Getting to Resilience™

A Coastal Community Resilience Evaluation Tool

COASTAL MANAGEMENT PROGRAM

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1. Boundbrook, NJ Downtown Design Workshop
   www.boundbrook-nj.org/ECONOMICDEVELOPMENT.cfm
2. Dune Planting, Long Beach Island, NJ www.njlbi.com/protectingdunes.html
3. Evacuation Route at Garden State Parkway www.flickr.com/photos/22516573@N07/2747076574
4. Shoreline Restoration. Partnership for the Delaware Estuary.
   www.delawareestuary.org/science_projects_living_shoreline.asp
5. Flood Mitigation D & B House Movers
   www.dbhousemovers.com/albums/album_image/3994820/4207269.htm

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Wildwood, New Jersey after Nor'Ida.(2009). Photo Source: Asbury Park Press

Introduction to the *Getting to Resilience* Questionnaire

New Jersey is truly a coastal state, encompassing 127 miles of Atlantic coastline and nearly 1,800 miles of estuarine shoreline. Nearly 8 million people live within the coastal counties of the state, and these numbers increase drastically during the summer months as people vacation along the shore. New Jersey's coastal counties support the state's economy through tourism, recreation, shipping, commercial fishing, and aquaculture. While coastal communities, industries, and resources are crucial to sustaining the state's economy, the New Jersey shore has proven to be vulnerable to coastal erosion and storms. Unfortunately, climate change threatens to increase the frequency and intensity of coastal storms and permanently inundate low-lying portions of the coast. As a result, more people, development, and natural resources will be vulnerable to the impacts of coastal hazards than in the past.

As natural hazards threaten the New Jersey shore, local decision-makers will have the greatest capacity to influence the resiliency of their communities. Typically, they are the first to respond to a disaster, and they also have the authority to ensure the health, safety, and welfare of their constituents. Historically, coastal communities have merely responded to the impacts of natural hazards. However, as disaster response and recovery have become increasingly more expensive, federal and state policies now mandate strong coastal construction standards and pre-disaster mitigation planning to secure mitigation funding. Now, more than ever, local governments have the responsibility of taking a proactive stance towards reducing their vulnerability to disasters.

Disaster Resilience is the capacity of a system, community, or society potentially exposed to hazards to adapt to stress and change, by resisting or changing, in order to reach and maintain an acceptable level of functioning and structure.[1]

Hazard Mitigation is defined as taking sustained actions to reduce or eliminate the long-term risks to people and property from hazards.[2]

Hazard Vulnerability includes the societal, structural, and environmental systems that are susceptible to the negative impacts of natural hazards.

1. Subcommittee on Disaster Reduction. 2005. Grand Challenges for Disaster Reduction.
2. Schwab, James C. 2010. Hazard Mitigation: Integrating Best Practices into Planning

Increasingly, coastal communities are moving from a strategy of response to a proactive stance of planning, public education, and disaster preparedness to ensure their development and community members are capable of coexisting with the dynamics of the coast. Communities can work towards disaster resilience through strong leadership, citizen engagement, interdepartmental collaboration, and interdependence. Unfortunately, building resilience is often a challenge because the responsibilities of limiting hazard exposure, reducing vulnerability, and responding and adapting quickly to coastal changes are dispersed among many local departments and offices. Because coastal communities often struggle to identify opportunities to improve resilience, the New Jersey Office of Coastal Management developed *Getting to Resilience*, a facilitated questionnaire that is designed to spur ideas and collaboration among local decision-makers.

What is the Purpose of this Questionnaire?

Getting to Resilience was developed as a non-regulatory tool to assist local decision-makers in the identification of planning, mitigation, and adaptation opportunities to reduce vulnerability to coastal storms and sea level rise and build capacity for coastal community resilience. The questionnaire highlights the importance of local plan integration and consistency with municipal building codes and ordinances. It also identifies the importance of localized hazard assessments and their necessary link to planning, outreach, mitigation, response, and recovery. The facilitation of the tool is intended to initiate a dialogue among local decision-makers and provide information on local actions to improve resilience. By completing this questionnaire, local leaders can identify means to improve their resilience through existing planning, outreach, mitigation, and response mechanisms. Municipal responses will also inform coastal managers of the technical and education needs of coastal communities.

Who Are the Target Users of this Questionnaire?

