

# MASSACHUSETTS EXTREME HEAT

## Resource Guide

Information and resources  
to help prepare for extreme  
heat at the local level.



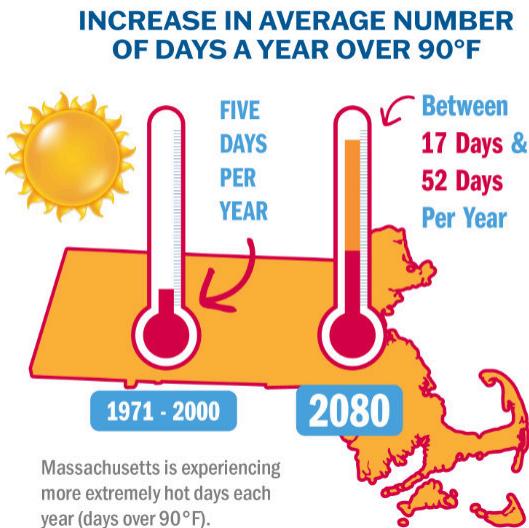
**DEPARTMENT OF PUBLIC HEALTH**  
Bureau of Climate and Environmental Health

# Table of Contents/Introduction

As our climate changes, Massachusetts will experience more extreme heat each year (days over 90°F). An increase in extremely hot weather raises the risk of heat-related illness and can complicate chronic diseases. It also means more multi-day heatwaves that can harm health. Because hot air holds more moisture, our summers are becoming increasingly humid. Extreme heat, alone or in combination with poor air quality, can have disproportionate impacts on vulnerable residents, including children, older adults, pregnant people, people living in housing without cooling options or in areas with limited green space, and those with chronic health conditions.

This resource guide by the Massachusetts Department of Health (DPH) Bureau of Climate and Environmental Health (BCEH) provides additional resources to help educate local health officials on why extreme heat is on the rise, the health effects of extreme heat, and to provide some tools to help local health officials mitigate the health risks and hazards related to extreme heat.

This document includes information from our DPH partners like the Bureau of Community Health and Prevention (BCHAP), state partners like the Department of Labor Standards and Massachusetts Emergency Management Agency (MEMA), and federal partners like the Centers for Disease Control and Prevention (CDC) and the United States Environmental Protection Agency (EPA). This is a living document that BCEH plans to update regularly so that we capture important resources as we learn about them and improve upon and expand existing resources.



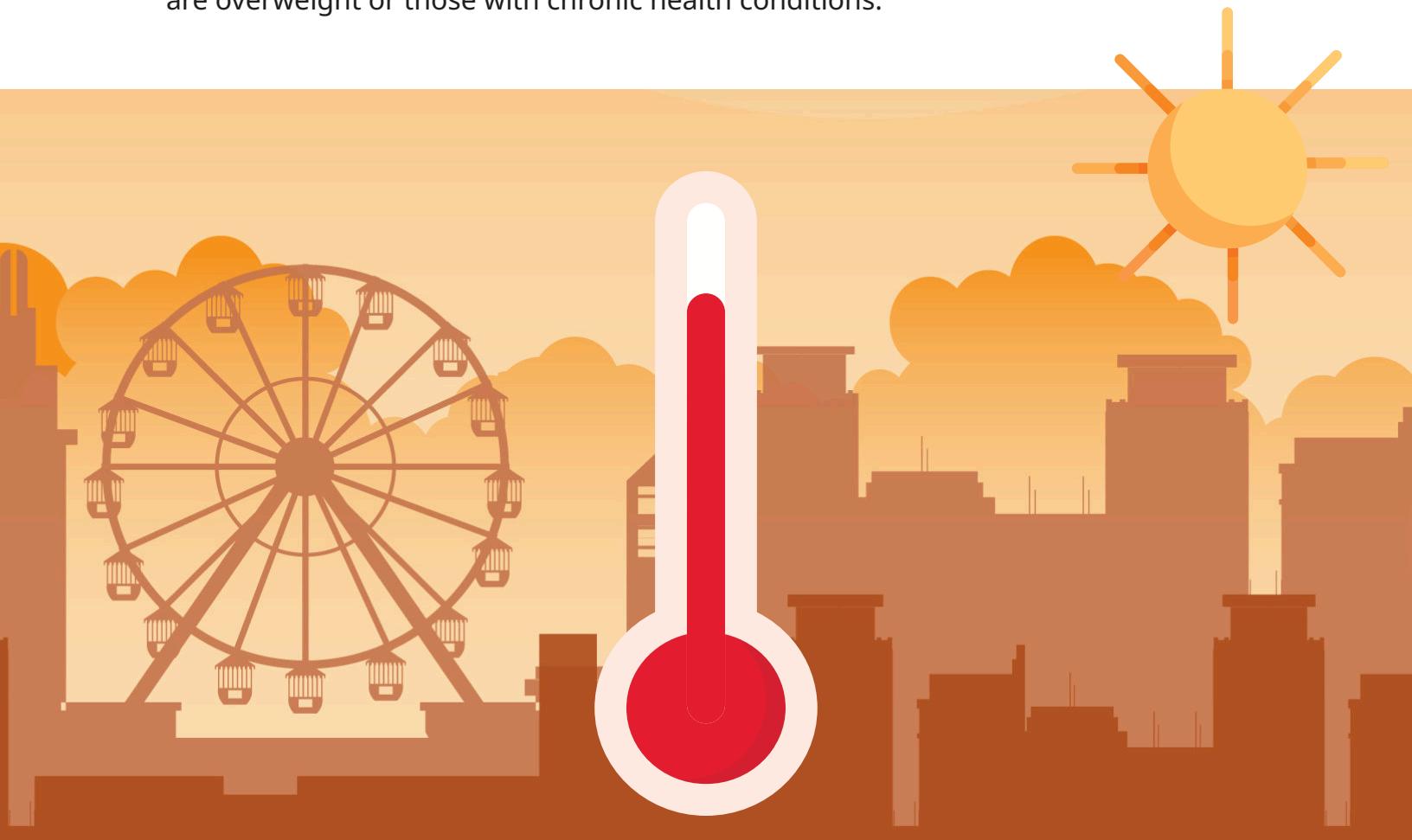
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# Key Facts About Climate Change and Extreme Heat

Extreme heat days are days substantially hotter than average summer temperatures and include prolonged periods of very hot weather, which may include high humidity.

Extreme temperature is the leading cause of weather-related mortality in the U.S., having claimed more lives over the past 10 years than any other weather-related event. In Massachusetts, nearly 30 heat-related deaths have occurred over the past decade, and the frequency of these deaths is increasing as the climate changes.

People inside buildings that lack cooling systems (e.g., homes, schools, and workplaces), working outdoors, engaging in outdoor recreational activities, or experiencing homelessness may be at risk for excessive heat exposure. Although anyone can suffer from a heat-related illness, some people are at greater risk than others. Those at greater risk include older adults, young children, and those who are overweight or those with chronic health conditions.



