



**Environmental Health Bureau**  
**Michigan Climate and**  
**Health Adaptation Program**

# Summer Climate and Health Education Resource Packet



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The [Michigan Climate and Health Adaptation Program](#) (MICHAP) supports a climate-resilient public health system by investigating climate-driven health risks, identifying information for decision making and collaboratively implementing climate adaptation strategies.

This Summer Climate Health Education packet explains the impacts of climate change on health in the summer months and includes fact sheets about how to protect health and safety.



To receive email updates from the Michigan Climate and Health Adaptation Program, [subscribe to the newsletter](#).

## How to use this resource packet

**Audience:** This resource packet is for everyone. It was created to help local governments and nonprofits educate the public on summer climate health topics.

**Purpose:** This resource packet is a collection of information from Michigan Department of Health and Human Services (MDHHS) and state of Michigan partners about seasonal climate hazards and their potential health impacts.

- Pages 2-4 provide an overview of the impacts of climate change on health.
- Pages 5-7 contain brief descriptions of fact sheets that address specific climate health hazards. They can be shared widely, either digitally or by requesting hard copies from MDHHS by calling 800-648-6942.
  - Heat Health and Safety Fact Sheet in English, Spanish, Bengali and Arabic.
  - MiTracking Climate Changes MI Health Tick Infographic.
  - Tick Bite Prevention.
  - Climate Change and Air Quality.
  - Harmful Algal Bloom Frequently Asked Questions.
  - MICHAP Fact Sheet.
- Pages 8-18 provide social media posts about seasonal health concerns and how to prepare for extreme heat.

# What does climate change mean for summer in Michigan?

Since 1950, the Great Lakes region's annual average temperatures increased by 2.3°F and annual precipitation increased by 14%.<sup>1</sup> Summer months could see an increase in temperatures and humidity. Urban areas are typically warmer than surrounding rural areas and are more vulnerable to heat waves.<sup>2</sup> These changes could impact health and safety. The table below summarizes how to prepare for summertime health and safety issues.

## How does the changing climate affect summer health and safety?

**High heat and humidity** can cause heat-related illness. Severe heat-related illnesses are heat exhaustion and heat stroke.

**Air quality** can worsen when temperatures are hot. In addition, droughts are increasing the frequency of wildfires. Wildfire smoke can worsen air quality both locally and in distant places downwind of fires. Learn more at [michigan.gov/WildfireSmokeandHealth](https://michigan.gov/WildfireSmokeandHealth).

If you have cardiovascular disease or respiratory illnesses like asthma, bronchitis or emphysema, poor air quality can make your symptoms worse. Learn more at the [Centers for Disease Control and Prevention's \(CDC\) Air Quality webpage](https://www.cdc.gov/airquality).

**Harmful Algal Blooms (HABs)** can occur in lakes, rivers or ponds when water temperature is warm and there is a high level of nutrients. Some of the health effects associated with exposure to HABs are skin irritation, runny eyes, difficulty breathing, stomach pain, dizziness and headaches. Learn more at [EGLE's HABs webpage](https://www.egle.state.mi.us/hab).

**Mosquitoes** can transmit viruses like West Nile Virus (WNV) and Eastern Equine Encephalitis (EEE). Warmer than average temperatures and increased precipitation can increase mosquito populations and the geographic spread of the mosquitoes that carry WNV and EEE. Climate change also lengthens the season that mosquitoes are active. Learn more about [diseases carried by mosquitoes at the MDHHS](https://www.michigan.gov/MDHHS) and [CDC websites](https://www.cdc.gov).

## How to prepare:



Know symptoms of heat exhaustion and heat stroke. See page six of this document for links to MICHAP Heat Health and Safety fact sheets.



Limit your time in the heat and avoid direct sunlight.



Watch the forecast. Give yourself time to adjust to the hot weather.



The Environmental Protection Agency (EPA) [Air Quality Index](https://www.epa.gov/air-quality-index) tells you when air pollution is likely to reach levels that could be harmful.

Adjust your activities if the air quality index is poor:



- Spend more time indoors.



- Choose easier outdoor activities (walking instead of running).

- Plan outdoor activities when air quality is better (usually in the morning and evening).



Stay out of water and do not let children or pets play in water where you suspect a HAB.



The [Michigan HABs report map](https://www.egle.state.mi.us/hab) shows locations of HABs reported to state agencies and where testing was conducted. Check [conditions at Michigan beaches](https://www.egle.state.mi.us/hab).



Prevent mosquito bites when outdoors by wearing long sleeves and pants. Find the repellent that is right for you with the EPA's online tool at [bit.ly/EPA-insect-repel](https://www.epa.gov/insect-repel).



Install or repair screens on doors and windows.



Reduce the number of mosquitoes around your home by emptying standing water in buckets, discarded tires, gutters, etc.



Check the MDHHS [Emerging Diseases webpage](https://www.michigan.gov/MDHHS) to view the [Weekly Arbovirus Summary](https://www.michigan.gov/MDHHS) and to [learn about mosquito activity](https://www.michigan.gov/MDHHS) where you live, work and play.

**Ticks** are active during the spring, summer and fall when outdoor temperatures are at least 40°F. Ticks can carry pathogens that cause human and animal disease. Climate change creates conditions that are favorable for ticks, increasing their population, active season and geographic spread. Learn more about [diseases carried by ticks at the MDHHS](#) and [CDC websites](#).



Prevent tick bites when outdoors. Wear long sleeves and pants. Find the repellent that is right for you with the EPA's online tool at [bit.ly/EPA-repellent](https://bit.ly/EPA-repellent).



