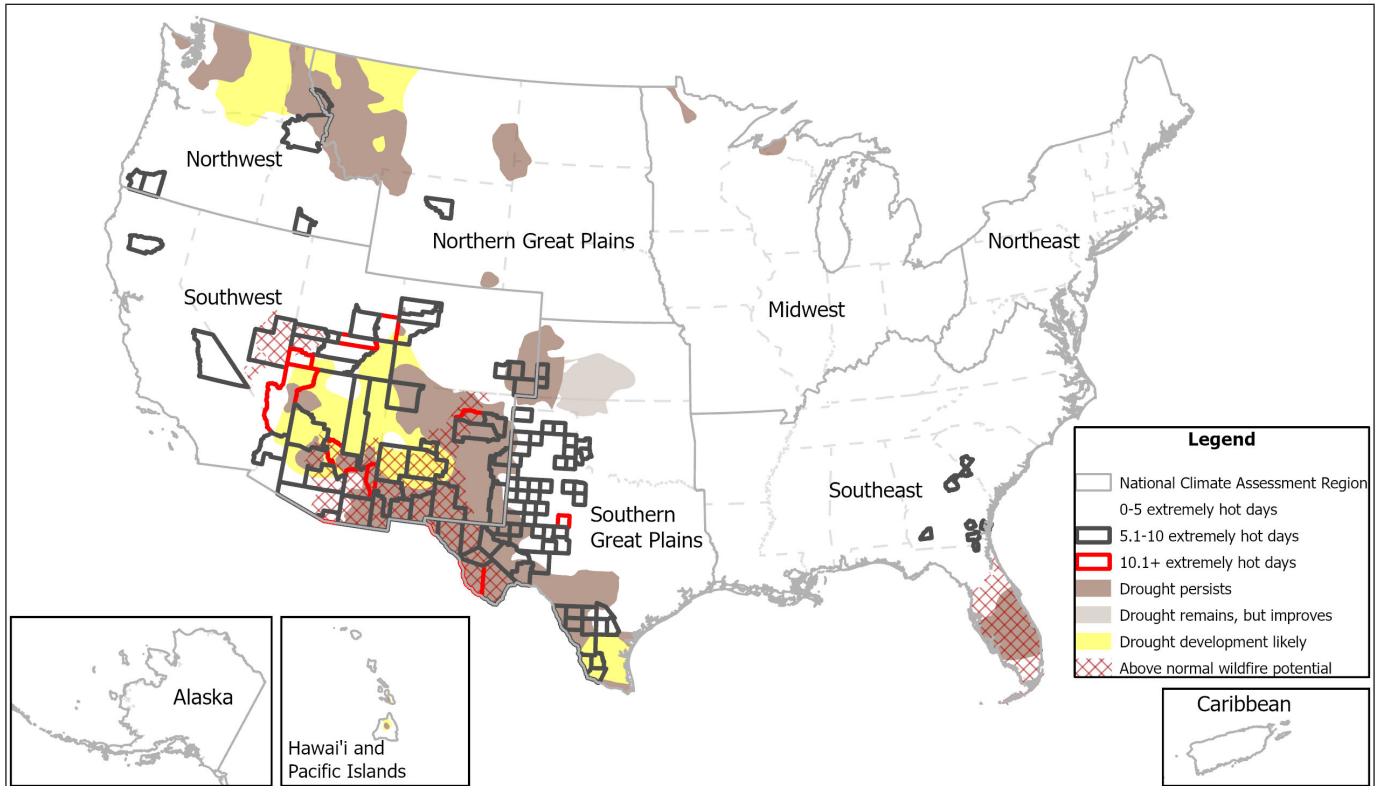


Highlights for this edition:

- Forecasts for heat, drought, wildfire, & hurricanes along with discussion of populations at elevated risk for health impacts
- Guidance on protecting health from these climate hazards plus ticks, tornadoes, flooding, & pollen

June Regional Climate Hazard Forecasts:



Northwest: Two counties in Idaho and one county in Oregon are expected to have five or more extremely hot days* in June. Drought is favored to persist across parts of Washington and northern Idaho. Drought development is forecast in eastern Washington, northeastern Oregon, and small portions of western Idaho.

Southwest: 16 counties in New Mexico, 13 counties in Arizona, 10 counties in Utah, six counties in Colorado, two counties in California, and one county in Nevada are expected to have five or more extremely hot days in June. Above normal significant wildfire** potential is forecast for much of central and western New Mexico, portions of southeast Arizona, portions of southern Nevada, and southwest Utah in June. Drought is favored to persist across much of New Mexico and parts of Colorado, Arizona, and small areas of eastern Utah. Drought development is forecast across much of Arizona, western New Mexico, southern Utah, and southwestern Colorado.