# Extreme Heat in Massachusetts

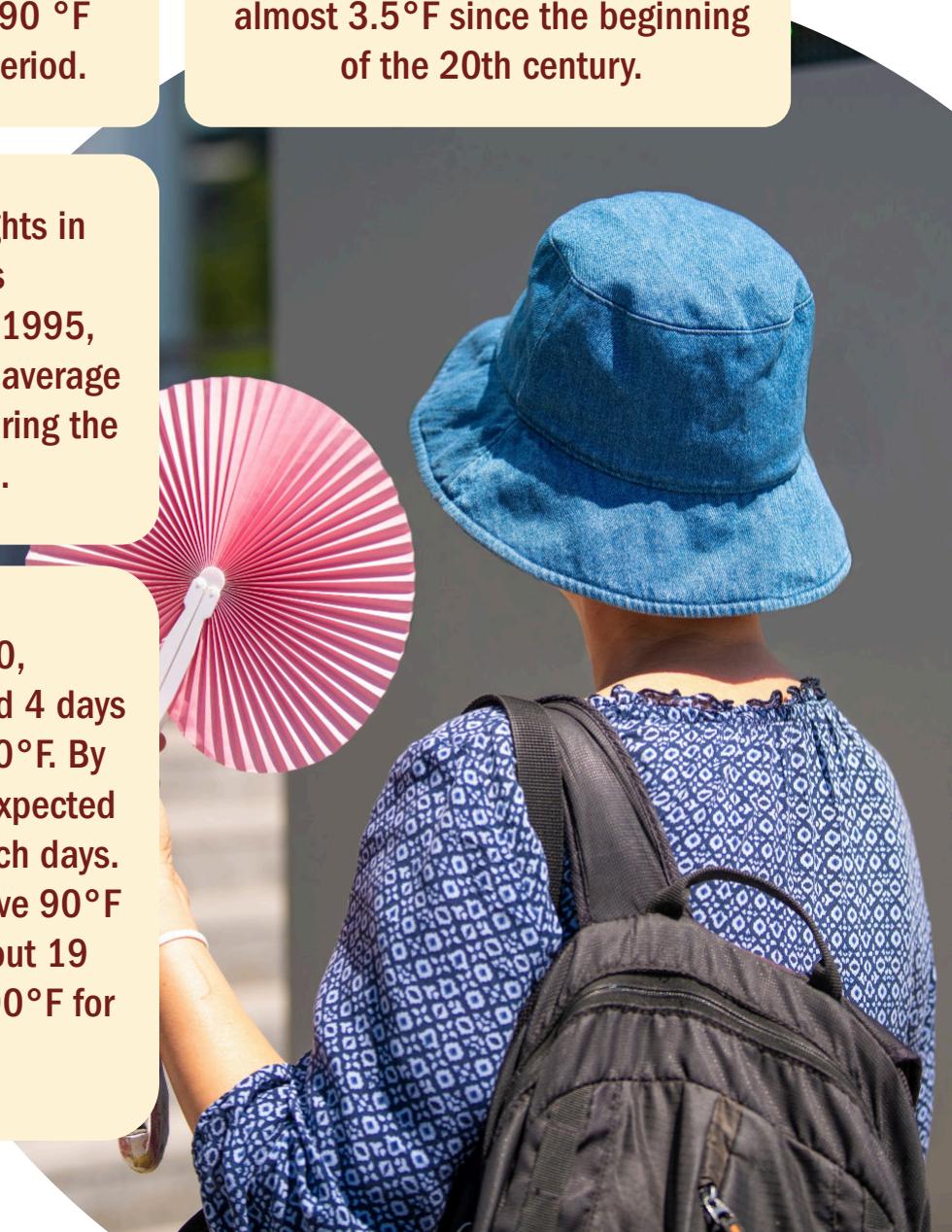
Climate change models predict that Massachusetts will continue to experience an increase in the number of days over 90°F during the summer. Massachusetts is vulnerable to extreme heat because of its densely populated urban areas and less tree cover and green space. Rural areas are also likely to experience the effects of heat waves when there are longer and more frequent heat events. Excessive heat exposure is projected to contribute to more heat-related illnesses and, in severe cases, deaths.

**A heat wave is usually defined as a period of three or more consecutive days above 90 °F or 3 days over a 7 day period.**

**Average temperatures in Massachusetts have risen almost 3.5°F since the beginning of the 20th century.**

**The number of warm nights in Massachusetts has steadily increased since 1995, with the highest multiyear average (since 1950) occurring during the 2015–2020 period.**

**Between 1971-2000, Massachusetts experienced 4 days with temperatures over 90°F. By 2050, Massachusetts is expected to experience 10 to 28 such days. About 25 days will be above 90°F for inland areas and about 19 more days will be above 90°F for coastal areas.**



# Climate Change, Extreme Heat, and Health

Higher heat, increased humidity, longer and more frequent heat waves can lead to life-threatening conditions if proper precautions are not taken. The body works harder during extreme heat events to maintain a normal temperature. Higher temperatures contribute to poor air quality, increasing the number of days with air quality alerts. Heat events may also increase pollen levels and contribute to mold growth. Studies have shown that mortality during heat waves is higher on high air pollution days.



The human body responds to heat by increasing sweating and blood circulation close to the skin's surface to maintain an ideal core body temperature.



Extreme heat can overwhelm the body's temperature control mechanisms and cause core body temperature to rise. This results in discomfort, fatigue, heat exhaustion, cramps, edema, heat stroke (hyperthermia), and death.



**Extreme temperatures can worsen chronic conditions, including respiratory, cardiovascular, and kidney diseases and diabetes-related conditions.**



Poor air quality during extreme heat events can negatively affect respiratory and cardiovascular systems, which may trigger asthma attacks and heart attacks. Increases in pollen levels may also worsen allergies and other respiratory illnesses.



# Vulnerable Populations



Extreme heat affects everyone, but key factors put some people at a higher risk than others.

**Exposure:** people who spend long hours working outdoors, are experiencing homelessness, or live in buildings without air conditioning are more exposed to high temperatures.

**Sensitivity:** some people are less tolerant of heat, including those with certain health conditions, taking certain medications, or who are under the influence of alcohol or drugs.

**Health conditions:** people with chronic health conditions may be less likely to sense and respond to changes in temperature.

**Medications:** people on certain types of medications may be less likely to sense and respond to changes in temperature, which may limit their ability to sweat or retain water to cool their bodies.

**Check this link for more info:**

**Heat and Medications - Guidance for Clinicians (cdc.gov)**

# Using/Understanding Heat Tools

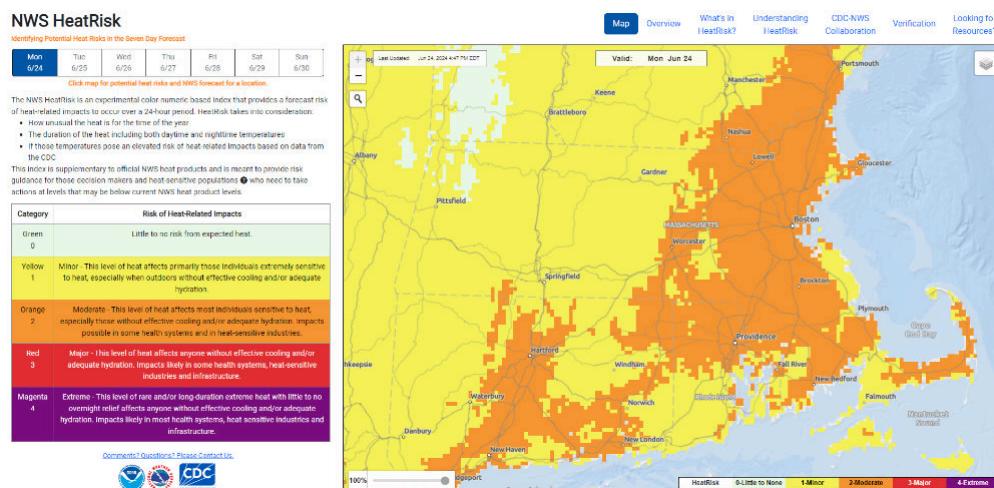
Communities can stay informed by receiving alerts, warnings, and public safety information before, during, and after emergencies.

