



Temperature Increase

Bottom Line

Temperatures in the northeast are increasing faster than global trends. Warming is creating shifts in seasonality - milder winters and earlier springs - that will start to change the landscape and rhythms of life across New England. The severity of future climate warming depends on our ability to change collective behaviors and lower carbon emissions.

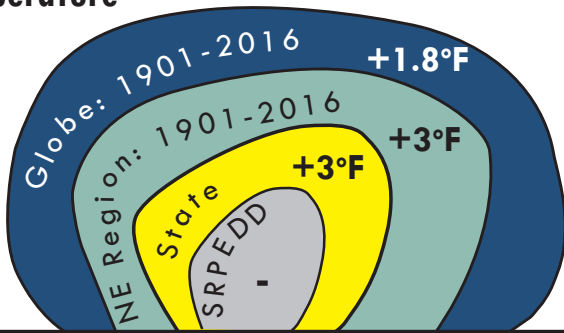
This Change Will Impact

- Seasonality / leaf out
- Snowfall
- Snowpack-fed streams
- Frost-free season
- Days above 90°F
- Urban heat islands
- Ozone pollution
- Surface soil moisture
- Tourism / recreation
- Insect / pest pressure
- Wildlife species ranges
- Maple trees
- Premature heat-related deaths

Visualization Tools

[ResilientMA Map](#) - climate projections by watershed & emissions scenario
[NASA Global Temp Change Video](#)
[NASA Yearly Arctic Sea Ice Visualizer](#)

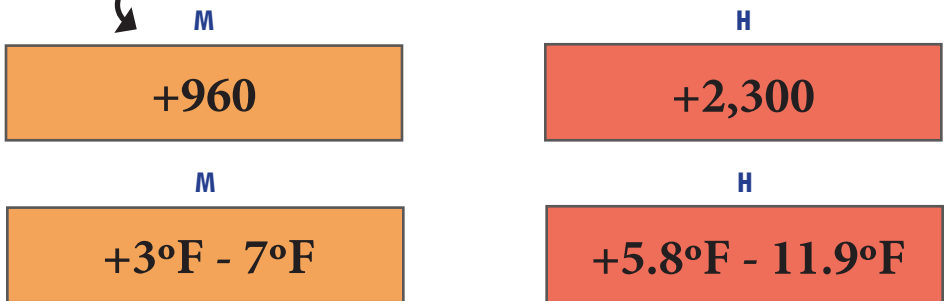
Changes That Have Already Occurred: Avg Annual Temperature



By 2035, the Northeast will experience 3.6°F of warming from pre-industrial figures, the largest increase in the contiguous US. Winter temperatures will increase faster than other seasons.

Premature Deaths Per Year from Extreme Heat in the Northeast Region by 2090

Average Annual Temperature Change in SRPEDD Region by 2090 (relative to avg. 1971-2000) [note - predictions vary slightly by watershed. These figures represent the "bookend" high and low figures within the SRPEDD region between watersheds.]



MITIGATION LOOKS LIKE...

- Decarbonization of our energy systems
- Driving less
- Smaller development footprints for new residences
- More land conservation

ADAPTATION LOOKS LIKE...

- Public cooling stations to prevent heat-related illness
- Planting street trees to reduce heat island effects
- New agricultural techniques to combat loss of soil moisture, pest pressure, and cold snaps

Future warming and its effects depend upon how much greenhouse gas we continue to emit into the atmosphere. We speak of 3 possible emissions scenarios relative to the 1986-2015 average: very low (RCP2.6 - assumes that carbon emissions have already peaked); low (RCP4.5 - assumes emissions peak around 2050 and then decrease); and higher (RCP8.5 - assumes carbon emissions continue to increase through 2100). These are the L-M-H scenarios identified above.