

A TECHNICAL MANUAL

HPRB 5410W

Disaster Management for Georgia Residents



<https://ready.ga.gov/>

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Introduction

What is a disaster?

The United Nations defines a disaster as “a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts” (UNISDR, 2017). Even though they are often caused by nature, disasters can have human origins.

From a public health view, a disaster is defined on the basis of its consequences to health and health services (CDC, 2018). Disasters cause widespread human,

material, or environmental losses that exceed the local capacity to respond, calling for external assistance.

Types of disasters

There are many different classifications of types of disasters. Disasters can be separated into two broad categories: natural disasters and man-made disasters (SAMHSA, 2019). For the purpose of this manual, we will separate disasters into the four main categories that The World Health Organization uses: natural disasters, biological disasters, technological disasters, and societal disasters. For the purpose of this manual, natural disasters, biological disasters, and societal disasters.

In Georgia

Natural Disasters: Fires, Drought, Tornados, Wildfires, Floods, Severe Storms, Hurricanes, Snow Storms

Biological Disasters in Georgia: Epidemic disease

Societal Disasters: Acts of terrorism

Disaster Management

Disaster Management is defined as the organization, planning, and application of measures preparing for, responding to and recovering from disasters (UNISDR, 2017).

Deaths, injuries, diseases, disabilities, psychosocial problems, and other health impacts can be avoided or reduced by disaster risk management measures involving health and other sectors.

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Alerts

STAY UPDATED THROUGH VARIOUS ALERT SYSTEMS AVAILABLE THROUGH
STATE OF GEORGIA

NOAA Weather Radio: Watches and Warnings issued by National Weather Service (NWS) air on these radios. Over 2 dozen transmitters cover Georgia from the mountains to the coast offering weather watches, warnings, forecasts, hourly conditions, and other information. Broadcasts are offered 24 hours a day, 7 days a week, every single day of the year (GEMA.gov, 2019).

HOW TO GET STARTED WITH NOAA Radio:

1. Buy a NOAA Weather Radio receiver

In order to tune in to NOAA Weather Radio, you must own a compatible receiver. NOAA Weather Radio receivers are available in stores ranging in price from \$20 to \$80. Other radio receivers may also feature the weather band which covers the 7 frequencies (162.400 MHz to 162.550 MHz) used to broadcast NOAA Weather Radio. Newer receivers on the market also feature the ability to display on-screen information in English, Spanish, and French.

We cannot recommend one brand of receiver over another, but we do suggest that you look for receivers which carry the Public Alert logo. Devices which carry the Public Alert logo meet certain technical standards and come with important features including SAME technology,



battery backup, and tone alarm. For more information on NOAA Weather Radio receivers, please visit the [national NOAA Weather Radio receivers page](#).

2. Tune into your local NOAA Weather Radio broadcast

The vast majority of Georgia enjoys NOAA Weather Radio coverage from at least one transmitter. However, it may be necessary to use an external antenna to receive NWR broadcasts if you are distant from the tower. Generally, NOAA Weather Radio broadcasts are receivable at a 40-mile range from the tower depending on transmitter power, topography, broadcast antenna height, and atmospheric conditions. An interactive NOAA Weather Radio network map, and a low bandwidth version, are available online to help locate NOAA Weather Radio transmitters that cover your county, their frequency, the county code to program into your radio, and a signal coverage map.



<https://www.weather.gov/ffc/radio>

3. Program your radio with your SAME FIPS code

Specific Area Message Encoding (SAME) allows NOAA Weather Radio receivers with SAME capability to be programmed to listen and alarm for messages affecting a specific county or set of counties. Some radios may not feature SAME technology and will alarm for any county covered by your transmitter. Please ensure your NOAA Weather Radio receiver is tuned to a broadcast offering service to your area of interest as no transmitter sends out messages for all Georgia counties!

County Alert Systems: Some counties use outdoor warning sirens while others may use a telephone notification system. Contact your local Emergency Management director to find out what warning system is used (HUD.gov)

- The Integrated Public Alert and Warning System (IPAWS), is a modernization and integration of the nation's existing and future alert and warning systems, technologies, and infrastructure.
- The Emergency Alert System (EAS) is a national public warning system that requires broadcasters, satellite digital audio service and direct broadcast satellite providers, cable television systems, and wireless cable systems to provide the President with a communications capability to address the American people within 10 minutes during a national emergency.
- EAS may also be used by state and local authorities, in cooperation with the broadcast community, to deliver important emergency information, such as weather information, imminent threats, AMBER alerts, and local incident information targeted to specific areas.
- The President has sole responsibility for determining when the national-level EAS will be activated. FEMA is responsible for national-level EAS tests and exercises.
- EAS is also used when all other means of alerting the public are unavailable, providing an added layer of resiliency to the suite of available emergency communication tools.

Television Stations: Local or national news stations monitor and broadcast weather alerts (GAVOAD.org, 2019).

Local Georgia Weather Channels:

- WSB-TV2
- WXIA-TV
- WGXA
- WAGA-TV
- WGCL-TV
- WPBA

- WUPA
- WPCH-TV

Smartphone Applications: Numerous free and paid smartphone applications have been created to notify the public of severe weather. Some of these applications use GPS tracking on your phone and will notify you of severe weather warnings based upon your location.

The Weather Channel (Android; iOS: Free) <https://appadvice.com/appnn/2015/10/>



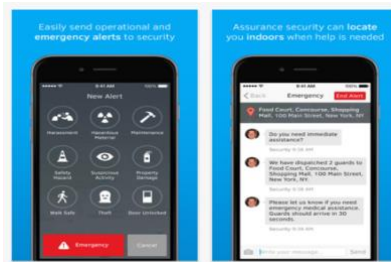
The TWC app provides you with a wealth of meteorological data such as temperature, wind and visibility on an hourly or daily basis, with an extended 10 day forecast available. Interactive maps can display the latest Doppler radar data to show rainfall and weather events and severe weather alerts (Corpuz, 2019).

Dark Sky (Android: Free; iOS: \$3.99) <https://www.macstories.net/reviews/dark-sky-view/>



The accurate hyperlocal forecast is now accompanied by a precipitation map for the next hour, as well as handy hourly forecasts and a precipitation graph. The main timeline also includes UV information, and options for more granular information (Corpuz, 2019).

Emergency: Alerts (Android; iOS) <https://www.ny/dailynews.com/news/world>



The app pays attention to when severe weather conditions strike — everything from hurricanes and floods to extreme heat and winter storms. Not only will Emergency monitor where you live, you can also enter cities and people that are important to you (Corpuz, 2019).

Wireless Emergency Alerts (WEA): WEA are emergency messages sent by authorized government alerting authorities through your mobile carrier. The alert system requires no need to download an app nor subscribe to a service. The WEA message will usually provide the category and time, the agency issuing the alert, and what action you should take (FEMA.gov, 2019).