Midwest: Drought persistence is forecast in small areas of northern Minnesota, northern Wisconsin, and northwestern Michigan.

Southern Great Plains: 60 counties in Texas, three counties in Oklahoma, and two counties in Kansas are expected to have five or more extremely hot days in June. Above normal significant fire potential is forecast for far west Texas. Drought persistence is forecast in western and southern Texas, western Oklahoma, and western Kansas. Drought development is forecast in southern Texas.

Southeast: Seven counties in Georgia and one county in South Carolina expected to have five or more extremely hot days in June. Above normal significant fire potential is forecast for central and south Florida. Drought persistence is forecast in southern Florida. The Atlantic basin is highly likely to have an above-normal hurricane season.

Check out additional forecasts on our [webpage](#) + interact with the data on our [portal](#).





Heat Hurricane Drought Wildfire

*An "extremely hot day" is defined by having an expected temperature above the 95th percentile value of the historical temperature distribution for the month and county. For more information, check out the Centers for Disease Control and Prevention's (CDC's) [National Environmental Public Health Tracking Network](#) documentation.

**Smoke from wildfires can impact health hundreds of miles from the site of the fire.

Heat forecasts are derived from [CDC's Heat & Health Tracker](#), wildfire forecasts from the National Interagency Coordination Center's [National Outlook](#), drought forecasts from the National Oceanic and Atmospheric Administration's (NOAA's) [Official Drought Outlook](#), and hurricane forecasts from NOAA's [2024 Hurricane Season Outlook](#).

Counties with the Top Hazards Forecast for June

-  **Presidio & El Paso Counties, TX** are forecast to experience 27.2 and 11.2 days of extreme heat respectively in June. These counties are also forecast to experience persisting or developing drought and have above normal significant wildland fire potential.
-  **Mora County, NM** is forecast to experience 13.6 days of extreme heat in June. This county is also forecast to experience persisting drought and has above normal significant wildland fire potential.
-  **Greenlee & Gila Counties, AZ** are forecast to experience 10.3 and 12.7 days of extreme heat respectively in June. These counties are also forecast to experience persisting drought and parts of these counties have above normal significant wildland fire potential.
-  **Brevard, Osceola, Polk, & Orange Counties, FL** are forecast to experience persisting drought and have above normal significant wildland fire potential. They are also at [very high risk](#) from the forecast above-normal hurricane season.

Additional climate hazards to be aware of without specific forecasts for June 2024

Tornadoes

Tornadoes can happen anywhere and anytime. In the U.S., the highest [tornado threat](#) shifts from the Southeast in the cooler months of the year, toward the southern and central Plains in May and June, and the northern Plains and Midwest during early summer. [About 1,200 tornadoes hit the U.S. yearly](#), and storms are generally increasing in frequency and intensity.



During a tornado, people face hazards from extremely high winds and risk being struck by flying objects. After a tornado, the damage left behind poses additional injury risks.



It's normal for people to experience emotional distress regarding tornadoes.

Stay informed by paying attention to [emergency alerts](#) and downloading the [Federal Emergency Management Agency \(FEMA\) App](#) for real-time alerts from the National Weather Service. Take protective actions and learn how to recover with guidance from [CDC](#), [Ready.gov](#), and [FEMA](#). Learn more about [warning signs for emotional distress](#) and call or text 1-800-985-5990 if you need support for distress related to any disaster. This SAMHSA [Helpline and Text Service](#) is available 24/7, free, and staffed by trained crisis counselors.

Flooding

There are many different types of flooding: river overflow (common in early spring), coastal flooding (often occurs with storms and is becoming more common with sea level rise), flash flooding (most often occurs when there is heavy rainfall over a short period), and impervious area flooding (occurs when the amount of rainfall overflows an area's stormwater drainage capacity). More U.S. communities, both coastal and inland, are experiencing flooding with increasingly extreme precipitation events, drier soils, sinking land, the loss of natural barriers, and sea level rise, and there are disproportionate impacts on racial minorities and low-income households.



Contaminated floodwaters pose risks of injuries, infections, and more. Floods are the [second leading cause of weather-related deaths](#) in the U.S. (after heat).



Homes damaged by floodwaters may experience the growth of mold and other microbes that can harm respiratory health and worsen allergies and asthma.

Check out your area's [flood maps](#) and [risk assessments](#) from FEMA. Minimize your risk by learning more about [how to stay safe during and after a flood](#), [how to clean mold safely](#), and [how to protect yourself from floodwaters](#).

