

Northeast Nightmares

Northeastern cities experience an average total of five summer days over 90° F in the northern part of the region, and up to 20 such days in the more southerly and inland areas. Across the Northeast, this is an average of two more days per summer over 90° F than we saw in 1960. These are some of the more obvious changes that New England residents are experiencing.

There are plenty of other changes to enjoy, if you are like coughing, mosquitoes and poison ivy on Facebook:

- CO₂ emissions continue to contribute to poorer air quality, increasing the hardship for those with asthma or COPD (Chronic Obstructive Pulmonary Disease)
- Vector-borne diseases (i.e. ticks and mosquitoes carrying West Nile Virus, babesiosis, and Lyme disease) may become more prevalent due to longer, hotter summers punctuated by heavy rainstorms
- There are improved conditions for poison ivy through heat and increased CO₂

Heat waves are most dangerous in urban areas because of the large concentration of potentially vulnerable people and the urban heat-island effect, which drives both day and nighttime temperatures higher in cities than in suburbs and rural areas. The effect occurs mainly because pavement and buildings absorb and retain the sun's energy

Global warming could worsen air pollution in the Northeast, creating more days when national air-quality standards cannot be met. The less we do to reduce our carbon emissions now increases how often we will likely be out of compliance with these important air quality regulations. Deteriorating air quality would exacerbate the risk of respiratory, cardiovascular, and other ailments in states such as Massachusetts, which already has the highest rate of adult asthma in the United States. Rising temperatures and CO₂ levels could worsen pollen-based allergies in the northeast.



National Guard and heavy equipment cope with Great Flood of March 2010. *Photo Credit: NOAA*

Rhode Island Risks

Rhode Island runs the same risks as other New England states, with one added twist: its population is the largest “old-old” (+85 years old) and one of the largest “old” (+65) in the country. As mentioned above, advanced age, like extreme youth, can be an intensifying factor when facing elements such as extreme heat, poor air quality or unexpected health factors (e.g., Lyme disease).

Decades of work to improve Rhode Island's air quality are at risk of being reversed by climate change.

Researchers at the RI Department of Health estimated in 2010 that approximately 11 percent of Rhode



I-95 in Warwick, flooded as a result of Superstorm Sandy. *Photo Credit: RI DOT*

Islanders have asthma. Air pollution can exacerbate asthma, especially in the summer months. Currently, in the summer, “Air Quality Alerts” issued by the RI Department of Environmental Management trigger the state’s transit system to give free rides to passengers to protect their health, a simple, yet positive, adaptation strategy.

Accidental spills of sewage, propane tanks and underground tank displacements, as well as failures of wastewater treatment plants and household septic systems are other major water quality and health concerns associated with natural disasters. The location of the Narragansett Bay Commission’s Fields Point wastewater treatment plant, pumping stations and the various chemical storage facilities throughout Rhode Island pose a serious threat to the densely developed residential areas in close proximity to these facilities.

Drinking water, the essence of life and a top priority for the public in any poll ever taken, can suffer. Saltwater inundation associated with sea level rise or storm surge can contaminate wells, especially small ones, or



Part of the Nate Whipple Highway in Cumberland destroyed in the Great Flood of March 2010. *Photo Credit: RI DOT*

vulnerable public water supplies. Corollary damage from flooding, as the state experienced in 2010, saw massive amounts of polluted runoff and sewage plant overspill make their way into drinking water supplies, an often-overlooked occurrence when damage from the storm was assessed.

One Day at a Time

Getting through the day, week, month or year can be tough enough under current climate conditions. The physical and social aspects of climate change will make that journey even tougher, and that flows directly into ancillary economic problems, such as loss of work, further burdens on an already overextended health care system and the individuals and families who rely upon it, and let’s face it, even loss of life through unexpected circumstances, such as droughts or storms.

That doesn’t mean you have to worry yourself into a tizzy, but it makes a good argument for at least paying attention to what is evolving around you that can hurt you on a daily basis. And it begs the question: Are we doing all we can to mitigate or adapt to climate change?



Water pouring over the dam west of the South Main Street Bridge in Coventry, in the Great Flood of March 2010. *Photo Credit: RI DOT*



Water covering the airport connector in Warwick, during the Great Flood of March 2010. *Photo Credit: RI DOT*