Resources for Resiliency Planning in New York State

About This Guide

Communities everywhere are preparing for climate change. In New York State, resilience and storm preparedness have become established parts of public policy, especially after severe weather events such as 2017's Lake Ontario flooding and 2014's Superstorm Sandy. Consequently, many state agencies and national organizations have developed a variety of technical documents, planning guides, online tools, and policy guidance related to the topic of resilience. These tools can be useful for starting a planning process, gathering information, and implementing projects. However, selecting the right tool is often a time consuming and uncertain process in itself.

This list, created by the Syracuse University Environmental Finance Center with support from US Department of Agriculture Rural Development, is designed to aid local officials in navigating the resources available in New York State for resiliency planning and action. This is not an exhaustive or comprehensive list. Rather, it is a "shortlist" of some of the most useful tools for local government leaders, with an emphasis on those that are designed with New York communities in mind. For example, the Climate Smart Communities Planning Evaluation Tool uses simple checklists to guide a group of local leaders through assessing resiliency. We also include information on New York State Energy Research and Development Authority's (NYSERDA) Clean Energy Communities program and share some ways that communities can participate and later receive financial support for resilience actions.

While there are multiple ways of thinking about resilience, this document primarily focuses on resilience to climate-related hazards. In New York state, these events can include flooding, storm surge, infrastructure damage, and public health and safety risks. It is important to note that you do not need to limit your thinking to only climate-related events or natural hazards— changes in local economies and social systems are also important to keep in mind.

Using This Guide

This document is flexible. For readers unfamiliar with the concept of resilience, several definitions are presented in Section 1. Resources and tools are organized according to primary use: conducting a vulnerability assessment (Section 2), developing a plan (Section 3), and acquiring financial support for resiliency projects (Section 4). Read in full, this document serves as a step-by-step overview for learning about resilience and selecting tools for all stages of planning.

What do you need?

Defining Resiliency

While 'resilience' is a widely used term, there is not a consistently used or standard definition. Take some time to think about how you view resilience in the context of your experience and your community. It may be helpful to see how relevant government groups have defined resilience in their publications. A few of these definitions are included below.

From National Academies of Science ***(****used by the National Oceanic and Atmospheric Administration (NOAA)):* Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.

From the Subcommittee on Disaster Reduction *(used by the State of New York and the State of New Jersey in Climate Action Planning, and used in NOAA's Community Resilience Index):*
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.

From the New York State Energy Research and Development Authority (NYSERDA) ClimAID Report:[1]
Climate resilience is a state in which climate risk information, vulnerability, and adaptation knowledge are taken into account in order to reduce the level of physical, social, or economic impact of climate variability and change.

From the Intergovernmental Panel on Climate Change (IPCC) (*used by the NYS Department of Environmental Conservation (DEC)):* Resilience is the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

From Susan Cutter's 2016 article, *Resilience to What? Resilience for Whom?:*[2]
"Creating resilience is about enhancing the ability of a system (however you define it) to anticipate, absorb or recover from a shock and to adapt successfully to such conditions so as to make the system better and more secure in the future." (page 112)

Assessing Vulnerability in Your Community

Climate vulnerability was defined by in the ClimAID Report as "the degree to which systems are susceptible to, and unable to cope with, adverse impacts of climate change." Consider the following resources if you are in a position to conduct a vulnerability assessment.

[1] Rosenzweig, C. et al. 2011. ClimAID Adaptation Guidebook for New York State. Annex II of Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation Strategies in New York State. New York State Energy Research and Development Authority (NYSERDA). Albany, NY.
[2] Cutter, Susan. 2016. Commentary: Resilience to What? Resilience for Whom? The Geographical Journal 182(2): 110-113.

1.) Checklists from the New York State Climate Smart Communities Resiliency Planning Evaluation Tool

New York Climate Smart Communities Program

This document describes a 4-step process and assessment tool for New York State communities created by the NY Climate Smart Communities Program (a joint initiative between NYSERDA, DEC, Department of Health, and other state agencies) This document contains a check-box style self-assessment, which can be found starting Section 2. It also contains information on state baselines for climate-related projections, as well resources and information sources that would be necessary for successfully completing the assessment. The assessment is intended for use by a group of local leaders, including planners and municipal leaders. This assessment may also be useful for communities that are interested in participating in the Climate Smart Communities program or receiving Climate Smart Communities certification.

