



## SOUTH CENTRAL REGION MULTI-JURISDICTION HAZARD MITIGATION PLAN

**Advisory Committee Meeting**

**October 10, 2012**

**SCRCOG**

**JAMIE CAPLAN CONSULTING**  
Emergency Management Services

# MEETING PURPOSE

- Review Hazard Identification Process
- Discuss Community Assets and Essential Facilities
- Review Outreach Strategy
- Discuss Municipality Meetings



Project Timeline

# ADVISORY COMMITTEE WEBPAGE UPDATED

## HAZARD MITIGATION ADVISORY COMMITTEE

SCRCOG has organized an Advisory Committee to assist with the development of the South Central Region Hazard Mitigation Plan. The Committee consists of representatives from participating municipalities as well as other stakeholders in the Region. The Advisory Committee will meet with SCRCOG Staff and the Consulting Team a minimum of eight times during the planning process. Participation by the Advisory Committee ensures continuous involvement by local staff and stakeholders in the development of the Plan. The Advisory Committee meetings will allow for valuable input from the stakeholders and will keep them apprised of project progress.



*Photo: Hurricane Isabel, Milford-West Haven Line; Credit: Rob Beecher/ www.visitnewhaven.com*

## HAZARD MITIGATION COMMITTEE MEETING SCHEDULE

August 14, 2012	<a href="#">Agenda</a>	<a href="#">Presentation</a>
September 12, 2012	<a href="#">Agenda</a>	<a href="#">Presentation</a>
October 10, 2012	<a href="#">Agenda</a>	

## HAZARD IDENTIFICATION

- Review hazards for initial consideration
- Review history of hazard occurrences
- Review and discuss Priority Risk Index (PRI)
- Discuss community assets and essential facilities
- Update on data collection process
- Open discussion

# HAZARD IDENTIFICATION

## ■ Hazards for Initial Consideration

Atmospheric	Hydrologic	Geologic	Other
Extreme Temperatures	Coastal Erosion	Earthquake	Wildfire
Hurricane/Tropical Storm	Dam Failure	Landslide	
Nor'easter	Drought	Soil Hazards ( <i>includes expansion, subsidence, and sinkholes</i> )	
Severe Thunderstorm ( <i>includes high winds, hail, and lightning</i> )	Flood ( <i>includes coastal, riverine and flash flooding. Also includes ice jams and storm surge</i> )	Tsunami	
Severe Winter Storm ( <i>includes snow and ice</i> )	Sea Level Rise		
Tornado			

\* *Climate change will be addressed in terms of its potential effects on the frequency and intensity of natural hazards.*

# HAZARD IDENTIFICATION

## ■ Results of “Mayor for a Day” Exercise

1. Flood \$72
2. Hurricane/Tropical Storm \$54

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3. Severe Thunderstorm/Tornado \$17
- Coastal Erosion \$17
5. Severe Winter Storm \$15
6. Sea Level Rise \$11
7. Extreme Temperatures \$7

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8. Nor'easter \$2
- Dam Failure \$2
10. Landslide \$2
11. Earthquake \$1
12. Drought \$0
- Soil Hazards \$0
- Tsunami \$0
- Wildfire \$0



# MAJOR DISASTER DECLARATIONS



**FEMA**

Date	Description
8/20/1955	Hurricane, Torrential Rain & Floods
6/14/1982	Severe Storms & Flooding
6/18/1984	Severe Storms & Flooding
10/11/1985	Hurricane Gloria
7/18/1989	Severe Storms & Tornadoes
9/16/1991	Hurricane Bob
12/17/1992	Winter Storm & Coastal Flooding
02/02/1996	Blizzard of '96
5/11/2007	Severe Storms and Flooding
3/3/2011	Snowstorm
9/2/2011	Tropical Storm Irene
11/17/2011	Severe Storm



# EMERGENCY DECLARATIONS



**FEMA**

Date	Description
2/7/1978	Blizzard & Snowstorms
3/16/1993	Severe Winds & Blizzard, Record Snowfall
3/11/2003	Snow
1/15/2004	Snow
2/17/2005	Snow
9/13/2005	Hurricane Katrina Evacuation
5/2/2006	Snow
8/27/2011	Hurricane Irene
10/31/2011	Severe Storm