Avoid wooded and brushy areas with high grass. Walk in the center of trails.



Learn how to safely remove attached ticks. See the [Tick Bite Prevention Fact Sheet](#).



Visit MDHHS's [Emerging Diseases webpage to learn about tick activity](#) where you live, work and play.

**Carbon Monoxide (CO)** poisoning can occur if generators are used improperly and if fuel-powered equipment such as gas-powered pressure washers, campstoves and propane lanterns are not properly vented.



Install carbon monoxide alarms in your home and check the batteries regularly.



Do not operate fuel-powered generators, campstoves or pressure washers inside buildings or semi-enclosed spaces (e.g., tents).



Use a generator at least 20 feet away from your home.

**Mental Health** can be negatively impacted by climate change. The increasing frequency of extreme weather events means that more people could experience loss and trauma. Environmental changes that impact livelihoods, outdoor activities and cultural traditions can also worsen mental health. Learn more from the CDC's webpage, [Climate Effects on Health: Mental Health and Stress-Related Disorders](#).



If you or loved ones need mental or emotional support, reach out to the [Substance Abuse and Mental Health Services Administration](#) helpline at 1-800-662-4357.



Share worries and fears with trusted friends, a therapist or a support group.

## Additional tools and resources

### [CDC Environmental Justice Index](#)

This index uses publicly available data to rank the health impacts of environmental injustice at the census tract level. It is a useful tool to review high level environmental health, population health and demographic indicators and can help prioritize areas that may require action to improve health equity.

### [Climate Mapping for Resilience and Adaptation](#)

This map from the U.S. Climate Resilience Toolkit provides real-time statistics and maps of where people, property and infrastructure may be exposed to hazards.

### [EPA Insect Repellent Search](#)

The EPA's search tool helps you choose the repellent that is right for you. You can specify:

- Mosquitoes, ticks or both.
- Protection time.
- Active ingredient.
- Other product-specific information.

## [HHS emPOWER Map - Medicare Electricity-Dependent Populations](#)

This map “displays the total number of at-risk electricity-dependent Medicare beneficiaries in a geographic area (i.e., state, territory, county or ZIP Code).” The map can help identify areas where there are populations who are more at risk during power outages because of their dependence on medical and assistive electronic devices. This information can inform emergency preparedness, response, recovery and public health activities.

## [Michigan Environmental Public Health Tracking \(MiTracking\)](#)

The MiTracking data portal allows users to search Michigan data on environmental topics, health conditions and population characteristics. Users can create tables, charts and maps on these topics. For example, you could use this portal to look up historic data on extreme precipitation or ticks in your county.

The [MDHHS Michigan Prepares](#) and Michigan State Police [MI-Ready](#) page have information on extreme heat, wildfires and other natural disasters like thunderstorms.



To receive email updates from the Michigan Climate and Health Adaptation Program, [subscribe to the newsletter.](#)

## References

1. Vose R, Applequist S, Squires M, Durre I, Menne M, Williams C, Fenimore C, Gleason K, Arndt D. NOAA Monthly U.S. Climate Divisional Database (NClimDiv). NOAA National Climatic Data Center. 2014. Updated June 6, 2023. Accessed May 21, 2024. [bit.ly/NOAA-Climate](https://bit.ly/NOAA-Climate)
2. Environmental Protection Agency. What Climate Change Means for Michigan. August 2016. EPA 430-F-16-024. Accessed May 7, 2024. <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-mi.pdf>

# Summer Climate and Health Fact Sheets

The following section contains thumbnails and short descriptions of each fact sheet. To access the full fact sheet online, click on the link or use your phone's camera to scan the QR code.

## Heat Health and Safety: Michigan Summer Weather

This fact sheet explains some of the health effects of excessive heat. It provides information about heat-related illness and how you can protect yourself and your family when it is hot outside.

[Heat Health and Safety](#)

[Michigan: Salud y seguridad durante el calor](#)

[الصحة والسلامة عند ارتفاع حرارة الطقس](#)

[Bengali translation](#)



**HEAT HEALTH AND SAFETY MICHIGAN SUMMER WEATHER**

This fact sheet explains some of the health effects of excessive heat. Read on for more information about heat-related illness and how you can protect yourself and your family when it is hot outside.

**Health Risks of Hot Weather**

When it is very hot, there is an increased risk of heat-related illness. The body's temperature rises and cannot be cooled by sweating or the other ways the body cools itself. The most severe heat-related illnesses are heat exhaustion and heat stroke. If not treated, heat exhaustion can worsen and cause heat stroke or death. The figure below shows common symptoms of heat exhaustion and heat stroke.

Types of heat-related illness	
<b>Heat Exhaustion Symptoms</b> Faint or dizzy Excessive sweating Cool, pale clammy skin Nausea or vomiting Rapid pulse Muscle cramps	<b>Heat Stroke Symptoms</b> Confusion, disorientation Very high body temperature Red, hot skin may be dry or sweaty Nausea or vomiting Rapid pulse May lose consciousness

What to do for heat exhaustion	What to do for heat stroke
<ul style="list-style-type: none"> <li>Move to a cool place.</li> <li>Loosen clothing.</li> <li>Put cool, wet cloths on body or take a cool bath.</li> <li>Drink cool water.</li> <li>Get medical help if any of the following happen:                             <ul style="list-style-type: none"> <li>Person throws up or cannot drink.</li> <li>Symptoms get worse.</li> <li>Symptoms last longer than one hour.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Call 911 right away.</li> <li>Move the person to a cooler place.</li> <li>Help lower the person's temperature with cool cloths or cool bath.</li> </ul>

MICHIGAN CLIMATE AND HEALTH ADAPTATION PROGRAM AND MITRACKING PROGRAM

## Climate Changes MI Health: Michigan Ticks

This infographic explores some of the connections between ticks, climate change and health effects like Lyme disease.

