

3.5.2. GROTON, CT

Population Density	1297/ sq. mi.
Form of Government	Town
Category	Suburban Soundfront
CRS Rating	Not Participating

Median Household Income	Median Per Capita Income	% Owner Occ	Population	2000-2010 Pop Growth Rate	% White	% Hispanic	% Minority	% Seasonal Housing
54944	30952	45.5	40115	0.03	78.8	9%	26.1%	3.8

Adaptations	Status	Incorp orates CC	Type	Impact	Standard Costs	Funding Source
Coastal Climate Change Project	Completed	Yes	Procedural	Recommendation	Unique Very Low (< \$1,000)	Other
Incorporated Climate Change into Public Works/Infrastructure Decision Guidance	Completed	Yes	Procedural	Recommendation	Unique Low (< \$10,000)	None

CONTACTS

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POPULATION AND GEOGRAPHY

The town of Groton has a population of 40,115 as of the 2010 Census. 79% of residents are white, 7% are black or African American, just over 6% are Asian, and about 10% are Hispanic. The population growth rate is 1%. The median per capita income is \$61,709 and the median house value is \$245,740. Groton does not have a significant seasonal home market.

Groton is a town government in the New England manner and thus it covers a large geographic area of 31 square miles. It is located on Long Island Sound in southeastern Connecticut, 10 miles west of the Rhode Island border.

Groton is known as the “American submarine capital” for good reason. It is home to the U.S. Naval Submarine Base and the government contractor Electric Boat, Inc. 49% of jobs in town

are in the government sector. Pfizer also has a large plant in Groton and is the third largest employer in town.

The municipal geography in Groton can be confusing. Groton's borders are formed by the Thames River on the west (which separates it from New London), the Mystic River on the east, and Long Island Sound on the south. It is bordered by the town of Ledyard on the north. Within the town of Groton are two independent municipalities—Groton Long Point and the City of Groton—and the unincorporated village of Noank. The well-known and historic seaport of Mystic is partly in eastern Groton and partly in neighboring Stonington, but is not a recognized municipality in itself. The Mystic Aquarium & Institute for Exploration is located on the Stonington bank, but the Groton bank is known as the more historic quarter.



Figure 3.5.2:1 - Historic Downtown Mystic in the Town of Groton

COASTAL ISSUES

Groton is facing a number of increasing threats from coastal processes due to climate change. Its coastline has been receding and was determined to be 100 feet inland from the 1888 level. In addition, analysis of local sea level trends at the New London tide gauge indicate a doubling since 1980 to approximately 4 mm/yr. (Stults and Pagach 2011, p.6)

Inundation from sea level rise has already been impacting the community. Flooding has become more frequent and intense in vulnerable locations such as the Navy Base, the Groton-New London Airport, downtown Mystic, and Bluff Point State Park.

ADAPTATIONS

Coastal Climate Change Project: Preparing for Climate Change in Groton, Connecticut: A Model Process for Communities in the Northeast

Groton has long been involved on the leading edge of climate change policy. It most notably participated in the Preparing for Climate Change Model Process, which was funded by the EPA's Climate Ready Estuaries program and the Long Island Sound Study. The project was a collaboration between ICLEI-Local Governments for Sustainability USA (ICLEI), the Connecticut Department of Environmental Protection (CT DEP), and the town of Groton.

The partners conducted an analysis of a local-level climate resilience collaboration between federal, state, and local stakeholders. The project involved the organization of three workshops that were attended by over 100 individuals from all three major institutional sectors, as well as local citizens.

