

- ◆ Plan ahead for responses based on All-Hazards approach (HomeSec Grant \$)
- ◆ Work it out in advance:
  - **Have extra resources**
  - **MCI trailers**
  - **Disaster event planning and training**
  - **Coordination with state and county officials**





**EXTREME**  
**FIRE HAZARD**  
**DON'T EVEN FART**  
**IN THE FOREST**

# Response Public Safety Style!

## Police/National Guard:

- ◆ Secure the scene
- ◆ Maintain order

## Fire/EMS:

■ (and maybe DMAT)

- ◆ Rescue/treat the injured
- ◆ Contain/suppress fire or hazardous conditions
- ◆ Retrieve the dead-coroner

# EMS Operations in a Disaster

In addition to the obvious  
(responding to calls)

- ◆ Involvement in Incident Command (EMS Officer)
- ◆ Triage
- ◆ Operate first-aid stations

Less common

- ◆ Operate shelters (w/Red Cross and Salvation Army assistance)
- ◆ Operate Food kitchens

AHEM...I UNDERSTAND YOU  
ARE THE TRIAGE OFFICER?





## Vermont & The New Hampshire Valley

- HOME
- ABOUT US
- LOCATIONS
- SERVICES
- INSTRUCTORS
- DISASTER VOLUNTEERS
- STORE

- DONATE
- CLASSES
- VOLUNTEER
- PURCHASE AN AED
- GIVE BLOOD
- SHOP

- ABOUT US
- Mission
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    - Regional Chapter Newsletter
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Home > About Us > News

# Hundreds Sheltered Overnight; 4 Shelters Remain Open

- PRINT
- TELL A FRIEND
- SHARE

Doug Bishop

August 29, 2011

## Red Cross Shelters Sees Large Overnight Population, 4 Shelters Remain Open

**FOR IMMEDIATE RELEASE ...** (Rutland, Vermont – August 29, 2011) After a day that saw 13 shelters opened by the Vermont & the New Hampshire Valley American, and as people return home, 4 shelters remain open as of noon Monday. While the official count as of midnight was 329 people having received overnight sheltering through the Red Cross, several shelters saw their numbers continue to swell before dawn.

Shelters remain open at the following locations:

1. Brattleboro – Brattleboro Union High School
2. Hartford – Hartford High School
3. Barre – Barre Auditorium
4. Rutland – Rutland High School

Red Cross officials will continue to coordinate with communities where Red Cross shelters were opened yesterday to determine if there is a revived need this evening. The best means of determining where shelters, Red Cross or otherwise, are open is to contact Vermont 211.

The Red Cross fielded calls from over 2 dozen communities, who were operating their own shelters, with requests for coats and blankets. Several of those were supplied with those items requested, but for some, the roads and weather rendered them inaccessible. The Red Cross reached out to those communities this morning to assess current needs and found that most weathered the storm and do not have a need at this time. The Red Cross will continue to work closely with these towns to keep current on their needs.

At this time, financial contributions provide the greatest flexibility for a Red Cross response. Donations can be made at [www.vermontredcross.org](http://www.vermontredcross.org) or by calling 800-860-9130. For those who are interested in volunteering, they can register on line at [www.vermontredcross.org](http://www.vermontredcross.org) and click on the red "Volunteer" button on the left. You can also call 1-800-860-9130, ext. 107.

# Recovery



# Recovery

- ◆ Phase of emergency management that deals with putting peoples lives back into place after a disaster.
- ◆ Depending on the severity of the incident, it could be a very simple adjustment, or a major change of life styles.

# Recovery

Some recovery efforts:

- ◆ Returning Home from a Disaster
- ◆ Helping Children Cope with Disaster
- ◆ Locating Safe Drinking Water after a Disaster
- ◆ Emergency Food & Water Suggestions
- ◆ *Where does EMS fit into these?*

# Video time!

◆ [https://www.youtube.com/watch?feature=player\\_embedded&v=0srKMZN5tTc](https://www.youtube.com/watch?feature=player_embedded&v=0srKMZN5tTc)

# Special Operations



◆ Depending on the nature of the incident:

- MCI trailers/MMRS
- Set up first aid stations and treatment centers in cooperation with hospitals
- Coordinating/working with federal agencies, NGOs and FEMA contracted services.
- Working with the state/county EMA and State National Guard.
  - Evacuation, access, treatment

# Communications



## ◆ Interoperability

- Frequency access

## ◆ Multi-agency communications

- NTSB? FRS!

# Communications



- ◆ Public information officer (PIO )
- ◆ Media partnering
- ◆ Risk and Hazard communication
- ◆ Press releases
- ◆ Press conferences
- ◆ Situation reports
- ◆ Web sites

# Infrastructure Damage

- ◆ Typically a FEMA duty
- ◆ Affects EMS and Fire in getting to residents affected
- ◆ Temporary structures & alternative transport may be needed
- ◆ Work with DPWs ahead of a disaster (mitigation) for contingencies
- ◆ Also pre-plan alternate routes, etc.





# Disaster Policy



- ◆ State and Local Level
- ◆ Nationalized in major emergency-  
National Response Plan
- ◆ Presidential Disaster Declaration (PDD)
- ◆ NIMS
  - **Everyone works together under ICS Unified Command**
- ◆ FEMA Operations Center (FOC)
- ◆ Joint Information Center (JIC)

# Gauging the Need

- ◆ Same approach as MCI triage
- ◆ If it exceeds your capabilities, call for help!
- ◆ Major event - power is knocked out to a whole town, the main road in is cut off from the only highway access, flooding threatens to bury the town and collapse of a building injures 20 civilians
- ◆ Can you handle it?
- ◆ Call for help early!
- ◆ Contact local mutual aid agencies
- ◆ Contact the hospitals to prepare for wounded
- ◆ Mobilize DPW
- ◆ Contact state agencies- National Guard (transportation, etc)

# General Support Services and Local Disaster Agencies



# Local Disaster Agencies

- ◆ American Red Cross
- ◆ Salvation Army
- ◆ National Guard
- ◆ Military (ANG/NG) Civil Support Team
- ◆ State and County EMA

# Putting it all together

- ◆ Know your limitations
- ◆ Pre-plan for disasters you can expect
- ◆ Don't be afraid to ask for help
- ◆ Understand that EMS DOES have a place at the table of Emergency Management.
- ◆ Embrace that duty and prepare your agency now for the future events we KNOW will happen!

# Questions??



# Additional Resources

- ◆ <http://www.forbes.com/sites/nextavenue/2012/10/26/with-frankenstorm-approaching-how-to-prepare-yourself-for-disaster/>

# Contact Info

**Rory S Putnam, AA, NREMT-P, I/C**  
President-CEO/Owner



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