Pollen

Our changing climate is influencing higher pollen concentrations plus earlier and longer pollen seasons.



Pollen exposure can trigger allergic reactions along with exacerbation of asthma or other respiratory conditions. Allergic asthma and seasonal allergies affect approximately 40% of the U.S. population.

- Allergic symptoms have been linked to negative impacts on sleep, daily activities, productivity, concentration, and quality of life.

Check out [your area's daily pollen report](#) and learn about [protecting those with allergies from pollen](#), [allergy medications and shots for children](#), [allergy medications for all ages](#), and [additional approaches to manage allergy symptoms](#).

Hurricanes & Tickborne Diseases →

Hurricanes

Which Parts of the Country are at High Risk from Hurricanes?

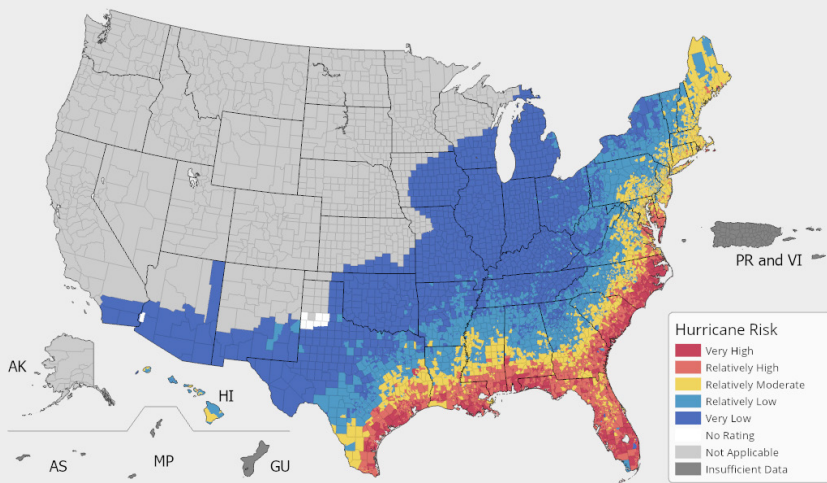


Figure: This map of the U.S. is colored by FEMA’s National Risk Index rating for the Hurricane hazard. The characterization of risk across these counties are based on historical records on hurricane paths and intensity.

FEMA provides information on the risk of different climate hazards across the 50 states and Washington, D.C., through the [National Risk Index](#) (NRI) platform. The Risk Index leverages available data for natural hazard and community risk factors to develop a baseline relative risk measurement for each U.S. county and census tract.

318 counties across 20 states and D.C. are estimated to have “very high,” “relatively high,” or “relatively moderate” hurricane risk. In these counties, the total population at risk is **100,504,829 people**.

Outlook for The 2024 Hurricane Season

The 2024 Atlantic Hurricane Season is predicted to be an above-normal hurricane season in the Atlantic basin, which includes the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. [NOAA is forecasting](#) a range of 17–25 named storms sustained with winds of 39 mph or higher, with 8–13 of those becoming hurricanes with winds of 74 mph or higher, and 4–7 becoming major hurricanes with winds of 111 mph or higher. The 30-year averages for the Atlantic basin (1991–2020) are 14 named storms, 7 hurricanes, and 3 major hurricanes. By contrast, the central Pacific, which includes Hawaii, is forecast to have a below-normal season this year, with a forecast range of 1–4 tropical cyclones. Tropical cyclones include tropical depressions, tropical storms, and hurricanes. On average, the central Pacific experiences 4–5 tropical cyclones annually.

Resources to Reduce Health Risks Associated with Hurricanes

The Office of the Assistant Secretary for Preparedness and Response Technical Resources, Assistance Center, and Information Exchange’s (ASPR TRACIE’s) [Hurricane Resources at Your Fingertips](#), CDC’s [Hurricanes and Other Tropical Storms](#), Ready.gov’s [Hurricanes](#) site, and Ready Business [hurricane toolkit](#) include resources on hurricane preparedness for a variety of stakeholders and audiences.

The Substance Abuse and Mental Health Services Administration [Helpline and Text Service](#) is available 24/7, free, and staffed by trained crisis counselors. Call or text 1-800-985-5990 to get help and support for any distress that you or someone you care about may be feeling related to any disaster.

The U.S. Food and Drug Administration’s [Hurricanes: Health and Safety](#) site covers multiple topics to help consumers, industry stakeholders and medical providers prepare for hurricanes. If you have Medicare and your medical device is damaged or lost due to an emergency or disaster, Medicare may cover the cost to [repair or replace your equipment or supplies](#).

