

4.1 Prioritization of Storm Hazards and Critical Facility Vulnerabilities



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Deliverables



- Report on inventory of vulnerable critical facilities and prioritization based on human safety, economic values, and environmental damages
- Report with a comprehensive, wide ranging, high-level examination of current mitigation measures using a benefit-cost analysis

Areas to Examine



- **Lower Manhattan (South of 14th Street)**
 - Manhattan Districts 1, 2, 3
 - Residential, business, public spaces (densely developed)
- **Rockaways**
 - Queens District 14
 - Residential, low-lying, sparsely developed
 - Heavily affected

Methods to Be Used



- **Identification of Critical Facilities**
 - Dan O'Brien at NYSEMO
 - GIS maps will provide details such as critical elevation
- **Mitigation Measures**
 - Identification
 - ✦ Suggested by communities
 - ✦ Suggested by experts

Methods to Be Used



Table 2a. Categories of Hurricane Adaptation Strategies with Examples

		Protect	Accommodate	Retreat
Physical	Hard	Sea walls, artificial reefs / islands	Buildings on stilts	Demolish existing structures
	Soft	Oyster beds	Wetlands	Zoning and development prohibitions
Social	Community-centered	Local monitoring of downed trees, blocked drains	Neighborhood programs to contact vulnerable individuals	Community board planning for open space
	Government-centered	Direct municipal workers to sand bag brigades	Mandatory evacuation plans	Voluntary buyback schemes
Structure	Centralized	Tidal gates	Harden electricity generators	Ban development in large areas
	Decentralized	Sealing individual infrastructure components	Distribute electricity generators	Ban development in specific locations

Methods to Be Used



- **Mitigation Measures**

- **Benefit-Cost Analysis**

- ✦ Estimate the losses that will occur if “nothing” is done over different time horizons (i.e. 10, 20, 50, 100 years).
- ✦ Estimate the cost of implementing a specific mitigation measure at different points in time (i.e. now, in 10 years, in 20 years, in 50 years, etc.)
- ✦ Estimate the reduction in future losses that this specific mitigation measure will yield over different time horizons (i.e. 10, 20, 50, 100 years).
- ✦ Compare the estimated cost of implementing a specific mitigation measure to the estimated resulting increase in resilience.
- ✦ Compare different mitigation measures and strategies (sets of mitigation measures implemented at different time instants)