Getting to Resilience was designed to assist local decision-makers in identifying opportunities to improve resilience through existing planning mechanisms, public engagement, and disaster preparedness; therefore, the following individuals should be involved in the completion of the questionnaire:

- Land Use Planners
- Hazard Mitigation Planners
- Floodplain Managers
- Emergency Managers
- Stormwater Managers
- Natural Resource Planners
- Municipal Engineers
- Town Administrators/Clerks

A municipality may also include municipal leaders, zoning and permitting officials, public works officials, and conservation organizations in the completion of the questionnaire. All participants should be well-informed of their local plans, ordinances, and hazard outreach efforts.

How was this Questionnaire Developed?

Getting to Resilience was prepared by compiling the efforts of many academics, international and federal agencies, and planning practioners in regards to land use plan development and design, hazard mitigation and planning, and coastal resilience.[1] While there are multiple checklists, questionnaires, and guidebooks that focus on a specific aspect of building disaster resilience, few of these tools focus on the necessary interrelationships between land use planning, hazard mitigation, emergency management, and coastal resource management. *Getting to Resilience* highlights many of the key components of existing local government planning, hazard, and emergency response evaluation tools in a brief and easy to administer questionnaire.

[1] See References

How is this Questionnaire Organized?

Getting to Resilience is comprised of five sections: Risk and Vulnerability Assessments, Planning Integration, Public Engagement, Emergency Preparedness and Recovery, and Hazard Mitigation and Implementation.

Section One: Risk and Vulnerability Assessments
Identifying risks and vulnerabilities within a community is the first step in reducing hazard impacts. This section addresses mapping risks and vulnerabilities. Floodplain managers and the local emergency manager will likely be the representatives to spearhead this discussion. The goal of this section is to introduce a dialogue about the importance of having baseline hazard assessment data and ensuring this information is shared among various decision-makers within the community.

Section Two: Planning Integration
New Jersey communities are responsible for completing numerous planning documents with various update frequency requirements. By incorporating hazard assessment knowledge into existing long-range planning documents, local governments can substantially reduce their vulnerability to coastal hazards. Most focus group participants will be engaged through this process.

Section Three: Public Engagement
Establishing a repertoire with local residents and business owners is an integral part of reducing vulnerability within a community. Residents and business owners not only have an array of local knowledge on previous storm and natural hazard impacts, they are also the target audience to educate about disaster preparedness, recovery and mitigation. Including stakeholders in planning processes is yet another way to build capacity for a resilient community.

Section Four: Disaster Preparedness and Recovery
Making pre-disaster decisions to improve the effectiveness of response and recovery is especially important to reducing the loss of lives and decreasing the amount of time it takes to recover from hazard events, like nor'easters or hurricanes. While major disasters have not affected the New Jersey shore in many years, climatologists agree that there will be an increase in the frequency and intensity of coastal storms, likely challenging response and recovery efforts. The involvement of emergency managers will be crucial to the completion of this section, but other community leaders should be involved in completing this section as well.

Section Five: Hazard Mitigation Implementation
Mitigation touches nearly all of the members of the focus group. In the past, floodplain managers have taken the strongest lead in reducing vulnerability. Today, it is widely accepted that reducing vulnerability is the responsibility of numerous municipal decision-makers, from building code officials to resource managers pursuing restoration projects. The completion of this section will involve all focus group participants.

How Should this Questionnaire be Administered?

The *Getting to Resilience* questionnaire is designed to be completed as a facilitated exercise among a diverse group of local decision-makers. Local land use planners, hazard mitigation planners, floodplain managers, emergency managers, stormwater managers, and natural resource planners are especially important to include within your focus group. In some cases, county officials may participate as focus group representatives as they are responsible for the creation of inter-jurisdictional plans. In the case where one local decision-maker plays multiple roles within the community, fewer people will be included in the focus group. Ultimately, the focus group participants should have the knowledge and skill sets that coincide with the sections of the questionnaire.

The facilitator should have general knowledge of the local community's character and governmental structure, although the facilitator should not be one of the questionnaire's target users in order to avoid bias responses. The facilitator should begin the focus group meeting by describing the purpose of the questionnaire: to facilitate a dialogue among community leaders and identify options to improve local resilience to coastal hazards. The facilitator should identify how each section contributes to building local community resilience. Each question can be answered with a 'yes' or 'no' response. The form does provide an 'other' option, which can be used, for example, to indicate that the focus group does not know the answer or is presently pursuing the action identified in the question. The questionnaire is broken down into five parts, and each section may be completed in as little as 15 minutes or as long as 2 hours, depending upon the generated group dialogue. In order to expedite the completion of the questionnaire, the facilitator should share the questionnaire with the target users prior to the focus group meeting. The facilitator may also opt to administer the questionnaire over a series of meetings.

