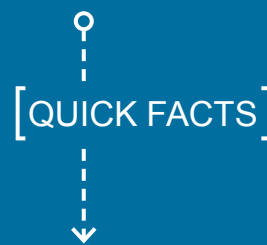


# Climate Hazards within New York State and Their Impact on the Built Environment

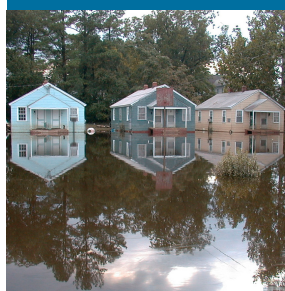
Changing climate conditions could potentially increase the frequency and intensity of these events, such as hurricanes / tropical storms, flooding, severe storms, winter storms, wildfire, sea level rise, and heat waves. This report provides information on the historical, current, and potential future impacts of climate change on the built environment, broken down by region and county, to allow property owners and operators, policymakers, architects, planners and engineers to visualize climate risks at a localized scale.



## ANTICIPATED CHANGES

- Rising oceanic and atmospheric temperatures may lead to an increased hurricane and tropical storm strength
- NYC may see projected maximums of 4.14 inches of rainfall per hour during a 1-hour storm
- Higher temperatures may lead to an increase in the frequency and intensity of storms and lightning
- A decrease in ice cover on the Great Lakes may lead to increased lake effect snow
- With a projected increase in the duration of heat waves and droughts, wildfire hazards are likely to increase as well
- Average annual temperatures across the State are projected to increase by as much as 10°F by the 2080s
- Changes in temperature and precipitation may allow invasive species to migrate northward

Sea level rise will affect more than just NYC and coastal communities. It has the potential to impact areas all along the tide-controlled Hudson River, such as Troy and Albany.



### How have past hazard events been analyzed?

**1** Data from the University of South Carolina’s Spatial Hazard Events and Losses Database for the United States are used in this document to visualize where climate hazard events have occurred in the past and how much damage they have caused. The historical data shown are from 1960 to 2014, allowing direct comparisons between past and present conditions from county to statewide levels.

### How are current climate-related hazards predicted?

**2** Thresholds for the current climate, developed through Weather Analytics, were based on relative atmospheric extremes for New York State over 37 years (1979–2015). ‘Exceedance probability’ is the likelihood that a threshold will be exceeded within a single year. For example, an exceedance probability of .66 for high temperature means there is a 66% chance that a region’s temperature will exceed 90°F in a given year.

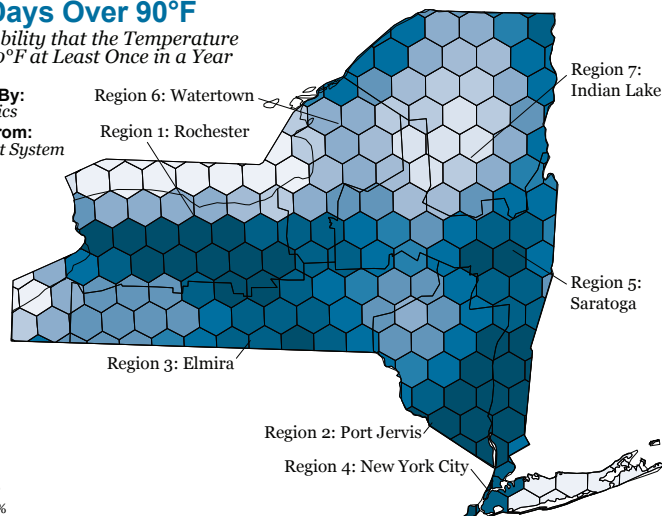
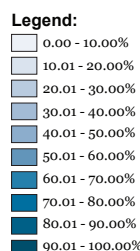
### How do we begin to look at climate hazard projections?

**3** The climate projection data are divided into low, middle, and high estimates for periods beginning in 2020, 2050, and 2080. By anticipating climate changes, those involved in the building sector can begin to understand and prepare for the impacts these hazards will continue to have on buildings.

### Current Days Over 90°F

Percent Probability that the Temperature Will Exceed 90°F at Least Once in a Year

Map Produced By: Weather Analytics  
Data Derived From: Climate Forecast System Reanalysis



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