TOWN OF WAKEFIELD

Climate Change Summary

What does climate change look like in Wakefield?

Like most Massachusetts communities, Wakefield has seen an increase in the frequency and severity of intense storm events, flooding, and extreme heat. These impacts effect everything from the health of the Town's residents and natural environment, to the built environment and utilities.

INTENSE STORMS

Change in rainfall patterns leading to heavier more frequent storm events and stronger winds

IMPACTS:

- Downed trees and utilities
- Public works infrastructure damage

HEAT WAVES

Increase in the number of days with high temperatures, particularly days over 90° F

IMPACTS:

- Heat-related illness
- Higher energy demand in the summer
- Increased manganese levels in drinking water

WHAT ARE THE Hazards?

DROUGHT

Prolonged periods of low or no rainfall, leading to water shortages

IMPACTS:

- Receding water levels in Lake Quannapowitt and Crystal Lake
- Diminished water supply
- Increased brushfire risk

FLOODING

Water submerging land quickly and over prolonged periods due to increased precipitation and intense storms

IMPACTS

- Obstructed roads & critical facilities
- Increase in mosquitoes from standing water
- Harmful runoff

WHAT ARE THE

Trends and Projected Changes?

Intense Storms

70% Increase in the intensity of rain events from 1958 to 2010[1]

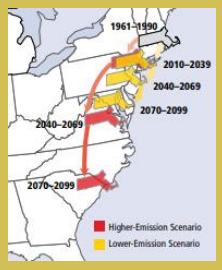
Middlesex County Precipitation Projections[2]

	Observed Baseline 1971-2000	Mid-Century Projection	End of Century Projection
Average Annual Total Precipitation	45.2”	47.5” (+2.3”)	48.6” (+3.4”)

Heat Waves

Middlesex County Heat Projections[3]

	Observed Baseline 1971-2000	Mid-Century Projection	End of Century Projection
Avg # Days > 90° F	8	30	46
Avg # Days < 32° F	145	116	101



MA could have the climate of South Carolina by the end of the century without emissions reductions[4]

Drought

52% Of the land area in Massachusetts was considered to be in “Exceptional Drought” in Oct ‘16[5]

Wakefield relies on **Crystal Lake for** drinking water and on **Lake Quannapowitt for** recreation. Drought could compromise these resources and increase the risk of brush fires.

Flooding

$35.2 million Damage from March 2010 floods in Middlesex County[6]

New areas of flooding will strain **drainage infrastructure** and **landscapes**, which public and private property and resources. Standing water will also attract mosquitoes and increase the risk of vector-borne diseases.

1) *Ch. 2: Our Changing Climate. Climate Change Impacts in the United States: The Third National Climate Assessment*,; 2) Northeast Climate Adaptation Science Center. Resilient MA Datagrapher. MA Climate Change Clearinghouse; 3) Ibid 4) Confronting Climate Change in the Northeast. 2007. Union of Concerned Scientists 5) NOAA. Massachusetts. Drought.gov; 6) National Oceanographic and Atmospheric Association. Storm Events Database. 2016.