After the completion of each section, the facilitator should provide the participants with a brief summary of their responses, and identify positive local actions and opportunities to improve resilience. The responses within each section should clearly identify opportunities to improve resilience through planning, public engagement, emergency preparedness, response and recovery, and mitigation. Focus group participants should use the results of *Getting to Resilience* to inform future intergovernmental partnerships and decision-making. Participants can also use the hyperlinks within the questionnaire to explore existing tools, training courses, model ordinances, best management practices, and grant programs that will help lead communities to resilience.

COMMUNITY PLAN CHECKLIST

The Community Plan Checklist includes a list of municipal and county documents that may assist in the completion of the questionnaire. The facilitator should be well-acquainted and have access to the target community's plans, ordinances, and codes. While the majority of the questionnaire can be completed by having access to these documents, there should be a representative within the focus group that has thorough knowledge of the respective documents, e.g. the land use planner should have thorough knowledge of the land use plan, ordinances, and codes; and the emergency manager should be aware of the emergency operations plan and evacuation plan. Because communities vary in size and capacity, the target community may not have all of the listed documents. The facilitator should proceed with the completion of the questionnaire regardless of the number of plans and ordinances available. By doing so, the focus group may uncover future planning opportunities or conversation may reveal that the community does in fact have some of the listed items.

PLANS, ORDINANCES, AND CODES	Yes	No	Adoption Year	Update Frequency
Municipal Master Plan				
All-Hazards Mitigation Plan				
Floodplain Management Plan				
Evacuation Plan				
Emergency Response Plan				
Continuity of Operations Plan				
Disaster Recovery Plan				
Post-Disaster Redevelopment Plan				
Capital Improvements Plan				
Economic Development Plan/Strategy				
Coastal Plan or Element				
Shoreline Restoration Plan				
Open Space Plan				
Stormwater Management Plan				
Historic Preservation Plan				
Zoning Ordinance				
Flood Damage Prevention Ordinance				
Subdivision Ordinance				
Building Code				
Other:				
Other:				

RISK AND VULNERABILITY ASSESSMENTS

Section 1

While the entire New Jersey shore is vulnerable to coastal hazards, the likelihood and severity of these hazards varies depending upon a community's geography and the integrity of its natural buffers. Risk and vulnerability assessments can inform municipal officials of vulnerable populations, businesses, infrastructure, and natural resources. They can also reveal the best location for future development or land acquisition. Simply identifying the risks and vulnerabilities within one's community often builds the knowledge and capacity for hazard avoidance and mitigation.

To complete this section, refer to your local All-Hazard Mitigation Plan, Floodplain Mitigation Plan, and/or other plans that address hazard risk and vulnerability. These plans should be accessible from your county's Office of Emergency Management.

Does the municipality have a localized hazard risk and vulnerability assessment? _____
If so, identify the planning documents that incorporate the assessment.

_____

	RISK AND VULNERABILTY ASSESSMENTS	Yes	No	Other	N/A
1.1	Are previous coastal hazards and disasters identified and mapped through historical information, existing plans and reports, scientific knowledge, and local knowledge?				
1.2	Are hazard probability, frequency, magnitude, and duration defined?				
1.3	Is coastal erosion and/or shoreline change identified as a hazard?				
1.4	Is sea level rise identified as a hazard?				
1.5	Are historic rates of sea level defined?				
1.6	Are conditions identified that could amplify the impact of a hazard, like storm surge inundation at a high tide or erosion rates on stabilized shorelines?				
1.7	Are maps used to define the spatial extent of coastal hazards?				
	Flooding, e.g. Flood Insurance Rate Maps				
	Storm Surge: Sea, Lake and Overland Surges from Hurricanes (SLOSH)				
	Erosion, e.g. Shoreline Change Analysis				
	Cumulative Risk Assessments, e.g. Risk and Vulnerability Assessment				
	Sea Level Rise Inundation Maps				
	Other:				