WIRELESS EMERGENCY ALERTS

<https://gavoad.communityos.org/cms/home>

FREQUENTLY ASKED QUESTIONS:

What types of alerts will I receive?

- Extreme Weather, and other threatening emergencies in your area
- AMBER alerts
- Presidential alerts during a national emergency

What does a WEA message look like?

- WEA will look like a text message. The WEA message will show the type and time of the alert, any action you should take, and the agency issuing the alert

How will I know the difference between WEA and a regular text message?

- WEA messages include a special tone and vibration, both repeated twice

What type of WEA messages will the National Weather Service (NWS) send?

- Tsunami warnings

-
- Tornado and Flash Flood Warnings
 - Hurricane, Typhoon, Dust Storm, and Extreme Wind Warnings

Will I be charged for receiving WEA messages?

- No, this service is offered for free by wireless carriers. WEA messages will not count towards texting limits on your wireless plan.

Alerts References

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Georgia Emergency Management. (n.d.). Get ready for extreme weather and natural disasters.

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Spring



phipps.conservatory.org

Tornadoes

What is a tornado?



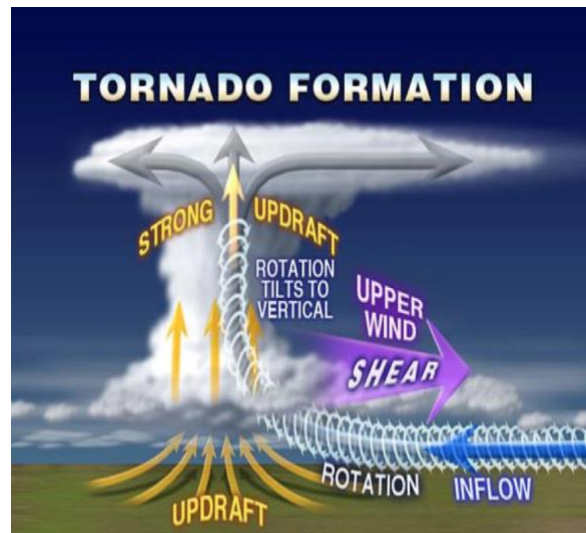
A tornado is rotating columns of air that are formed from a part of thunderstorm which is located on the ground. Although tornadoes are usually weak, they do have the potential to extremely severe sometimes. There can be a wide range of tornadoes due to factors such as size and intensity. (The National Severe Storms Laboratory) Tornadoes have a wide range of speed from 100 to 300 mph. Tornadoes can be seen in any part of Georgia. They are considered the most violent of the atmospheric storms. (National Weather Service, 2019)

How do tornadoes form?

(The National Severe Storms Laboratory)

- Supercells (circulating thunderstorms)
- Not super clear, in need of more research

ajc.com



Strength of tornadoes (The National Severe Storms Laboratory)

- “Enhanced Fujita Scale”
- Examining the damage caused afterwards

ENHANCED FUJITA SCALE
Scale Of Wind Damage Caused By Tornadoes

Category	Winds (mph)	Damage
EF-5	>200	Incredible
EF-4	166-200	Devastating
EF-3	136-165	Severe
EF-2	111-135	Considerable
EF-1	86-110	Moderate
EF-0	65-85	Light

AccuWeather

When do tornadoes occur? (The National Severe Storms Laboratory)

- In the spring between March and May
- April = peak month
- Can occur at any point during the day or night
- More likely in afternoon or early evening time

Championsci.com



What to look for when identifying a tornado (The National Severe Storms Laboratory)

Beaver's tail: cloud band that is typically flat and is a part of the rain-free base

- Shows existence of rotation
- Spotted around southern part of the rainy area

Inflow bands: cumulus clouds that reach out from the main storm

- Shows existence of low level air

- Shows presence of rotation if spiraling nature is there

Wall cloud: isolated loud extending from the rain-free base of the thunderstorm

- Created 10 to 20 minutes before seeing the tornado
- Constantly rotating with strong winds
- Located behind or towards the back of the visible rain area

Rear flank downdraft: downward rush of air at the rear of the storm

- Appears as a “bright or clear slot”
- Can also appear as a sheets of rain tied around the cloud base circulation



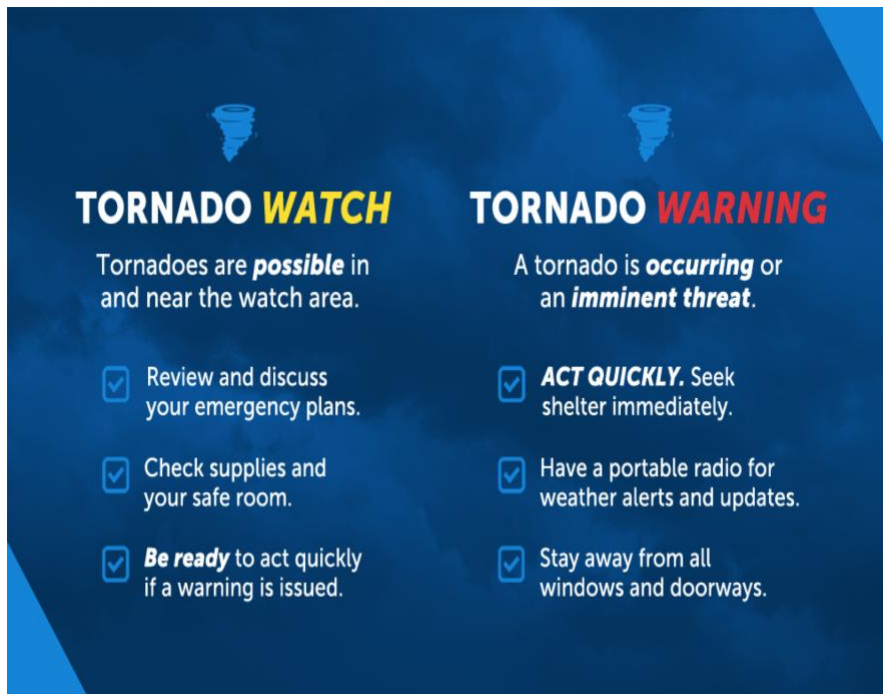
How

to

prepare for tornadoes (Georgia Department of Administrative Services)

- Have an emergency kit prepared that contains emergency supplies such as water, first aid kit, radio, etc.
- Create a plan of taking shelter
- Know the difference between warnings and watches

- Stay underground as much as possible
- Stay away from windows
- Go to a building with a strong foundation



The infographic is set against a dark blue background with a lighter blue diagonal stripe in the top right corner. It features two columns of text, each topped with a small white tornado icon. The left column is titled 'TORNADO WATCH' and the right column is titled 'TORNADO WARNING'. Each column contains a descriptive sentence and a list of three action items, each preceded by a white checkmark icon.