# HISTORY OF HAZARD OCCURRENCES



## ■ 453 events listed in NOAA Storm Events Database

Hazard	# of Events	Property Damage	Fatalities	Injuries
Flood	89	\$3,210,000	2	0
Severe Thunderstorm	326	\$1,340,300	2	16
Tornado	15	\$129,825,030	1	87
Winter Storm	20	\$123,000	0	0
Rip Current	2	\$0	2	0
Tropical Storm	1	\$0	1	0
<b>Total</b>	<b>453</b>	<b>\$134,498,330</b>	<b>8</b>	<b>103</b>

## ■ 1989 tornado in Hamden (F4)

- \$125 million in damages
- 40 injuries



# HISTORY OF HAZARD OCCURRENCES



- **Flood** – most prevalent /frequent hazard in CT
- **49 tropical systems** since 1900
  - 25 hurricanes, 18 tropical storms
- **255 severe winter weather** events since 1950
- **88 tornado** events since 1950
- “Many” **dam failures**, mainly resulting from flood events
  - 3,000 dams regulated by DEEP (242 “high” hazard )
- **5 severe droughts** since 1929
- Many small **wildfires** occur each year, burning a total of approximately 1,000 acres per year
- **140 earthquakes** in CT since 1568 (low magnitude)

# PRIORITY RISK INDEX (PRI)

- Helps evaluate and prioritize hazards based on five factors:
  - **Location** (geographic area affected)
  - **Probability of future events**
  - **Impact** (potential casualties, damage or loss)
  - **Warning time**
  - **Duration of event**
- Will be used in combination with vulnerability assessment results to identify most significant hazard risks
- Based on best available data, and YOUR input

Priority Risk Index (PRI) South Central Region Multi-Jurisdictional Hazard Mitigation Plan				
PRI CATEGORY	DEGREE OF RISK			ASSIGNED WEIGHTING FACTOR
	LEVEL	CRITERIA	INDEX VALUE	
Location	Negligible	Less than 1% of planning area affected	1	20%
	Small	1-10% of planning area affected	2	
	Moderate	10-50% of planning area affected	3	
	Large	50-100% of planning area affected	4	
Probability	Unlikely	Less than 1% annual probability	1	30%
	Occasional	1-10% annual probability	2	
	Likely	10-90% annual probability	3	
	Highly Likely	90-100% annual probability	4	
Impact	Minor	Very few injuries, if any. Only minor property damage and minimal disruption to quality of life. Partial shutdown of critical facilities for less than one day.	1	30%
	Limited	Minor injuries only. 10-25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one day.	2	
	Critical	Multiple fatalities/injuries possible. More than 25% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one week.	3	
	Catastrophic	High number of fatalities/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for more than one month.	4	
Warning Time		More than 24 hours	1	10%
		12 to 24 hours	2	
		6 to 12 hours	3	
		Less than 6 hours	4	
Duration		Less than 6 hours	1	10%
		6 to 24 hours	2	
		1 to 7 days	3	
		More than 1 week	4	

# COMMUNITY ASSETS

## ■ People

- Residential and transient populations
- Social vulnerability factors (demographics; access and functional needs)
- Projected population growth = increased vulnerability?

## ■ Economy

- Major employers
- Commercial/industrial centers
- Primary economic sectors
- Interdependencies between sectors
- What drives your community?

# COMMUNITY ASSETS

## ■ Built environment

- Existing structures
- Critical facilities \*
- Infrastructure \*
- Cultural and historic resources
- Future development

## ■ Natural environment

- Critical or sensitive areas
- Features or systems that provide beneficial functions, including protection from hazards
- Future target areas for conservation, recreation, etc.

# CRITICAL FACILITIES AND INFRASTRUCTURE



**FEMA**

- Provide services essential for life safety and economic viability.
- Must continue to operate during and following a disaster.