[Climate Changes MI Health: Michigan Ticks](#)



**CLIMATE CHANGES MI HEALTH MICHIGAN TICKS**

Explore the connections between ticks, climate change, and health effects like Lyme disease. Learn more about environmental and human health data with MITracking.

**COMMON TICK TYPES**

Michigan has about 20 tick types. Ticks can bite humans and spread disease. The MITracking data portal has data on the five most common Michigan tick types:

1. American dog tick
2. Blacklegged (deer) tick
3. Brown dog tick
4. Lone star tick
5. Woodchuck tick

**2021 Michigan Lyme Disease Risk Map**

**LYME DISEASE**

Warming temperatures due to climate change could lead to more tick-borne diseases affecting human health in serious ways.

Lyme disease is the most common tick-borne disease in the U.S. Cases are increasing in Michigan.

Lyme disease is spread by the blacklegged (deer) tick. Blacklegged ticks are common in Michigan.

Helping to reduce climate change and adapting to its impacts will provide upper benefits to improve health.

## Tick Bite Prevention

This tick bite prevention fact sheet is from the report, "Michigan Trends in Tickborne Disease, 2016-2020" and provides information on how to prevent tick bites.

[Tick Bite Prevention](#)



**Tick Bite Prevention**

**Be aware of your surroundings!**

- People and pets most often encounter ticks in shady, moist wooded and grassy areas and fields near wooded areas.
- Ticks are most active in Michigan April-September, but can be active when outdoor temperatures are at least 40°F.
- Ticks are rarely encountered indoors unless brought inside on a person's clothing or by a pet.

**Take precautions before visiting areas with ticks**

- Apply EPA-registered insect repellent to skin or clothing according to the label's instructions.
- Walk in the center of trails and avoid walking in areas with tall grass and brush.
- Check yourself and pets all over for ticks after spending time outdoors.
- Talk to your vet about tick bite prevention products for your pets.

**Tick Removal**

- With fine-tipped tweezers or a tick removal key, grasp the tick as close to the skin as possible.
- Slowly and firmly pull the tick straight out. Do not twist, tear, or jerk the tick.
  - The tick's mouthparts may remain in the skin. If the mouthparts cannot be removed easily, leave the bite site alone to heal.
- Wash the bite site and your hands with soap and water, then apply an antiseptic to the bite site.
- Save the tick in a small, clean sealable container for later identification.

Conduct a full-body check for ticks after spending time outdoors. Ticks can attach anywhere on the body but tend to prefer the locations indicated above.

With tweezers or tick removal key, grab an attached tick as close to your skin as possible, then slowly and firmly pull straight up to remove the tick.

## Climate Change Decreases the Quality of the Air We Breathe (Centers for Disease Control and Prevention)

This document explains how climate change affects air quality. It also suggests actions we can take to protect human health as climate change progresses.

[Climate Change Decreases the Quality of the Air We Breathe](#)



### CLIMATE CHANGE DECREASES THE QUALITY OF THE AIR WE BREATHE

Climate change poses many risks to human health. Some health impacts of climate change are already being felt in the United States. We need to safeguard our communities by protecting people's health, wellbeing, and quality of life from climate change impacts. Many communities are already taking steps to address these public health issues and reduce the risk of harm.

**BACKGROUND**

When we burn fossil fuels, such as coal and gas, we release carbon dioxide (CO<sub>2</sub>). CO<sub>2</sub> builds up in the atmosphere and causes Earth's temperature to rise, much like a blanket traps in heat. This extra trapped heat disrupts many of the interconnected systems in our environment.

Climate change might also affect human health by making our air less healthy to breathe. Higher temperatures lead to an increase in allergens and harmful air pollutants. For instance, longer warm seasons can mean longer pollen seasons – which can increase allergic reactions and asthma episodes and disrupt productive work and school days. Higher temperatures associated with climate change can also lead to an increase in ozone, a harmful air pollutant.

**THE CLIMATE-HEALTH CONNECTION**

Decreased air quality introduces a number of health risks and concerns:

- According to the National Climate Assessment, climate change will affect human health by increasing ground-level ozone and/or particulate matter air pollution in some locations. Ground-level ozone (a key component of smog) is associated with many health problems, including diminished lung function, increased hospital admissions and emergency department visits for asthma, and increases in premature deaths.
- More and larger wildfires linked to climate change could also significantly reduce air quality and affect people's health in a number of ways. Smoke exposure increases acute (or sudden onset) respiratory illness, respiratory and cardiovascular hospitalizations, and medical visits for lung illnesses. The frequency of wildfires is expected to increase as drought conditions become more prevalent.
- Exposure to allergens causes health problems for many people. When sensitive individuals are simultaneously exposed to allergens and air pollutants, allergic reactions often become more severe. The increase in air pollutants masks the effects of increased allergens associated with climate change even worse. People with existing pollen allergies may have increased risk for acute respiratory effects.

## Harmful Algal Blooms (HABs): Frequently Asked Questions (FAQ)

This FAQ provides some basic information on HABs, such as why they develop, what they look like and why it is important for people and animals (e.g., pets, livestock) to stay away from them.