RISK AND VULNERABILTY ASSESSMENTS	Yes	No	Other	N/A
1.8 Are municipal planners or emergency managers trained in mapping the following risk mapping tools?				
Flood Insurance Rate Maps (FIRMs)				
Sea, Lake and Overland Surges from Hurricanes (SLOSH)				
Shoreline Change Analysis				
Cumulative Risk Assessment				
Sea Level Rise Inundation Maps				
Other:				
1.9 Are emergency managers and planners aware of potential flooding extents in their community?				
1.10 Are emergency managers and planners aware of potential storm surge heights in their community?				
1.11 Are local planners, emergency managers, and public works officials aware of the location of repetitive loss properties?				
1.12 Does the municipality track repetitive loss properties within the National Flood Insurance Program?				
1.13 Are maps used to spatially define vulnerabilities in relationship to risks?				
Populations, e.g. elderly, children, poor, disabled				
Buildings, e.g. business and residential				
Infrastructure, e.g. roads, schools, wastewater treatment facilities, hospitals, public works				
Natural Resources, e.g. freshwater wetlands, forests, beaches				
Historical Resources, e.g. historic districts, properties, and landmarks				
Cultural Resources, e.g. libraries, museums				
Economic Resources, e.g. major employers				
1.14 Is the majority of the community in a V or A-zone?				
Does the community contain lands within the Coastal Barrier Resource System?				
1.15 Has the municipality developed a build-out analysis using existing zoning ordinances?				
If so, has the build-out analysis been compared to the extent of storm surge scenarios?				
Has the build-out analysis been compared to various sea level rise scenarios?				

RISK AND VULNERABILTY ASSESSMENTS	Yes	No	Other	N/A
1.16 Have municipal employees utilized any of the following vulnerability assessment methodologies?				
Community Vulnerability Assessment Tool (CVAT)				
Risk and Vulnerability Assessment Tool				
Hazard Assessment Tool				
HAZUS-MH				
Other:				
1.17 Are municipal employees trained in the use of FEMA's HAZUS-MH?				
1.18 Do any plans describe the damage and cost of previous storms, floods, or erosion?				
1.19 Do any plans estimate future financial losses that may result from flooding?				
1.20 Do any plans estimate future financial losses that may result from sea level rise?				
1.21 Have risk and vulnerability assessments been shared with municipal planners, public works officials, transportation planners, and other appropriate municipal, county, or state officials?				
Direct Communication, e.g. email, mailer				
Newspaper or Newsletter				
Website				
Public Presentations				
Other:				

PUBLIC ENGAGEMENT

Section 2

Public engagement is crucial to the development of a disaster resilient community. Local residents and business owners often have extensive knowledge of past storm, flood, and erosion impacts. By engaging local stakeholders in the identification of hazard risks and vulnerabilities, municipal officials can build support for risk adverse land use planning, ordinances, and mitigation.

While it is important to involve local stakeholders in the identification of coastal hazards, it is also important to communicate risks and vulnerabilities to the public. Coastal populations are dynamic in nature and continue to increase in number. In many places, full-time residents are outnumbered by vacationers during the summer months when coastal storms are at their peak. Engaging locals and visitors in storm preparedness is essential to ensuring their safety. By educating the public on the threat of coastal hazards, municipal officials can reduce the exposure and vulnerability of their community.

	PUBLIC ENGAGEMENT	Yes	No	Other	N/A
2.1	Has the public been involved in the identification of historic storm impacts, such as storm surge elevations, flood-prone streets, beach erosion and overwash, or property loss?				
	Participatory Mapping				
	Surveying				
	Focus Groups				
2.2	Does the municipality have publically visible high water mark signs or storm surge elevation signs?				
2.3	Has the public been involved in defining an overall acceptable level of natural hazard vulnerability?				
2.4	Does the municipality provide the public with information on the natural and beneficial functions of floodplains?				
2.5	Does the municipality provide access to floodplain maps?				
	Does the municipality publicize the availability of floodplain information to property owners and businesses?				
	Does the municipality publicize the availability of floodplain information to insurance agents, real estate agents, and lenders?				
2.6	Does the municipality have a local hazard disclosure policy?				

PUBLIC ENGAGEMENT		Yes	No	Other	N/A
2.7	Does the municipality conduct outreach to floodplain residents at least once a year?				
	Website				
	Brochures/Newsletters				
	Community Meetings				
	Television or Radio				
	Other:				
2.8	Does the municipality conduct storm preparedness outreach to residents and businesses at least once a year?				
	Website				
	Brochures/Newsletters				
	Community Meetings				
	Television or Radio				
	Other:				
2.9	Does the municipality provide residents with guidance on the development of Personal or Family Evacuation Plans?				
2.10	Does the municipality provide property owners information on what to include in the following?				
	At-Home Emergency Kit				
	Emergency Supplies				
	Evacuation Kit				
2.11	Does the municipality provide residents with the following information prior to the threat of a storm?				
	Evacuation Routes				
	Evacuation Bus Pick-Up Locations				
	Location of Severe Weather Shelters				
	Location of Pet Shelters				
2.12	Does the municipality actively inform residents of New Jersey's Special Needs Registry for Disasters, otherwise known as Register Ready?				
2.13	Does the municipality inform property owners of FEMA suggested means to protect their homes against hurricane and wind damage?				
2.14	Does the municipality provide the public with flood mitigation information?				
2.15	Does the municipality refer home builders to FEMA's Coastal Construction Manual?				

