

Climate Change Mitigation in Connecticut Municipalities

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Introduction to Climate Change Mitigation

Climate change is often treated as the problem of the future, a concern for future generations. However, analysis of current trends proves that climate change is the problem of today and must be addressed immediately. The ways in which climate change is addressed are twofold: adaptation and mitigation.

In my project, I focused on climate change mitigation, which is the reduction of potential threats like greenhouse gases. With a lack of committed leadership on the global, national, and even state level, climate change mitigation has become largely a municipal effort. The breadth of effort varies enormously; Connecticut towns range from concerted efforts to, in some cases, hardly any discernible climate change mitigation efforts at all.

This project studies variances in climate change mitigation in coastal, riverine, and inland towns, studying differences in how climate change mitigation manifests in each type of town through an in-depth analysis of three case studies: Groton, Glastonbury, and Mansfield.

Hazards Facing Connecticut Communities

The consequences of climate change are numerous, far-reaching, and can be overwhelming when looked at on a large-scale. The differ on a town-by-town basis, depending on their coastal, riverine, or inland status. This project examines three case-studies to illustrate the different hazards targeting Connecticut communities depending on geographic location.



The three town officials interviewed cited problems they find are specific to their town’s status as coastal, riverine, or inland:

Groton town official explained that flood mapping has changed over the years, placing a burden on rebuilding in coastal areas. Building standards are forced to accommodate to rising sea levels and increased flooding, the effects of which are heightened due to coastal towns’ proximity to large bodies of water.

Glastonbury town official pointed out the effect of floodplains along the Connecticut River in Glastonbury; Glastonbury has a strict policy on no new development on floodplain areas (though re-development of existing structures is allowed). He cites management of floodplain areas as a factor of environmental impact that differs from an inland community.

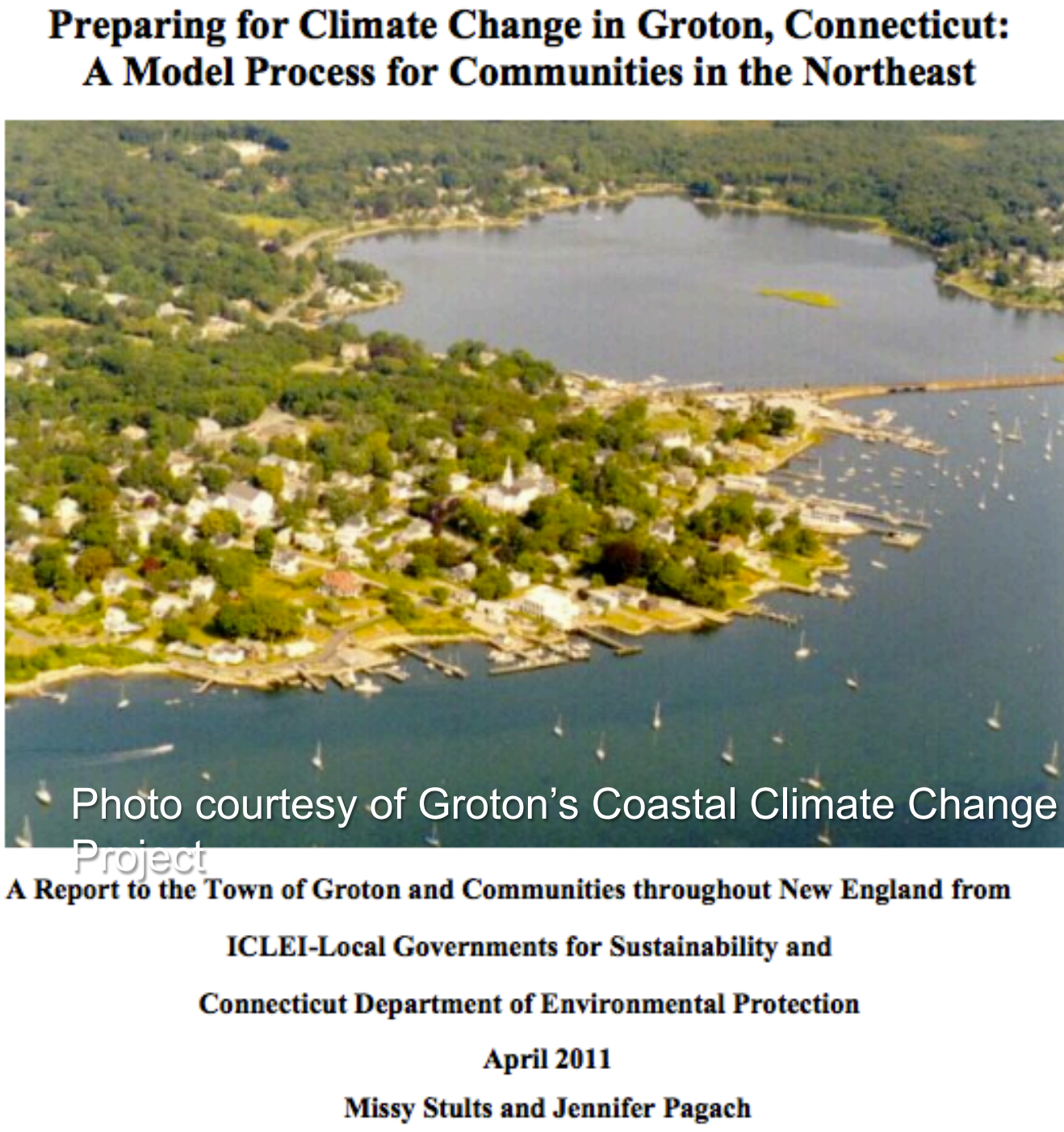
Mansfield town official identified storm water as a major threat, noting the intensity and duration of precipitation, as well as the rise of groundwater. She also points out the effects climate change can have on agriculture, which may be more prominent inland.