[Harmful Algal Blooms: Frequently Asked Questions](#)



### HARMFUL ALGAL BLOOMS

Frequently Asked Questions

**What are Harmful Algal Blooms?**

Cyanobacteria (or "blue-balls" or "blue-green algae") are a natural part of lakes, rivers, and ponds. Unfortunately, some cyanobacteria can produce toxins, called saxitoxins or microcystins, that can make people and animals sick. When conditions are right, these organisms can rapidly increase to form cyanobacterial blooms – Harmful Algal Blooms (HABs). These blooms can be red, blue, green, yellow, or orange, and are considered harmful because they may contain cyanobacteria. A bloom can start out small, become very large in size, and may give off a bad odor.

**What does a harmful algal bloom look like?**

Not all algal blooms have cyanobacteria, so it is difficult to tell if it is harmful by looking at it. HABs can be a variety of colors such as green, blue-green, blue, brown, yellow, white, purple, or red. HABs can look like scums in the water and may have small floes, foams, or sometimes globs and mats floating on it. The water can also look like it has spilled paint or a green sheen on the surface.

**What causes a HAB?**

A HAB can happen when the water temperature is warm, the lake is calm, and there is a high level of nutrients, like phosphorus or nitrogen, in it. High levels of nutrients can come from pollution such as lawn and farm fertilizers, malfunctioning septic systems, animal manure, storm water runoff, and sewage treatment plant discharges. Invasive species can also have a role. HABs may have water conditions right for HABs. They eat other algae but release cyanobacteria back into the water.

**When do HABs happen?**

HABs typically occur in Michigan during the summer months and into the fall. A bloom can last days to months. Blooms can change in size, severity, and location within the same day. Blooms may disappear on a waterbody but then return again weeks later.

**What should I do if I think I've found a HAB?**

You cannot tell if an algal bloom is harmful just by looking at it. Stay out of the water and do not let children or pets play in the water or near the shoreline where you suspect a HAB may be present. Unless the bloom covers a large part of the lake, people can limit their risk of contact with it by using an unaffected part of the lake.

If advisories, signs, or closings are posted about the possibility or the presence of a HAB, pay attention to the

## Climate Change in Michigan and the Public Health Response

This MICHAP fact sheet highlights some of the ways that Michigan's climate is changing and shows how those changes might affect human health.

[Climate Change in Michigan and the Public Health Response](#)



### Climate Change in Michigan and the Public Health Response

Prepared by the Michigan Climate and Health Adaptation Program (MICHAP)

*This fact sheet highlights some of the major ways that Michigan's climate is changing, shows how those changes might affect human health, and outlines how MICHAP is working to prepare the public health system to adapt.*

**The climate is changing in the Great Lakes Region**

Between 1951 and 2017, the average annual temperature has increased by 2.3 °F.

The total annual precipitation (snow, ice, rain) has increased by 14%.

Source: GISA, 2018. [gisa.umich.edu/climate-change-in-the-great-lakes-region/references/](https://gisa.umich.edu/climate-change-in-the-great-lakes-region/references/)

**How can climate change harm health?**

Increasing temperature and rising amounts of precipitation can affect human health in different ways.

- Heat Harm:** Heat strains the heart and lungs and can increase the risk of dying for people with cardiovascular disease. Heat can worsen air quality, which increases the risk of respiratory illness.
- Spread of Disease:** Warmer winters and more frost-free days allow disease-carrying insects and rodents to survive and expand their range.
- Threats to Water Quality:** More frequent heavy rain events can increase flooding and stress the infrastructure that provides safe drinking water. Warming water temperatures, fertilizer runoff and sewer overflows pollute rivers and lakes, and can cause harmful algal blooms.
- Obstacles to Well-being:** Living through natural disasters can cause both short-term and long-term impacts on mental health. Uncertainty about the future can cause anxiety and depression.

**Who is most likely to be harmed by climate change?**

Impacts from climate change can affect the health of anyone in our community, but some groups of people are at greater risk. The people most likely to be harmed are:

- Children
- Pregnant people
- People with chronic illnesses and allergies
- Outdoor workers
- Elder adults
- People who are disabled
- People living in poverty

[Cambio Climático en Michigan y la Respuesta de Salud Pública](#)



## Wildfire Smoke Fact Sheet

This fact sheet provides guidance on how to protect health when wildfire smoke affects air quality. It also explains who is most sensitive to the effects of wildfire smoke and protective actions to take during wildfire smoke events.



**MDHHS Wildfire Smoke and Our Health**

Michiganders could experience more days with poor air quality due to wildfire smoke. This fact sheet will tell you how to prepare and who is most at risk for the negative health effects of wildfire smoke.

Climate change makes wildfires more likely, hotter and drier conditions in North American forests mean there is more dry wood and underbrush that can easily ignite due to a stray campfire spark or lightning strike. These fires can spread quickly and burn thousands of acres of forests.

The smoke from these fires is a serious health concern. Smoke can move hundreds of miles through the atmosphere and affect the air quality in places far away from where the fire is burning.

**Wildfire smoke is bad for your health**

Smoke is made up of gases and fine particles that can harm your health. The fine particles in smoke, which are called particulate matter 2.5 (PM<sub>2.5</sub>), can cause difficulty breathing, burning eyes, and illnesses such as bronchitis. Serious health effects include asthma attacks, heart failure and stroke, which can lead to premature death.

**Some people are more likely to be harmed by wildfire smoke**

Everyone should avoid breathing wildfire smoke, but some people are more affected than others. The chart on the other side of this document explains when sensitive groups should take action and what they should do.