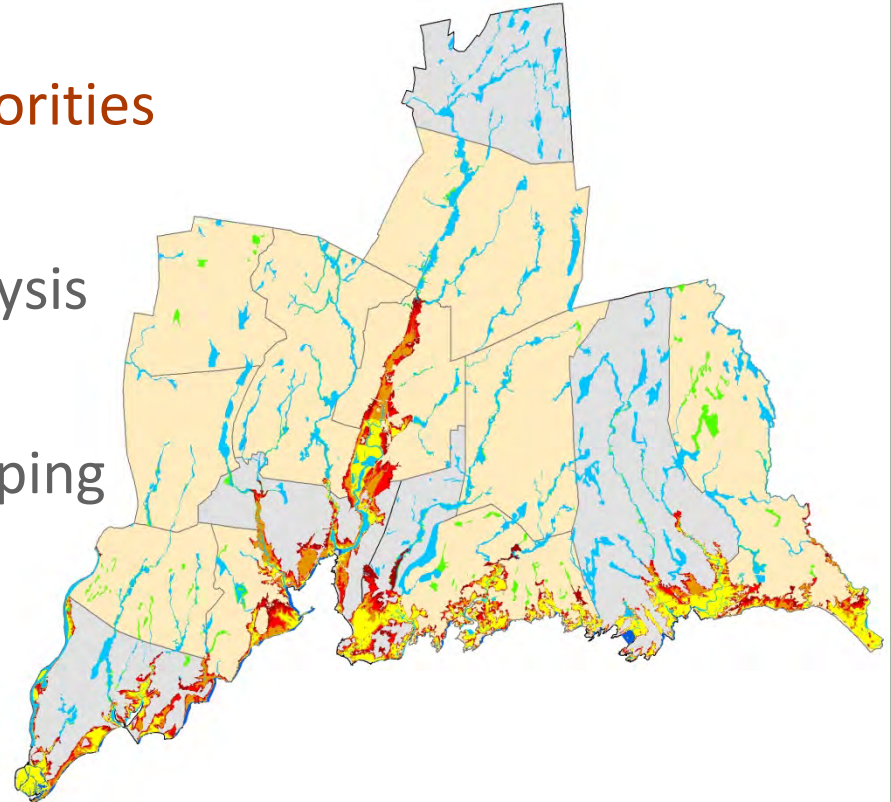
Critical Facilities	High Potential Loss Facilities	Infrastructure Systems
Hospitals and medical facilities	Nuclear power plants	Water and wastewater
Police and fire stations	Dams	Power utilities
Emergency operations centers	Military and civil defense installations	Transportation (roads, railways, waterways)
Evacuation shelters	Locations housing hazardous materials	Communication systems/centers
Schools		Energy pipelines and storage
Airports/heliports		

# RISK ASSESSMENT

- Helps establish mitigation priorities

- Key Steps

- ☒ Data Collection and Analysis
- ☒ Hazard Identification
- ☐ Hazard Profiles and Mapping
  - Location
  - Extent
  - Previous occurrences
  - Probability of future occurrences
- ☐ Inventory of Community Assets
- ☐ Vulnerability Assessment





## RISK ASSESSMENT

- Will be stand-alone section(s) of plan document
- Options to consider:
  - Include in main document, or appendix?
  - Summarize all information by hazard, or by each step?
    - Hazard Identification (*includes descriptions*)
    - Hazard Analysis (*includes profiles + mapping*)
    - Vulnerability Assessment (*includes loss estimates*)

# PUBLIC OUTREACH STRATEGY – FALL FOCUS

1. Public Opinion Survey
  2. Municipality Meetings
- Municipality Websites
  - Municipality Media
  - Municipality Meetings
  - Flyers or Print Materials

## Public Opinion Survey

We Need Your Assistance!

Below is a link to a survey that provides an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand your hazard concerns and can lead to mitigation activities that should help lessen the impacts of future disasters.

[SCRCOG Hazard Mitigation Public Opinion Survey](#)

# PUBLIC PARTICIPATION SURVEY



## **Branford Community Survey Request - Natural Hazards Mitigation Plan**

**Staff | Posted: Monday, October 1, 2012 12:52 pm**

The Town of Branford is participating in the development of a Regional Natural Hazards Mitigation Plan. This plan will be a regional plan but will also be specific to Branford.

There will be public outreach meetings sometime after January 2013, but right now there is a survey available for people to become involved and give their opinions and provide information which will guide the plan.

The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the Town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a

disaster is declared.

Please note that on the Town of Branford website there is a link under the "News and Events" section on the right hand side of the front page called Hazard Mitigation Plan. This link will bring you to the South Central Regional Council of Governments website page for the Hazard Mitigation Plan which will provide some information on the plan as well as the link for the survey. <http://www.scrkog.org/regional-hazard-mitigation.html>

Please take time to complete the survey and contact me if you have any questions or comments regarding the plan. Share this information with friends and colleagues. Thank you,

The survey [can be accessed here](#).