CDC has information on [preventing carbon monoxide poisoning](#) in case of a power outage. Generators should be used at least 20 feet away from your home.

Hurricanes Affect Health in Many Ways

Hurricanes increase the risk for a diverse range of health outcomes. For example:



Flood water poses **drowning risks** for everyone, including those driving in flood waters. Storm surge historically is the leading cause of hurricane-related deaths in the United States.



Winds can blow debris—like pieces of broken glass and other objects—at high speeds. Flying debris is the most common cause of **injury** during a hurricane.



Open wounds and rashes **exposed to flood waters** can become infected.



Using generators improperly can cause carbon monoxide [CO] exposure, which can lead to **loss of consciousness** and **death**. Over 400 people die each year from accidental CO poisoning.

Lyme Disease, Alpha-gal Syndrome, and Other Tickborne Diseases & Conditions

Public Health Burden

Tickborne diseases—when a person has been bitten by a tick and gets sick—are increasingly threatening the health of people in the U.S. Tickborne diseases include [Lyme disease](#), [anaplasmosis](#), [babesiosis](#), [ehrlichiosis](#), [spotted fever rickettsioses \(including Rocky Mountain spotted fever\)](#), and [tularemia](#), as shown on the map below. Lyme disease is the most common tickborne illness in the U.S., with an estimated [476,000 Americans diagnosed and treated for Lyme disease](#) and an [economic burden between \\$345 million and \\$968 million](#) each year (in 2016 U.S. dollars). Early localized symptoms can include a rash at the site of the tick bite (ring in 70–80% of infected persons), fever, chills, malaise, fatigue, headache, muscle aches, joint stiffness, and swelling of lymph nodes. Patients who have Lyme disease are often not even aware of a tick bite before getting sick. Untreated Lyme disease can progress to disseminated disease and produce a wide range of symptoms including additional rashes, facial paralysis, an irregular heartbeat, and arthritis.

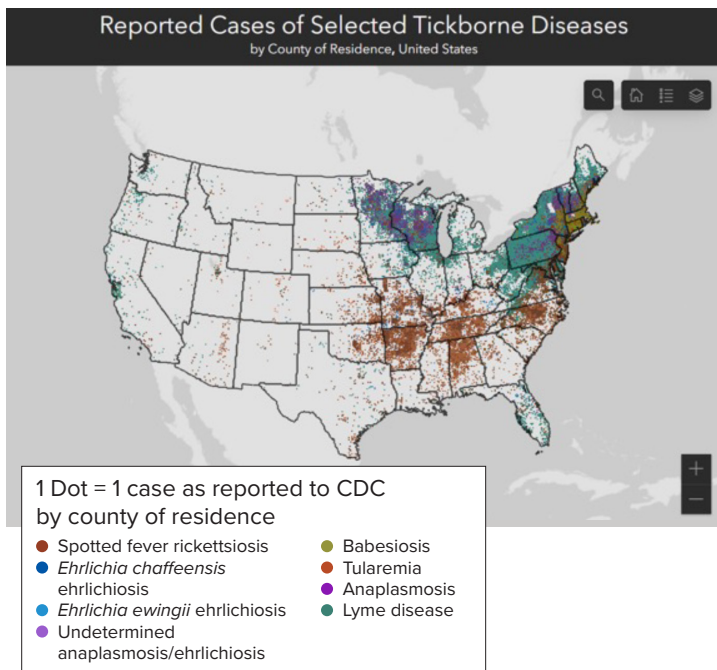


Figure: Geographic distribution of select tickborne diseases in 2019–2022. For more information, visit the interactive map at <https://www.cdc.gov/ticks/data-research/facts-stats/geographic-distribution-of-tickborne-disease-cases.html>

Tick bites can also lead to conditions such as alpha-gal syndrome (AGS), a potentially life-threatening allergy to red meat and consumer products made from mammals. Evidence suggests that AGS is primarily associated with the bite of a lone star tick (*Amblyomma americanum*) in the U.S., but other kinds of ticks have not been ruled out. People with AGS have delayed allergic reactions to a sugar molecule called alpha-gal, which can be found in pork, beef, rabbit, lamb, venison,

gelatin, and dairy. Patients with AGS have varying tolerance and sensitivity to products containing alpha-gal, and AGS reactions can vary, ranging from mild to life-threatening. A 2023 CDC report investigating testing data showed that there were more than 110,000 suspected cases of AGS between 2010 and 2022. Additionally, suspected cases are on the rise—from 2017 to 2021, there were approximately 15,000 new positive test results for AGS in the U.S. per year. Another [CDC report](#) identified gaps in healthcare provider awareness of AGS, finding 42% of participating healthcare providers had never heard of AGS. Therefore, the number of identified suspected cases of AGS from 2010–2021 is likely an underestimate of the true burden of disease because the diagnosis of AGS requires a clinical exam and a positive diagnostic test.