**Sensitive groups include:**

- People with heart disease (unusually sensitive).
- People with lung disease, including asthma and Chronic Obstructive Pulmonary Disease (COPD) (unusually sensitive).
- Older adults (60 and older).
- Children and teenagers.
- Pregnant people.
- Outdoor workers.

Additionally, social or economic situations may put some people at greater risk of harm from wildfire smoke. Examples include people without housing, people with limited mobility, people with low income who cannot access protective equipment or air filtering equipment, and people that live in areas with lower air quality.

Visit the MICHAP website at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth) to learn more about how climate change could affect the health of Michiganders.



# Social Media Posts

The following social media posts have been designed to communicate summer-related health and safety information to Michigan residents. Topics include:

- Extreme heat.
- Air quality.
- Harmful algal blooms.
- Ticks.
- Mosquitoes.
- Carbon monoxide.

Posts are organized by social media platform. View and save images by clicking the icon/image. The image will open in a new window where you can then download and save to your files. You can then open your social media platform and select the saved image to upload for posting. Copy and paste the post content to share along with the corresponding image.

Pages 10-11 contains carousel posts that can be used on Facebook and Instagram. Users scroll through these images, but the caption remains the same for each image. Save each image and upload separately.

# Facebook and Instagram Carousel Posts

The summers are getting hotter in Michigan and it is important to learn the signs of Heat-Related Illness (HRI) so you know what to do if you or someone else starts to feel sick. The most severe HRIs are heat exhaustion and heat stroke. Learn more at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth).



Summers are getting hotter in Michigan. Heat isn't just uncomfortable; it can actually cause serious heat-related illnesses, like heat exhaustion and heat stroke. One of the best ways to beat the heat is to stay hydrated!

Learn more at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth).



Summers are getting hotter in Michigan. High temperatures can be especially dangerous for vulnerable groups, such as elderly people, outdoor workers, infants and children, people who live alone, people without air conditioning, people who exercise outside and people with chronic health conditions like diabetes or cardiovascular illness. Learn more at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth).



Have fun on Michigan rivers, lakes and ponds, but avoid harmful algal blooms (HABs) if you see them. Climate change is likely to cause HABs to occur more often, and they can make people and pets sick. Find more information at [Michigan.gov/HABs](http://Michigan.gov/HABs).

<p><b>HABs might smell like rotting plants and look like...</b></p>  <p>Spilled paint or pea soup</p>  <p>Floating scum</p>	<p><b>HABs might smell like rotting plants and look like...</b></p>  <p>Floating mats of algae</p>  <p>Floating streaks or sheens</p>	<p><b>If you see a HAB:</b></p> <ul style="list-style-type: none"> <li>DO NOT touch water or shoreline with algal blooms.</li> <li>DO NOT swim or recreate near algal blooms.</li> <li>Always rinse people off after any water contact.</li> <li>Always rinse pets off after any water contact.</li> <li>DO enjoy clear water or shoreline with no algal blooms.</li> </ul>	<p><b>When in doubt, keep yourself, children and pets out!</b></p> <p>Find more info at <a href="http://Michigan.gov/HABs">Michigan.gov/HABs</a></p> 
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Hotter and drier summers increase the risk of wildfires. Wildfire smoke is made of up gases and small particles that can harm your health if you breathe it. Learn how to protect your indoor air quality when wildfire smoke is present at [bit.ly/MDHHS-Wildfire-Smoke](http://bit.ly/MDHHS-Wildfire-Smoke).

 <p><b>Protect Your Indoor Air from Wildfire Smoke</b></p>	 <p>Check air quality on <a href="http://Airnow.org">Airnow.org</a></p>  <p>Close windows and doors if you can keep it from getting too hot inside.</p>	 <p>Run forced air system on fan or cooling. Window AC can be used on recirculate.</p>  <p>Reduce other air pollutants by avoiding activities such as smoking and burning candles or incense.</p>	 <p>Learn more about the health effects of wildfire smoke at <a href="http://bit.ly/MDHHS-Wildfire-Smoke">bit.ly/MDHHS-Wildfire-Smoke</a></p>  <p>Consider portable air filters or making a temporary air filter.</p>
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## Facebook, Nextdoor and Instagram Posts

Summers are getting hotter and more humid in Michigan. Stay healthy by taking a few precautions during the summer months:

- Limit your time in the heat.
- Stay hydrated by drinking water.
- Wear loose, lightweight, light-colored clothing.
- Avoid direct sunlight.
- When it is above 90° F, find somewhere with air conditioning or take cool showers or baths. Fans can help to cool off, but only if they blow directly on you.

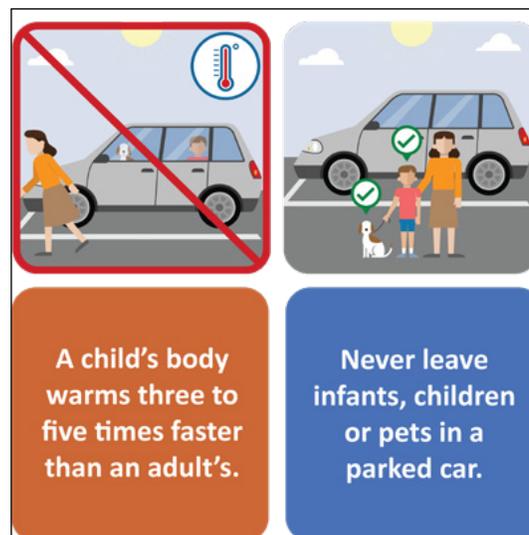


Learn more at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth).