TORNADO WATCH	TORNADO WARNING
Tornadoes are possible in and near the watch area.	A tornado is occurring or an imminent threat .
<input checked="" type="checkbox"/> Review and discuss your emergency plans.	<input checked="" type="checkbox"/> ACT QUICKLY. Seek shelter immediately.
<input checked="" type="checkbox"/> Check supplies and your safe room.	<input checked="" type="checkbox"/> Have a portable radio for weather alerts and updates.
<input checked="" type="checkbox"/> Be ready to act quickly if a warning is issued.	<input checked="" type="checkbox"/> Stay away from all windows and doorways.

peopletrustinsurance.com

Thunderstorms

What is a thunderstorm?

A thunderstorm is usually a rain shower that is accompanied by lightning and thunder. The thunder is the sound that comes with lightning which is something all thunderstorms will usually have. (The National Severe Storms Laboratory)

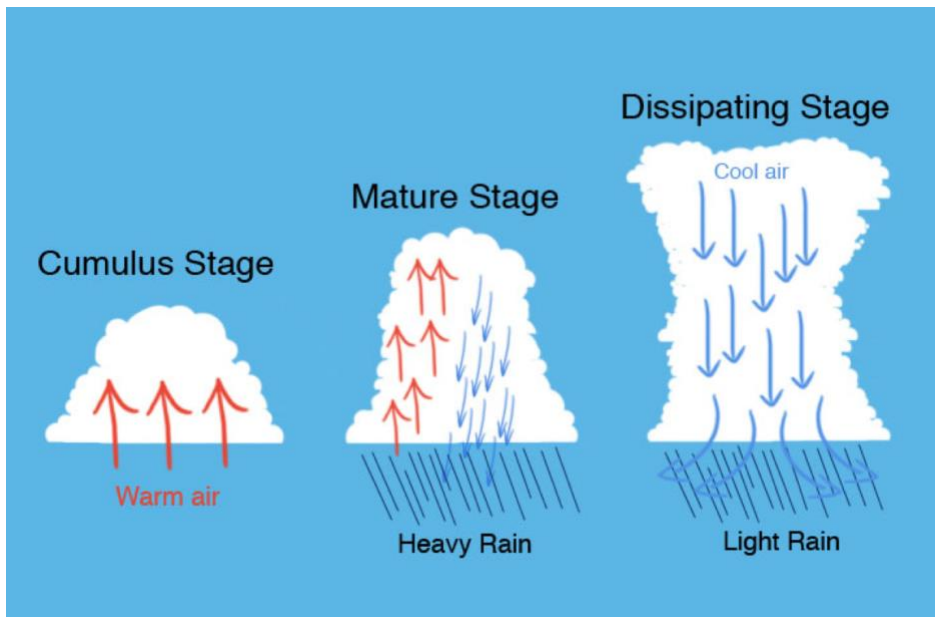
When do thunderstorms occur? (The National Severe Storms Laboratory)

- Can occur any time of the year
- More likely in the spring and summer months
- Higher chances during afternoons for Georgia and other southeastern states



Sciencemag.org

Formation of thunderstorms (University Corporation for Atmospheric Research)



3 stages:

1. Cumulus stage: warm air moves up into the surface to create a cumulus cloud
2. Mature stage: the cloud becomes darker as more water droplets get added. The water droplets are released when the cloud can no longer hold anymore droplets. When the droplets begin to fall with cool air, it is called rain. As the air continues to move, electric charges build up which creates lightning. When lightning strikes, thunder is heard afterwards.
3. Dissipating stage: when warm air does not rise anymore, there are no more cloud droplets. The cloud breaks apart.

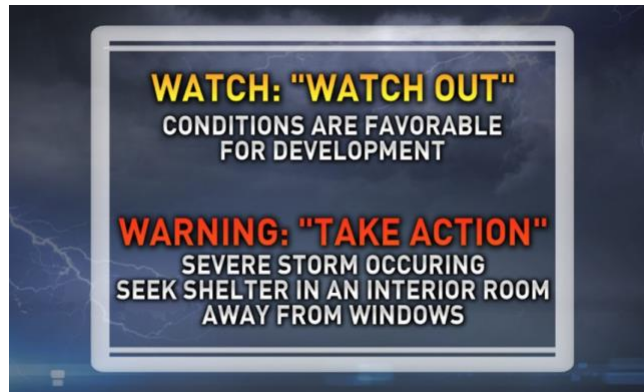
Weatherwise2015.weebly.com

Damage caused by thunderstorms (The National Severe Storms Laboratory)

- Flash flooding: extra rainfall that has accumulated
- Lightning: causes fires
- Hail: can break windows of cars and houses
- Tornadoes: can accompany strong thunderstorms and destroy buildings
- Powerful Winds: impacts power lines, trees, etc.



Weatherwizkids.com



How to prepare for thunderstorms (Ready)

- Stay indoors or seek shelter if possible
- Do not use any appliances to avoid getting electrocuted
- Avoid landline phones and water if possible
- Sign up for weather alerts in your area to stay informed



Kvue.com

Spring References

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Summer



magazine.columbia.edu

Dangers of Fire

Why is it dangerous?

Fires are one of the most destructive and common type of disasters to occur and comes in a variety of different flames that require a unique method of extinguishing the fire. There are four main contributors of fire to consider in order to determine which method of prevention will be most effective.

The four factors being:

jooinn.com

- The type of Fire (the nature of the fire)
- Meteorological Conditions (The amount of wind present)
- The Type of Material on Fire (Metal, oil, or wood)
- The Area Affected by the Fire (A forest, piping installations, harbor installations, or other highly inflammable areas)



When discussing how to correct a fire related incident, it is important to realize that many of these fire disasters have a criminal origin that might be caused during a time of conflict or crisis such as wars or civil events which insight more major accidents (ICDO, 2019). Technical documentation should be used when

trying to combat fires because it contains methods that should be known by all security, fire-fighting services, the national or regional disaster alarm, and information centers. For fire disasters involving rescue and fire extinction on motorways, building with high levels of compacity (hospitals, skyscrapers, hotels, department stores, etc...), fire in silos and warehouses, forest fires, and fires related to chimneys, attires, and cotton should refer to the technical documentation (Carr, 2015).