Role of Climate Change

Climate change is one of several factors that affect when and where tickborne diseases and tick-associated conditions can occur.

- Increasing temperatures from climate change can influence tick life cycles by increasing a tick’s ability to reproduce. This can lead to larger tick populations and greater risk of germs spreading from tick bites to people.
- Additionally, milder winters and warmer early spring temperatures expand the seasons when ticks are active, resulting in more weeks of the year that people in the U.S. are at risk of tick bites.
- Changing climate patterns can also alter the natural environment and longstanding ecological relationships. The distribution and density of the wildlife ticks feed on (e.g., deer and small mammals) is changing, which can lead to an expanded geographic distribution (e.g., latitude, altitude) of the diseases and conditions associated with these ticks.

Expanding tick ranges and increasing cases of disease are also linked to changes in land use patterns, such as reforestation, forest fragmentation, and suburban development, which can lead to increased opportunities for humans to be exposed to ticks.

Risk Factors

Risk of tickborne disease varies based on time of year, time spent outdoors in tick habitat, and geographic region.

Time of year: In areas of the eastern United States where Lyme disease is common, [people are most likely to be bitten by blacklegged ticks \(i.e., the type of tick that transmits Lyme disease\) during two times of the year:](#) from April through July when nymphs are active, and again from September through November when adults are most active, though people can get bitten any time ticks are present.

Time spent outdoors: Outdoor workers are at increased risk of tickborne diseases if they work at sites where ticks are

Tickborne Diseases & Conditions, continued

common. Worksites with woods, bushes, high grass, or leaf litter are likely to have more ticks. [Children ages 5 to 15 years are also at increased risk](#) of tickborne diseases, especially if they play in tick-prone areas.

Geographic region: Different climates throughout the U.S. support different species of ticks, which spread different diseases. Overall, the geographic range of infected ticks is expanding, putting an increasing number of communities at risk for tickborne diseases. Although the reported nationwide incidence of Lyme disease remained fairly stable from 2008 to 2019 at approximately 11 cases per 100,000 people per year, **Vermont, Maine, Rhode Island, Pennsylvania, and West Virginia saw marked increases in Lyme disease** incidence over the 10-year period. Data show that **the majority of patients with AGS are adults living in the southern, mid-Atlantic, and midwestern regions.**

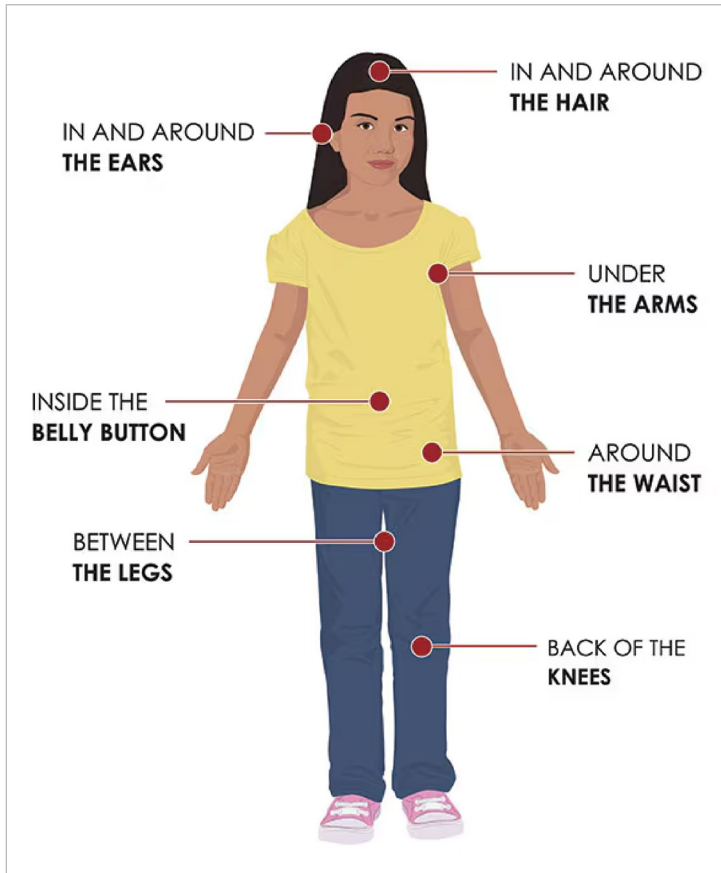
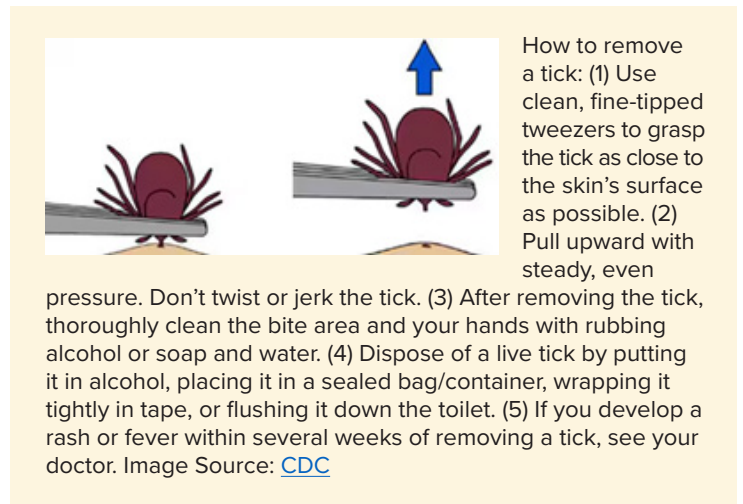