It only takes **two minutes** for a car to reach unsafe temperatures. Every year children and pets left in parked vehicles die from heat stroke.

- Never leave a child, a person with a disability or a pet in your car, even if the windows are open.
- Even the most caring and watchful person can forget a child or pet is in the vehicle. Always check to make sure all children and pets are out of the car before locking it and walking away.
- Teach children that cars are not safe places to play. Store your keys out of reach of children.
- Leave pets at home when you can.

Learn more at [Michigan.gov/ClimateandHealth](https://Michigan.gov/ClimateandHealth).



In Michigan, summer fun often includes water activities in our beautiful lakes. Make sure you know how to spot a Harmful Algal Bloom (HAB)! Does the water look scummy, discolored or smell like rotting plants?

HABs can look very different. They might look like spilled green paint on the water. They might also look like water with green flecks, globs or mats floating on it. Learn more about what HABs look like with the guide at [bit.ly/HABS-Pictures](https://bit.ly/HABS-Pictures).

If you suspect a HAB, stay out of the water. If your pets get into the water by accident, keep them from licking their fur. Rinse them off with clean water.

You can also check for where HABs have been reported at [bit.ly/Report-HABs](https://bit.ly/Report-HABs).



Did you know? Climate change can increase the growth of harmful algal blooms (HABs) caused by cyanobacteria.

Before swimming, boating or fishing, learn tips to help spot harmful algae and cyanobacteria. HABs can look very different. They might look like spilled green paint on the water. They might also look like water with green flecks, globs or mats floating on it. Learn more about what HABs look like with the guide at [bit.ly/HABS-Pictures](http://bit.ly/HABS-Pictures).

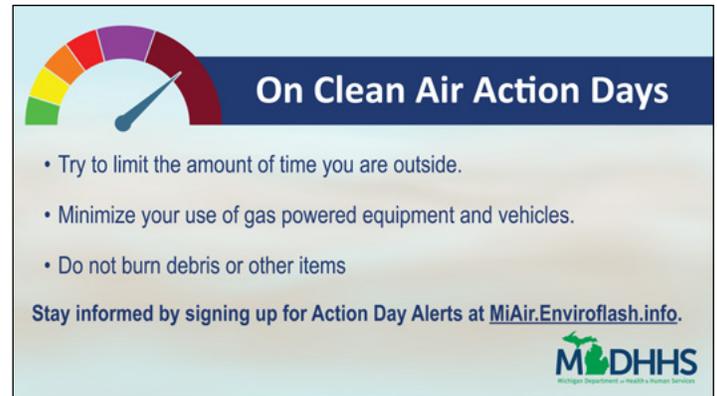
You can also check for where HABs have been reported at [bit.ly/Report-HABs](http://bit.ly/Report-HABs).



From March to September, ozone levels in Michigan have the potential to be a health concern. Clean Air Action Days are when the air could be harmful to breathe.

This [bit.ly/EnviroMinute-AirAction](http://bit.ly/EnviroMinute-AirAction) video tells you more about what this means for your health and what you can do to contribute to cleaner air in Michigan.

For forecasts about air quality, sign up for alerts at [www.enviroflash.info](http://www.enviroflash.info).



Heat can worsen air quality by increasing ground-level ozone, which can cause breathing problems, especially for sensitive groups, like elderly people or people with asthma. Ground-level ozone forms when fuel burned in cars and trucks, power plants, factories and other sources reacts with heat and sunlight.

Sign up for messages and emails so you know when the air is unhealthy at [www.enviroflash.info](http://www.enviroflash.info). You can also download the [AirNow.gov](http://AirNow.gov) app on your smart device for current air quality conditions.

Daily AQI Color	Levels of Concern	Description of Air Quality
Green	Good	Air quality is considered satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Red	Unhealthy	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	Health alert: everyone may experience more serious health effects.
Maroon	Hazardous	Health warnings of emergency conditions. The entire population is more than likely to be affected.

If summer storms knock out power, use generators safely to avoid carbon monoxide (CO) poisoning. Always use generators outdoors away from doors, windows and vents. NEVER use generators in homes, garages, basements or other enclosed or partially enclosed areas. Learn more at [bit.ly/CO-safety](http://bit.ly/CO-safety).



Pets can also get Lyme disease if bitten by an infected tick. The best way to stop ticks from biting your pets is to use flea and tick preventives and check them regularly for ticks. Talk to your vet about tick bite prevention products.

For more tick bite prevention information go to [bit.ly/MITickPrevention](https://bit.ly/MITickPrevention). #MiTracking



After being outside, prevent tick bites by:

- Removing ticks from your clothes and wearing light-colored clothing to make ticks easier to see.
- Performing “tick checks” on humans and pets after being outdoors, even in your own yard.
- Showering soon after coming inside.
- Placing clothes in a dryer on high heat for at least ten minutes to kill ticks you might have missed.