2.) HAZUS

United States Federal Emergency Management Agency (FEMA)

HAZUS is a GIS-based program developed by FEMA that guides users through risk-informed decision making. The intended audience is primarily experienced emergency managers and GIS specialists. HAZUS uses standard models for estimating potential losses from earthquakes, floods and hurricanes. This methodology may be useful for communities that need to obtain standard estimates or data, or need to use this methodology for a specific reason such as preparing a Hazard Mitigation Plan. While HAZUS is free, access to a computer and GIS software is needed.

3.) Coastal Resilience Index: A Community Self-Assessment

Mississippi-Alabama Sea Grant and NOAA

This is a checkbox or score-card based tool for community leaders to "predict if their community will reach and maintain an acceptable level of functioning after a disaster". The target audience is experienced local planners, engineers, floodplain managers or administrators. There is an emphasis on flood related disasters and coastal areas, which NYS communities may find helpful. Based on the results of the self-assessment, an index score of low, medium or high will be assigned to your community; this is intended to reflect how long it may take your community to provide necessary services for recovery.

Develop a Plan

In some cases, conducting a vulnerability assessment may provide the basic structure for a plan. If you need more assistance crafting a plan related to climate resilience, consider the following resources.

1.) Climate Smart Communities Climate Action Planning Guide

NYS Climate Smart Communities Program

This guide outlines how to develop and climate action plan, which emphasizes reductions in greenhouse gas emissions. Importantly, this guide helps ensure compliance with items in the Climate Smart Communities Manual, which is a core program of the state for supporting local climate-related activities. This guide focuses on one type of plan (a climate action plan), which is a component of a broader state program for local governments.

2.) Being Prepared for Climate Change: A Workbook for Developing Risk-based Adaption Plans

United States Environmental Protection Agency

This is a climate adaptation planning resource developed by the US EPA. This workbook is split into two sections: the first section is a vulnerability assessment, and the second section is the

development of an action plan. The content is based on the International Standards Organization's published standards for climate adaptation planning. The intended audience for the workbook is environmental managers or resource managers, specifically with coastal or watershed focus. This can include planners and municipal staff that have sufficient knowledge of their environmental system (or can partner with those who do) to understand how climate changes may affect the way it functions.

Related: Online Companion Tool
Related: Risk Identification Checklists (From Chapter 3)

Getting Support for Resilience Actions

There is no magic bullet for acquiring funding for your community to become more resilient. However, there are several "gateway" programs in NYS that open doors to funding and technical assistance. For a more comprehensive overview of NYS funding opportunities, see SU-EFC's Field Guide of Financial Support for Capital Projects in New York State (2016-2017).

New York State Climate Smart Communities Program

This is a joint program between multiple New York state agencies, including the DEC and NYSERDA. The program is a voluntary, step-by-step certification process for municipalities. The first step is taking the "climate smart communities pledge." Communities that participate in the program have been eligible for matching funds on climate mitigation and adaptation projects that meet climate smart communities program goals. A new online portal for participating in the Climate Smart Communities Program was launched in April 2018. Information on past grants can be found on the NYSDEC website. It is important to note that this funding was made available through the NYS Consolidated Funding Application (CFA), which is offered once a year and managed by the Regional Development Councils.

NYSERDA Clean Energy Communities

This program is available to local governments in New York to implement clean energy actions, save energy costs, create jobs, and improve the environment. Communities that implement 4 out of 10 specific actions and submit documentation to NYSERDA are eligible for additional funding for clean energy projects. Free technical assistance from NYSERDA clean energy coordinators are available to communities participating program.

National Flood Insurance Community Rating System

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. The program is administered by FEMA. Participation can result in discounts on flood insurance rates for residents of participating municipalities. As flood events become more frequent in NYS, this program may be appropriate for communities already undertaking flood preparedness actions. The Genesee Finger Lakes Regional Planning Council developed a Demonstration Project with two NYS communities that showcases how this program can support climate adaptation and flood preparedness.

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