Causes of Fire

The causes of fire can be separated into two main categories: natural causes and manmade causes. Some of the more common causes from each category include:



Nasa.gov

Natural Causes:

- Lightning, volcanoes, and natural sparks in arid climates especially during dry periods or droughts

Man Made Causes:

- Cooking equipment – Pots and pans can overheat or catch on fire if they are not closely monitored.
- Heating – Portable heaters or furnaces have the potential to catch fire of nearby furniture or clothing. Make sure the personal heater is at least one meter away from any inflammable product.
- Smoking in Bedrooms – The butt of a cigarette can stay alit several hours after being smoked, so it has the potential to light furniture on fire if not properly discarded.
- Electrical equipment – Electrical appliances with faulty wires can easily catch on fire. A major fire hazard if not used properly can be power point extension cords.
- Candles – The flame may look small, but if a candle is unattended, it could start a house fire. It is very important to keep the candle away from other inflammable objects and to blow out the candle when leaving the room.



www.homedepot.com

- Curious Children – Children could start fires out of curiosity. It is important to keep matches and lighters out of children’s reach to avoid a house fire.
- Faulty wiring – Some homes or building may have poor wiring which is a potential fire due to electrical hazards. Some warning signs of bad wiring include fuses blowing or frequent trips in the circuit, multiple appliances not working at once, and lights dim when using other appliances.
- Barbeques – The grill has the potential to catch on fire if not used properly. Also, it is important to keep inflammable products such as table cloths and plants away from the grill. Regularly check the gas can for any leaks.
- Lighting – Lamp shades have the potential to catch on fire if the lampshade is too close to an incandescent bulb. The base of the lamp is a fire hazard if it can easily be knocked over.
- Overheating of a car engine – This issue is mainly referring to older car models because newer cars have a stop mechanism to prevent the engine from exploding or bursting into flames. It is important to maintain your car and watch out for the thermometer on your car (Dacre et al., 2018).



www.calaverasenterprise.com

Preventive and Protective Measures

The speed of fire spreading depends on the nature of the material caught on fire, the effectiveness of the fire prevention installations (sprinkler system), the

speed of informing the public of such fire, the meteorological conditions, and efficiency of the fire department in the area of the fire.

Preventive measures are the best way of dealing with potential fire hazards which fall under two main components: government and education. The government has primary responsibility over fire prevention because they have the authority to regulate how the fire protection system is in place, to forecast any fire incidences to the public in a timely manner, and to set a means to fighting fires if they happen. The secondary responsibility falls under each individual's behavior based on their education about the dangers of fire and how to keep it under control. The people also have the duty of understanding the laws in place and the safety rule when dealing with inflammable products. The secondary responsibility can also fall under corporations or enterprises to explicitly state the potential dangers their products may have (IDCO, 2019).

Preventive and protective methods

- Implementing legislation to regulate the use of specific material near inflammable products or environments.
- Organizing an observation service, prevention, and alarm system for local and regional levels.

www.medicalnewstoday.com



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- Planning and concrete preparation to minimize potential fire hazards through effective landscaping of land and forest. This involve having emergency exit pathways in buildings or infrastructure.
 - Having a radio network that can accurately and swiftly spread any news of a fire to the public.
 - The readiness of fire safety system to respond to fire threats in the area. The fire department need to have firemen on the ready for any rescue and fire prevention missions.
 - Planning the evacuation of the population for sensitive area when dealing with a fire threat.
 - Surveillance and detection of fires as soon as they occur according to ad hoc meteorological service which is a system that monitors wind patterns, the dryness of vegetation, and the strength of the wind (IDCO, 2019).



Safety Measures for the Public Health

Do:

- Teach your children the dangers of fire and to be cautious around fire and inflammable objects
- Keep lighters and matches out of reach from children
- Learn about potential fire causing products or inflammable products to know about the protection measures
- Learn how to use domestic fire-fighting equipment
 - Fire extinguishers, fire reels, hoses, etc.

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- Know the emergency contacts of the fire department, civil protection services, and police
 - Obey the rules and instructions in area that forbid lighting fires or smoking in designated area such as forest, wooden structures, plantations, agricultural installations especially during dry spells (IDCO, 2019).

Don't Do:

- Keep inflammable products away from sources of fire. These products include:
 - Alcohol
 - Petrol
 - Gas containers
 - Paper
 - Cloth
 - Furniture
- Smoke, light fires, switch on electrical equipment or machinery that could potential create a spark when handling or in the vicinity of flammable or toxic products.
- Shoot fireworks or other explosives near wood or forest
- Throw cigarette butts on the ground without fully extinguishing the flame (IDCO, 2019).

What to do in case of a fire?

These are some guideline if you are stuck in a house or building that is on fire:

- Stay calm and thoughtful about the whole situation, avoid panic
- Call the fire department for help and telling them your location and situation

- Warn people in the building or house along with the nearby area about the fire present
- Try rescuing persons and animals in danger
- Prevent air rushing into the area by closing all of the doors and windows and turning off the ventilation system
- Do not use the elevator at all cost instead try to find the nearest stairway or emergency exit
- If there is too much smoke in the stairways and corridors, stay in the flats and close the door. After closing the door, wet the door to make it draught-proof with a wet rag.
- If anyone or animal is caught on fire, then wrap them in a blanket or coat and roll them on the ground
- If the place you are in is being filled with smoke, stay low to the ground because that's where the remaining fresh air will be.
- Use fire extinguishers or use water from inside the house to fight the fire until help arrives
- Calm down oil fires by covering them with a damp cloth
- If any electrical appliance is on fire, unplug it immediately and turn the switch off
- Signal to the firefighters of your location inside the house without opening any windows or doors
- Follow the instructions given to you by firefighters and rescuers (IDCO, 2019).

www.firesafety.com

In case of a forest fire or wildfire:



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- If your home is made of weak structure, then try to leave the house immediately
 - Open the entry gate to the building or infrastructure you are in for rescuers
 - Turn off and move gas bottle that are outside of the house away from the fire
 - Move vehicles with their windows closed to the side of the home protected from the wind
 - Close shutters and entrance door to take shelter inside the home with all persons and domestic animals
 - Stay calm at all cost, do not panic
 - Stay mindful of the progression of the fire, the side of the home with the wind will progress faster than the other sides
 - Try to extinguish the main fire using a fire extinguisher (Dacre et al., 2018).

After the main fire has passed

- If your entire body is protected by non-synthetic clothes, gloves, hat, and leather shoes, leave the house
- Extinguish parts of the house that are still burning
- Inspect and extinguish the remaining cinders from the roof and the attic
- If there are any vegetation around the house, extinguish any flames on them
- Assist other people in danger
- Follow the orders of rescuers and other authorities at the scene (IDCO, 2019).