PLANNING INTEGRATION

Section 3

Local governments are responsible for the development and maintenance of a number of planning documents. When planning is done in an integrated manner, it can direct future development away from high hazard areas and identify opportunities to relocate existing development outside of these same areas. Because the New Jersey shore varies from intensely developed barrier islands along the Atlantic Ocean to rural fishing villages along the Delaware Bay, planning and mitigation options will vary as well. Highly developed areas may want to focus on mitigation, stormwater management, and redevelopment strategies, while rural areas may want to consider implementing strict subdivision regulations or prohibiting infrastructure investment in high hazard areas. Municipal planning should ensure that its local planning documents reflect existing risk and vulnerability assessments. Additionally, planning efforts should coincide with one another by including the insight of various planning documents, previous hazard mitigation recommendations, and stakeholder input. By doing so, local governments will ensure they have taken the appropriate measures to reduce hazard exposure and property loss associated with coastal flooding, erosion, and storms.

PLANNING INTEGRATION		Yes	No	Other	N/A
3.1	Does the municipality have an adopted municipal master plan?				
	Does the municipal master plan explain the support and involvement of emergency managers, floodplain managers, coastal managers, and public works officials?				
	Does the planning process documentation describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information, e.g. the All-Hazards Mitigation Plan, the Stormwater Management Plan, Capital Improvement Plan, etc?				
	Did the preparation of the municipal master plan involve a broad base of the community, such as public officials, civic organizations, businesses, and citizens?				
	Does the municipal master plan provide a clear explanation of participation techniques used in its development?				
	Does the municipal master plan identify resilience within its mission, vision, or goals?				
	Are hazards addressed in the municipal master plan as individual elements?				
	Are hazards addressed among the elements of the municipal master plan?				

PLANNING INTEGRATION		Yes	No	Other	N/A
	Does the plan identify potential coastal hazard impacts on infrastructure, land uses, housing, and community facilities?				
	Does the plan make recommendations to reduce hazard vulnerability through land use planning?				
	Does the plan identify how often it should be updated (6 years)?				
3.2	Are land uses compatible with coastal hazards?				
	Are floodways and other frequently flooded areas zoned for open space or recreation?				
	Does the community use subdivision regulations to ensure low densities within the floodplain?				
	Does the community have a local ordinance to protect dunes, bluffs, or eroding cliffs from development or disturbance?				
	Does the community have a local ordinance to protect wetlands?				
3.3	Does the community have an open space management plan?				
	If so, does the plan identify floodplain management as a priority?				
	Are managed lands maintained in a manner that provides flood protection?				
	Is the plan adopted as part of the municipal master plan?				
	Is the plan updated in coordination with the municipal master plan?				
3.4	Does the municipality have a FEMA-approved All-Hazards Mitigation Plan?				
	Is the plan multi-jurisdictional?				
	Does the plan include multiple counties?				
	Is the plan locally adopted?				
	Was a Certified Floodplain Manager included in the hazard mitigation planning process?				
	Does the All-Hazards Mitigation Plan identify the involvement of a broad base of your community, such as public officials, civic organizations, businesses, and citizens?				
	Does the All-Hazards Mitigation Plan describe the support and involvement of local government departments and offices?				

PLANNING INTEGRATION		Yes	No	Other	N/A
	Does the All-Hazards Mitigation Plan provide a clear explanation of participation techniques used during its development?				
	Does the All-Hazard Mitigation Plan describe past mitigation efforts (i.e. shoreline stabilization, land acquisition, etc), along with their costs and effectiveness?				
	Does the hazard mitigation plan provide a general explanation of the environmental, social, and economic consequences of failing to address natural hazards?				
	Does the plan include municipal maps that indicate local hazard risks, such as floodzones, storm surge inundation, and erosion rates?				
	Does the plan identify shoreline erosion as a hazard?				
	Does the plan identify sea-level rise as a hazard?				
	Does the hazard mitigation plan specify timelines for completing projects and achieving goals?				
	Do mitigation goals correspond with measurable mitigation objectives?				
	Is a process for intergovernmental coordination explained for mitigating natural hazards?				
	Does the plan identify opportunities to incorporate hazard mitigation into existing planning mechanisms, e.g. land use planning, capital investments, shoreline restoration projects?				
	Does the plan identify the federally required update frequency (5 years)?				
3.5	Does the municipality have an adopted floodplain management plan?				
	Is it incorporated as an element of the municipal master plan?				
	Is it incorporated in the stormwater management plan?				
	Is it incorporated in the All-Hazard Mitigation Plan?				
	Does the municipality have a certified floodplain manager (CFM®) on staff?				

	PLANNING INTEGRATION	Yes	No	Other	N/A
	Was a certified floodplain manager included in the planning process?				
	Was a licensed professional planner included in the planning process?				
	Does the municipality participate in National Flood Insurance Program?				
	Does the municipality have a flood damage prevention ordinance?				
3.6	Does the municipality have a stormwater management plan?				
	Was a certified floodplain manager included in the planning process?				
	Was a licensed professional planner included in the planning process?				
	Is the plan locally adopted?				
	Does the plan identify low-impact regulatory options to decrease runoff, such as tree protection ordinances, impervious cover limits, riparian buffers, vegetated drainage channels, and cluster development?				
	Does the plan identify runoff and drainage problems due to impervious surface?				
	Does the plan identify constraints if the municipality reaches impervious coverage levels allowed by land use and zoning designations?				
	Does the plan describe the municipal responsibilities for inspection and maintenance of stormwater facilities?				
	Does the plan identify its connection to the All-Hazards Mitigation Plan?				
	Does the plan identify how often it should be updated (6 years)?				
3.7	Does the community have a capital improvements plan?				
	Were a licensed professional planner, engineer, and a certified floodplain manager involved in the planning process?				
	Does the plan consider the threat of coastal hazards when upgrading existing municipal infrastructure?				
	Does the plan consider the threat of coastal hazards on proposed infrastructure projects?				

PLANNING INTEGRATION		Yes	No	Other	N/A
	Does the plan identify the threat of sea level rise on municipal infrastructure?				
	Does the plan incorporate, if appropriate, existing plans, studies, reports, and technical information?				
	Does the plan identify how often it should be updated?				
3.8	Does the municipality have an Economic Development Plan or Strategy?				
	Does the plan describe the stratification of existing job sectors?				
	Is the community's economic base diversified outside of tourism, maritime industries, and fisheries?				
	Does the plan identify economic vulnerabilities due to coastal hazards?				
3.9	Does the municipality have a special area management plan, beachfront management plan, or shoreline management plan?				
	Does the plan identify the threat of coastal storms and erosion?				
	Does the plan identify the threat of sea level rise?				
	Does the plan identify the vulnerability of wildlife and habitat to coastal hazards?				

DISASTER PREPAREDNESS AND RECOVERY

Section 4

Effective emergency response in the event of a disaster is critical to maintaining a resilient community. There are multiple ways that a community can work towards resilience through planning and emergency response. While federal and state mandates have a strong influence on disaster preparedness, planning, and recovery, local governments are capable of improving resilience through additional vulnerability analysis, intergovernmental cooperation, communication, and planning.

DISASTER PREPAREDNESS AND RECOVERY		Yes	No	Other	N/A
4.1	Is the municipality recognized as a Storm Ready Community?				
4.2	Does the community have an emergency warning system?				
4.3	If the community is located along a river, does it have an early flood warning system?				
4.4	Does the community relay weather related threats to the public in at least two forms of communication?				
4.5	Does the community have an emergency operations plan and /or a flood response plan?				
	Does the plan describe a hierarchy of authority during emergencies?				
	Does the plan identify first responders?				
	Doe the plan include a list of contacts for operators of municipal facilities?				
	Is the plan a municipal plan?				
	Is the plan a county or state plan?				
	Does the plan indicate the required update frequency (3 years)?				
4.6	Does the community have a designated emergency operations center?				
	If so, is it located outside of flood-hazard areas?				
	Is it designed to withstand high winds?				
4.7	Does the community have a designated storm shelter either in or outside of its municipal boundaries?				
	If the community does not have a designated storm shelter within the community, is there an established memorandum of agreement with a neighboring community or county to provide your constituents shelter?				