HeatRisk and the Air Quality Index provide information that can help the public take action to stay safe on hot days or days with poor air quality. These tools can provide the public with information to know when hot outdoor temperatures (HeatRisk) or poor air quality (Air Quality Index) may pose a risk to their health. Extreme heat events are frequently accompanied by air pollution alerts due to the transport of particulate matter (PM) 2.5 and heat-related ozone production.

## CDC's and NOAA's HeatRisk Forecast Tool

The HeatRisk Forecast Tool is unlike other heat advisory tools that focus on heat index and humidity. It uses historic heat and health burden data, the community's sensitivity due to pre-existing health conditions, and socio-demographic and natural and built environmental data models to better predict community vulnerability during heat events.

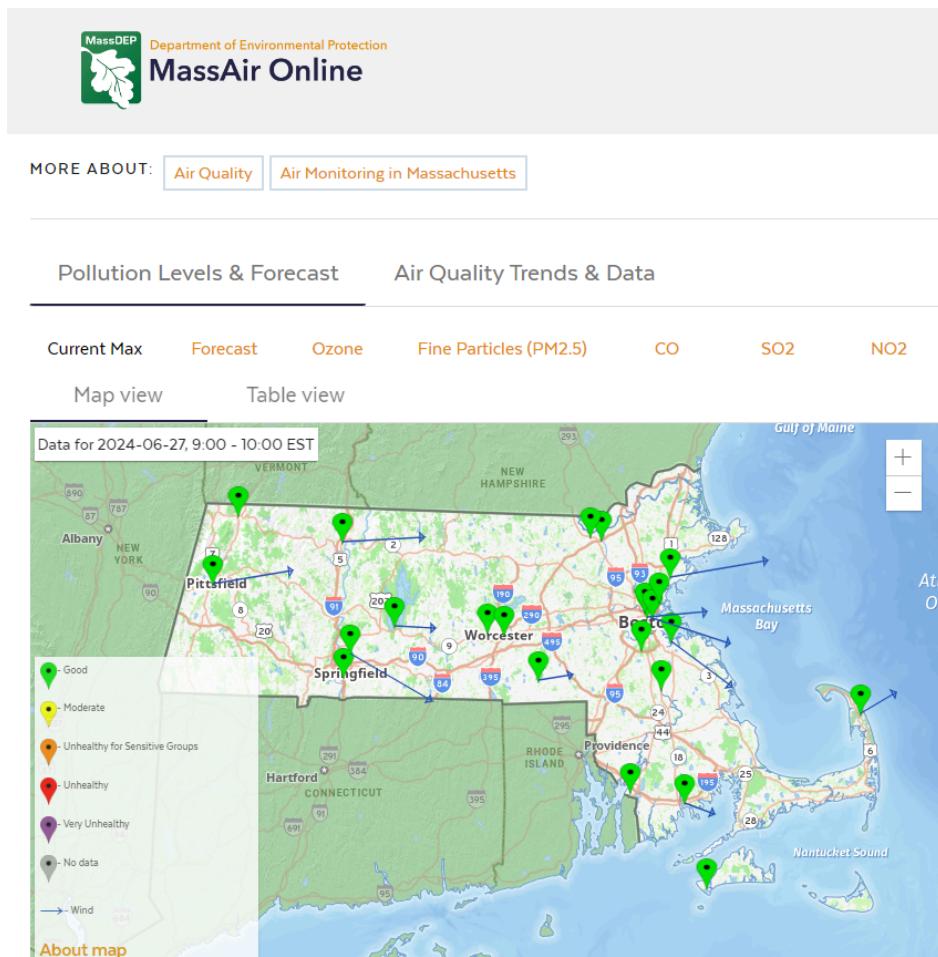
DPH will use this new tool to send alerts to medical providers, health departments, and other stakeholders to provide guidance, resources, and assets that can protect people during heat events.



Heat Risk Tool ([wpc.ncep.noaa.gov](http://wpc.ncep.noaa.gov))

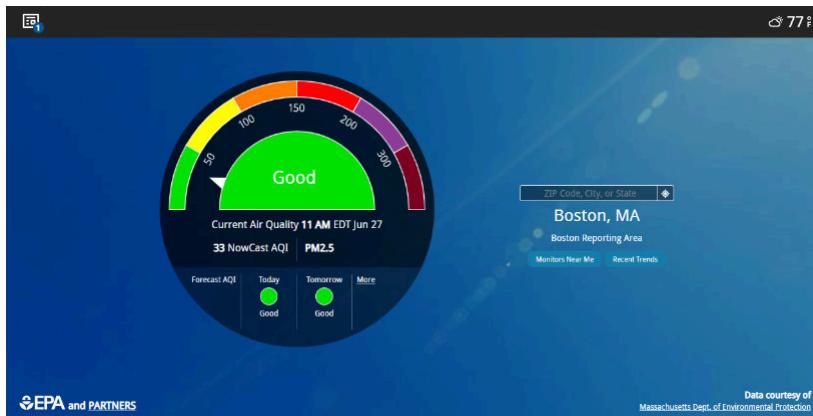
# MassDEP's MassAir Online

Find air quality data and learn about long-term trends by accessing MassAir Online, Massachusetts Department of Environmental Protection's (MassDEP) air quality tracking system, for daily air quality updates and forecasts to MassDEP measures outdoor air quality at more than 20 monitoring stations across the state. There is a forecast for ozone (smog) from April to October each day, as well as a forecast for fine particle pollution all year. MassDEP also issues open burning advisories from January to May. Use the site or call (800) 882-1497 to learn about the air quality in your community.



[MassAir \(state.ma.us\)](https://MassAir.state.ma.us)

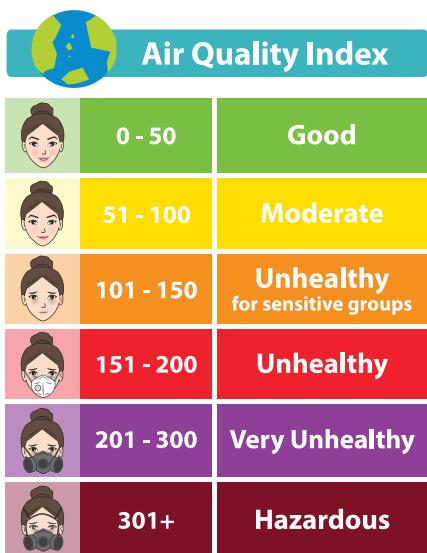




## EPA AirNow.gov Website

AirNow is your one-stop source for air quality data. The website and app first highlight air quality in your local area and provide air quality information at state, national, and world views. AirNow's interactive map lets you zoom out to get the big picture or drill down to see data for a single air quality monitor. AirNow's Fire and Smoke map uses a variety of products to provide detailed, up-to-date information that can be critical to users experiencing smoke events.

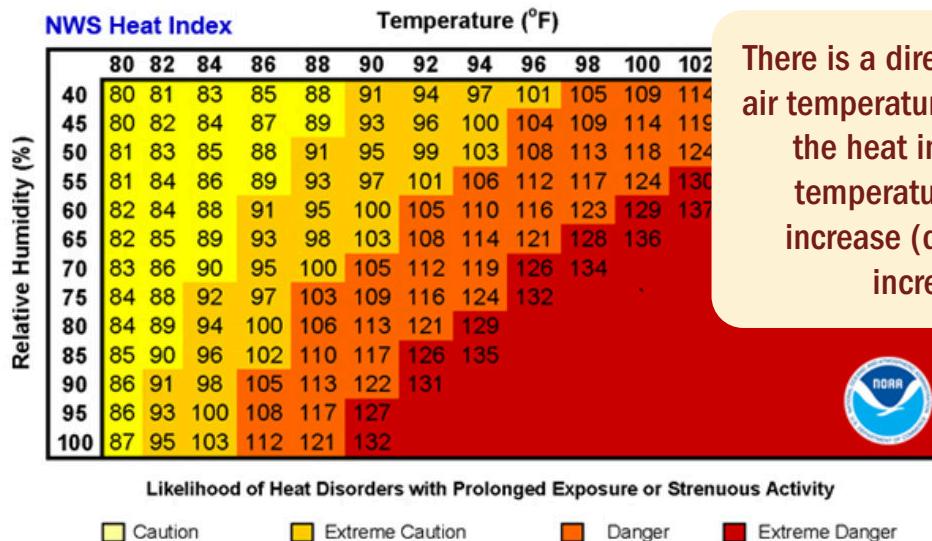
AirNow reports air quality using the official U.S. Air Quality Index (AQI), a color coded index designed to communicate whether air quality is healthy or unhealthy for you.



## Air Quality Index (AQI) & Health

Millions of people live in areas where air pollution can cause serious health problems. Local air quality can affect our daily lives. Like the weather, it can change from day to day. EPA developed the Air Quality Index, or AQI, to make information available about the health effects of the five most common air pollutants, and how to avoid those effects.

[airnow.gov](http://airnow.gov)



There is a direct relationship between the air temperature and relative humidity and the heat index, meaning as the air temperature and relative humidity increase (decrease), the heat index increases (decreases).



## National Weather Service (NWS) Heat Index

The National Weather Service (NWS) has multiple tools to assess the potential for heat stress due to extreme temperatures. The following tools can inform the issuance of NWS official heat watches, warnings, and advisories. Each of these tools integrates other weather parameters to provide a deeper level of information beyond what the actual air temperature can tell us. View the [NWS Heat Tools](#) reference sheet for more details.

## Heat Index

The Heat Index is a measure of how hot it really feels when relative humidity is factored in with the actual air temperature. To find the Heat Index temperature, look at the Heat Index Chart above or check the [Heat Index Calculator](#). **For example, if the air temperature is 96°F and the relative humidity is 65%, the heat index is 121°F.** The red area without numbers indicates extreme danger. The National Weather Service will initiate alert procedures when the Heat Index is expected to exceed 105°-110°F (depending on local climate) for at least 2 consecutive days.

NWS also offers a [Heat Index chart](#) for areas with high heat but low relative humidity. Since heat index values were devised for shady, light wind conditions, exposure to full sunshine can increase heat index values by up to 15°F. Also, strong winds, particularly with very hot, dry air, can be extremely hazardous.

Heat Forecast Tools | [weather.gov](http://weather.gov)

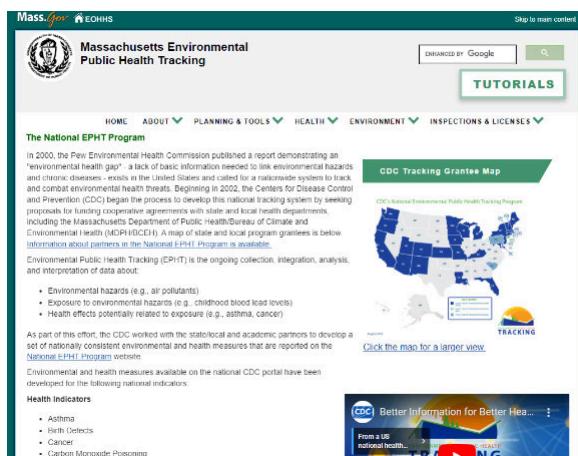
# Learn About Your Community

## How to use MEPHT Public Health Tracking

Environmental Public Health Tracking (EPHT) is the ongoing collection, integration, analysis, and interpretation of data about:

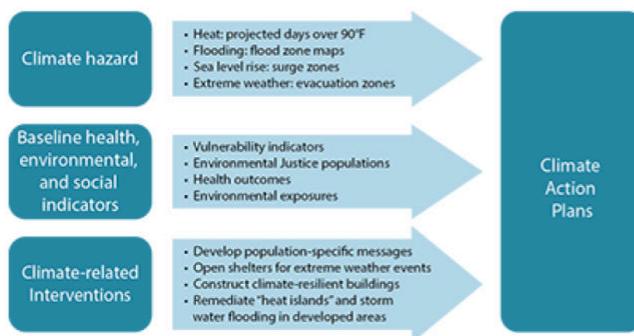
- Community profiles with climate and heat stress hospitalization data
- Environmental hazards (e.g., air pollutants)
- Exposure to environmental hazards (e.g., childhood blood lead levels)
- Health effects potentially related to exposure (e.g., asthma, cancer)

The website has tutorials on using the tools to get the most out of the data and information.



### Planning for climate change

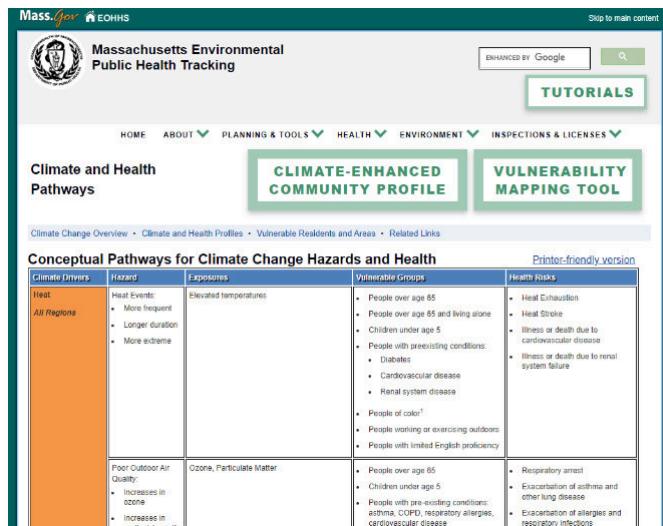
Assessing baseline conditions enables communities to better prepare for climate-related impacts. Gathering health and environmental data alongside demographic indicators can help your community develop adaptation plans. These plans can include interventions that target the populations most vulnerable to climate impacts. EPHT's [advanced mapping features](#) and the [Vulnerability Mapping Tool](#) can be used to inform a climate action plan for your community.



### MEPHT | Massachusetts Environmental Public Health Tracking

## Climate Change Hazards and Health

The EPHT, which includes a vulnerability mapping tool, highlights how climate drivers and hazards (such as extreme heat and frequent rainfall) impact vulnerable populations and increase their risk from exposure to such climate events.



Climate Drivers	Hazard	Exposures	Vulnerable Groups	Health Risks
Heat All Regions	Heat Events: • More frequent • Longer duration • More extreme	Elevated temperatures	• People over age 65 • People over age 65 and living alone • Children under age 5 • People with preexisting conditions: • Diabetes • Cardiovascular disease • Renal system disease • People of color <sup>1</sup> • People working or exercising outdoors • People with limited English proficiency	• Heat Exhaustion • Heat Stroke • Illness or death due to cardiovascular disease • Illness or death due to renal system failure
	Poor Outdoor Air Quality: • Increases in ozone • Increases in particulate matter	Ozone, Particulate Matter	• People over age 65 • Children under age 5 • People with pre-existing conditions: asthma, COPD, respiratory allergies, cardiovascular disease	• Respiratory arrest • Exacerbation of asthma and other lung disease • Exacerbation of allergies and respiratory infections

## MEPHT | Climate and Health Pathways

## Climate Enhanced Community Profiles

Public health data and climate projections, planning resources, anticipated health impacts from climate change, considerations for reducing health disparities



Community Profile Report

About Environmental Public Health Tracking (EPHT)

The Massachusetts Department of Public Health EPHT program has created these profiles to provide a snapshot of environmental health for Massachusetts communities.

What information is inside this community profile?

Our profiles are a collection of environmental health information contained in this profile as well as population information. Terms that might be unfamiliar are in bold and defined in a glossary at the end. This information is used to track local health conditions and to support decision making. The LPHI profile provides can inform climate and health adaptation planning in your community.

Who can use this community health profile, and what can they use it for?

Local health departments, environmental health professionals, and others who are interested in environmental public health in Massachusetts communities. Profiles can be used to support decision making, to identify areas of concern, and to track trends that are likely to have outcomes from negative exposure, and shape policy decisions.

What is environmental public health?

The word "environmental" includes images of the natural, built, green, and other parts of the environment. Environmental public health, too, environment also includes the man-made spaces that surround us every day – our homes, neighborhoods, schools, and workplaces – as well as natural environments to our health.

How can the environment impact my health?

Some examples include: rising sea level and salty water from storm surges, allergies, asthma, and other respiratory health problems, and health problems in young children due to consuming of lead-based paint chips and dust.

Why track environmental public health?

Monitoring local conditions over several years allows us to see trends and helps public health scientists better understand how the environment is impacting our health.

Look for this shaded box for more information about the connection between environment and climate change and health in Massachusetts. The Centers for Disease Control and Prevention has created a video describing [How Climate Affects Community Health](#).

Select community:  Abington  
 Action  
 Acushnet  
 Adams  
 Agawam  
 Alton  
 Amesbury  
 Amherst  
 Andover  
 Aquinnah

Cancel

Next

## Community-Profile Report | mass.gov



## Climate Hazard Adaption Profiles (CHAPs)

The Climate Hazard Adaption Profiles (CHAPs) below provide information about climate hazards, human exposure and health impacts, vulnerable populations, and available resources for taking actions to protect health. CHAPs may be used as a tool to support municipal officials, public health workers, community organizations, residents, students, and other stakeholders interested in learning how climate change hazards can impact communities and what actions may be taken to prevent climate-related health impacts.

### Extreme Heat and Poor Air Quality

Climate models predict that climate change will lead to an increase in extreme heat events and associated air pollution episodes in Massachusetts.

**FACTSHEET**

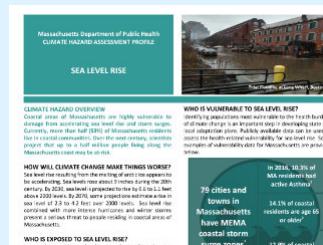


### Extreme Heat and Poor Air Quality | mass.gov

### Sea Level Rise

Coastal areas of Massachusetts are highly vulnerable to damage from accelerating sea level rise and storm surges. Currently, more than half (53%) of Massachusetts residents live in coastal communities.

**FACTSHEET**



### Sea Level Rise | mass.gov



## Inland Flooding

Inland flooding can occur when the volume of water on land exceeds the capacity of natural and built drainage systems. These flooding events are increasingly common in Massachusetts, due to increases in rainfall.

**Inland Flooding | mass.gov**



## Extreme Weather Events

Extreme weather events are rare in Massachusetts but have become more frequent in recent years. Climate models predict continued increases in the intensity and frequency of extreme weather.

Extreme Weather Events | mass.gov



## Recreational Water Quality

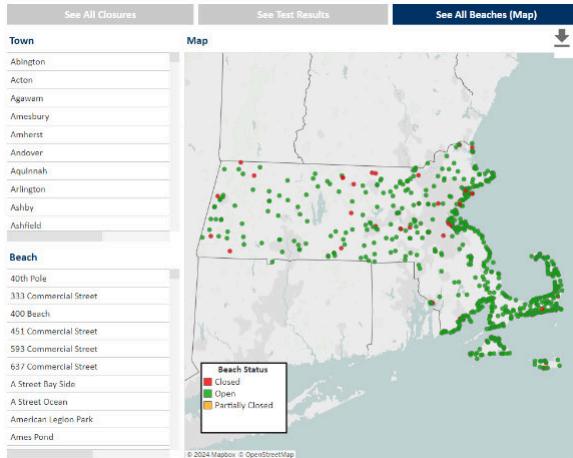
Climate change is expected to change rainfall and temperature patterns in ways that may increase pathogens in beach water and occurrences of cyanobacterial harmful algal blooms (CyanoHABs).

Recreational Water Quality | mass.gov

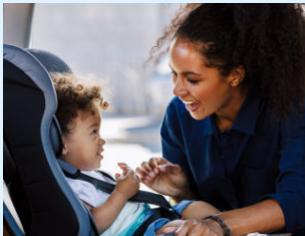


# Interactive Beach Water Quality Dashboard

DPH's Interactive Beaches Dashboard provides water quality testing results for the current beach season. It will tell you which beaches are open or closed. If a beach is closed, do not swim or enter the water at that location to avoid the risk of illness.



[Interactive Beach Water Quality Dashboard | mass.gov](#)



## Car Safety

Motor vehicle injuries are a leading cause of death among children in the United States. But many of these deaths are preventable.

[Child Passenger Safety | mass.gov](#)



## Mosquitoes and Ticks

Learn what Massachusetts is doing to keep you safe – and ways you can protect yourself and your family – from mosquito and tick bites and the illnesses they can cause.

[Mosquitoes and Ticks | mass.gov](#)



## Massachusetts arbovirus update

Find local risk levels for Eastern Equine Encephalitis (EEE) and West Nile Virus (WNV) based on seasonal testing.

[Mass. arbovirus update | mass.gov](#)



# Factsheets to educate your community and colleagues

# Individual/Population Health Fact Sheets



**Extreme Heat Events**

The number of summer days over 90°F are increasing in Massachusetts, and can impact chronic health conditions such as hypertension and heart disease.

Heat and humidity can make our bodies feel hotter and deplete our energy. People with certain health conditions and triggers, other health risks include heat exhaustion and heat stroke. Heat stroke is a medical emergency and needs to be treated as quickly as possible.

**Who is at higher risk?**

Some people are more vulnerable during an extreme heat event because of where they live, their access to official government information, availability of resources to prepare and respond, and related health conditions.