Figure: Places to check your body for ticks after being outdoors. Image Source: [CDC](#)



Prevention

- **Protect yourself from bites:** [Tick bite prevention](#) is the first line of defense against tickborne diseases. Before you go outdoors apply [EPA-registered insect repellents](#), treat clothing and gear with products containing 0.5% permethrin, and talk to your veterinarian about the best tick prevention products for your dog. Check out EPA's webpage on [Using Insect Repellents Safely and Effectively](#) with extra guidance for applying repellents to children. If possible, when spending time outside, avoid wooded and brushy areas with high grass and leaf litter where ticks may live.
- **Check for and remove ticks:** After spending time outdoors, check your body for ticks, take a shower within 2 hours, and check your clothing, gear, and pets for ticks that may have caught a ride into your home. If you discover a tick on you or your pet, follow the recommended steps for [proper tick removal](#) as soon as possible. CDC's [Tick Bite Bot](#) can assist you in removing attached ticks and seeking health care, if appropriate.
- **Check your area's risk:** Check the current trends on tick exposure in your region at the [CDC transmission website](#) and the [Tick Bite Data Tracker](#), which shows emergency department visits for tick bites on a weekly and regional basis. CDC has additional interactive maps displaying [tick surveillance data](#) of four tick species and surveillance of [tickborne pathogens](#) identified in blacklegged and western blacklegged ticks.
- **Help your patients:** The CDC's [Ticks website](#) and [Tickborne Diseases of the U.S.: A Reference Manual for Healthcare Providers](#) have information on specific tickborne diseases including information on how to avoid tick bites, common symptoms, and treatment. CDC has also issued guidance on [caring for patients after a tick bite](#).

Extreme Heat

Heat Affects Health in Many Ways

Warmer temperatures increase the risk for a diverse range of health risks. For example:



An increased risk of **heart disease hospitalization**.



Heat exhaustion, which can lead to **heat stroke** that, if not treated, can cause critical illness, brain injury, and even death.



Worsening **asthma** and **chronic obstructive pulmonary disease (COPD)** as heat increases the production of ground-level ozone.



Dehydration, which can lead to **kidney injury** and blood pressure problems.



Risk of **violence, crime, and suicide**, adding to the mental health burden of depression and anxiety already associated with climate change.

People at Elevated Health Risk from Extreme Heat Exposure

According to [HEAT.gov](https://www.heat.gov) and [CDC](https://www.cdc.gov) include those who:

- Have increased exposure (e.g., are experiencing homelessness; are emergency responders; are athletes; and/or work outdoors, or indoors with insufficient cooling);
- Have increased biologic sensitivity (e.g., are under age 5; are age 65 or over; are pregnant; and/or have chronic health conditions such as a mental illness, diabetes, or cardiovascular condition); and/or
- Face high socioeconomic burden and/or barriers to accessing cooling or healthcare (e.g., are low income, live in a low resource community, and/or have one or more disabilities).

Check out your heat forecast for June along with top risk factors of concern in your county with our [portal](#) and [learn how to protect people at elevated risk](#).