DISASTER PREPAREDNESS AND RECOVERY		Yes	No	Other	N/A
	Is the storm shelter located outside of flood hazard areas?				
	Is the storm shelter located outside of the possible extent for storm surge inundation because flood hazard areas are not completely inclusive of all storm surge scenarios?				
	Are storm shelters designed to withstand high wind impacts?				
4.8	Does the municipality maintain a special needs database, e.g. NJ's Register Ready Program or its own registry?				
4.9	Does the community have an evacuation plan?				
	Are responsibilities for municipal evacuation clearly defined?				
	Does the plan identify the necessary time frame to evacuate your residents and vacationers outside of storm hazard areas?				
	Does the plan identify where evacuation routes are prone to flooding?				
	Is there more than one route identified to evacuate your community?				
	Does the plan identify the conditions that would spur a lane reversal?				
	Does the plan identify local and state evacuation assistance programs for the following special needs?				
	Hospitals				
	Nursing Homes				
	Prisons				
	Residents without Personal Transportation				
	Elderly				
	Disabled				
4.10	Does the municipality have a volunteer Community Emergency Response Team (CERT)?				
4.11	Does the community have a portable communications system that can operate under poor weather conditions and when electrical power is not available?				

DISASTER PREPAREDNESS AND RECOVERY		Yes	No	Other	N/A
4.12	Does the community have a Continuity of Operations Plan?				
	Does the plan provide guidance on post-disaster waste management and debris removal?				
	Is machinery for debris removal located outside of flood hazard areas?				
	Are routes to waste disposal facilities passable in the event of flood?				
	Are there temporary waste disposal staging areas identified in the case of a disaster?				
4.13	In the event of a disaster, are procedures defined to conduct habitability and substantial damage assessments?				
4.14	Does the municipality store elevation certificates outside of flood-hazard areas?				
4.15	Does the community have a Post-Disaster Redevelopment Plan?				
	Does the plan identify redevelopment opportunities outside of flood hazard areas?				
	Does the plan advocate the use of Advisory Flood Maps to define post-disaster redevelopment building elevations?				
	Does the plan identify opportunities to retrofit or relocate existing structures or infrastructure in hazard prone areas?				
	Does the plan utilize risk and vulnerability mapping to determine the location of future development?				

HAZARD MITIGATION IMPLEMENTATION

Section 5

In the past, hazard mitigation has largely been the responsibility of floodplain managers. In recent years, the Robert T. Stafford Disaster Assistance and Relief Act of 2000 created the federal requirement for local governments to develop and adopt a FEMA approved All-Hazards Mitigation Plan in order to receive public relief dollars in the event of a disaster. The Stafford Act shifted the requirement of hazard mitigation from floodplain managers to a diverse group of local decision-makers and has given municipalities the ability to take proactive measures to reduce hazard exposure and vulnerability. Hazard mitigation is now fully recognized as taking sustained actions to reduce or eliminate the long-term risks to people and property from hazards. This often involves intergovernmental coordination on public education, planning, natural resource protection, and funding.

HAZARD MITIGATION IMPLIMENTATION		Yes	No	Other	N/A
5.1	Is the municipality active in the National Flood Insurance Program's Community Rating System?				
	Does the municipality have a score of 8 or better? (1 being the best ranking)				
5.2	Has the municipality proposed the relocation of public buildings, critical facilities, or infrastructure out of flood hazard areas as a result of the All-Hazard Mitigation Plan or other planning tools?				
5.3	Has the municipality used its All-Hazard Mitigation Plan to propose retrofitting public buildings, critical facilities, and other infrastructure to withstand flood damage?				
5.4	Do municipal building codes reflect the state's 1-foot Freeboard above base flood elevation?				
5.5	Do municipal building codes exceed the state's 1-foot Freeboard above base flood elevation?				
5.6	Have building and permitting officials completed training in FEMA's Coastal Construction Manual?				
5.7	Does the municipality provide property owners with guidelines to retrofit existing development for flood and wind risks?				
5.8	Have building and permitting officials completed training on retrofitting flood-prone residential buildings?				
5.9	Does the municipality utilize any of the following tools to manage development in hazard prone areas?				
	Transfer of development rights or purchase of development rights				

	HAZARD MITIGATION IMPLEMENTATION	Yes	No	Other	N/A
	Conservation overlay districts or cluster development				
	Zoning for open or recreational space				
	Riparian and/or wetland buffer ordinances				
5.10	Does the municipality use land acquisition programs to buy-out or purchase land conservation easements in hazard prone areas?				
	Green Acres and Blue Acres				
	Coastal and Estuarine Land Conservation Program (CELCP)				
	New Jersey Conservation Foundation				
	The Nature Conservancy				
	The Trust for Public Lands				
	Other:				
5.11	Does the community utilize impact fees, accommodation taxes or user fees to acquire properties in hazard areas?				
5.12	Does the municipality engage in dune and/or wetland restoration?				
5.13	Does the community utilize impact fees, accommodation taxes or user fees to pay for shoreline stabilization/restoration?				
5.14	Has the community used any of the following grant programs to implement mitigation projects?				
	Hazard Mitigation Grant Program				
	Pre-Disaster Mitigation				
	Flood Mitigation Assistance				
	Repetitive Loss Claims				
	Severe Repetitive Loss				
	Community Development Block Grants				
	Other:				

TOOLS AND BEST MANAGEMENT PRACTICES

The questionnaire refers to numerous ways to improve coastal community resilience by completing a risk and vulnerability assessment, providing public outreach, integrating existing planning efforts, preparing and responding to coastal storms, and mitigating vulnerabilities within your community. The following are a handful of the tools and best management practices being utilized throughout the country. Take this opportunity to explore these tools and identify how to incorporate them into your municipal efforts. If you are a New Jersey community with a municipal tool or best management practice targeted to improve coastal resilience, please contact the New Jersey Office of Coastal Management at 609-633-2201. We are looking for local initiatives to share with other coastal communities.

Risk and Vulnerability Assessments

- HAZUS-MH
  - Software: http://www.fema.gov/plan/prevent/hazus/
  - Training: http://www.fema.gov/plan/prevent/hazus/hz_trngconf.shtm#3
- SLOSH
  - Website: http://www.nhc.noaa.gov/HAW2/english/surge/slosh.shtml
  - Obtain Access to GIS Data: http://slosh.nws.noaa.gov/sloshPub/disclaim.php
- NOAA Coastal Inundation Training: http://www.csc.noaa.gov/digitalcoast/training/inundationmap.html
- Coastal GIS Training: http://www.csc.noaa.gov/digitalcoast/training/index.html

Public Outreach and Engagement

- Public Participatory Mapping http://www.csc.noaa.gov/cms/human_dimensions/participatory_mapping.pdf
- Flood Signage
  - High Water Mark Signs: http://www.weather.gov/os/water/high_water/
  - Storm Surge Height Signs: http://www.hillsboroughcounty.org/pgm/hazardmit/stormsurge/
- Register Ready: https://www13.state.nj.us/SpecialNeeds/
- Storm Ready
  - National Weather Service: http://www.stormready.noaa.gov/
- Storm Preparedness
  - Cape May Point Ready Campaign: http://cmp-taxpayers.org/Documents/Ready%20Bundle.pdf

Planning Integration

- American Planning Association's Model Hazard Element: www.planning.org/GrowingSmart
- Florida's Land Use Planning Strategies and Best Management Practices for Minimizing Vulnerability to Flooding and Coastal Storms- DRAFT. http://www.dcs.state.fl.us/fdcp/dcp/publications/hazmitbp.pdf
- New Jersey Model Floodplain Ordinances: http://www.nj.gov/dep/floodcontrol/modelord.htm

Disaster Preparedness and Recovery

- Storm-Ready Communities: http://www.stormready.noaa.gov/resources/toolkit.pdf
- Community Emergency Response Team (CERT): http://www.citizencorps.gov/cert/
- Community Rating System: http://www.fema.gov/business/nfip/crs.shtm
- Hurricane Planning and Impact Assessment Reports http://www.csc.noaa.gov/hes/about.html
- Post-Disaster Redevelopment Plan http://www.dca.state.fl.us/fdcp/dcp/PDRP/overview.cfm

Hazard Mitigation Implementation

- Hazard Mitigation Planning Tools
    - Community Rating System http://www.fema.gov/business/nfip/crs.shtm
    - All-Hazards Mitigation Plan Crosswalk http://www.otsegocountymi.gov/uploads/Otsego-FEMA-Local-Crosswalk-2004.pdf
- Hazard Mitigation Grant Programs: http://www.fema.gov/library/viewRecord.do?id=4225
- Land Acquisition
    - New Jersey Green Acres/Blue Acres: http://www.nj.gov/dep/greenacres/
    - Coastal and Estuarine Land Conservation Program (CELCP): http://coastalmanagement.noaa.gov/land/welcome.html
    - Property Acquisition Handbook for Communities. http://fema.gov/government/grant/resources/acqhandchap.shtm
- Structural Mitigation Guidance
    - Homeowner's Guide to Retrofitting http://www.fema.gov/library/viewRecord.do?id=1420
    - Against the Wind: Protecting Your Home From Hurricane and Wind Damage http://www.fema.gov/library/viewRecord.do?id=1641
    - Catalog of FEMA Flood and Wind Publications, Training Courses, and Workshops: http://www.fema.gov/library/viewRecord.do?id=3184

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