For more tick information go to [bit.ly/MITicks](https://bit.ly/MITicks). #MiTracking



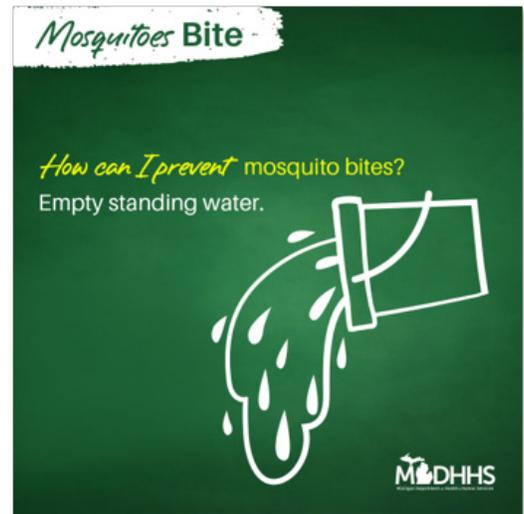
April to September is when ticks are usually active in Michigan. With warming temperatures, ticks are out and active longer. Ticks can carry diseases like Lyme disease, so knowing when they are active is important for your health. Learn more about ticks at [bit.ly/MiTrack-Ticks](https://bit.ly/MiTrack-Ticks) and about Michigan’s changing climate and health effects at [bit.ly/MIClimateAndHealth](https://bit.ly/MIClimateAndHealth). #MiTracking



Reduce your risk of West Nile virus! Make sure to empty standing water from places like:

- Flowerpots.
- Gutters.
- Buckets.
- Pool covers.
- Pet water dishes.
- Discarded tires.
- Birdbaths.

Learn more and get tips at [bit.ly/West-Nile-Virus](http://bit.ly/West-Nile-Virus). #MiTracking



Reduce mosquito bites. Wear long sleeves and pants from dusk through dawn when many mosquitoes are most active. Learn more and get tips at [bit.ly/West-Nile-Virus](http://bit.ly/West-Nile-Virus). #MiTracking



Reduce your West Nile virus risk. West Nile virus can affect anyone, but older adults are more likely to get the most severe form of illness. Prevent West Nile virus, learn more at [bit.ly/West-Nile-Virus](http://bit.ly/West-Nile-Virus). #MiTracking



The best place to be when it is smoky outside is indoors. If you need to be outside, consider wearing a tight-fitting N95 or P100 respirator marked with “NIOSH.”

Learn more at [bit.ly/EPA-masks](https://bit.ly/EPA-masks) and learn more about wildfire smoke and health at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke).

## Wildfire Smoke Ready Michigan

When the air is smoky, take these actions to protect your health.



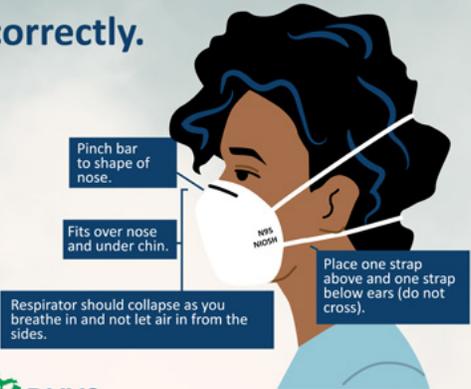
- Avoid Breathing Smoke**  
*The best place to be is inside a building that has good air quality.*
- Check Local Air Quality Index**  
*Check local AQI at Airnow.gov and listen to local officials.*
- Use MERV 13+ Air Filters**  
*Install a high-efficiency filter with a MERV 13 rating or higher.*

Learn more at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke). 

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## To protect your health from wildfire smoke, wear masks correctly.



- Pinch bar to shape of nose.
- Fits over nose and under chin.
- Respirator should collapse as you breathe in and not let air in from the sides.
- Place one strap above and one strap below ears (do not cross).

 Learn more at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke).

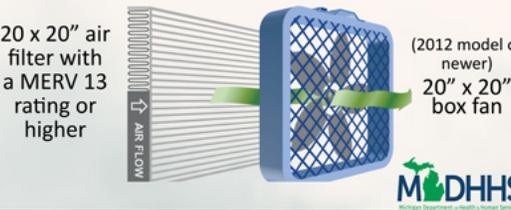
For Michiganders without a whole-house filter or portable air cleaner, a do-it-yourself air filter can help to keep your indoor air clean when it is smoky outside.

Follow the directions on the graphic and place your filter in an area where there are no obstacles.

Keep windows and doors closed to keep the smoky air from coming into the home.

Learn more about health and wildfire smoke at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke).

## DIY air filter when it is smoky outside!



20 x 20" air filter with a MERV 13 rating or higher

(2012 model or newer)  
20" x 20" box fan



### How to make an air filter

1. Attach the air filter to the back of the box fan using either clamps, duct tape or bungee cords.
2. Check the filter for the direction of the air flow (marked on the side of the filter).
3. Replace filters when dirty.

## Smoky Outside?



Stay safe from  
**Wildfire Smoke by:**



- Moving events indoors or postponing them.
- Avoiding outdoor exercise and activities that cause you to exert yourself.
- Move events to locations with cleaner air.
- Checking the local Air Quality Index at [Airnow.gov](https://www.airnow.gov).

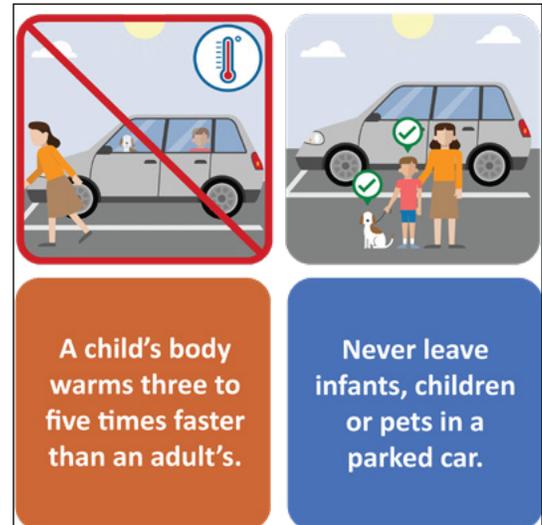
Learn more about health and wildfire smoke at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke).