The project's main aims were to: (p.4)

- Understand how to prioritize vulnerabilities so that lawmakers have a framework to utilize when selecting projects that are competing for limited financial resources;
- Determine if and how existing laws and regulations need to consider future rates of sea level rise and erosion in order to protect the priority vulnerable areas that sustain the local, state, and regional economies;
- Identify synergies and begin fostering collaboration between all levels of government in order to increase local resilience towards climate related vulnerabilities; and
- Share lessons learned through the process with other communities in the region



Figure 3.5.2:2 - Evacuation route sign with flood measurements located in Groton

The workshops used the new COAST climate change modeling and visualization tool developed by the New England Environmental Finance Center (EFC) and the Battelle Memorial Institute. The tool aids in adaptation assessment by displaying location-specific avoided costs. It uses GIS to estimate potential economic damage from sea level rise scenarios by incorporating data such as property and infrastructure values; NOAA's Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model; and U.S. Army Corps of Engineers Depth-Damage functions. The participants identified specific locations vulnerable to climate impacts, looking at transportation, infrastructure, ecological resources, and emergency services.

Incorporated Climate Change into Public Works Decision Guidance

Building on the awareness of climate change impacts generated by the model process, the Town of Groton adopted a public works decision guidance document that incorporates climate impacts.

POTENTIAL ACTIONS IDENTIFIED TO BUILD PREPAREDNESS TO CLIMATE CHANGE IN GROTON:

- Relocate/Elevate vulnerable roads and infrastructure – ensure emergency access and preservation of public safety during extreme events;
- Develop Memorandums of Understanding with state personnel regarding funding of local police costs incurred to vulnerable protect safety along state owned road infrastructure during and after storm events, so that police can also monitor other hazardous areas;
- Stormwater runoff reduction program designed to control peak discharges and to require post-development rates of runoff to be no greater than pre-development conditions in most circumstances;
- Flood-proofing of existing buildings;
- Conversion of land upriver to wetlands in order to accommodate increased sea level rise;
- Creation of incentives for retreat zoning and/or zoning and redevelopment restrictions and building code changes or enforcement to prevent building in the most vulnerable locations;
- Educational programs that alert residents about climate change and vulnerable areas of the Town;
- Purchase of vulnerable land or land that will act as a buffer by Groton;
- More stringent building and engineering design standards that anticipate future climate conditions, as opposed to just existing conditions;
- Beach nourishment;
- Installation of flood/tide gates at locations such as Groton Long Point and Mumford Cove; Creation of a comprehensive watershed management plan for debris and culverts, in partnership with Amtrak and CTDOT;
- Improved road condition reports during extreme events, in order to help the school district and other agencies to identify the safest transportation routes;
- Identification of Town, State, and Federal funding available to make the improvements to infrastructure that is deemed highly vulnerable;
- Integrate climate preparedness into the Capital Planning process, Master Plan of Conservation and Development update process, the zoning regulations revision, and streetscape project; and
- Investigate the logistical challenges of incorporating climate change, adaptation, and preparedness into school curriculum

POTENTIAL FUTURE IMPACTS FROM CLIMATE CHANGE IN GROTON, CT*

- More frequent river and coastal flooding;
- Increased occurrence of sewer overflows;
- Loss of coastal habitats and resources (wetlands);
- Increased coastal erosion;
- Reduced drinking water quality and supply caused by salt water intrusion as well as increased precipitation, flooding, drought, and erosion;
- More frequent flooding that could prevent access to and reduce function of Groton-New London Airport;
- Access to state parks such as Bluff Point and Haley Farm could be hampered by flooding;
- Access to UCONN-Avery Point campus may be impaired during storm events;
- Docks and marina facilities could be damaged by flooding and sea level rise;
- Increased economic impacts related to infrastructure replacements, loss of employment hours, additional emergency service personnel,
- Sections of Amtrak railroad could flood under certain sea level rise and storm flooding scenarios;
- Mystic River bridge may experience additional openings for smaller boats as bridge clearance diminishes with sea level rise;
- Shellfishing and fish spawning could be drastically reduced and/or collapse; and
- Overall quality of life, aesthetics, and enjoyment of citizens may be reduced

*A component of the *Preparing for Climate Change Project* was an analysis of future impacts.