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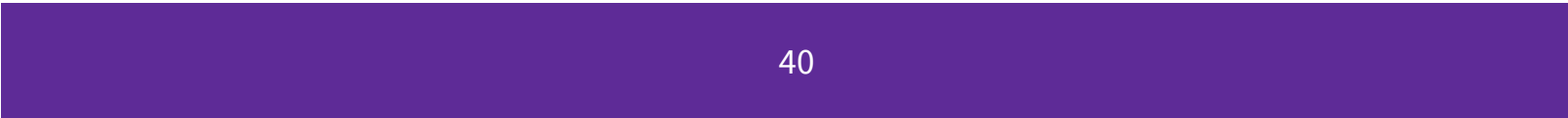
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[db=aqh&AN=133526205&site=eds-live.](http://remote.galib.uga.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aqh&AN=133526205&site=eds-live)





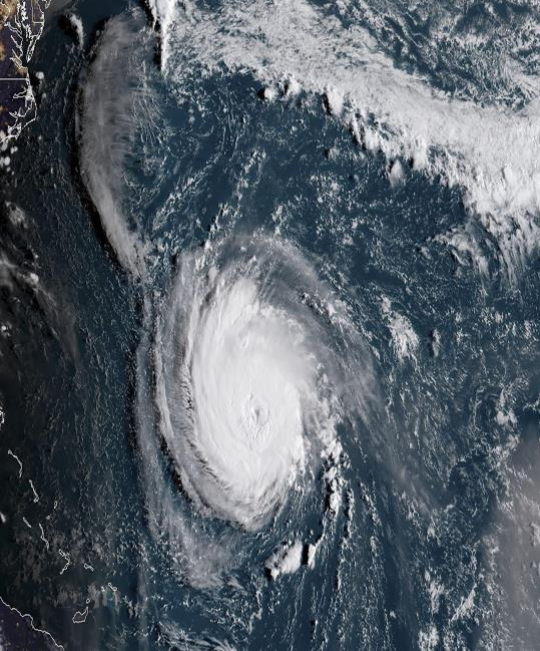
Fall



<https://luwakstar.com/fall-is-here/>

Hurricanes

What is a hurricane?



A hurricane is a massive storm system that forms over warm ocean waters and move toward land. The threats of hurricanes include powerful winds, heavy rainfall, storm surges, flooding, rip currents, tornadoes, and landslides (Ready.ga.gov, 2017). Hurricanes can cause catastrophic damage to coastlines, along with several hundred miles inland. Wind can cause extreme damage on trees, power lines, homes, and other buildings. Hurricanes can also cause extensive damage from heavy rainfall. Floods and flying debris from hurricane winds are destructive results of hurricanes. Being a

coastal state, Georgia is at risk for hurricanes that form in the southern Atlantic Ocean, Caribbean Sea and Gulf of Mexico. Every resident of Georgia needs to understand the risks of hurricanes and how to react in the event of one. Hurricane Season in Georgia is June 1st to November 30 (Ready.ga.gov, 2017).

<https://www.nbcnews.com/florence>

Preparation:

Prior to a hurricane:

- Stock up on emergency supplies. The EPA suggests things such as: water, food, radio, flashlight, first aid kit, garbage bags, manual can opener, local maps, phone, etc.
- Write down emergency phone numbers and have them accessible
- Buy a fire extinguisher and know how to use it/where it is

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- Find out where the nearest shelter is and the different routes to it
 - Make sure your family is familiar with warning sirens of a hurricane
 - Make an evacuation plan and fill car gas tank
 - Cover your home's windows and bring in all outdoor furniture
 - Keep all trees and shrubs well trimmed
 - Know your area's flood risk

If a hurricane is detected in your area:

- Listen to the radio or TV
- Secure your home, close storm shutters and secure outdoor objects
- Know how to keep food safe
- Turn off propane tanks and have a reliable supply of water
- Avoid using phone, except in serious emergencies

Evacuate your home under the following conditions:

- You are directed by local authorities to do so
- You live in a mobile home or temporary structure
- You live in a high-rise building
- You live on the coast, floodplain, near a river, or island waterway

After a hurricane:

- Watch TV, listen to the radio or check the Internet for news
- Stay out of flood waters: water may be contaminated or electrically charged
- Stay alert of tornadoes and flooding
- Stay away from downed power lines
- Do not return to your home until local authorities say it is safe



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Winter



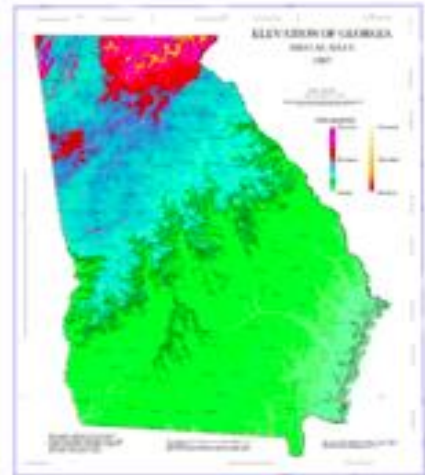
www.KATV.com

Winter in Georgia

Winters in Georgia are typically mild, but very diverse throughout the state, as warmer temperatures become cooler. We typically do not see snow or freezing rain in Georgia. However, it is not completely uncommon to encounter iced roads and cold winter storms. The high during winter is typically just below 60 degrees and the low is typically around 33 degrees. The northern region of this state experiences far colder winters than the southern regions. However, every region has experienced winter disasters that occur at freezing temperatures (National Data Climate Center, 2016).

Common issues seen in the winter:

- Snow
- Hail
- Heavy rain storms
- Freezing, strong winds
- Frozen pipe lines
- Iced roads
- Downed power lines



<http://csat.er.usgs.gov/>

What is a Winter Storm?

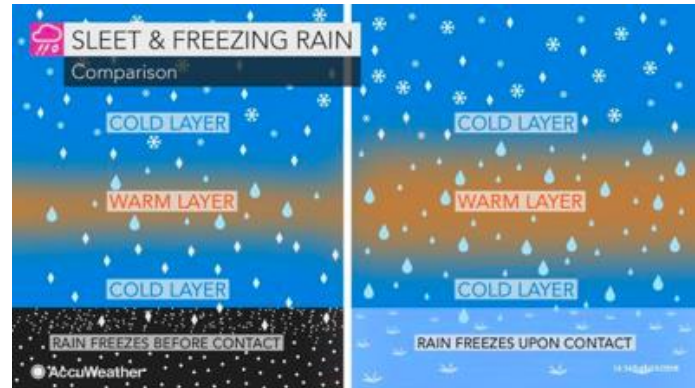
A winter storm refers to any type of storm where different types of precipitation occur due to low temperatures. Examples include snow, sleet, hail, and freezing rain.

Snow is a form of precipitation that happens when the temperature is below freezing point and constant from the clouds to the ground.

Sleet and freezing rain both happen due to varying temperature from the clouds to the ground. Sleet happens when the temperature becomes a little warm farther above ground, and then becomes

freezing right before hitting the ground, resulting in small ice fragments.

