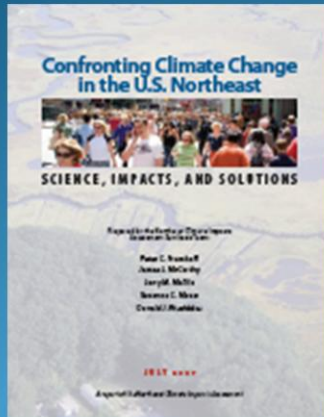
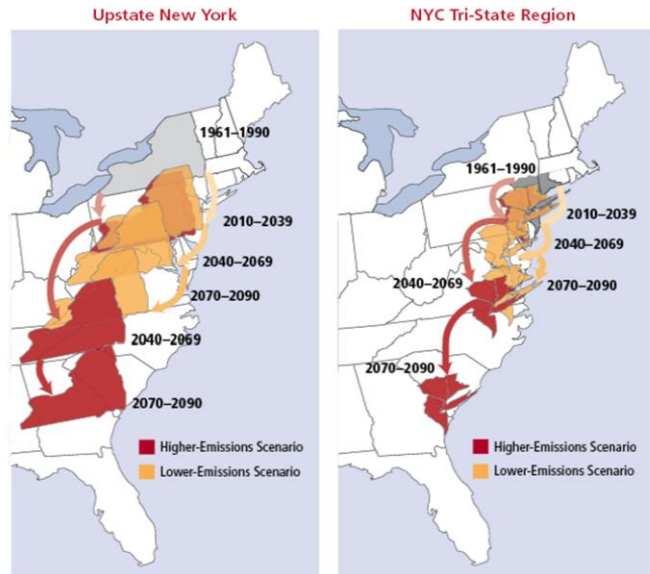


Climate Change Adaptation



Why Adapt?



Source: Northeast Climate Impacts Assessment, 2007

- Adapting to climate change is necessary because:
 - We are already experiencing climate change in New York State.
 - Even if we cut emissions, we will still experience dramatic change in our climate due a time lag between emissions and climate effects.
 - As this graphic shows, the climate in New York State later this century is likely to feel like living in the Southeast.

NYS Interagency Initiative on Local/Regional Climate Change Adaptation

- **Who:** Interagency partnership initiated by
 - NYS Department of State
 - NYS Department of Environmental Conservation
 - NYS Energy Research and Development Authority
 - NYS Office of Emergency Management
- **What:** Guidance, Tools, and Trainings
- **How:** Partner Programs, Pilot Projects, and Funding
 - DOS Local Waterfront Revitalization Program
 - DEC Climate Smart Communities

- DOS is leading an interagency initiative to reach out to our local communities and regions on climate change adaptation.
- We formed an interagency workgroup with DEC, NYSERDA, and SOEM.
- This workgroup is focused on developing guidance, tools, and trainings for communities and regions.
- We are providing these services through:
 - Partner programs- including the DOS Local Waterfront Revitalization Program and the DEC Climate Smart Communities Program
 - Pilot projects- such as the SSE, Mid-Hudson Valley, and City of Albany
 - Funding through Local Waterfront Revitalization Program grants



- The field of climate change adaptation is young but very active. The list of resources available to communities is constantly growing. In New York State alone, reports from ClimAID (NYSERDA’s scientific panel), the Sea Level Rise Task Force, and the Climate Action Council will be coming out soon.
- DOS’s role in all of these state climate change adaptation efforts to bring state resources to the local level.
- Our goal is to assist communities in incorporating these resources into their strategic planning.
- For example, in the SSE project we will use the climate projections developed by the ClimAID project and refine the strategies identified by the SLRTF and Climate Action Council.
- In addition, in the SSE project we will help the region use methods for assessing climate risks developed by the NOAA Coastal Services Center and ICLEI. If you are not familiar with them, ICLEI is a international non-profit, called Local Governments for Sustainability, who has pioneered methods to integrate climate change into local planning

Gaps

- **Policy**
 - Lack of coastal policies specific to climate change
- **Regional Adaptation Planning**
 - Identification of climate change impacts
 - Analysis of relative risk of those impacts
 - Strategies to reduce risk

• In order to better prepare for climate change on the south shore of Long Island, we have identified the following policy and planning gaps that would need to be filled.