- Older adults and people over 65
- Pregnant people
- People with chronic health conditions such as diabetes, cardiovascular disease, asthma, hypertension, and stroke
- People with mental health conditions
- People with disabilities

**What can we do about it?**

- Stay indoors and out of the sun
- Keep hydrated: Drink more fluids, water or electrolyte replacement drinks than you usually need. Avoid alcohol and sugary drinks. Avoid drinks with alcohol, caffeine, and sugar
- Wear lightweight, loose-fitting, light-colored clothing when outdoors
- Check in on others: If you are staying with others, or in a shelter, check in on them.
- Get 2-3 h of cool resting periods near you. They might include a local library or community center, or other government building
- Sign up for emergency alerts and heat emergency plans in your area
- Ask your doctor how to manage your medications when it is very hot
- Arrange for wireless checks, or the hearing, a friend, neighbor, or relative call or visit a few times a day to check on you
- Plan for power outages if you need electricity for medical equipment or medications

[Learn more at mass.gov/ClimateAuditHealth](http://mass.gov/ClimateAuditHealth)

Bureau of Climate and Environmental Health  
Massachusetts Department of Public Health

## Extreme Heat Events

Learn how increasing summer temperatures in Massachusetts are impacting health and discover practical steps to stay safe during extreme heat events. For more information, download the Extreme Heat Events fact sheet below:

[\*\*Extreme Heat Events \(PDF\)\*\*](#)

[\*\*Extreme Heat Events \(DOCX\)\*\*](#)



## What Should I Do During an Extreme Heat Event?

**Do**

- Use air conditioners or space coolers. If you do not have these, go to a cool place like a library or a movie theater.
- Use fans. Even a hand fan can cool you down when the temperature is below 90° F. If you have a window fan, make sure there is a breeze coming from outside.
- Take a cool shower or bath to help cool off.
- Wear light-colored, loose-fitting, or breathable clothing. Lighter colors reflect the sun's heat.
- Eat light, cool, and easy-to-digest foods such as rice, salads, and soups.
- Know the symptoms of heat-related illnesses and the appropriate next steps.
- Check for medical needs for health and safety guidance.

**Don't**

- Leave children, pets, or animals with medical problems alone in cars for any reason.
- Stay in the sun or in the heat.
- Use the stove or oven to cook—it will make you and your house hotter.
- Go to bars, restaurants, or movie theaters.
- Wear heavy, hot, or non-breathable clothing.
- Stay outdoors during the hottest times of the day (usually 9 a.m. to 4 p.m. in most areas).
- Use an electric fan when the temperature is over 90° F. When the temperature is over 90° F, electric fans do not cool you down.

[Help Others Cool with Electricity](#)

**Extreme Heat Safety**

Extreme heat is a serious threat to public health. When temperatures rise, the body loses heat more quickly than it can cool itself down. This can lead to heat exhaustion, heat stroke, and other health problems. To stay safe, it's important to take steps to cool down and stay hydrated. This factsheet provides tips for staying safe during extreme heat events.

**What should I do during an extreme heat event? (PDF)**

**What should I do during an extreme heat event? (DOCX)**



## Cooling Centers Guidance

The following resource provides recommendations for municipalities in their operation of cooling centers and outlines actions municipalities can take to help prevent health impacts caused by hot weather.

[Cooling Centers Guidance | mass.gov](#)

**Food-borne Illness**

Extremely hot days can cause power outages that cause refrigeration systems to fail. This can lead to food being held at unsafe temperatures, which can lead to food spoiling during transport or storage. Refrigerated food should not be held at temperatures above 40°F for more than 4 hours, or 2 hours if refrigerated. Dry ice, frozen fruit, vegetables, cooked rice, and leftovers can also create ideal conditions for bacteria like salmonella to grow. Hot weather can also increase the risk of foodborne illnesses such as upset stomachs, diarrhea, vomiting, and dehydration.

**Who is at higher risk?**

- People over age 65
- Children under age 5
- Pregnant people
- People with compromised immune systems
- People with chronic conditions like diabetes, heart disease, and hypertension
- People who consume raw or undercooked foods
- People who have difficulty staying hydrated

**What can we do about it?**

Check for food and dairy that may be contaminated.

Do not eat perishable food if it has been held at unsafe temperatures for more than 4 hours.

If refrigerator and freezer doors stay closed, food can stay safe for 48 hours at 40°F or less, or 24 hours at 32°F or less.

Those not perishable food in your refrigerator should be thrown away if held at unsafe temperatures for more than 4 hours.

Use a thermometer to check food temperatures.

Check temperatures: refrigerators should be 32°F-38°F and freezers should be below 0°F. Use a thermometer to check food temperatures.

[Learn more at mass.gov/ClimateAndHealth](#)

Bureau of Climate and Environmental Health  
Massachusetts Department of Public Health

## Food-borne Illness

Learn how increasing summer temperatures in Massachusetts are impacting health and discover practical steps to stay safe during extreme heat events. For more information, download the Food-borne Illness fact sheet below:

[Food-borne Illness \(PDF\)](#)

[Food-borne Illness \(DOCX\)](#)

**Water and Shellfish Contaminated with Vibrio Bacteria**

Climate change increases flooding risks, and higher ocean water temperatures can increase the amount of vibrio bacteria in coastal waters and cause illness. Vibrio bacteria are naturally occurring in saltwater and can cause illness if eaten raw or undercooked shellfish or if skin is broken and comes into contact with contaminated water.

**Who is at higher risk?**

- People over age 65
- Children under age 5
- Pregnant people
- People with compromised immune systems
- People with chronic conditions like diabetes, heart disease, and hypertension
- People who consume raw shellfish
- People who have difficulty staying hydrated and cool

**What can we do about it?**

- Check for signs of shellfish contamination such as discoloration, bad smell, or slimy texture.
- Know the signs of vibrio infection such as redness, pain, and swelling at the site of skin contact.
- Wear protective clothing when working with shellfish.
- Don't eat shellfish raw or undercooked.
- Learn more about shellfish safety. [Visit mass.gov/ClimateAndHealth](#)

[Learn more at mass.gov/ClimateAndHealth](#)

Bureau of Climate and Environmental Health  
Massachusetts Department of Public Health

## Water and Shellfish Contaminated with Vibrio Bacteria

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[Water and Shellfish Contaminated with Vibrio Bacteria \(PDF\)](#)

[Water and Shellfish Contaminated with Vibrio Bacteria \(DOCX\)](#)

**Ticks and Mosquitoes**

Climate change is making the warm seasons of the year hotter and longer. Every spring and summer, ticks and mosquitoes are active, and they are more active and more likely to bite during hot weather. This makes it easier for ticks and mosquitoes to spread diseases like Lyme disease and Babesiosis.

Climate change is also increasing the number of hot summer days and days with more rain. More rain creates more standing water, which is a breeding ground for mosquitoes. This creates more opportunities for ticks and mosquitoes to spread diseases like West Nile virus disease and Eastern Equine Encephalitis.

**Who is at higher risk?**

- People over age 65
- Children under age 5
- People with compromised immune systems
- People with chronic conditions like diabetes, heart disease, and hypertension
- People who are outdoors

**What can we do about it?**

**Ticks:**

- Wear long sleeves, long pants, and socks when outdoors.
- Use repellent, including DEET, and apply to skin after spending time outdoors.
- Check for ticks after being outdoors.
- Remove ticks by grasping them with tweezers and pulling them out with steady, firm pressure.
- Discard ticks in a sealed container.
- Dispose of repellent when you are finished using it.

**Mosquitoes:**

- Wear insect repellent, especially if you are outdoors.
- Wear long sleeves, long pants, and socks when outdoors.
- Stay inside during peak mosquito activity.
- Keep windows and doors closed.
- Remove standing water from the areas around your home.
- Learn more about how to prevent mosquito-borne disease.

[Learn more at mass.gov/ClimateAndHealth](#)

Bureau of Climate and Environmental Health  
Massachusetts Department of Public Health

## Ticks and Mosquitoes

Climate change is extending and intensifying warm seasons, increasing hot summer days and heavy rains, which in turn raises the risk of tick-borne diseases and mosquito activity. For more information, download the Ticks and Mosquitoes fact sheet below:

[Ticks and Mosquitoes \(PDF\)](#)

[Ticks and Mosquitoes \(DOCX\)](#)

# Swimming Safety, Certified Pool Operators, and Recreation Camp Operators



## Infographic – Combined: How to Beat the Heat and Stay Safe and What's Hiding Under the Surface

### *Tips for people of all ages to stay safe in and around water*

Swimming is a fun activity and a great way to keep cool, but it's important to know how to stay safe in and around water. Drowning is swift and silent—there may be little splashing or cries for help. It can take as few as 20 seconds to sink below the water and only minutes to drown whether around a pond, lake, river, ocean, or pool.

#### Languages Available:

Spanish  
Portuguese

Haitian Creole  
Cape Verdean

Language	PDF	Word Document
English	<a href="#">Combined Water Safety Infographic</a>	<a href="#">Accessible English</a>
Spanish	<a href="#">Combined Water Safety Infographic (Spanish)</a>	<a href="#">Accessible Spanish</a>
Portuguese	<a href="#">Combined Water Safety Infographic (Portuguese)</a>	<a href="#">Accessible Portuguese</a>
Haitian Creole	<a href="#">Combined Water Safety Infographic (Haitian Creole)</a>	<a href="#">Accessible Haitian Creole</a>
Cape Verdean	<a href="#">Combined Water Safety Infographic (Cape Verdean)</a>	<a href="#">Accessible Cape Verdean</a>

[Water safety for everyone | mass.gov](#)

## Contact with Cyanobacteria

Climate change is increasing temperatures and heavy rains, leading to more cyanobacteria in lakes and ponds. For more information, download the Cyanobacteria fact sheet below:

## **Contact with Cyanobacteria (PDF)**

## **Contact with Cyanobacteria (DOCX)**



**Bureau of Chronic and Environmental Health**  
Guidance for Short-Term Residential Pool Rentals

The Department of Public Health (DPH), Community Infection Prevention (CIP), recommends these health and safety tips for residential pool owners who rent their pools. Other tips can be made available at [www.state.ma.us/dph/cip/rental.html](http://www.state.ma.us/dph/cip/rental.html).



**Rental Ready, Safety Steady: Keep Kids in Sight by the Poolside!**

Summer is here, and that means more time at the pool. DPH wants to ensure that owners of their pools can have a safe and enjoyable experience by providing these tips.

Here are additional safety recommendations to make sure pools and protect swimmers:

- **Pool enclosure:** A fence of at least 48 inches high with self-closing and self-latching gates. The gate should open outward and away from the pool area. Latches should be located at least 54 inches above the ground.
- **Water depth markings:** Clear markings should be visible on the side of the pool to indicate the depth of the water.
- **Keep kids safe:** No swimming or diving in the pool. If a child is learning to swim, have them wear a life vest or swim浮环 (float ring).
- **Stay with your kids:** The most important rule is to never leave a child unattended near water. If you are swimming, have another adult keep an eye on the child. If you are not swimming, have another adult keep an eye on the child.
- **First Aid and Allergies:** The first aid kit should be easily accessible and contain items such as: antihistamines (e.g. Benadryl), epinephrine (e.g. EpiPen), antiseptics (e.g. Neosporin), bandages, and CPR (if CPR is available).
- **Water testing:** The water used in the pool must come from a source approved by the Massachusetts Department of Environment (MDE) (e.g. municipal water, well water, treated water, etc.). Do not use untreated water (e.g. lake, river, stream, ocean, etc.) to fill a pool. If you are using untreated water, have a licensed water treatment facility test the water for chlorine, bromine, and/or iodine levels. For hot tubs and spas:

**3FT NO DIVING**

For more information, please contact the Bureau of Chronic and Environmental Health at [pool.rental@state.ma.us](mailto:pool.rental@state.ma.us) or 617-624-6200.

## Short Term Residential Pool Rentals

Health and safety tips for residential pool owners who rent their pool for short-term use or make their pool available as part of a home rental.

**Advisory On Short Term Residential Pool Rentals | mass.gov**

# Extreme Weather and Flooding

## Extreme Weather

Climate change may make extreme weather events worse and more frequent, causing injury, illness, and property damage. For more information, download the Extreme Weather fact sheet below at:

## Extreme Weather (PDF)

## Extreme Weather (DOCX)

 **Heat and Drought**

Climate change is increasing the number of extremely hot days in Massachusetts and temperatures are projected to rise significantly over the next century. Generally, extreme heat events are projected to increase in frequency and intensity, and lead to health related threats and health risks.

These changes can lead to changes in climate patterns. For example, long periods without rain can prevent wells and reservoirs from recharging with fresh water, leading to water scarcity and water restrictions. Drought can also affect where we swim. The increase of bacteria and pathogens in water can harm health. The effects of the conditions can worsen that happens when there is a lack of water, such as dry soil, which can lead to more weeds that can spread bacteria and pathogens.

**Who is at higher risk?**

- People over age 65
- Children under 5
- Pregnant people
- People with preexisting health conditions

**What can we do about it?**

- Install water-efficient appliances and fixtures
- Plant drought-tolerant native and drought-resistant plants
- Conserve water by reducing water and energy use
- Follow any water use restrictions issued by your local water utility
- Test water quality in private wells on a regular basis
- Practice water conservation

Learn more at [mass.gov/ClimateAndHealth](http://mass.gov/ClimateAndHealth)                                                                 <img alt="Massachusetts Department of Environment logo" data-bbox="3731 245

**Wildfire Smoke Events**

Climate change is increasing temperatures, increasing the risk and damage of wildfires across North America. Wildfires can produce smoke that can travel thousands of miles away, causing poor air quality and health effects in Massachusetts.

People with certain health conditions, older adults, and children are more likely to experience health effects from wildfire smoke. People with heart disease, lung disease, and other chronic health conditions are especially at risk.

**What are at higher risk?**

Some people are more at risk than others to smoke from wildfires because of where they live, their health conditions, or the way they live. These people are more likely to experience health problems when they are exposed to wildfire smoke.

- Children under 5 and people over 65
  - People with diabetes
  - People with heart disease, asthma, chronic lung disease, or other chronic health conditions
  - People of color are more likely to experience health effects from wildfire smoke
  - People who work or exercise outdoors

**What can we do about it?**

- Talk to your doctor about using asthma medications during a wildfire smoke event
- Check the AQI at [www.mass.gov/airquality](http://www.mass.gov/airquality) as well as [www.epa.gov](http://www.epa.gov) and [www.mass.gov/epa](http://www.mass.gov/epa) to see if you are at risk.
- Check air quality and avoid exercise and activities during wildfire smoke events
- Use air cleaners. HEPA filters are a filtering technology system.
- Use air cleaners. HEPA filters are a filtering technology system.
- Have a copy of the [Mass.gov/epa](http://www.mass.gov/epa) health resource to use and distribute during your next wildfire event.