Freezing rain happens in the same process as sleet, but the section of warm air a much larger and closer to the ground, resulting in ice-like water droplets.



Hail is typically more common when the weather is above freezing and much warmer. Hail refers to huge pieces of hard ice. While each form of precipitation varies greatly, they are all dangerous (The National Severe Storms Laboratory, 2017).

www.accuweather.com

Home Safety

How to prepare your home:

- Insulate water pipes to keep them from freezing up
- Use a waterproof sealer to seal and insulate windows and doors
- Use precautionary window covers to cover glass windows
- Keep trees and other large objects, such as basketball goals, away from the home
- Prepare an emergency kit

- Refer to page 41 for how to set up an emergency kit
- (Centers for Disease Control and Prevention, 2019)

www.cdc.gov



Emergency Kits

Example of a Winter Storm Emergency Kit:

- Sufficient amount of water
- Non-perishable food items
- Can opener
- Battery-powered radio
- Flashlights and batteries
- Candles and water proof matches
- First aid kit
- Medicine

Home Winter Preparedness Checklist		
<input type="checkbox"/>  Select Foods See Additional Checklist	<input type="checkbox"/>  Warm Clothing Hats, Mittens, Parkas, Boots	<input type="checkbox"/>  Flashlights & Extra Batteries
<input type="checkbox"/>  Disposable Dishware Plates, Bowls, Utensils	<input type="checkbox"/>  Extra Blankets	<input type="checkbox"/>  First Aid Kit
<input type="checkbox"/>  Specialty Items Medi, Infant Formula, etc.	<input type="checkbox"/>  Matches For Candles & Gas Fireplaces	<input type="checkbox"/>  Cell Phone Fully Charged
<input type="checkbox"/>  Portable Radio AM/FM/Wx Radio & Batteries	<input type="checkbox"/>  Shovel/Snow Blower Check condition & maintain	<input type="checkbox"/>  Firewood For Wood Fireplaces

Additional Items to Add for Vehicles:

- Jumper cables
- Extra blankets
- Extra clothes
- Bottled water bottles
- Shovel
- Chains or rope

Vehicle Safety

Safety Precautions for Vehicles:

- Keep a spare winter emergency kit in the car
 - Refer to page 41 for how to set up an emergency kit
- Keep the gas tank at least half full at all times
- Make sure wipers are working properly and to their optimum strength
- Check all interior fluids of the car
- Shovel driveways for snow
- Get tires checked and changed before severe cold weather



If stuck in a Vehicle DURING a Winter Storm, You Should:

- Turn the car on every 10 minutes to keep the car warm and conserve gas
- Huddle in the back seat to keep warm
- Check on the exhaust pipe to make sure it isn't frozen every now and then
- Keep the window slightly cracked open when the car is turned on
- (National Weather Service, 2018)

www.weather.com



Frozen Pipes

How to Prevent Frozen Pipelines

- Turn on faucet slightly to let small droplets of water fall throughout the night to keep pipes from freezing up
- If pipe can be exposed to inside of the house, such as pipes under the sink, keep those cabinets open (National Weather Service, 2018).
- Keep the heater on
- Disconnect garden hoses from outdoor faucets
- Remember to insulate your pipelines before cold weather begins



www.thebalance.com

If Pipes are Already Frozen:

- Turn off the main water supply
- Use a hair dryer on the pipe to help thaw
- Do NOT apply too much heat to the pipe because it may burst
- Call a professional immediately
- (City of Newark, 2017).

Common Health Issues to Look out for:

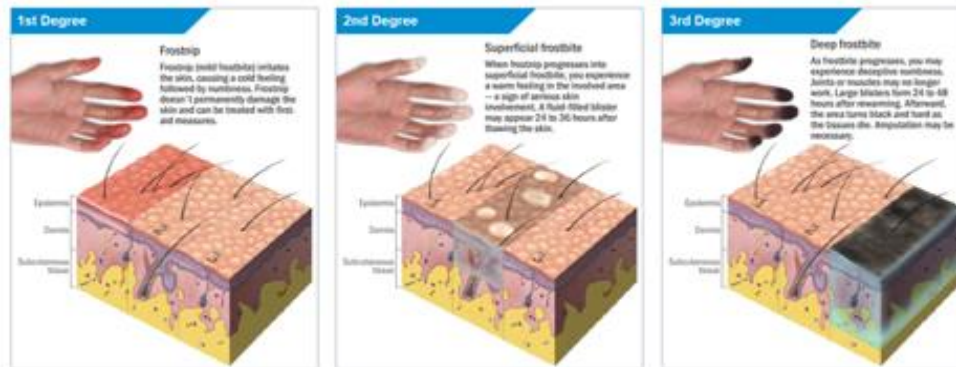
Frostbite

Frostbite is a condition where feelings of numbness occur in the face, toes, and fingers.

Symptoms:

- Red, white, blueish-white or grayish-yellow skin
- Fever
- Swelling
- Shivering
- Joint and muscle weakness

There are 3 stages of Frostbite:



www.offgridweb.com

What to do if someone is experiencing frostbite:

- Rewarm the skin using a warm bath
- Medicine for pain
- Important tips:
 - Do not let the tissues freeze again once warmed
 - Do not rub damaged skin

- Use warm, NOT hot water to warm skin
- (Verywell Health, 2018)

Hypothermia

Hypothermia is a condition where the temperature of the body becomes extremely low, below normal. This happens because the body is not producing enough heat to combat the cooler environmental temperatures.

Symptoms:

- Shivering
- Slurred speech
- Weak pulse
- Difficulty breathing
- Lack of energy
- Unconsciousness

MEDICAL ISSUES: 3 STAGES OF HYPOTHERMIA			
SYMPTOM	STAGE 1	STAGE 2	STAGE 3
Body Temperature	Drop of 2-3°F	Drop of 4-8°F	Below 90°F
Shivering	mild to strong	becomes violent	usually stops
Dexterity	hands become numb	movement slow & labored, uncoordinated	difficulty speaking, thinking, using hands, and walking
Respiration	quick and shallow	breathing continues to be difficult	pulse and respiration decreases

www.slideplayer.com

What to do if someone is experiencing Hypothermia:

- Remove the person from the cold into a warm, dry area
- Be gentle when moving the person
- Do NOT rub or massage them
- Change the person into dry clothes
- Lay the person on top of blankets and cover with blankets
- Monitor breathing
- If capable of sipping, give the person a warm drink, such as hot chocolate

- Soak a rag in warm water and compress the neck, chest wall, and groin. Do NOT compress the arms and legs.
- Keep monitoring temperature
- (Mayo Clinic, 2019)

Winter References

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Year Round



<https://www.dkfindout.com/us/earth/seasons/four-seasons/url>

Year Round Disasters

Disasters can strike at any time. Public health emergencies and terrorism are the two kinds of disasters that will be covered in this section

Public health is the promotion and protection of the health of a population. Public health emergencies can strike at any time, so it is important to know the signs and to always be prepared. The most common type of public health emergency that will be covered here are infectious disease threats. This manual covers information for botulism, Zika, Influenza, and measles.



