Like most Massachusetts communities, Wellesley has seen an increase in the frequency and severity of intense storm events, flooding, and extreme heat. These impacts affect everything from the health of the Town's residents, natural resources, and infrastructure. Through the Massachusetts Municipal Vulnerability Preparedness (MVP) program, the Town identified four primary climate related hazards: intense storms, flooding, drought, and heat waves.

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BUILD A SUSTAINABLE FUTURE

Intense Storms

Nor'easters, ice storms, blizzards, hurricanes, and heavy rain events lead to downed trees, power outages, and property damage.

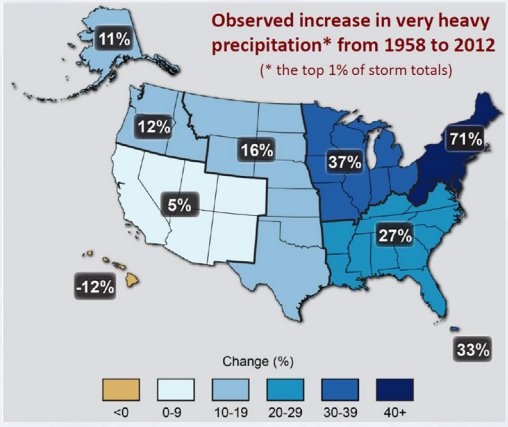
Trends

In the Northeast, the amount of precipitation falling in very heavy events between 1958 and 2010 **increased by more than 70%.**

Projections

Intense storms will become more frequent and more intense, with precipitation concentrated in **fewer, but heavier events.**

[1] National Oceanographic and Atmospheric Association. Storm Events Database. 2016.



New England's most powerful storms now produce 71% more precipitation during their lifecycles than in 1958. [1]

Flooding

A single intense downpour can cause serious flooding, which can damage critical facilities and infrastructure or close essential roads.

Trends

There were 16 FEMA flood-related declared disasters in Norfolk County between 1954 and 2017—**the second most of any county in Massachusetts.** [1]

Projections

Annual Precipitation by 2050: 2-13% increase **(1-6 inches/year)**

Annual Precipitation by 2100: 3-16% increase **(1.2-7.3 inches)/year)**[2]

[1] Massachusetts State Hazard Mitigation and Climate Action Plan. Massachusetts Emergency Management. 2018

Warmer weather and standing water also increases the risk of contracting mosquito-borne diseases.

[2] Changes in Precipitation. Resilient MA. Retrieved from: https://www.resilientma.org/changes/changes-in-precipitation.

Drought

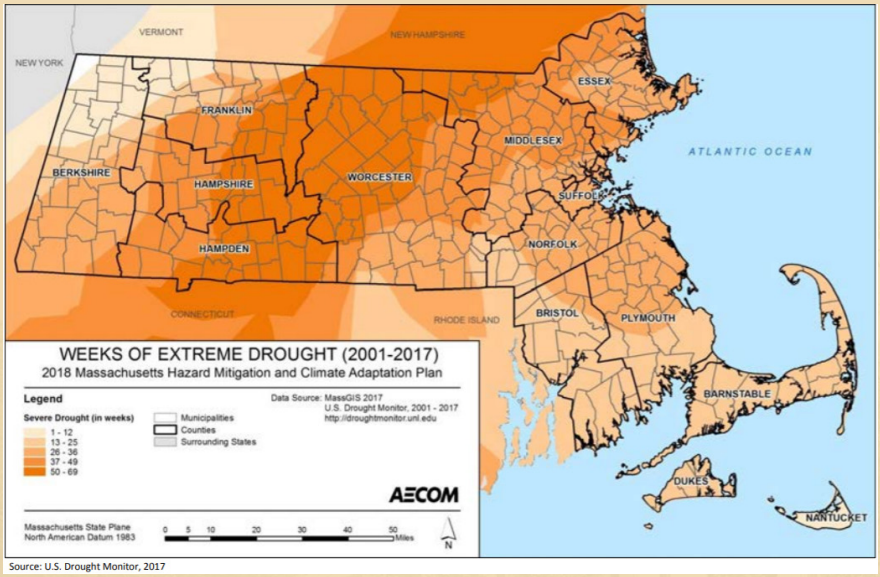
Precipitation will be concentrated in fewer storm events. This can lead to water supply shortages, crop damage, and habitat stress.

Trends

Between 2001 and 2017, Norfolk County saw **11 weeks** of severe drought (water restrictions) and **20 weeks** of extreme drought. (water shortages). [1]

Projections

Extended periods of little to no precipitation coupled with rising temperatures are projected to increase the frequency of short-term droughts.



Source: U.S. Drought Monitor, 2017

[1]United States Drought Monitor. The National Drought Mitigation Center.

Heat Waves

An increase in the number of days with high temperatures—particularly days over 90° F—will lead to heat-related illnesses and higher energy demand in the summer.

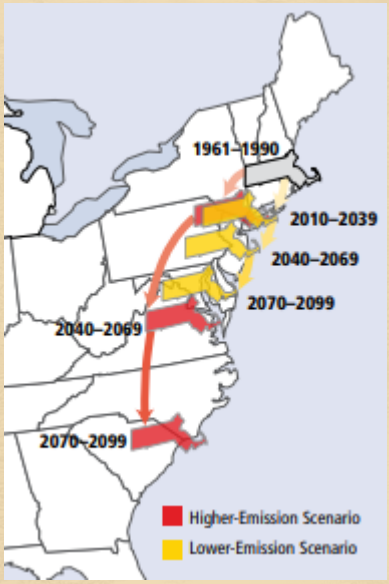
Trends

There were **11.5 days** above 90°F between 2010 and 2014—the highest number **since 1950.** [1]

Projections

Increase in the number of days over 90°F by 2050: **10-35**
Decrease in the number of days under 32°F by 2050: **17-39** [2]

MA could have the climate of South Carolina by the end of the century without emissions reductions driven by the reduced use of fossil fuels.



[1] NOAA National Centers for Environmental Information – State Climate Summaries

[2] Massachusetts Climate Change Projections - Statewide and for Major Drainage Basins. Northeast Climate Adaptation Science Center. MA Climate Change Clearinghouse. 2018

Get Involved!

Submit questions, comments, or ideas to Brandon Schmitt, Natural Resource Commission Director:

bschmitt@wellesleyma.gov

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This summary was prepared for the Town of Wellesley, MA, by Kim Lundgren Associates, Inc. with a grant from the Massachusetts Office of Energy and Environmental Affairs Municipal Vulnerability Preparedness Program