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FACT SHEET: What Climate Change Means for Rhode Island and the Northeast



Today, the Obama Administration released the third U.S. National Climate Assessment – the most comprehensive scientific assessment ever generated of climate change and its impacts across every region of America and major sectors of the U.S. economy. The findings in this National Climate Assessment underscore the need for urgent action to combat the threats from climate change, protect American citizens and communities today, and build a sustainable future for our kids and grandkids.

The National Climate Assessment is a key deliverable of President Obama’s Climate Action Plan to cut carbon pollution, prepare America’s communities for climate-change impacts, and lead international efforts to address this global challenge. Importantly, the plan acknowledges that even as we act to reduce the greenhouse-gas pollution that is driving climate change, we must also empower the Nation’s states, communities, businesses, and decision makers with the information they need prepare for climate impacts already underway.

The Obama Administration has already taken a number of steps to deliver on that commitment to states, regions, and communities across America. In the past year alone, these efforts have included: establishing a Task Force of State, Local, and Tribal Leaders on Climate Preparedness and Resilience to advise the Administration on how the Federal Government can respond to the needs of communities nationwide that are dealing with the impacts of climate change; launching a Climate Data Initiative to bring together extensive open government data with strong commitments from the private and philanthropic sectors to develop planning and resilience tools for communities; and establishing seven new “climate hubs” across the country to help farmers and ranchers adapt their operations to a changing climate.

RHODE ISLAND is part of the U.S. National Climate Assessment U.S. Northeast Region. The regional phenomena identified by the Assessment may not occur in every state that is part of a particular region. According to the third U.S. National Climate Assessment Highlights report:

“Sixty-four million people are concentrated in the Northeast. The high-density urban coastal corridor from Washington, D.C., north to Boston is one of the most developed environments in the world. It contains a massive, complex, and long-standing network of supporting infrastructure. The Northeast also has a vital rural component, including large expanses of sparsely populated but ecologically and agriculturally important areas.

Although urban and rural regions in the Northeast are profoundly different, they both include populations that are highly vulnerable to climate hazards and other stresses. The region depends on aging infrastructure that has already been stressed by climate hazards including heat waves and heavy downpours. The Northeast has experienced a greater recent increase in

extreme precipitation than any other region in the U.S.; between 1958 and 2010, the Northeast saw more than a 70% percent increase in the amount of precipitation falling in very heavy events (defined as the heaviest 1% of all daily events). This increase, combined with coastal and riverine flooding due to sea level rise and storm surge, creates increased risks. For all of these reasons, public health, agriculture, transportation, communications, and energy systems in the Northeast all face climate-related challenges.” (NCA Highlights, p. 70)

Regional Findings of the Third U.S. National Climate Assessment: NORTHEAST

- “Heat waves, coastal flooding, and river flooding will pose a growing challenge to the region’s environmental, social, and economic systems. This will increase the vulnerability of the region’s residents, especially its most disadvantaged populations.
- Infrastructure will be increasingly compromised by climate-related hazards, including sea level rise, coastal flooding, and intense precipitation events.
- Agriculture, fisheries, and ecosystems will be increasingly compromised over the next century by climate change impacts. Farmers can explore new crop options, but these adaptations are not cost- or risk-free. Moreover, inequities exist in adaptive capacity, which could be overwhelmed by changing climate.
- While a majority of states and a rapidly growing number of municipalities have begun to incorporate the risk of climate change into their planning activities, implementation of adaptation measures is still at early stages.” (NCA Ch. 16: Northeast)

Selected Findings and Information from the Third U.S. National Climate Assessment Relevant to RHODE ISLAND