[Mass.gov/epa](http://www.mass.gov/epa)  
[www.epa.gov](http://www.epa.gov)  
[www.mass.gov/airquality](http://www.mass.gov/airquality)  
[www.mass.gov/chronicdiseases](http://www.mass.gov/chronicdiseases)

# Wildfire Smoke Events

Smoke from wildfires hundreds and thousands of miles away may cause poor air quality in Massachusetts. For more information, download the Wildfire Smoke Events fact sheet below:

## Water Contaminated with Fecal Bacteria

Learn about the dangers of water contamination from heavy rains and flooding, and find out how to protect your drinking water. For more information, download the Water Contaminated with Fecal Bacteria fact sheet below:



## Storm Fact Sheet

Get the facts about storms from the Bureau of Climate and Environmental Health.

**[Storm Fact Sheet | mass.gov](#)**

This image is a composite of three parts. The top left is a blue header bar with the EPA logo and the text 'EXCESS MOISTURE CONTROL AND MOLD'. The top right is a large, bold title: 'Mold Cleanup, Repairs, and Excessive Moisture Control – A Step by Step Guide for Homeowners'. The bottom left is a photograph of a tiled corner with significant mold growth. The bottom right is a white box containing the text: 'MOLD CLEANUP, REPAIRS, AND EXCESS MOISTURE CONTROL', 'A Step-by-Step Guide for Homeowners', and a small link icon.

# Workers



**HEAT ILLNESS**

Ways to protect yourself and others. This poster is from the Occupational Safety and Health Administration (OSHA).

**Stay Hydrated**

- Drink at least 8 cups of water, every 15 to 20 minutes.
- Dress for the Heat
- Wear light-colored, loose-fitting, and breathable clothing.

**Take Best Breaks**

- Take frequent breaks when the temperature and humidity are high.
- Work Together
- Check yourself and others for signs of heat illness.

**Heat Illness can be dangerous**

- Dizziness
- Altered thinking or behavior
- Headache
- Loss of consciousness

**Take these steps:**

- 1. **Get out of heat!**
- 2. **Cool the worker and cool them down.**
- 3. **Call 9-1-1.**

Prevent heat illness by remembering these simple steps:  
**WATER • REST • SHADE**

For more information, visit [www.osha.gov/heat](http://www.osha.gov/heat)

## Heat Illness - Tips from Massachusetts Department of Labor

### Heat Prevention - Tips for Outdoor Workers | [mass.gov](http://mass.gov)



**HEAT ILLNESS**

Employers and workers should recognize the early symptoms of heat illness. When any of these symptoms are present, seek medical attention.

**Heat Exhaustion** vs **Heat Stroke**

If a worker experiences any one of these:

- Weakness, severe fatigue
- Feeling lightheaded or dizzy
- Headache
- Fainting (with recovery)
- Unusually heavy sweating
- Loss of consciousness
- Dizziness
- Confusion
- Slurred speech
- Unusually rapid breathing
- Unusually heavy sweating

**Take these immediate actions:**

- Move to a cool place ASAP
- Remove unnecessary clothing
- Cool with water or ice
- Cool with wet cloths
- Elevate legs if they are feeling fatigued
- Get medical evaluation if not better in 30 minutes
- Monitor for symptoms of heat stroke
- CALL 9-1-1
- Move the worker to a cool place ASAP
- Remove unnecessary clothing
- Douse with cool water or hose down
- Place in ice or cold water bath if possible

**IF YOU FEEL FAINT, CONFUSED, OR VOMIT, SEEK MEDICAL HELP IMMEDIATELY, INCLUDING CALLING 9-1-1**

For more information, visit [www.osha.gov/heat](http://www.osha.gov/heat)

## Heat Illness - Heat Exhaustion Versus Heat Stroke

### Heat Exhaustion Versus Heat Stroke | [mass.gov](http://mass.gov)



**HEAT ILLNESS**

Temperatures of 80 degrees Fahrenheit or higher are all cause for concern, but increases with high humidity, sun exposure, high workload, & time outdoors.

**Employers should establish a program to prevent heat illness.**

- Provide a cool place to rest for at least one hour for each worker.
- Provide easy access to shade or air-conditioned space for breaks.
- Require breaks to cool down. Have more frequent and longer when possible.
- Build workers' heat tolerance by gradually increasing workloads and allowing frequent breaks for new workers and those returning after a week or more off.

**If a worker experiences:**

- Headache or nausea
- Weakness or dizziness
- Heavy sweating
- Elevated body temperature
- Thirst or decreased urine output
- Fainting, vomiting, or lightheadedness

**Take these actions:**

- Give water to drink.
- Remove unnecessary clothing.
- Move to a cooler area.
- Cool with wet cloths or fan.
- Do not leave alone.
- Seek medical care or call 9-1-1.

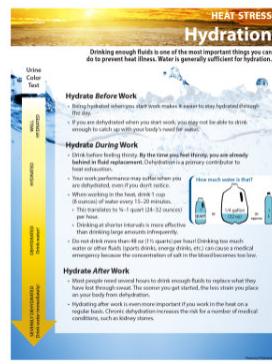
**Heat Stroke: A worker experiencing loss of consciousness, disorientation, slurred or garbled speech, or seizures.**

This is a life-threatening heat illness that requires immediate medical attention. Move them to a cool place, remove unnecessary clothing and cool them down with water and ice as much as possible.

For more information, visit [www.osha.gov/heat](http://www.osha.gov/heat)

## Heat Illness - Heat Illness Prevention for Employers

### Heat Prevention - Tips for Employers on Protecting Outdoor Workers | [mass.gov](http://mass.gov)



**HEAT STRESS**

Drinking enough fluids is one of the most important things you can do to prevent heat illness. Water is generally sufficient for hydration.

**Hydrate Before Work**

- Rehydrating when you start work makes it easier to stay hydrated through the day.
- If you are dehydrated when you start work, you may not be able to drink enough fluids to catch up with your body's need for water.

**Hydrate During Work**

- Hydration is key to staying cool. As the temperature rises, you are already behind in fluid replacement. Dehydration is a primary contributor to heat illness.
- Your work performance may suffer when you are dehydrated, causing you to become less efficient and more tired.
- You should drink at least 16-20 oz. (8-10 cups) of water every 15-20 minutes.
- If you are sweating a lot, drink 12-16 oz. (6-8 cups) of water per hour.
- Avoid drinking large amounts of fluids frequently.
- Do not drink more than 16 oz. at 1/2 hour intervals, and drinking too much water, sports drinks, or energy drinks, etc. can cause a medical emergency because the concentration of salt in the blood becomes too low.

**Hydrate After Work**

- Make sure you have time to drink enough fluids to replace what they have lost through sweat. The sooner you get started, the less strain you place on your body.
- Hydrating after work is especially important if you work in the heat on a regular basis. Chronic dehydration increases the risk for a number of medical conditions, including strokes.

## Heat Stress and Hydration (CDC)

### Heat Stress and Hydration | [cdc.gov](http://cdc.gov)