• As you heard in the CZ-101 presentation, the coastal policies are the core of our coastal program, guiding all consistency decisions and planning with local communities.

• Our current coastal policies do not address climate change so we need to formulate new and/or modified coastal policies to address climate change risks.

• To enhance regional planning for climate change, we need to identify the specific impacts from climate change in the region.

• An analysis of the relative risk of those impacts is needed to prioritize efforts to reduce risk.

• Finally, regional strategies need to be developed to address the impacts of highest risk.

SSE Amendment on Climate Change

- **Policy**
 - Review state law for enforceable policies
 - Review current coastal policies
 - Recommend new and/or modified coastal policies on climate change
 - Identify opportunities for application of climate change policy
- **Adaptation Planning**
 - Inventory/Mapping (NOAA Coastal Services Center and The Nature Conservancy's Coastal Resilience Mapping Tool)
 - Risk Analysis and Strategy Identification (ICLEI- Local Governments for Sustainability)

•We propose the following work to support the SSE Amendment on Climate Change. Where possible, this work will be conducted for the entire SSE study region.

•We will first review state law to identify whether there are current laws which could be used to enforce coastal policies on climate change.

•Then, we will review our current coastal policies for opportunities for reducing climate change risk and recommend new and/or modified coastal policies as necessary.

•In addition, we will recommend opportunities for all levels of government to apply these climate change policies.

•Adaptation planning will be informed by two sets of analyses:

•First, we will conduct inventory and mapping of climate change impacts in the region in partnership with the NOAA Coastal Services Center using The Nature Conservancy's Coastal Resilience Mapping Tool.

•Second, we will conduct risk analysis and strategy identification using methodology developed by ICLEI- Local Governments for Sustainability.

Inventory and Mapping



- Identify climate change impacts by:
 - Hazards Profile- explore maps depicting future flooding scenarios (sea level rise and storm surge)
 - Social Profile- e.g. overlay flood maps with at-risk populations
 - Infrastructure Profile- e.g. overlay flood maps with critical infrastructure
 - Ecosystem Profile- e.g. overlay flood maps with vulnerable ecological communities (marshes, piping plover habitat)

•We are fortunate to have TNC’s Coastal Resilience mapping tool for a large portion of our study region- the full capability of the tool is available for the south shore of Suffolk County. We will be able to expand our mapping work to Nassau County once the LIDAR, or high resolution elevation data, is available- the state recently was awarded a grant from USGS to collect this data for all coastal areas and the plan is for Nassau County to be surveyed next year.

•We plan on using the Coastal Resilience mapping tool to produce a series of profiles (hazards, social, infrastructure, and ecosystem) following the Coastal Services Center Roadmap process.

•For example, we will be able to identify the locations of climate change impacts by overlaying maps of future flooding scenarios with:

- At-risk populations
- Critical infrastructure, and
- Ecological communities

Adaptation Planning

- Climate change impacts identified through inventory and mapping
- Risk analysis using ICLEI rating method
- Strategic planning
 - Set regional goals
 - Identify strategies to reduce risk

- Once we have identified the regional impacts of climate change in the inventory and mapping phase, we can then conduct ICLEI's risk analysis method to identify the impacts of greatest risk.
- The strategic planning phase will include setting regional goals and identifying strategies for the impacts of greatest risk.

Outcomes

- New and/or modified coastal policies on climate change
- Inventory and mapping products that identify regional climate change impacts and locations
- Analysis that identifies climate change impacts of greatest risk
- Regional Climate Change Adaptation Strategy

To sum up, we expect the following outcomes out of the work I just described:

- New and/or modified coastal policies on climate change to guide decision-making
- Inventory and mapping products that identify regional climate change impacts and locations
- Analysis that identifies climate change impacts of greatest risk
- Regional Climate Change Adaptation Strategy