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Climate Change Hits Newton

Connecting people to protected open space is our important priority. There are other issues that are important to support to preserve our environment. Climate change and the greenhouse gas emissions that cause it are two of them. Newton folks generally feel personally safe from climate change. Until recently, the consequences of climate change in our Garden City have not been overwhelming. Yet, extreme weather events in the past two years have impacted us, and we need to pay attention.

Extreme Weather

In the summer of 2023, unusual rainfall caused devastating results. Homeowners in the Oak Hill neighborhood saw their

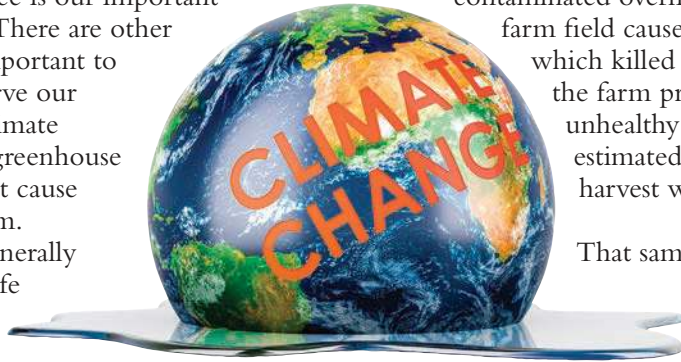


PHOTO: KEN MALLORY

The field near Nahanton Street is where flooding occurred.

basements ruined by water intrusion due to heavy rainfall that was greater than city's drainage system capacity. The road next to Newton Community Farm flooded

due to inadequate drainage; the resulting contaminated overflow into the farm field caused deep flooding, which killed plants and caused the farm produce to be unhealthy and unsalable. An estimated 20% of the yearly harvest was lost.



Graphic courtesy Depositphotos.com

That same summer, smoke drifted here from Canada wildfires caused by drought

conditions. The result was dangerous air quality for weeks, threatening the health of Newton residents. Similarly, in October this year, smoke from brush wildfires in Salem, MA, affected air quality here, prompting health alerts.

It is difficult to attribute any specific extreme weather event to climate change. But we do know that climate change is expressed in changing weather patterns over time. Newton residents have experienced climate change as the driving force for two dramatic changes in our weather patterns: warmer temperatures and alternating periods of drought and heavy rainfall.

Warming

New weather patterns have already impacted life in Newton. Let's start with warmer temperatures.

Bird, butterfly, and insect naturalists are noticing changes in wildlife populations due to rising temperatures. Insects are showing up a week or two earlier than historically typical times. Newton birders are aware of significant changes in the bird population

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and timing of bird migration. Causes include the effects of climate change on breeding ranges, smoke from wildfires, and timing mismatches between insect populations and migration patterns.

Birders have also seen fewer migrating birds passing through Newton on their way north to arctic tundra areas that are now less habitable due to climate change.



PHOTO: PETE GILMORE

Black-capped Chickadee

The population of the Massachusetts State Bird, the Black-capped Chickadee, has been dropping over time. As temperatures warm, the Carolina Chickadee is taking over its historic niches. The Black-capped Chickadee has been predicted to be extinct in our state by 2050.

Years ago people enjoyed ice skating on Bullough’s Pond, Crystal Lake, and on the Charles River at Ware’s Cove in Auburndale. Due to warmer weather, such enjoyment has not been available recently, and the skating shack at Bullough’s Pond was demolished in 2017.

Some schools without air conditioning had to cancel classes in June 2024 due to heat. Schools without air conditioning are installing cooling centers to protect student and staff health. The need for “snow day” school closures in the winter has diminished. Some administrators are considering formally instituting “high heat days” in the spring and fall instead.

As late as 2013, the need for air conditioning in new school construction was heavily debated, with some arguing that it was not needed. Now in 2024 air conditioning in all new schools is considered essential. For new school playgrounds,

there have been requests for shade structures with roof components to keep school children from overheating outdoors.



PHOTO: KEN MALLORY

Tomato plants grown at Newton Community Farm.

At Newton Community Farm, extra high heat has caused tomato plants to stop

growing and has occasionally forced staff to leave the field to protect their health. Similarly, the farm stand has been closed on very hot days to protect staff health. (Frost dates have not

changed, however, which poses a risk to gardeners like me who try to take advantage of the warmer growing season.)

Drought and Downpours

Climate change has also caused changes in precipitation patterns. Although overall annual precipitation has only slightly increased, the frequency of dry periods and intensity of occasional rainstorms has changed dramatically. Newton’s storm drainage system has been designed over the years for historically heavy rains, but the drainage system has been overwhelmed several times in recent years by unprecedented rainstorms, nevertheless.



PHOTO: JACK PRIOR, FIG CITY NEWS, WITH PERMISSION

Newton public library parking lot during flooding.

The Newton Library parking lot drainage system has worked well since it was rebuilt to current standards two years ago. But in 2023 the lot flooded anyway because the downstream drainage system could not absorb a heavy downpour. Recently the ponds near City Hall were dredged to help prevent Library parking lot flooding in the future. All over the city, the new precipitation patterns will force re-examination and expensive expansion of the capacity of drainage pipes and culverts.

One Newton Conservators Board member has observed soil erosion in Webster Woods resulting from heavy precipitation.



PHOTO: KEN MALLORY

Ground water well and irrigation system at Newton Community Farm.

Unprecedented varying precipitation patterns include long periods of drought. Fortunately, Newton Community Farm has a reliable groundwater well and

irrigation system enabling vegetable production to survive drought. However, the labor required to continuously relocate irrigation equipment around the field sometimes prevents staff from doing their normal work.

Local and Global

Beyond Newton, the Global South has been hit disproportionately by the most catastrophic events caused by climate change. In comparison, most of Newton's climate challenges have been managed without catastrophic impact.



Mini split heat pump used for home heating during winter and cooling during summer.

But worldwide experience indicates that extreme weather will continue to get worse, even here.

It is in our self-interest to reduce greenhouse gas

emissions in Newton. Newton is fortunate to have robust financial resources, both in the city's finances and in the finances of many of our wealthy residents. Our capacity has enabled us to take steps to reduce greenhouse gas emissions. The city has a plan to reduce and eventually eliminate fossil fuel consumption by its buildings and vehicles. Individual commercial building owners and homeowners are buying electric cars, induction stoves and converting heating systems away from using gas and oil. All this will help fight climate change at home and abroad.

Because emissions anywhere cause climate change everywhere, it is also in our self-interest to assist the developing countries of the Global South to thrive without fossil fuels. Financial initiatives from the wealthy Global North are a necessary part of the global solution.

I believe that all institutions of our society, including Newton Conservators, need to take emergency action to reduce the global emissions of greenhouse gases as quickly as possible. ♦

— Peter Barrer

Get Involved with the Conservators - Volunteers Needed



Newton Conservators needs volunteers to help with various activities, including annual monitoring of the conservation restrictions we hold on City of Newton properties, pulling invasive plants, updating our inventory of plants and animals on Newton's public lands, and collecting new signups from interested Newton residents on our walks or at community events such as Village Days, the Harvest Fest, and others. You'll work alongside and be trained as needed by experienced Conservators' board members. If you're willing to volunteer for a couple hours, it would be most appreciated. To learn more about volunteer opportunities and contact us about them, go to newtonconservators.org/volunteer/

Thank you.