- **Cities:** “Urban residents have unique and multifaceted vulnerabilities to heat extremes. Northeastern cities, with their abundance of concrete and asphalt and relative lack of vegetation, tend to have higher temperatures than surrounding regions (the “urban heat island” effect). Many Northeastern cities, including New York, Boston, and Philadelphia, are served by combined sewer systems that collect and treat both stormwater and municipal wastewater. During heavy rain events, combined systems can be overwhelmed and untreated water may be released into local water bodies.” (NCA, Ch. 16: Northeast)
- **Health:** “Vector-borne diseases are an additional concern. Most occurrences of Lyme disease in United States are in the Northeast, especially Connecticut. While it is unclear how climate change will impact Lyme disease, several studies in the Northeast have linked tick activity and Lyme disease incidence to climate, specifically abundant late spring and early summer moisture.” (NCA, Ch. 16: Northeast)
- **Infrastructure:** “In the transportation sector, many of the region’s key highways (including I-95) and rail systems (including Amtrak and commuter rail networks) span areas that are prone to coastal flooding. In addition to temporary service disruptions, storm surge flooding can severely undermine or disable critical infrastructure along coasts, including subway systems, wastewater treatment plants, and electrical substations.” (NCA, Ch. 16: Northeast)

- **Sea Level Rise:** “Sea level rise along most of the coastal Northeast is expected to exceed the global average rise due to local land subsidence, with the possibility of even greater regional sea level rise if the Gulf Stream weakens as some models suggest. Sea level rise of two feet, without any changes in storms, would more than triple the frequency of dangerous coastal flooding throughout most of the Northeast. Rhode Island requires public agencies considering land-use applications to accommodate a 3- to 5-foot rise in sea level.” (NCA, Ch. 16: Northeast; (NCA, Ch. 28: Adaptation)
- **Adaptation:** “Local and state governments in the Northeast have been leaders and incubators in utilizing legal and regulatory opportunities to foster climate change policies.” “In addition, Maine, Massachusetts, and Rhode Island have each adopted some form of “rolling easement” to ensure that wetlands or dunes migrate inland as sea level rises and reduce the risk of loss of life and property.” (NCA, Ch. 16: Northeast)

Examples of Efforts Underway in RHODE ISLAND to Address Climate Change

In **RHODE ISLAND**, many efforts are already underway to mitigate and respond to the impacts of climate change, including:

Preparing Communities for the Consequences of Climate Change:

Many important preparedness, resilience, and adaptation efforts are already being led by local, state, and regional entities across the country. Mechanisms being used by local governments to prepare for climate change include: land-use planning; provisions to protect infrastructure and ecosystems; regulations related to the design and construction of buildings, road, and bridges; and preparation for emergency response and recovery. These local adaptation planning and actions are unfolding in municipalities of different sizes, and regional agencies and regional aggregations of governments are also taking actions. And States have also become important actors in efforts related to climate change.

Cutting Carbon Pollution in Rhode Island:

In 2012, power plants and major industrial facilities in Rhode Island emitted almost 4 million metric tons of carbon pollution – that’s equal to the yearly pollution from more than 800,000 cars. Through the Climate Action Plan and state initiatives, there are many efforts already underway to mitigate and respond to the impacts of climate change in Rhode Island, including:

- ***Investing in Clean Energy:*** Since President Obama took office, the U.S. increased solar-electricity generation by more than ten-fold and tripled electricity production from wind power. Since 2009, the Administration has supported tens of thousands of renewable energy projects throughout the country, including 40 in Rhode Island, generating enough energy to power more than 7,000 homes and helping Rhode Island meet its own goal of generating 16 percent of its electricity from renewable energy sources by 2020.
- ***Improving Efficiency:*** Using less energy to power our homes, businesses and vehicles is critical to building a clean and secure energy future. President Obama has made essential

investments in research and development for energy efficiency advances, and set new standards to make the things we use every day – from cars to microwaves – more efficient.

- President Obama established the toughest fuel economy standards for passenger vehicles in U.S. history. These standards will double the fuel efficiency of our cars and trucks by 2025, saving the average driver more than \$8,000 over the lifetime of a 2025 vehicle and cutting carbon pollution.
- Since October 2009, the Department of Energy and the Department of Housing and Urban Development have jointly completed energy upgrades nearly two million homes across the country, saving many families more than \$400 on their heating and cooling bills in the first year alone.
- As part of the President's Better Buildings Challenge, Rhode Island committed to reducing energy intensity 20 percent by 2020 in 18 million square feet of its buildings.

For more information about the third U.S. National Climate Assessment, please visit www.globalchange.gov or contact engagement@usgcrp.gov.

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