Resources to Reduce Health Risks Associated with Heat

- Discover science-based information at [HEAT.gov](https://www.heat.gov).
- Help keep at-risk patients safe with [CDC's clinical guidance](#) and other [HHS resources](#).
- Check the real-time heat index and hourly forecasts for your location with the [OSHA-NIOSH Heat Safety Tool](#).
- Find out if you qualify for assistance with home cooling bills from [Low-Income Home Energy Assistance Program \(LIHEAP\)](#) using their [Eligibility Tool](#).
- Explore data on heat-related emergency medical services (EMS) responses with the [EMS HeatTracker](#).
- Learn special considerations for [individuals experiencing homelessness](#), [people who take psychotropic medications and others that impair thermoregulation](#), and [older adults](#).

Partnering to Distribute Air Conditioning & Improve Health for At-Risk Residents

In summer 2020, air conditioning (AC) units were distributed in New York City (NYC) to low-income residents over age 60, and those with mobility impairments, to prevent heat-related illness. NYC officials developed the AC unit distribution program, a more expansive effort than traditional cooling assistance programs, in response to the co-occurring issues of extreme heat and COVID-19-related recommendations to avoid indoor public spaces including cooling shelters. NYC government agencies worked together to distribute and install [16,000 AC units in public housing and 56,000 in private households](#). Participating agencies enrolled eligible residents who were already receiving benefits, community organizations that supported housing programs enrolled residents, and eligible residents were able to enroll themselves.

In a recent study partially funded by the National Institute of Environmental Health Sciences (NIEHS), researchers from Columbia and WE ACT for Environmental Justice [evaluated the program's effectiveness in equitable distribution and health outcomes](#). They used NYC's Heat Vulnerability Index to compare AC distribution to the Index's map of residents most at-risk of adverse outcomes from heat exposure and found that AC distribution aligned closely to vulnerable areas and served populations most in need. They also surveyed a sample of program participants and a comparable group of non-participants, which showed that participants were less likely to report that hot weather made them feel sick in their homes compared to non-participants. As cities grapple with increasing extreme heat due to climate change, the NYC AC distribution program provides a model for supporting those most in need.

Drought

Drought Affects Health in Many Ways

Drought increases the risk for a diverse range of health outcomes. For example:



Low crop yields can result in rising food prices and shortages, potentially leading to **malnutrition**.



Dry soil can increase the number of particulates such as **dust and pollen** that are suspended in the air, which can irritate the respiratory system.



Dust storms can spread the fungus that causes coccidioidomycosis (**Valley Fever**).



If there isn't enough water to flow, waterways may become stagnant breeding grounds for **disease vectors** such as mosquitoes.



Drought's complex economic consequences can increase **mood disorders, domestic violence, and suicide**.

People at Elevated Health Risk from Drought Exposure

According to [NOAA](#) & [CDC](#) include those who:

- Have increased exposure to dust (e.g., are experiencing homelessness and/or work outdoors);
- Rely on water from private wells or small or poorly maintained municipal systems, the quality of which is more susceptible to environmental changes;
- Work in agriculture and/or live in an agricultural community;
- Have increased biologic sensitivity (e.g., are under age 5, are age 65 or over, are pregnant, and/or have chronic health conditions such as a mental illness or a respiratory disease); and/or
- Have special needs in the event of a public health emergency.

Check out your drought forecast for June along with top risk factors of concern in your county with our [portal](#) and [learn how to protect people at elevated risk](#).

Resources to Reduce Health Risks Associated with Drought

- Learn about the health implications of drought and how to prepare from the [CDC Drought and Health site](#) and [Ready.gov Drought site](#).
- Call or text 1-800-985-5990 to get help and support for any distress that you or someone you care about may be feeling related to any disaster. This SAMHSA [Helpline and Text Service](#) is available 24/7, free, and staffed by trained crisis counselors.
- Help keep at-risk patients safe with OCCHE's [Protecting Vulnerable Patient Populations from Climate Hazards: A Referral Guide for Health Professionals](#).

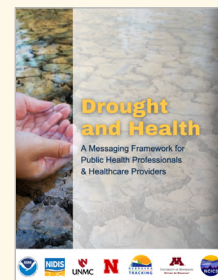
How to Communicate Drought's Health Impacts as a Health Professional

Researchers at the University of Nebraska Medical Center, through funding from [NOAA](#) and [NASA](#), have launched a new [Drought and Health Messaging Framework](#) to help public health professionals and healthcare providers choose messaging and response strategies targeted towards current drought impacts within their communities.