The best place to be when it is smoky outside is indoors. If you need to be outside, consider wearing a tight-fitting N95 or P100 respirator marked with “NIOSH.”

Learn more at [bit.ly/EPA-masks](https://bit.ly/EPA-masks) and learn more about wildfire smoke and health at [bit.ly/MDHHS-Wildfire-Smoke](https://bit.ly/MDHHS-Wildfire-Smoke).

It only takes **two minutes** for a car to reach unsafe temperatures. Prevent heat stroke by never leaving kids or pets in parked vehicles.

Learn more at [Michigan.gov/ClimateandHealth](http://Michigan.gov/ClimateandHealth).



Summers are getting hotter in Michigan. Outdoor workers and athletes, older people and people with chronic health conditions are among those most at risk for heat illness. Know the signs and stay cool!

Learn more at [Michigan.gov/ClimateandHealth](http://Michigan.gov/ClimateandHealth).

### Types of heat-related illness

Heat Exhaustion Symptoms	Heat Stroke Symptoms
Faint or dizzy	Confusion, disorientation
Excessive sweating	Very high body temperature
Cool, pale clammy skin	Red, hot skin may be dry or sweaty
Nausea or vomiting	Nausea or vomiting
Rapid pulse	Rapid pulse
Muscle cramps	May lose consciousness

Does the water look scummy or discolored, or smell like rotting plants? These could be signs of harmful algae or cyanobacteria, which can harm you and your pets. Learn more at [bit.ly/HABS-FAQ](http://bit.ly/HABS-FAQ).

[Michigan.gov/ClimateandHealth](http://Michigan.gov/ClimateandHealth).



Use generators safely to avoid carbon monoxide (CO) poisoning. Always use generators outdoors away from doors, windows and vents. NEVER use generators in homes, garages, basements or other enclosed or partially enclosed areas. Learn more at [bit.ly/CO-safety](https://bit.ly/CO-safety).

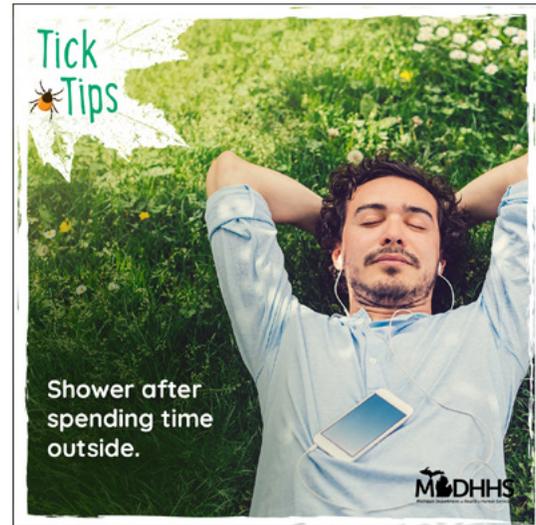


Know where ticks live! People and pets most often come across ticks in:

- Shady, moist wooded and grassy areas.
- Fields near wooded areas.

After visiting these areas, take a shower to prevent tick bites. Learn more tick tips BEFORE visiting areas with ticks at [bit.ly/MITickPrevention](https://bit.ly/MITickPrevention).

#MiTracking



Take precautions before visiting areas with ticks! Use repellent with 20% DEET, picaridin or IR3535. Wear long sleeves and pants. Learn more tick bite prevention tips at [bit.ly/MITickPrevention](https://bit.ly/MITickPrevention).

#MiTracking



Make sure to do a “tick check” after being outside. The picture shows areas on the body where ticks are commonly found. You can find tick identification information at [bit.ly/MITickPrevention](https://bit.ly/MITickPrevention).

#MiTracking

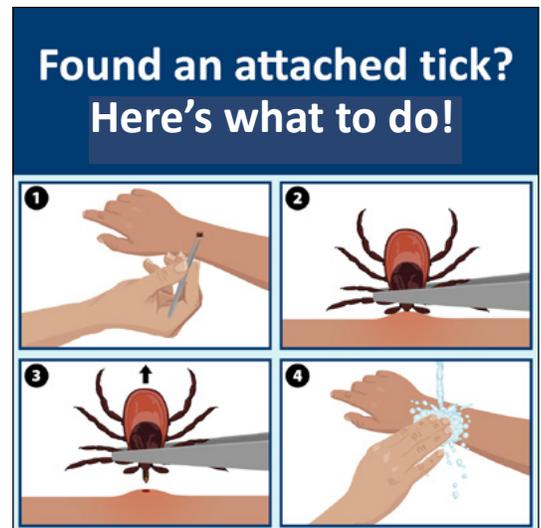


To remove a tick:

1. Use fine-tipped tweezers.
2. Grab the tick as close to your skin as possible.
3. Slowly pull straight up with steady, even pressure.
4. Wash the bite and your hands with soap and water.

For more information about ticks go to [bit.ly/MITickPrevention](https://bit.ly/MITickPrevention).

#MiTracking



Reduce your risk of mosquito-related illness. Use repellents with DEET, picaridin or lemon eucalyptus for longer-lasting protection from mosquito bites. Learn more and get tips at [bit.ly/West-Nile-Virus](https://bit.ly/West-Nile-Virus). #MiTracking.



Reduce mosquito bites. Wear long sleeves and pants from dusk through dawn when many mosquitoes are most active. Learn more and get tips at [bit.ly/West-Nile-Virus](https://bit.ly/West-Nile-Virus). #MiTracking



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