The table below presents data that identifies the type of climate change mitigation efforts Connecticut towns have engaged in, sorted by coastal, riverine, and inland status.

| Climate Change Plans by Town Type | | | | |
|---|----------------------|-----------------------|---------------------|-----------------------------|
| | Town type | | | |
| <i>Plan type</i> | Coastal ¹ | Riverine ² | Inland ³ | All Towns |
| Climate change action plan | 46% (N=24) | 13% (N=39) | 5% (N=91) | 14% ⁴ (N=154) |
| Climate change vulnerability assessment | 58% (N=24) | 10% (N=39) | 5% (N=91) | 15% ⁵ (N=154) |
| Natural Hazard Mitigation Plan | 92% (N=24) | 63% (N=43) | 81% (N=102) | 79% ⁶ (N=169) |

Town Responses to Climate Change Threats: Case Studies of Coastal, Riverine, and Inland Communities

- Groton**
- 2008: Task Force on Climate Change and Sustainable Community
 - 2010: Climate change adaptation workshops including federal state, and local government representatives, NGOs, academics, and Groton taskforce
 - Post-workshops, CTDEP drafted Preparing for Climate Change in Groton, which identified planning and educational strategies aimed at increasing local resilience to sea level rise and coastal flooding
 - Current: updating Plan of Conservation and Development—which will lead to recommendations on environmental and transportation issues focusing on sustainability



- Glastonbury**
- 2007-2017 Plan of Conservation and Development: sets town guidelines to protect natural resources and the environment
 - Purchased Renewable Energy Certificates representing 2.25 million KWH of clean electricity for the Town and Board of Education since October 2006
 - Current: adoption of two new town regulations in the past year—1. Town Center Regulation (current zoning allowing for high-density, residential development within the town center), 2. Adaptive Redevelopment Zone Regulation (bringing an existing building up to current codes)

- Mansfield**
- Mansfield Tomorrow Initiative: update existing plans and policies to establish long-term economic and physical development, funded by a federal Sustainable Communities Grant
 - Mansfield 2020: A Unified Vision identified sustainability as top priority
 - 2005: Town committed to purchase clean, renewable energy that offsets 20% of the municipality’s electrical needs
 - Current: New Intermodal Center opening soon focused on providing transit options, including bike-shares, electrical car charging stations in the town garage, buses stopping at center



What is Preventing Further Climate Change Efforts?

| Barriers to Action by Town Type | | | | |
|------------------------------------|------------------------------|-------------------------------|---------------|---------------------------------|
| | Town type | | | |
| Type of Barrier | Coastal (n=24 ¹) | Riverine (n=44 ²) | Inland (n=89) | All types (n=151 ³) |
| Lack of funding | 66% | 75% | 71% | 71% |
| Insufficient state/federal coord. | 42% | 50% | 43% | 44% |
| Lack of public information | 33% | 45% | 33% | 35% |
| Other issues take priority | 13% | 39% | 38% | 34% |
| Climate change skepticism | 8% | 18% | 34% | 26% |
| Insufficient private/public coord. | 13% | 18% | 12% | 14% |
| Insufficient staff | 13% | 16% | 21% | 19% |
| Other barriers | 8% | 2% | 2% | 3% |

Interview data verified the results above:

Groton: cost of infrastructure and developing plans
Glastonbury: educating the public on what can be done and educating to combat climate change skepticism
Mansfield: staff time—Mansfield town official added that Mansfield’s lack of a formal Climate Action Plan is due, at least in part, to a lack of staff.

Future of Climate Change Mitigation Measures

Groton town official said Groton’s educated population is a strong driver of current and future climate change efforts, citing the University of Connecticut Avery Point’s presence and local residents’ participation on land use boards and town councils. She predicted climate change policy will manifest itself in capital projects currently being proposed, like developers having to build their new projects to a higher standard in order to accommodate more flooding.

Glastonbury town official said that climate change policy may emerge from under the current umbrella of energy conservation. This would entail “breaking down the overall topic of energy conversation...into climate change, global warming,” etc. and instituting specific policies for energy as well as environmental concerns.

Mansfield town official said the town is working on a new Plan of Conservation and Development, which “has profound effects on how a town grows and changes.” Its impacts include how people move around the town, making it more localized by providing easier access to businesses and homes without using a car.



Conclusion

Climate change mitigation policy varies significantly by town; in addition, the importance attached to the issue also varies substantially.

The case studies illustrate the difference in how towns treat the issue. The Groton town official identified climate change as an issue of very high importance to Groton’s departments: “In the last five or six years, it’s come to the forefront probably because of localized events,” she said, “including increased flooding events and storms.” The Glastonbury town official said that while climate change is an important issue to the town, “it is clumped in with energy conservation issues.” He also mentioned that some people’s continuing denial about climate change might prevent the issue taking a higher importance. The Mansfield town official called climate change an issue “not as high as it should be,” though said Mansfield is “probably more focused on it [than other] towns,” attaching it a medium-high importance.

With an issue that spans so many different hazards, there are a variety of solutions; the one constant may be that it is an issue that must be addressed. In the absence of the traditional top-down action, local efforts are key and any support that can be lent to programs and initiatives is vital to continue efforts to raise awareness and promote the policies that will play an integral role in the future of our communities. These policies, as demonstrated through these case-studies and their corresponding issues, span alternative energy sources, transportation reform, and concrete plans *in writing* that address the role climate change will play in our towns today and the days to come.

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