

Environmental Alert



New Jersey Takes on Climate Change: What You Can Do To Plan

In recent years, the Northeast—and New Jersey in particular—has been witness to some erratic and extreme climatic occurrences. Most notably, the effects of Hurricane Irene and Superstorm Sandy in 2011 and 2012, respectively, have cost the state and federal government billions in recovery efforts. During Hurricane Irene a deluge of rain caused the washout of bridges and roads; undermined railroad lines; flooded thousands of homes, businesses, and crops; damaged floodplain forests; and released breached wastewater from treatment plants. Only 14 months later, Superstorm Sandy resulted in massive coastal damage from storm surge, inundating mass transportation infrastructure. Sadly, both storms caused numerous deaths.

These events highlight the vulnerability of New Jersey communities to a warming climate scenario that is naturally varying, but which is constantly impacted by human activity. Regardless of the cause of the current climate situation, New Jersey, its infrastructure, its people, and its economy are highly vulnerable to the growing effects. Regional climate risks include more frequent and intense heat waves, heavier downpours, and both river and coastal sea level rise and storm surge.

In the wake of these significant weather events, a growing number of private organizations, municipalities, and state-funded agencies have taken the initiative to conduct vulnerability assessments and implement adaptation strategies. The point of doing a vulnerability assessment is to determine if it is prudent to plan on improving community infrastructure resilience and figure out how to reduce the impacts of future climate change related events. In addition, a community can consider if spending some money now on improving resiliency might save far more in property damage and casualties in the future. With the costs for Superstorm Sandy recovery being estimated at more than \$50 billion dollars, there seems to be a lot of room for improvement and investment.

The resources needed to formulate the vulnerability assessment itself will depend on the desired scope and scale of the assessment. It can be used to identify the vulnerability of populations and infrastructure as they relate to a variety of factors, such as exposure, sensitivity, adaptive capacity, and cost. The vulnerability assessment can consider the community as a whole, or focus on a single structure, system, or location.

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The assessment should consider:

- What areas or systems are under the biggest threat from climatic changes?
- What scenarios are relevant to our community? Should they be modeled for the best or worst case scenario?
- What funding decisions will be dependent on the assessment results?
- What time horizon should the assessment take into consideration?

Beyond these considerations, each community needs to identify specific areas of sensitivity to climate change as well as each asset's adaptability, based on the determined case scenarios. You can then ask the following questions regarding the adaptability of each asset:

- Will current climate stressors get worse in the future?
- Will new climate stressors evolve that may be worse than the current situation?
- How will climate adaptation efforts impact the community?
- What is the current ability of systems to respond to climate change impacts?
- What steps can be taken to reduce the disruption and costs of climate change impacts?
- What investments can be made to improve the adaptability of a specific asset or system?

Each community, based on its location and socio-economic situation, can construct unique vulnerability assessments and resulting adaptation strategies. It is no longer a question of if climate change impacts will affect New Jersey, but when, how often, and how severely.

We have witnessed significant changes over the last decades, and it is time for communities to consider taking an active role in growing, adapting, and preparing in order to meet the environmental and climate challenges of our future.

Additional resources available to municipal governments that wish to learn more:

<http://www.prepareyourcommunitynj.org/related-resources/>

<http://www.fema.gov/hazard-mitigation-grant-program>

<http://www.coast.noaa.gov/funding/>

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13353

<http://www.grants.gov/web/grants/search-grants.html>

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If you need a more detailed explanation of this topic or need assistance in interpreting how it may impact your site, the EJIF suggests that you contact the EJIF environmental consultants for further information.

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