The framework's key recommended actions are:

1. Since drought can affect public health through many secondary impacts, establish key partnerships with a variety of organizations in your area such as state and local emergency management offices; local healthcare systems, hospitals, and emergency medical service providers; water quality testing centers; media outlets; and public libraries.
2. Stay informed on what stage of drought your county is currently experiencing using NOAA's [County Drought Information tool](#).
3. Communicate about drought's health impacts using plain language, translating messages to commonly used languages in your area, repeating key messages often, and using graphics and other visual aids that can support your message.

Check out example messages and guidance to reduce health risks from drought in your area from the new [Drought and Health Messaging Framework](#).



"This framework was created to translate the fantastic research being conducted nationally on drought and health into a practical tool which could lead to better health outcomes in drought-stricken communities. Our hope is to eventually create region-specific versions to provide even more specifically tailored guidance."

—Rachel Lookadoo, JD, co-lead author

Wildfire

Wildfires Affect Health in Many Ways

Wildland fire increases the risk for a diverse range of health outcomes from both the fire itself and smoke. For example:



Due to the nature of their work, firefighters are at risk of developing severe heat-related illness (such as **heat stroke**) and rhabdomyolysis (**muscle breakdown**).



Wildfire can cause **burns** through contact with flames and hot surfaces as well as chemical and electrical burns.



Wildfire smoke can lead to disorders including **reduced lung function, bronchitis**, exacerbation of **asthma**, and cardiovascular effects like **heart failure**.



For pregnant people, smoke exposure may increase the risk of **reduced birth weight** and **preterm birth**.



Wildfire smoke may affect the immune system, potentially leading to increased vulnerability to **lung infections**.



Smoke from wildfires can travel downwind and affect air quality hundreds of miles away from the fire.

People at Elevated Health Risk from Wildfire Smoke Exposure

According to [EPA](#) include those who:

- Face economic, social, environmental, and/or other burdens that may limit their ability to reduce exposure (e.g., identify as a racial or ethnic minority, have low income, have one or more disabilities, and/or work outdoors); and/or
- Have increased biologic sensitivity (e.g., are under age 5, are age 65 or over, are pregnant, and/or have chronic health conditions such as asthma or another lung disease or a cardiovascular disease).

Check out your wildfire forecast for June along with top risk factors of concern in your county with our [portal](#) and [learn how to protect people at elevated risk](#).

Resources to Reduce Health Risks Associated with Wildfire

- Learn about how to prepare for wildfires, stay safe during a fire, and return home after a fire from the [Ready.gov Wildfires site](#), [CDC Wildfires site](#), and [EPA Smoke-Ready Toolbox for Wildfires](#).
- Download the [FEMA app](#) to receive real-time weather and emergency alerts from the National Weather Service. The app can also help you find a nearby shelter if you need to evacuate to a safe space.
- Check out [EPA & CDC's Wildfire Smoke and Your Patients' Health course](#) for actions to help patients reduce exposure.

Agricultural Workers: A Priority Population for Mitigating Smoke Exposure

Wildfires are occurring [more frequently](#) across the U.S., exposing more Americans to [wildfire smoke](#). Wildfire smoke is composed of complex mixtures of toxic gasses and particulate matter, including [PM_{2.5}](#). Exposure to elevated levels of PM_{2.5} is associated with [negative health effects](#) including eye and respiratory tract irritation, exacerbation of respiratory conditions, heart failure, and even death, especially for outdoor workers and other [at-risk groups of people](#).

Wildfire smoke is hard to predict and can persist in areas for long periods of time, placing outdoor workers, including agricultural workers, at elevated risks of exposure. Since **wildfire smoke often comes along with heat waves**, outdoor workers are regularly exposed to both hazards simultaneously, compounding their health risks. Recent studies showing a predicted [35% increase in worker smoke exposure days for agriculture workers in the Central Valley of California by 2050](#) and the [high correlation between high heat index days and large peaks in PM_{2.5} exposure](#) emphasize the urgency of protecting agricultural workers from these cumulative climate hazards.

There are an estimated [2.9 million agricultural workers](#) in the U.S. with the [majority identifying as Hispanic and/or born outside of the U.S.](#) The creation of culturally and linguistically appropriate training and resources related to wildfire smoke protection can help migrant and seasonal agricultural workers protect themselves from the dangers of smoke exposure. Important [preventative measures](#) for all outdoor workers, **include providing masks or respirators that filter out PM_{2.5} particles during wildfire smoke events**, and providing water, shade, and breaks during the working day to limit dehydration.



Farmworkers harvest lettuce in Salinas, CA despite smoke-filled air in August 2020. Image Source: [Migrant Clinicians Network](#).

THANK YOU to the partners who provide invaluable information, expertise, and data for the Climate and Health Outlook series:

