Nassau County Multi-Jurisdictional Hazard Mitigation Planning Effort

Meeting #1

of

Area Assessment Team OB

(Oyster Bay Boundary)

November 28, 2005

10 am to 12 pm

Terry Winters
NC-OEM, Planning Committee Chairman
twinters@nassaucountyny.gov
(516) 573-0636

Anna Foley
URS Corp., Project Manager
anna_foley@urscorp.com
(973) 785-0700 ext. 449

Today's Agenda

- Welcome and Opening Remarks
- Overview of the Project and Planning Team Structure
- Participation Criteria
- The Hazard ID and Profile Steps
- Next Steps
- Questions and Answers

What is hazard mitigation?

Hazard mitigation measures are actions you can undertake today to reduce your susceptibility to damages in the future.

Examples:

Residential structure elevation/acquisition

Raising/widening a bridge

Retrofits (i.e., hurricane clips; raising utilities)

Setback distances

Modifying building codes

What is hazard mitigation planning?

Hazard Mitigation Planning is:

The process of identifying community policies, actions, and tools for implementation in the long-term that result in a reduction of risk and potential for future losses *BEFORE* a disaster strikes.

Don't confuse with emergency response planning!

Some Key Points:

- Disaster Mitigation Act of 2000 (DMA2000):
  - The Act that set forth the planning requirements
  - Before DMA 2000, hazard mitigation plans were only required at the state level
  - DMA 2000 continued requirement for State plans and created new requirement for Local Hazard Mitigation Plans

Some Key Points:

- Disaster Mitigation Act of 2000 (DMA2000):
  - Natural Hazards → Required
  - Human Caused Hazards → Not Required

Nassau County Plan = Natural Hazards Only

Why Prepare a Hazard Mitigation Plan?

- Eligibility to apply for Federal aid for technical assistance and certain types of pre- and post-disaster project funding, including:
  - HMGP (Hazard Mitigation Grant Program)
  - PDM (Pre-Disaster Mitigation Program)
  - FMA (Flood Mitigation Assistance Program)

$ FEMA PDM grant money has been received to do so

Why Prepare a Hazard Mitigation Plan?

- Damages can be prevented by taking the time to plan:
  - learn about hazards
  - anticipate where and how they occur
  - identify projects for reducing damages based on risk
- Planning reduces losses and facilitates recovery.

Elevated homes in Sweet Lake, LA (near Lake Charles) after Hurricane Rita (09/24/05).

What are the options for municipalities?

- To comply with DMA 2000 communities can prepare:
  - their own, ‘single-jurisdiction’ plan
  - or, join together with other municipalities to pool resources and prepare a ‘multi-jurisdictional’ plan

What are the options for municipalities?

Communities that do not have an approved hazard mitigation plan in place are no longer eligible for FEMA grant monies such as FMA, HMGP, and PDM.

What is a Multi-Jurisdictional Plan?

- Communities coming together to participate in a joint mitigation plan development process.

- Common:
  - Planning Process
  - Hazards
  - Goals
  - Plan Maintenance Procedures

- Unique:
  - Risks
  - Mitigation Actions
  - Participation
  - Plan Adoption

What is a Multi-Jurisdictional Plan?

Multi-Jurisdictional Approach

- Basic processes for single jurisdiction and multi-jurisdictional plans are identical.
- Difference lies in degree of complexity.

What is a Multi-Jurisdictional Plan?

- A multi-jurisdictional plan can include:
  - Any group of communities exposed to similar hazards
    - Communities in the same county
    - Communities in the same watershed
    - As little as two neighboring communities
    - Etc…

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- The hazard mitigation planning process will be undertaken by the "Planning Group"
  - Participating Jurisdictions
  - Other Stakeholders
  - The Public
- Consultants will provide technical support

Why Participate in a Multi-Jurisdictional Plan Development Process?

Participating Jurisdictions:

- Practical way to addressing issues best dealt with on a larger scale, which do not recognize political boundaries.
- Creates economies of scale.
- Enables pooling of limited resources.

Why Participate in a Multi-Jurisdictional Plan Development Process?

Participating Jurisdictions – Bottom Line:

- Because of the FEMA PDM planning grant received by Nassau County, *participating jurisdictions need only commit people to the process…not $$$.*

Why Participate in a Multi-Jurisdictional Plan Development Process?

The Public and Other Stakeholders:

- Can learn about hazards through participation in the process
- Can learn about things they can do to reduce risks
- Can provide valuable input
  - Describing stakeholder capabilities/responsibilities
  - Identifying hazards
  - Quantifying affects of hazards
  - Contributing to the overall vision and direction of the plan

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- All municipalities have the option of taking part
  - As “Participating Jurisdictions”

    - *OR* -

  - As “Other Stakeholders”

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- Municipalities as "Participating Jurisdictions"
  - Will meet participation criteria and satisfy requirements of DMA 2000
  - Will adopt and implement the plan
  - Plan will 'count' for them in FEMA's eyes
  - Eligible to apply for PDM, HMGP, FMA projects

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- Municipalities as “Other Stakeholders”
  - Will provide feedback and input during the plan development process
  - Will not need to meet participation criteria, or adopt and implement the final plan
  - Often chosen for communities who have already decided to prepare a single-jurisdiction plan

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- What about non-municipal "Other Stakeholders"?
  - Will provide feedback and input during the plan development process
  - Will not need to meet participation criteria, or adopt and implement the final plan
  - Can include….(next slide)

About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

Non-municipal "Other Stakeholders"

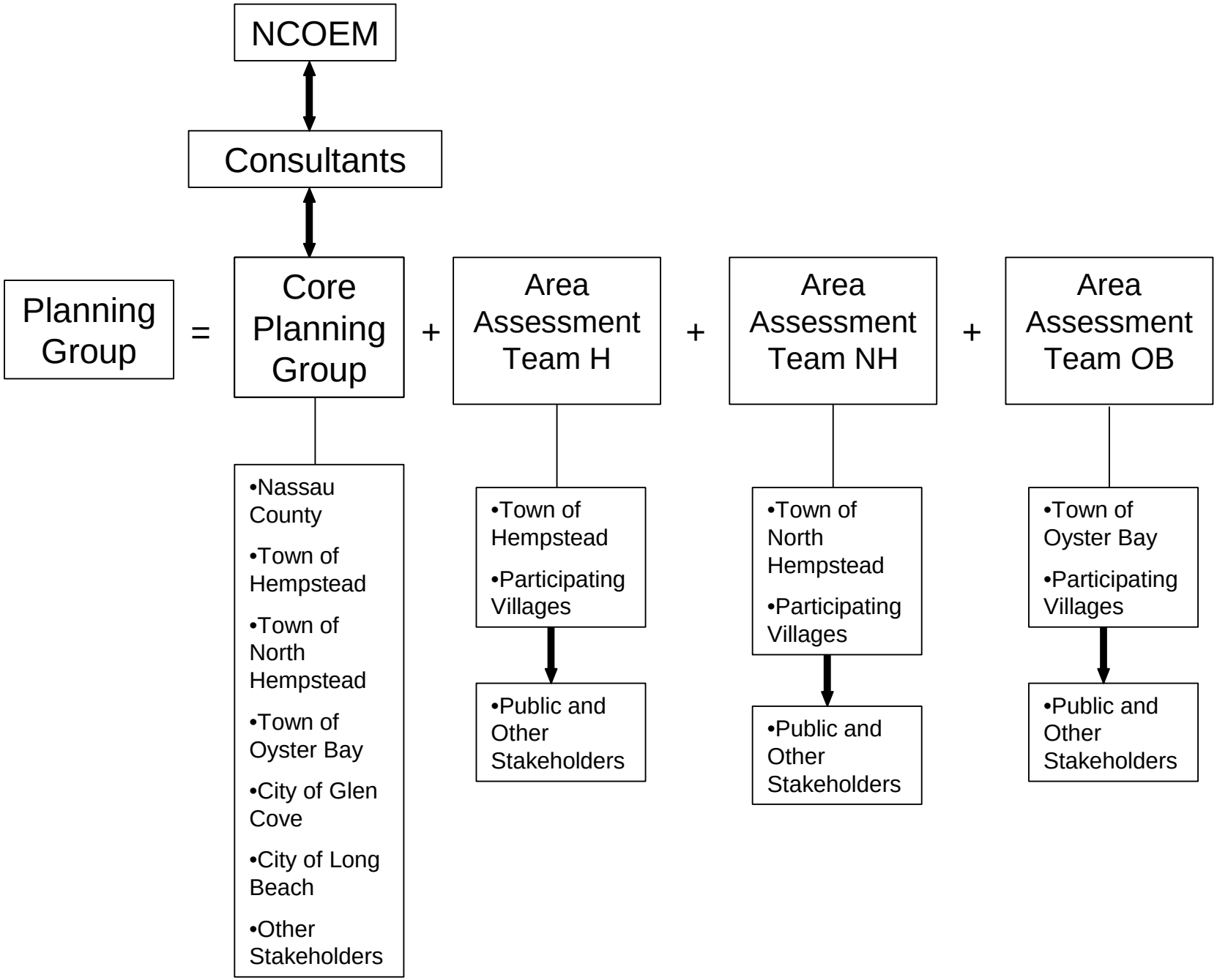
- Neighborhood groups
- Non-profit organizations (i.e. scout troops, Red Cross, Salvation Army)
- Housing organizations
- Environmental groups
- Historic preservation groups
- Parent-teacher organizations
- Church organizations
- Parks organizations
- State, federal, and local government offices
- Neighboring communities/counties
- Business and development organizations
- Academic institutions
- Utility providers
- Hospitals
- Tribal groups
- Transportation entities
- Regional planning organizations
- Emergency service providers
- Jurisdiction web site managers / IT staff
- Any local office and/or group with a public outreach focus

The Overall Planning Group

- Nassau County
- 3 Towns
- 2 Cities
- Up to 64 Villages
- Many Other Stakeholders

Organizational Structure of the Planning Group

- Goal: Keep meetings to a workable number
- Challenge: Many potential players
- Solution: Identify smaller sub-groups
- Approach: Divide based on geographic area


NCOEM
Consultants
Planning Group
=
Core Planning Group
+
Area Assessment Team H
+
Area Assessment Team NH
+
Area Assessment Team OB
•Nassau County
•Town of Hempstead
•Town of North Hempstead
•Town of Oyster Bay
•City of Glen Cove
•City of Long Beach
•Other Stakeholders
•Town of Hempstead
•Participating Villages
•Public and Other Stakeholders
•Town of North Hempstead
•Participating Villages
•Public and Other Stakeholders
•Town of Oyster Bay
•Participating Villages
•Public and Other Stakeholders

The Role of Participating Jurisdictions

- Regardless of Core Planning Group or Area Assessment Team, each participating jurisdiction must:

  - Satisfy participation criteria
  - Provide information and feedback
  - Reach out to the public and other stakeholders
  - Assess mitigation alternatives
  - Select a course of action to be followed for their community
  - Implement the plan and monitor its progress

The Role of the Public and Other Stakeholders

- The Public and Other Stakeholders:
  - Advisory role
  - Provide feedback
    - Historic affects
    - Proposed mitigation actions
    - Etc…
  - Get the word out

The Role of Consultants

- Consultants can't "work in a bubble" to author a hazard mitigation plan that will comply with DMA 2000.

The Role of Consultants

- Consultants *CAN*
  - Provide technical assistance
  - Guide participating jurisdictions through the steps of plan development
  - *Document* in the plan *the process* undertaken by each participating jurisdiction

Remember…

- Your participation = the process we will document
  - Active participation → likely plan approval for your jurisdiction
  - Insufficient participation → unlikely plan approval for your jurisdiction

Consultants Provide The Tools

- Hazard profiles
- Asset I.D. and characterization
- Potential types of mitigation actions
- Synthesizes input from Core Planning Group and participating jurisdictions
- Authors the plan
- Provides sample adoption resolution
- Defines plan maintenance process and schedule

The Planning Group Uses These Tools To:

- Identify hazard effects
- Highlight key assets at risk
- Estimate dollar losses
- Analyze mitigation actions
- Prioritize selected actions
- Define an implementation strategy

Overview of the Plan Development Process: *The Basis*

- FEMA's Local Plan Review Worksheet
- Sometimes called "the Crosswalk"
- What FEMA uses to 'grade' mitigation plans.
- www.fema.gov/doc/fima/local_plan_review_worksheet.doc

http://www.fema.gov/doc/fima/local_plan_review_worksheet.doc - Microsoft Internet Explorer
File Edit View Insert Format Tools Table Go To Favorites Help
Back Search Favorites
Address http://www.fema.gov/doc/fima/local_plan_review_worksheet.doc Go Links

Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer's comments must be provided for requirements receiving a **"Needs Improvement"** score.

SCORING SYSTEM

Please check one of the following for each requirement.

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Prerequisite(s) (Check Applicable Box)	**NOT MET**	**MET**
Adoption by the Local Governing Body: §201.6(c)(5) **OR**		
Multi-Jurisdictional Plan Adoption: §201.6(c)(5) **AND**		
Multi-Jurisdictional Planning Participation: §201.6(a)(3)		

Planning Process	**N**	**S**
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)		

Risk Assessment	**N**	**S**
Identifying Hazards: §201.6(c)(2)(i)		
Profiling Hazards: §201.6(c)(2)(i)		
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)		
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)		
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)		
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)		
Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)		

Mitigation Strategy	**N**	**S**
Local Hazard Mitigation Goals: §201.6(c)(3)(i)		
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)		
Implementation of Mitigation Actions: §201.6(c)(3)(iii)		
Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		

Plan Maintenance Process	**N**	**S**
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)		
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)		
Continued Public Involvement: §201.6(c)(4)(iii)		

Additional State Requirements*	**N**	**S**
Insert State Requirement		
Insert State Requirement		
Insert State Requirement		

LOCAL MITIGATION PLAN APPROVAL STATUS	
PLAN NOT APPROVED	
PLAN APPROVED	

Unknown Zone
Start 2:23 PM

Overview of the Plan Development Process: *Key Steps*

- Research a full range of natural hazard events
- Identify subset of significant hazards; these will be focus of the plan
- Identify location and extent of hazard areas
- Identify assets located within hazard areas

Overview of the Plan Development Process: *Key Steps*

- Characterize existing and potential future assets at risk
- Assess vulnerabilities to the identified hazards
- Evaluate and prioritize:
  - Goals
  - Objectives
  - Mitigation actions

Participation Criteria

What does it mean to participate?

- Most importantly: provide input
- Draft Participation Criteria (see handout)
  - Applies to 'participating jurisdictions'
  - Does not apply to 'other stakeholders'

Participation Criteria

Each "Participating Jurisdiction" must:

1. Provide a committee representative who is empowered to act on the jurisdiction's behalf and bear the responsibility to be a conduit between the plan author and the jurisdiction.

2. Fill out and return questionnaires completely and on time.

Participation Criteria

Each "Participating Jurisdiction" must:

3. Be available to provide telephone/email feedback for clarification of information on the surveys/questionnaires, if requested.

4. Attendance at a minimum of 3 meetings.

5. Review and comment on the draft plan and interim deliverables on time.

Participation Criteria

Each "Participating Jurisdiction" must:

6. Use suggestions presented in the Outreach Plan to provide at least one opportunity for neighboring jurisdictions, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process.

Hazard Identification and Profile Steps

Hazard Identification:

- Evaluate a full range of natural hazards
- Which hazards are significant? Why?
- Which are not significant? Why not?

Hazard Identification and Profile Steps

Hazard Identification:

- Evaluated 20 natural hazards
- 10 were found to be significant and will be the focus of the plan
- 10 were not found to be significant and will not be addressed further

Hazard Identification and Profile Steps

Significant Hazards Identified (Focus of Plan)

- Coastal Erosion
- Wave Action
- Earthquakes
- Floods
- Landslides
- Drought
- Hurricanes
- Tornadoes
- Winter Storms/Ice Storms
- Extreme Winds

Hazard Identification and Profile Steps

Hazard Profile:

- Profile significant hazards
  - Location and extent
  - Historical events
  - Hazard characteristics
  - Probability of future events
  - Severity of future events

Hazard Identification and Profile Steps

Hazard Profile:

- Hazard Profile near completion
- Interim Deliverable
  - November/December 2005
  - Awaiting some info from NYSDEC (CEHA)

Hazard Profile – Did You Know….

Total Population = 1.3 million

- **Hempstead = 755,924**
- **North Hempstead = 222,611**
- **Oyster Bay = 293,925**
- **Glen Cove = 26,622**
- **Long Beach = 35,426**

Hazard Profile – Did You Know....

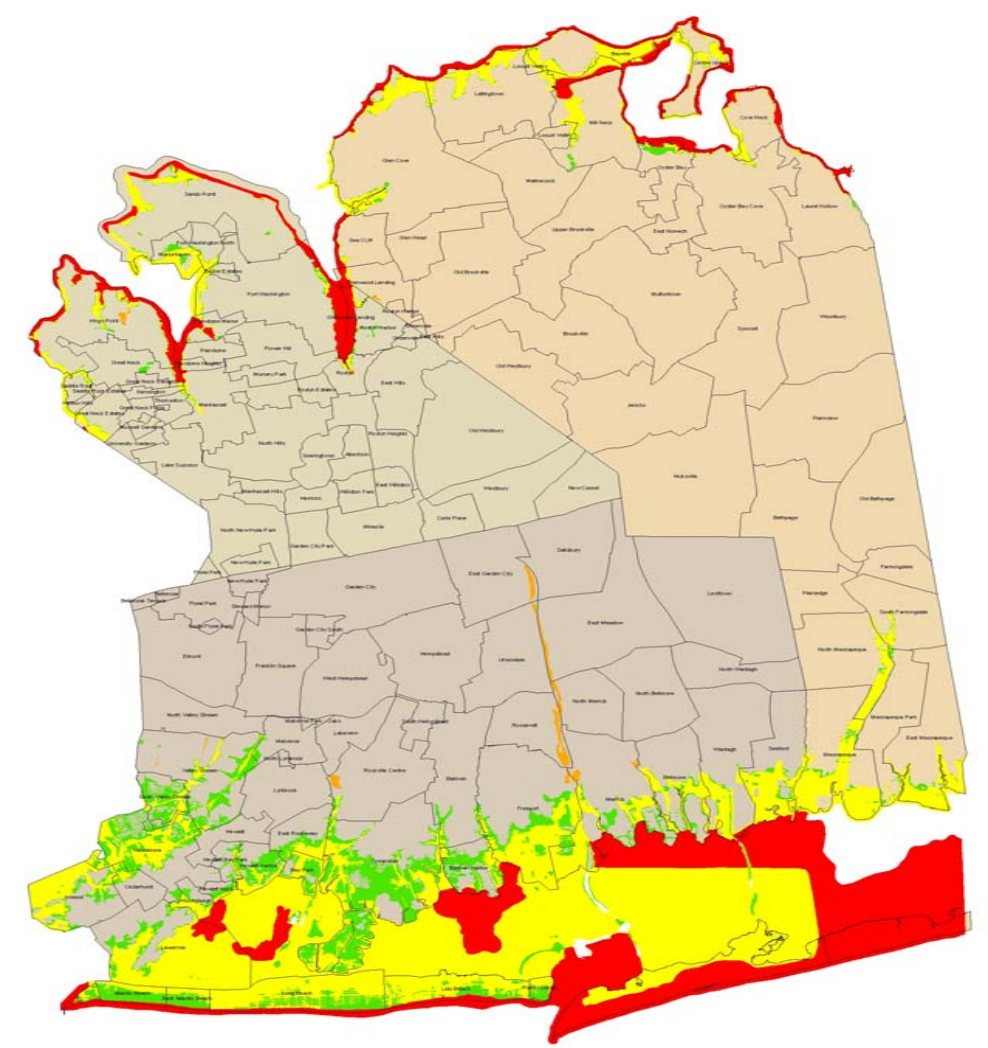
- Nassau County has
  - Nearly 188 miles of coastline
  - Extensive history of damages from erosion; wave action; high winds; flooding
  - Ongoing, but exacerbated during storm events.

Hazard Profile – Did You Know....

- For tropical and extratropical storms causing either some degree of shoreline damage or at least threatening Long Island:
  - 204 storms between 1800 and 1962
    - Storms with moderate damage 1 each 2 yrs
    - Unusually severe storms 3 times each 100 yrs

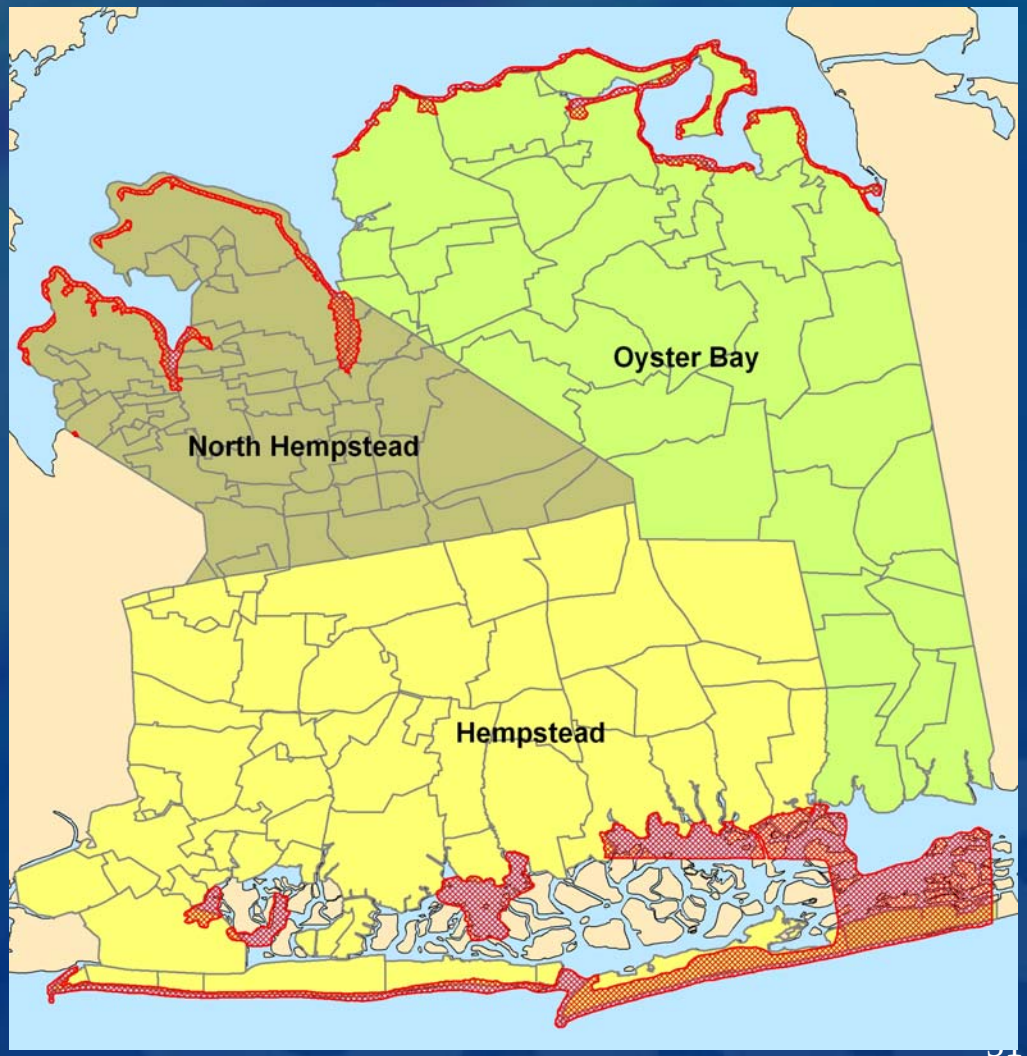
Hazard Profile – Did You Know….

- FEMA Q3 Flood Data
- 100 yr
- 100 yr + wave
- 500 yr

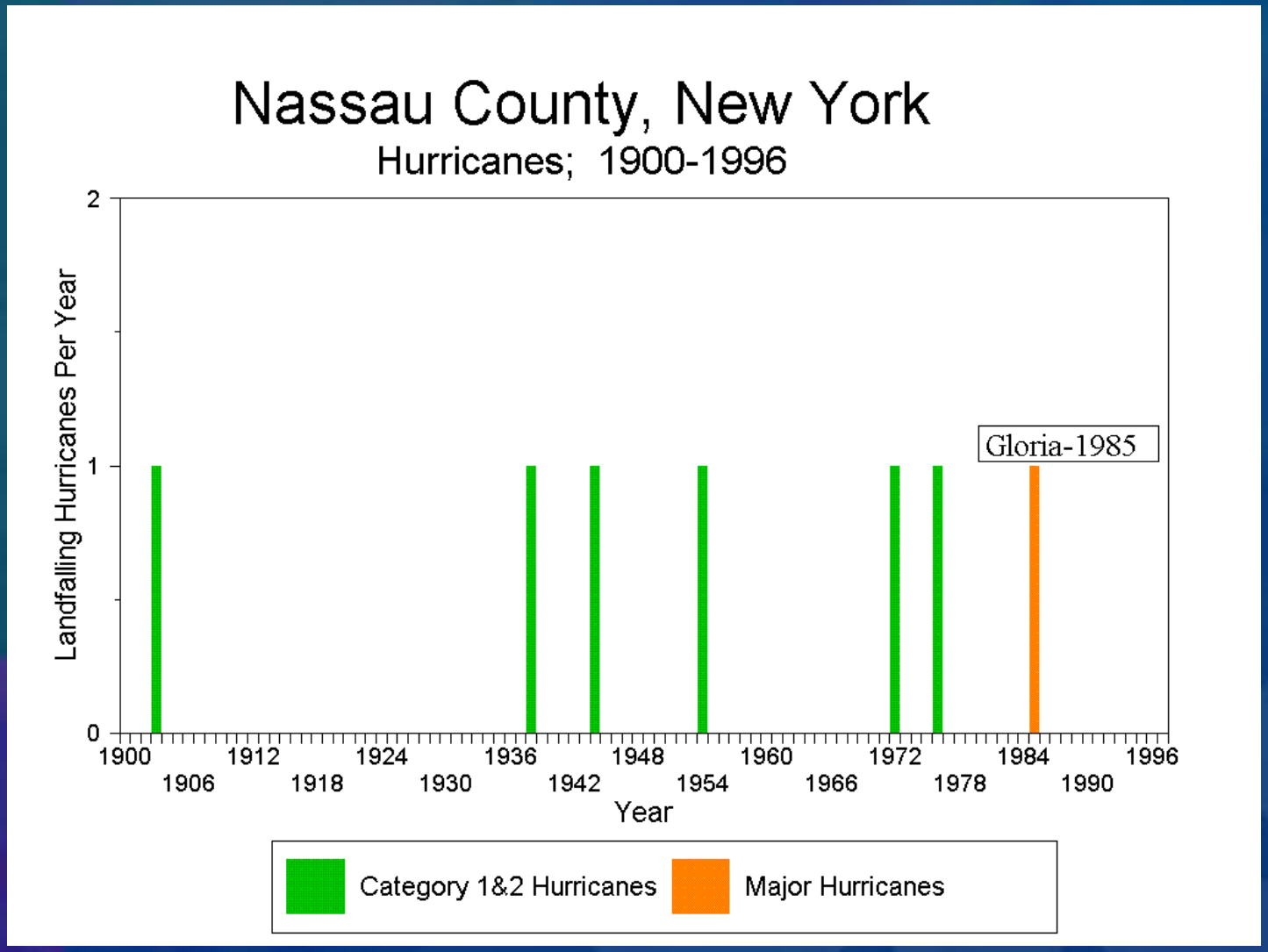


Hazard Profile – Did You Know….

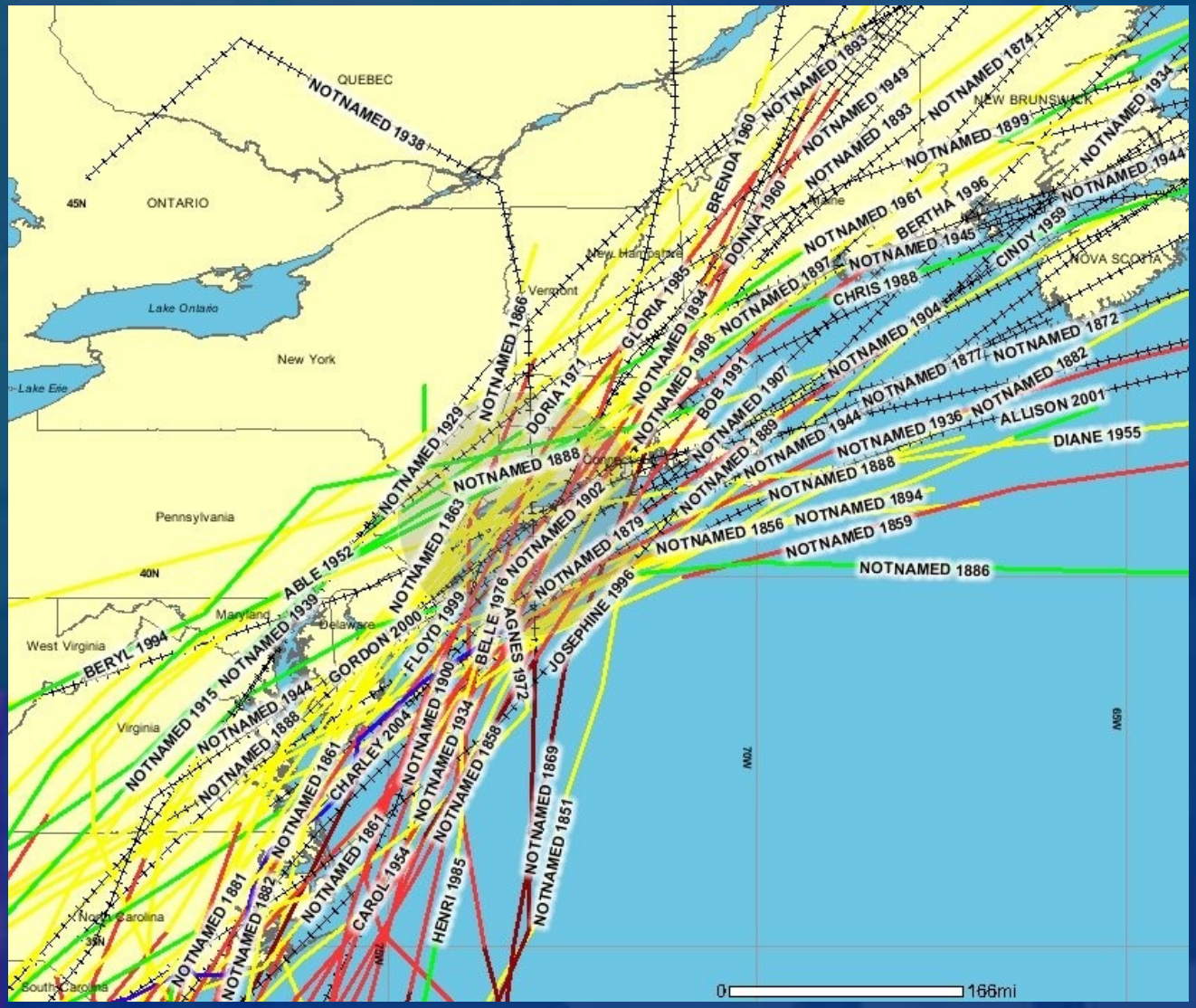
- FEMA Velocity Zones (V-zones)
- Wave action
- Red shaded areas



Hazard Profile – Did You Know….

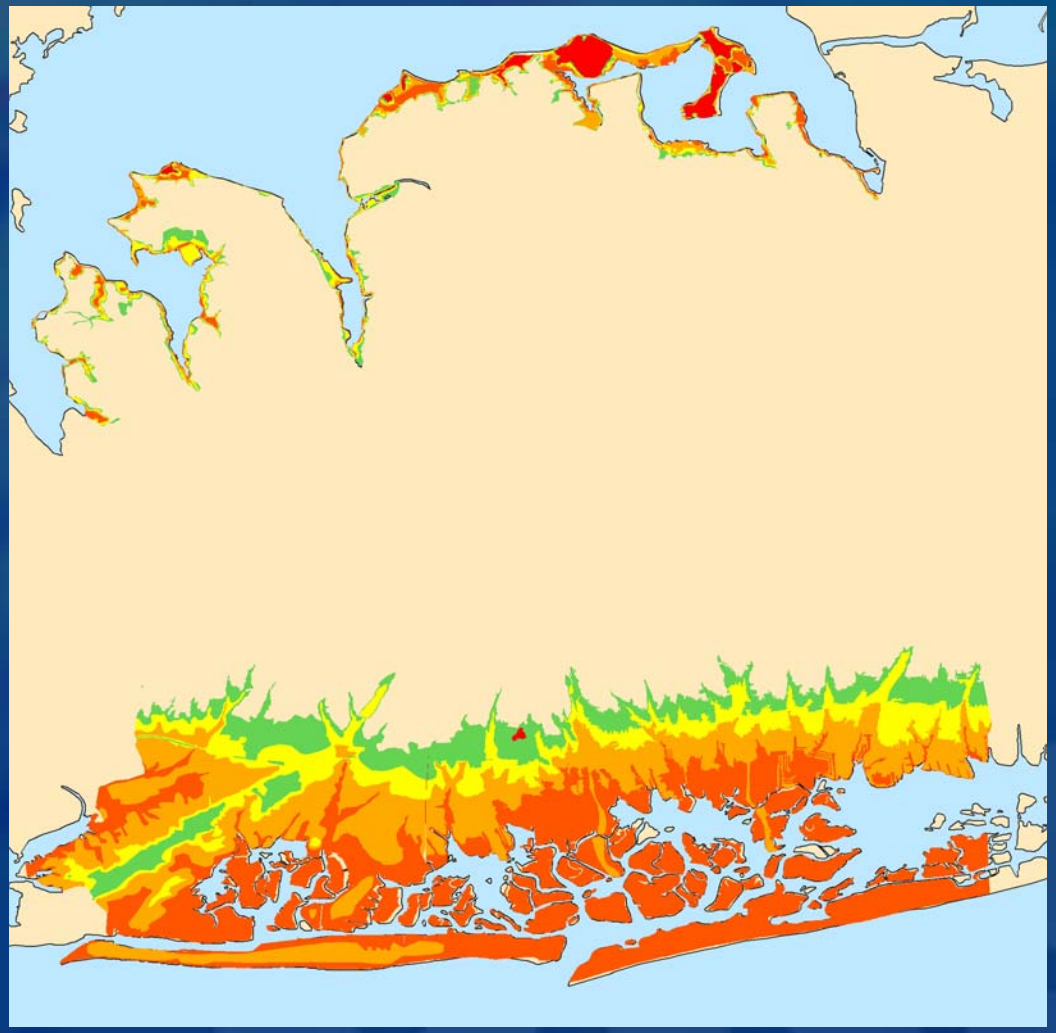


Hazard Profile – Did You Know....



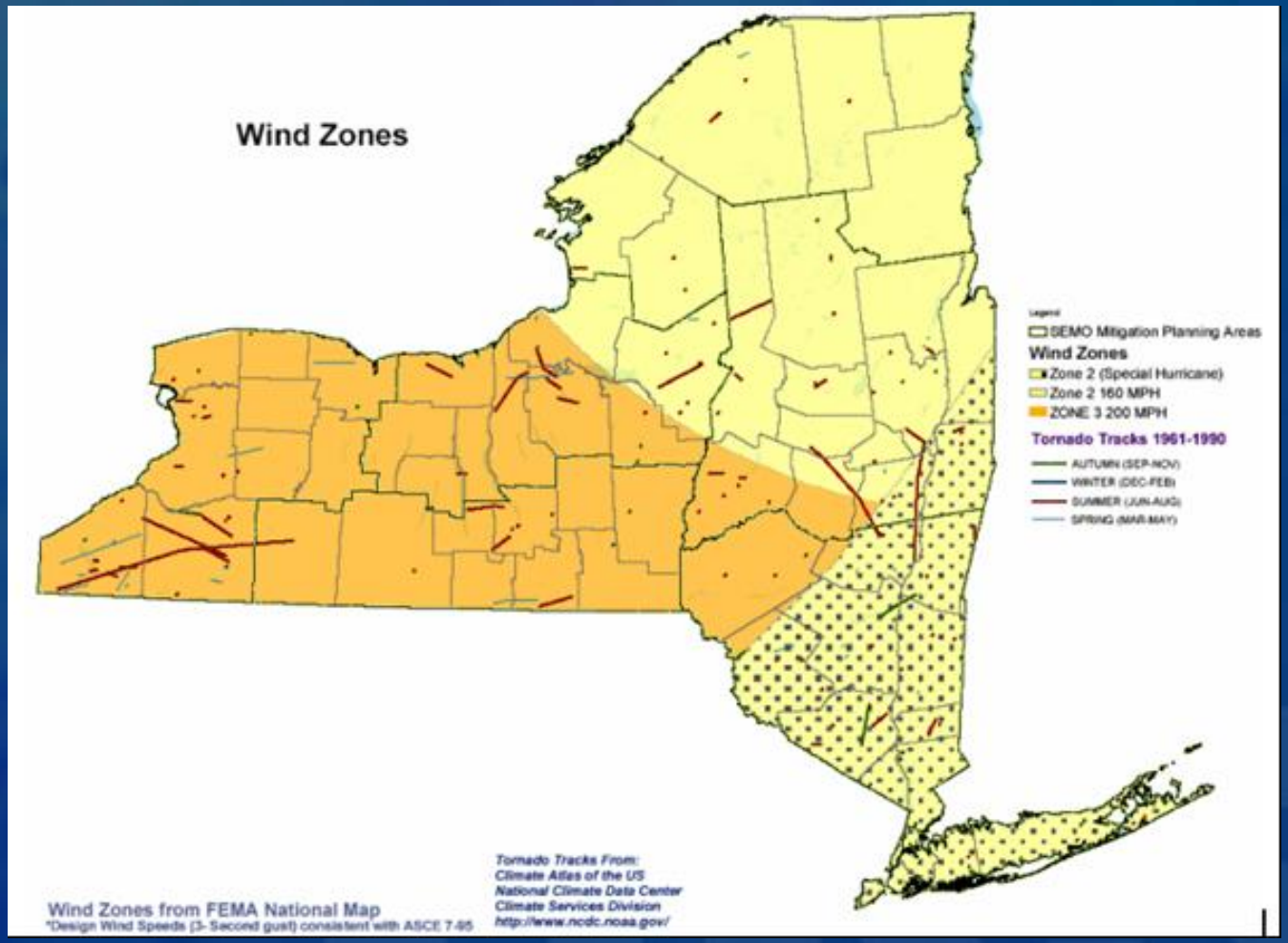
Hazard Profile – Did You Know….

- SLOSH
- Storm Surge Mapping



Hazard Profile – Did You Know….

- Wind Zone 2-Special Hurricane
- 160 mph design wind speed



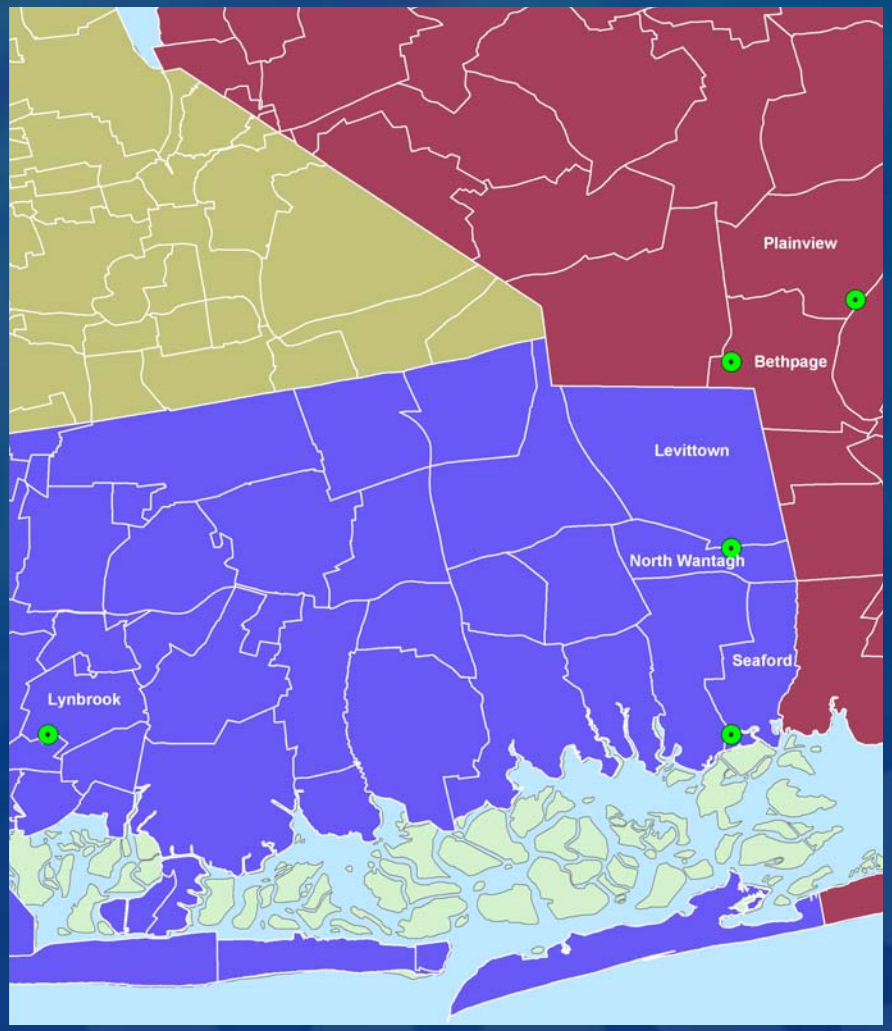
Hazard Profile – Did You Know….

Wind Speed Probabilities for Nassau County and Surrounding Area
(Milepost 2550, as per FEMA B-C Module – Wind, Version 1.0, January 20, 1995)

Recurrence Interval	Annual Probability of Occurrence (%)	Wind Speed At the Coast – South Shore (mph)	Wind Speed At 5 Miles Inland (mph)	Wind Speed At 10 Miles Inland (mph)	Wind Speed At 15 Miles Inland (mph)	Wind Speed At 20 Miles Inland – North Shore (mph)	Wind Speed At 125 Miles Inland (mph)
10	10	51	50	49	49	48	32
25	4	77	76	76	75	74	61
50	2	92	91	91	90	89	76
100	1	101	101	100	100	99	90
2000	0.05	138	138	137	137	137	130

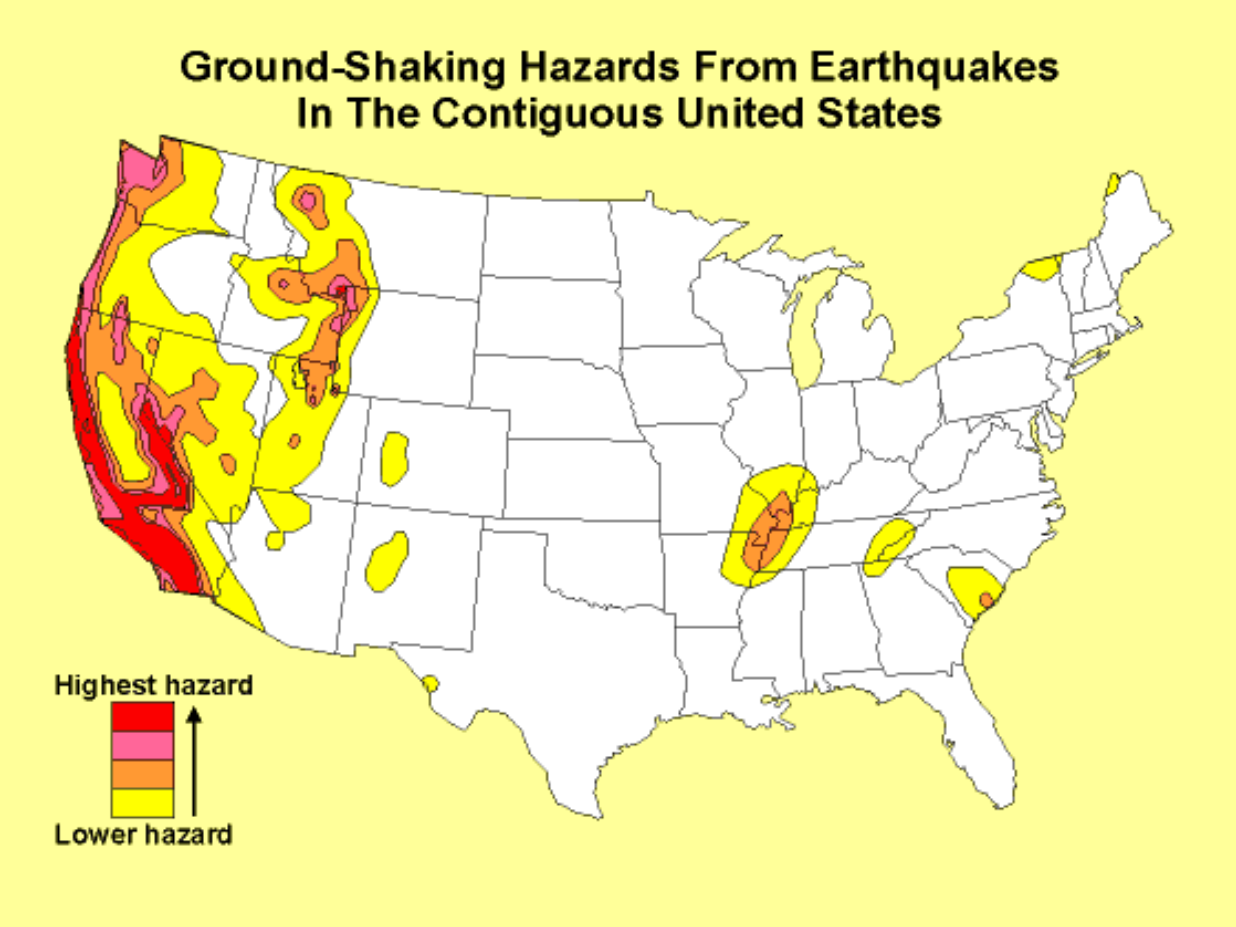
Hazard Profile – Did You Know….

- Nassau County can expect:
  - Average annual number of 1.6 thunderstorm and high wind events
  - Average annual number of 0.6 tornadoes



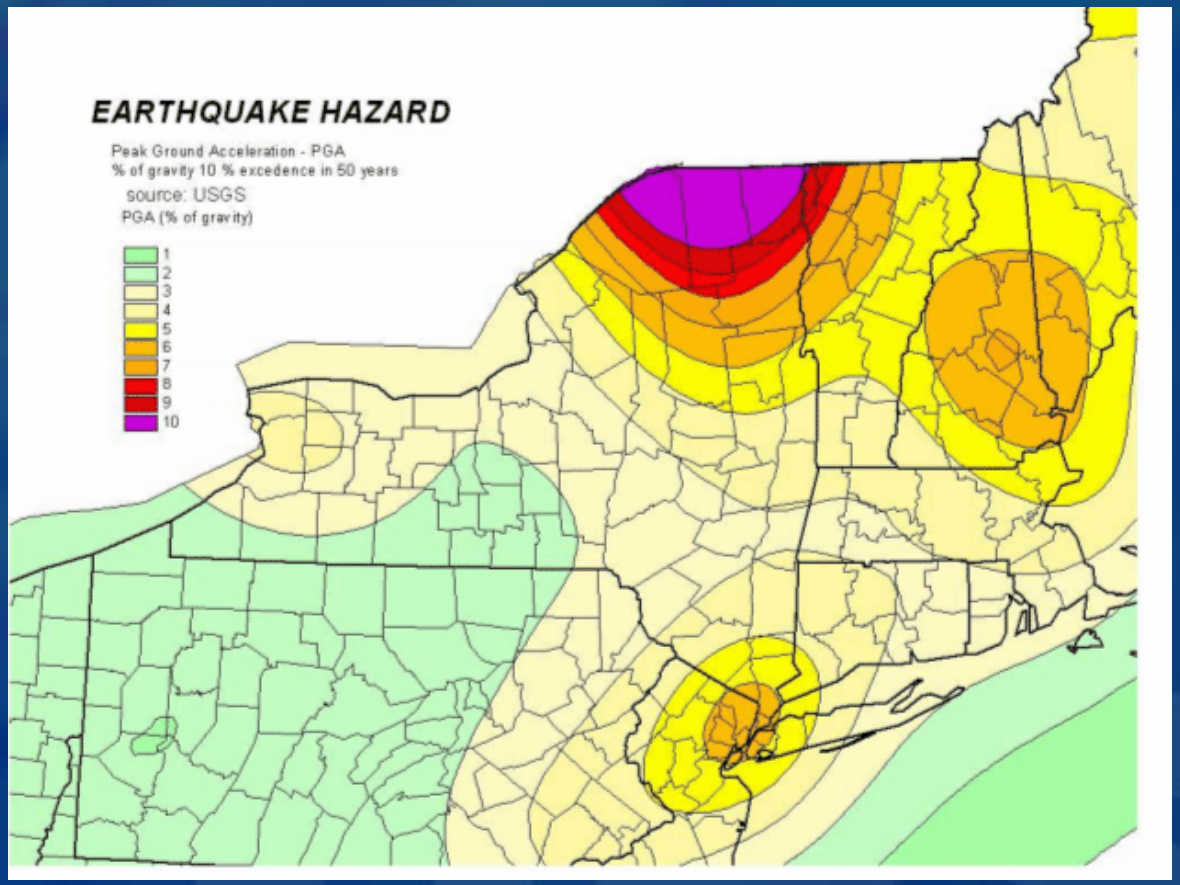
Hazard Profile – Did You Know….

- Shaded areas have at least a 10% chance of experiencing an earthquake causing appreciable damage over a 50-year period



Hazard Profile – Did You Know....

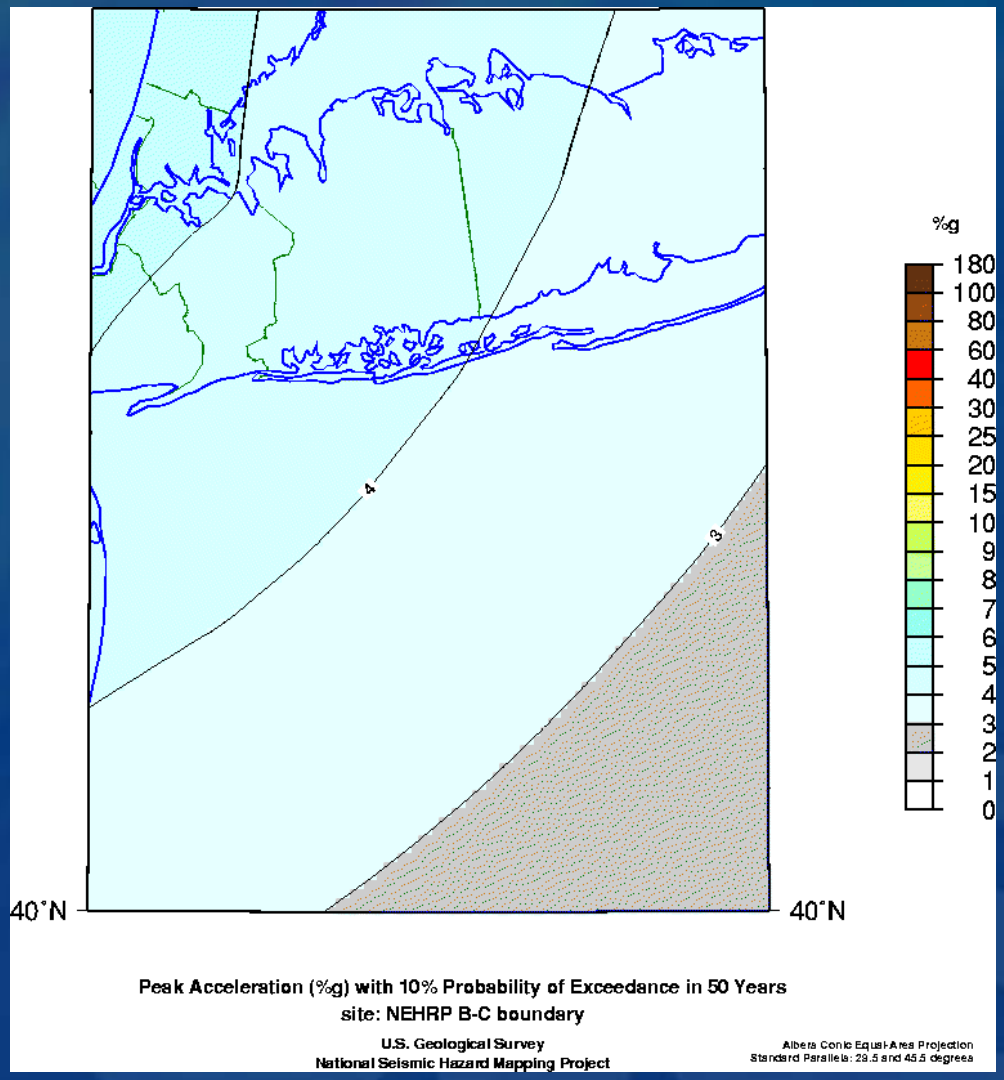
- Earthquakes
- Nassau County lies within three earthquake hazard areas of NYS



Hazard Profile – Did You Know....

- Nassau *DOES* have a 10% chance of experiencing an earthquake of 4-5%g over a 50 year period

- However, potential damages would be only very light



Hazard Profile – Did You Know….

Earthquake Magnitude/Intensity Comparison				
PGA	Magnitude	Intensity	Perceived Shaking	Potential Damage
< 0.17	1.0-3.0	I	Not Felt	None
0.17 – 1.4	3.0 – 3.9	II - III	Weak	None
9.2 - 34	5.0 – 5.9	VI – VII	VI. Strong VII. Very Strong	VI. Light VII. Moderate
34 - 124	6.0 – 6.9	VIII - IX	VIII. IX.	VIII. IX.
> 124	7.0 and higher	X and higher	Extreme	Very Heavy

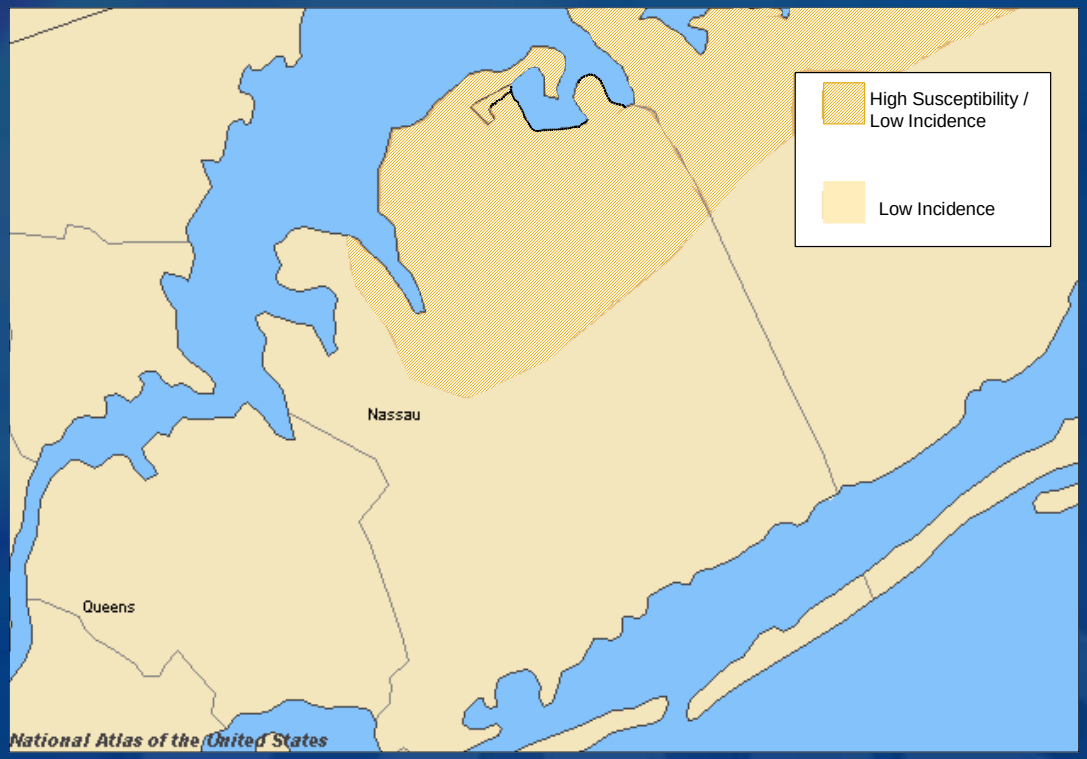
Hazard Profile – Did You Know....

- Examples:
  - Vibration similar to heavy trucks driving over roads
  - Windows, dishes, doors rattle
  - Small unstable objects displaced or upset (i.e. books off shelves, pictures off walls)
  - Weak plaster and masonry cracked

Hazard Profile – Did You Know....

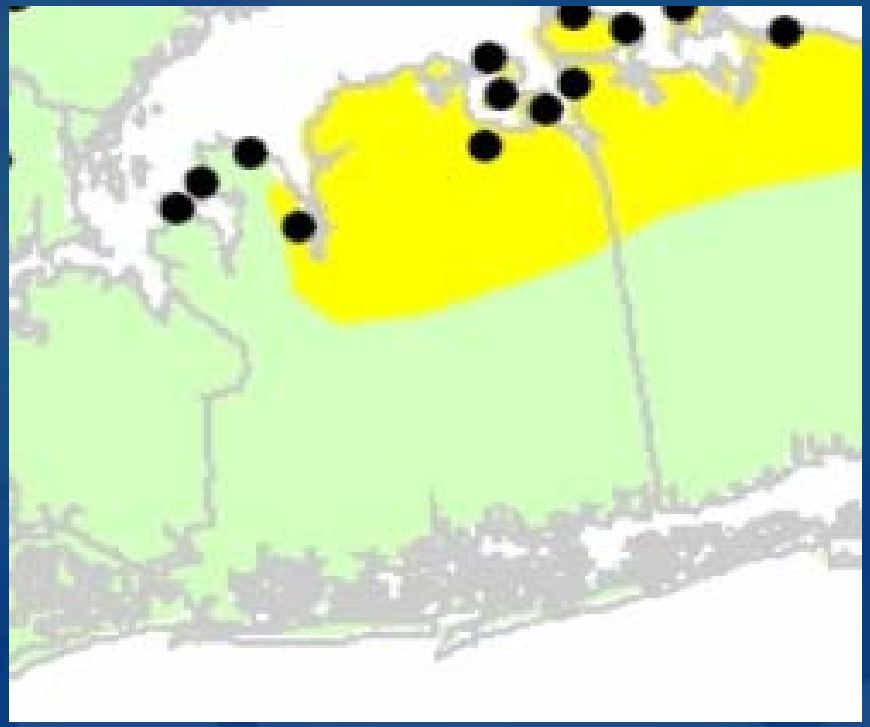
- Landslides:

  30% of Nassau County falls within a mapped area of high susceptibility, though low incidence



Hazard Profile – Did You Know….

- Locations of historic landslides, from the New York State Hazard Mitigation Plan



Hazard Profile – Did You Know….

- One recent landslide event….
  - Severe rains in October 2005
  - Slide behind Roslyn Village Hall (in North Hempstead)
  - Covered public works equipment 3-5 feet

Project Timeline

- URS Notice to Proceed - August 22, 2005
- Planning Group Meeting #1 – October 20, 2005
- Core Planning Group and Area Assessment Team Meetings – November through January
- Draft Plan – February 2006
- Beginning of Review Cycle for Draft – February 2006

Project Timeline

- Meetings to Present the Draft – April 2006
- Estimated Completion of Review Cycle for Draft – July 2006
- Final Plan – October 2006
- Meeting to Present the Final – December 2006

Next Steps – Participating Jurisdictions

- Read through handouts.
- Complete and return the Hazard ID Questionnaire.
- Reach out to the public and other stakeholders in your area; *use the Log at the end of the Stakeholder Participation and Outreach memo.*
- Be prepared to provide other feedback as we move forward.

Questions and Answers

End of show

Hazard Identification and Profile Steps

Hazards Evaluated

- Avalanches
- Coastal Erosion
- Wave Action
- Earthquakes
- Expansive Soils
- Floods
- Geomagnetism
- Ice Jams
- Landslides
- Land Subsidence
- Drought
- Extreme Temps
- Hail
- Hurricanes
- Tornadoes
- Winter Storms/Ice Storms
- Tsunamis
- Volcanoes
- Wildfires
- Extreme Winds

Hazard Identification and Profile Steps

Significant Hazards Identified (Focus of Plan)

- Coastal Erosion
- Wave Action
- Earthquakes
- Floods
- Landslides
- Drought
- Hurricanes
- Tornadoes
- Winter Storms/Ice Storms
- Extreme Winds

Hazard Identification and Profile Steps

Hazards That Will NOT Be Part of the Process, and Generally Why Not

- Avalanches – The fall or slide of a large mass of snow down a steep slope.
  - Topography & climate in Nassau don't support conditions needed for an avalanche to occur.
- Expansive Soils – Soils that will exhibit some degree of volume change with variation in moisture.
  - USDOT FHA identifies soils in Nassau as generally non-expansive; no known historic occurrences.

Hazard Identification and Profile Steps

Hazards That Will NOT Be Part of the Process, and Generally Why Not

- Geomagnetism - Oscillations in earth's magnetic field when the Sun emits a gust of charged particles (solar wind). Can affect power systems, satellites, and high frequency communications systems.
  - Federal government agencies, utility companies, etc. already have plans in place to minimize affects.
- Ice Jams – Typically occur when runoff from a melting heavy snow pack enters an ice clogged waterway.
  - Nassau county's climate and topography don't support ice jam formation; no known historic occurrences.

Hazard Identification and Profile Steps

Hazards That Will NOT Be Part of the Process, and Generally Why Not

- Land Subsidence – Gradual settling and/or sudden sinking of land (i.e. due to mining, sinkholes, draining of soils, etc.)
  - Can be expected to occur where it has happened in the past, and there are no know historic occurrences in Nassau.
- Extreme Temps
  - Government and industry standard operating plans, emergency response plans and/or emergency operations plans, would be the appropriate vehicles for response to and preparation for, these types of events.

Hazard Identification and Profile Steps

Hazards That Will NOT Be Part of the Process, and Generally Why Not

- Hail
  - Nassau lies in a part of the country for which the likelihood of damaging hail of at least 2 inches in diameter is less than 0.25 days per year; no reported damages during historic events.
- Tsunamis
  - Possible in Pacific; however, possibility in the Atlantic is generally accepted as *highly* unlikely.

Hazard Identification and Profile Steps

Hazards That Will NOT Be Part of the Process, and Generally Why Not

- Volcanoes
  - Not located in, or remotely near, Nassau.
- Wildfires
  - HAZNY team noted that serious injury or death is unlikely; little or no damage to property is expected. No known historic occurrences in Nassau.