[Janice A. Plaziak, P.E.](#)  
[Branford Town Engineer](#)

# PUBLIC PARTICIPATION SURVEY IN THE MEDIA

## Branford

October 9, 2012

HOME | NEWS | LIVING | SPORTS | COMMUNITY | MULTIMEDIA | CONTACT

### Hazard Mitigation Survey Responses Needed

By Pam Johnson

Published 10/03/2012 12:00 AM Updated 10/03/2012 12:20 PM



Pam Johnson

Branford hazards created by Tropical Storm Irene in Aug. 2011 included this seawall and beach erosion, with roadway destruction above, on Linden Avenue.

If you were in Branford on Aug. 27, 2011, you know the answer to the following question: Have you ever experienced or been impacted by a disaster?

That's one of several questions in a current on-line survey in which Town Engineer Janice Plaziak hopes many residents will participate.

The South Central Regional Council of Governments (SCRCOG) and its municipalities, including Branford, are working together to prepare a multi-jurisdiction Hazard Mitigation Plan. The plan will identify and assess natural hazard risks (flooding, winter storms, hurricanes, etc.) and provide ways to best minimize or manage those risks. Answers and opinions provided by survey results will help build the plan.

The final plan will be a regional plan, but it will also be specific to Branford, said Plaziak.

"The purpose of the Hazard Mitigation Plan is to become compliant with FEMA requirements and identify the town's natural hazards and develop a risk assessment. This will result in better emergency management during an event as well as identify projects that could potentially reduce risks in the community. With a plan in place, the community can prioritize projects and the Town will also be eligible to obtain FEMA Hazard Mitigation Grant Funds if a disaster is declared," said Plaziak.

Plaziak noted there will be public outreach meetings sometime after January 2013, but right now, "...people can become involved by responding to the survey, where they can give their opinions and provide information to guide the plan."

The survey can be found at <http://www.scrkog.org/regional-hazard-mitigation.html>

There is also a link to the survey through the Town of Branford website, under "News and Events."

# MUNICIPALITY MEETINGS

- When and Where?
- Who should participate?
  - City Management
  - Emergency Management
  - Fire Department
  - Floodplain Management
  - GIS
  - Parks and Recreation
  - Planning and Community Development
  - Public Works
  - Stormwater
  - Management
  - Transportation
  - City Council Representative
  - Planning Committee
  - School System Representative
  - Chamber of Commerce
  - University Emergency Manager
- Resources to interest stakeholders.

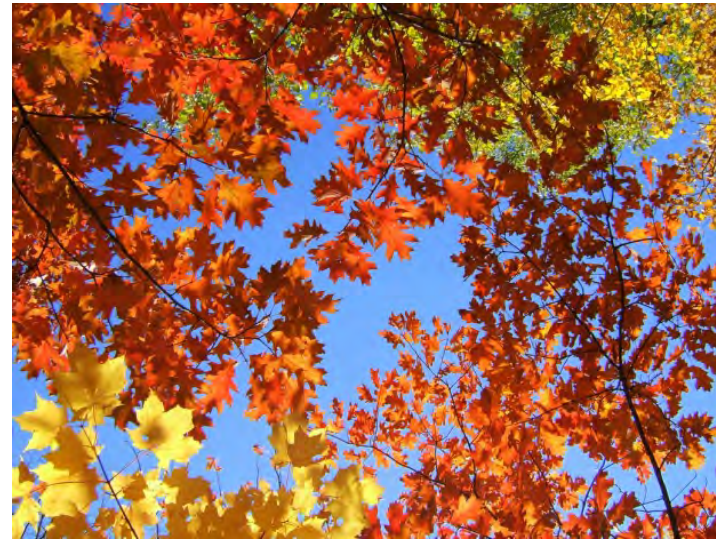


# MUNICIPAL MEETING AGENDA

- Opportunity to contribute local data and “ground truthing”
- Introduction to the mitigation planning process
- Review of identified natural hazards
- Identification of local essential facilities and specific areas of concern with regard to natural hazards
- Discussion of local capabilities including existing authorities, policies, programs and resources that may be used to implement hazard mitigation activities.
- Review of current hazard mitigation actions

## DISCUSSION AND NEXT STEPS

- Public Opinion Survey – make sure you complete it!
- Municipality Meetings – reach out to local stakeholders and schedule meeting.
- Risk Assessment Data – contribute local data sets.
- Next Meeting – December 5, 2012, 1:00pm







# THANK YOU

**Jamie Caplan and Darrin Punchard**

**SCRCOG**

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