<https://www.thelancet.com/series/evolutionary-public-health>

Always keep an eye on the local news to stay up to date on any outbreaks that may be occurring in your area. Be aware of any diseases that you or your family may be susceptible to due to location, environment, or genetics. Contact a medical provider if you have any questions or concerns. And finally, always practice healthy habits to promote a strong immune system (Georgia Emergency Department).

Botulism

Botulism is an illness that results when toxins attack the body nerves. Botulism can affect anyone. The toxins that cause botulism are the *Clostridium botulinum* and sometimes *Clostridium butyricum* and *Clostridium baratii* bacteria. These bacteria are found naturally in an everyday environment, but their spores can be dangerous. There are two common types of botulism: foodborne botulism and wound botulism that are discussed below (Centers for Disease Control and Prevention [CDC], 2019).

Foodborne Botulism Symptoms (CDC, 2019)

- Double or blurred vision
- Droopy eyelids
- Slurred speech
- Difficulty swallowing
- Difficulty breathing

Wound Botulism

Symptoms (CDC, 2019):

- Red and Swollen
- Pus
- Accompanied by fever



<https://www.everydayhealth.com>

Treatments (CDC, 2019)

Botulism can be treated by antitoxins which reduce the severity of the symptoms. The recovery process can be long and painful, but many people can recover on their own.

Botulism Prevention (CDC, 2019)

Most food botulism is a result of toxins in home canned, preserved, or fermented foods.

At-home botulism cases often occur from low acid home- canned foods. These foods include:

- Asparagus
- Green Beans
- Corn
- Potatoes

Food botulism can also result from manufactured foods such as :

- Canned garlic in oil
- Canned tomatoes
- Canned cheese sauce
- Carrot juice

Following safe home canning procedures recommended by the USDA can prevent botulism.

Additionally, properly treat for all wounds to prevent botulism through infection. Babies under the age of 12 months should never be fed honey (Georgia Emergency Department).

Anyone who suspects that they or someone they know may be exhibiting botulism symptoms should visit a doctor or emergency room immediately (CDC, 2019).

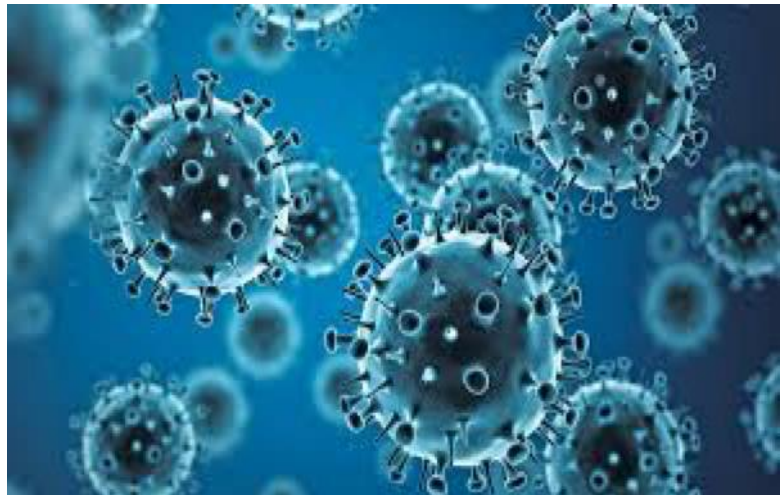
Seasonal Influenza

Influenza, more commonly known as the flu, is a respiratory illness caused by the influenza virus. This highly contagious illness can cause severe symptoms, hospitalization, and even death. Extreme health complications as a result of the flu are most common among young children, older adults, and people with certain health conditions. The seasonal flu occurs annually, peaking around December and February (CDC, 2018).

Symptoms (CDC, 2018)

- Fever or feeling feverish/chills
- Cough
- Sore throat
- Runny nose
- Muscle aches
- Headaches
- Fatigue
- Vomiting and diarrhea, though this is more common in

<https://respectfulinsolence.com>



Prevention (CDC, 2018)

The annual influenza vaccine is the best way to protect against severe consequences of the seasonal flu. It is important to receive a vaccination every year because the influenza virus is constantly changing. Everyone who is 6 months or older should receive the flu vaccination.

Pandemic Influenza

Pandemic influenza is the result of a new influenza A virus. The most recent Pandemic was the 2009 H1N1 Influenza Pandemic, taking the lives of over 12,000 people in the United States. Pandemic influenza is dangerous because the human population has little to no immunity to the new influenza virus. As a result, many strong and young people die (CDC, 2017).

Symptoms of Pandemic Influenza (Georgia emergency Department)

Children Symptoms

- Fast breathing
- Bluish skin color

Adults Symptoms

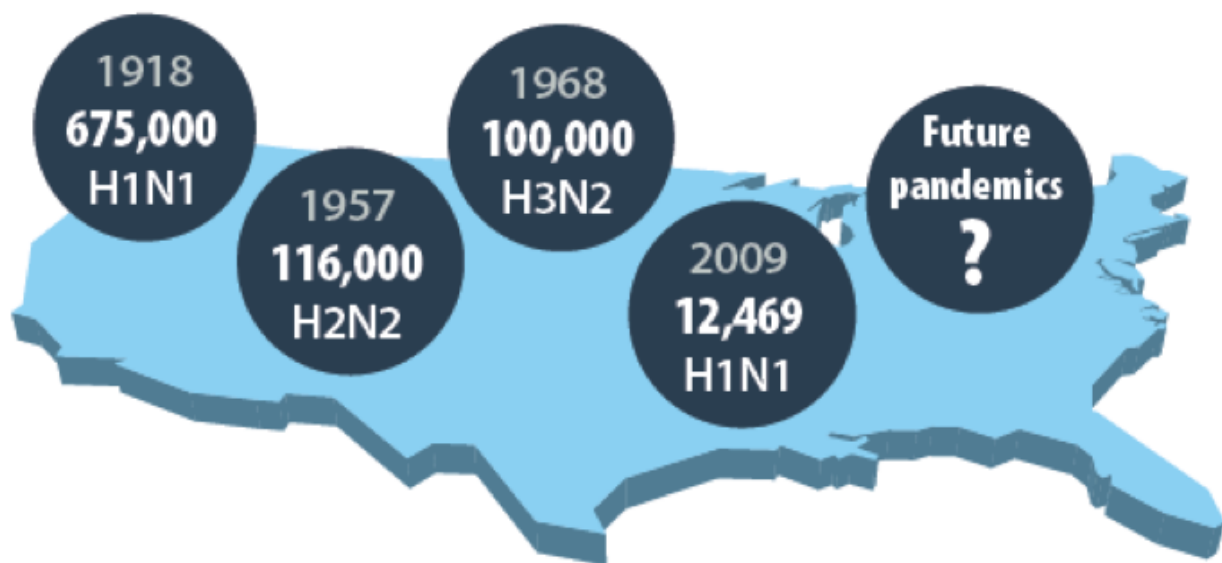
- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion

- Not drinking enough fluids
- Not waking up or not interacting
- Irritability
- Flu-like symptoms that improve but then return with fever and worse cough
- Fever with a rash

Pandemic Influenza Prevention and Treatment (CDC, 2017)

The seasonal flu vaccine does not protect against pandemic influenza. There government has a stockpile of potential influenza A vaccine that could be used in the even of a pandemic. If the pandemic influenza is not a part of the stockpile, it will take at least 6 months to produce a large quantity of the pandemic flu vaccine. The use of antiviral drugs can treat and prevent the spread of influenza (CDC, 2017).

Estimated U.S. deaths from pandemic flu



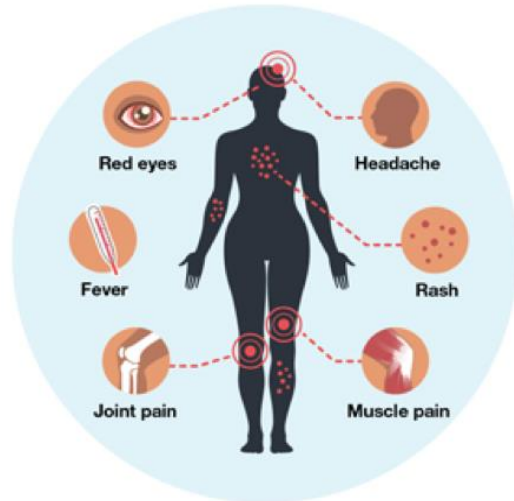
<https://www.cdc.gov/flu/pandemic-resources/>

ZIKA

Zika is a disease caused by ZIKV virus and transferred by infected *edes aegypti* and *Aedes albopictus* mosquitoes. US- based ZIKA cases are travel based and there have been no outbreaks (Georgia Emergency Management). The symptoms of ZIKA are very mild of often don't require hospitalization. Despite the non threatening outcome of ZIKA, it is still very dangerous because zika infectious during pregnancy can result in birth defects, birth complications, and microcephaly. United States residents should take precaution when traveling to areas that have ZIKA virus transmission(CDC, 2018).

Symptoms(Georgia Emergency Management)

- Fever
- Rash
- Joint pain
- Conjunctivitis



Transmission(CDC, 2018)

- Mosquito bites
- pregnant woman to fetus
- sex
- blood transfusions

<https://www.cdc.gov/zika/about/overview.html>

Prevention and Treatment

There is no current vaccine for Zika. Pregnant women should not travel to areas where outbreaks are occurring. If traveling to those areas, cover limbs and utilize bug spray(Georgia Emergency Management).

Measles

Measles, also known as Rubeola, is a very contagious airborne viral disease. Although it is no longer common in the United States, there have been several outbreaks in the past year, even in Georgia. (CDC, 2019).



<https://www.cdc.gov/mmwr>

Anyone who has not been vaccinated or has not completed their MMR vaccination is susceptible to measles. Children under 12 and immunocompromised people are at the highest risk for measles (CDC, 2019).

Symptoms (CDC, 2019)

- High fever
- Cough
- Runny nose
- Red, watery eyes
- After a few days, tiny white spots in the mouth

- After 3-5 days, a measles rash

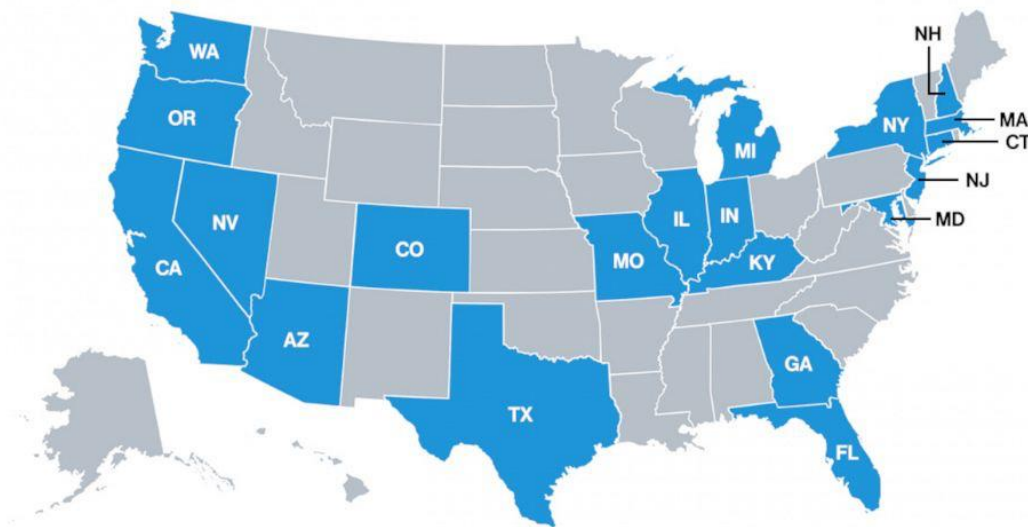
Prevention (CDC, 2019)

MMR vaccination . measles can easily be spread to unvaccinated individuals
Additionally to decrease the spread of measles, avoid contact and wash hands.

Outbreak (CDC, 2019)

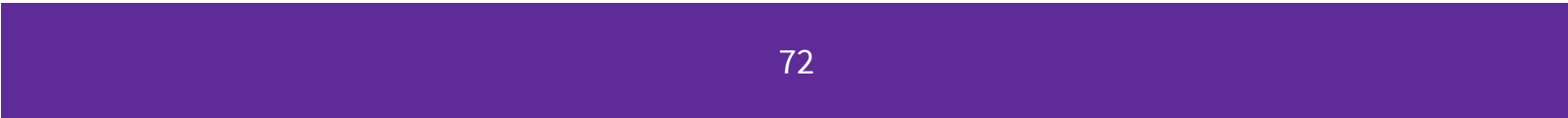
Measles is currently rare in Georgia, but there have been an increase of cases in the past year

STATES WITH MEASLES CASES IN 2019



SOURCE: Centers for Disease Control, as of April 11, 2019





Terrorism

A terrorist threat may happen at the most unexpected time, so it is important for Georgians to understand the signs and be prepared (Georgia Emergency Management).

Be aware of suspicious behaviors. This includes :(Georgia Emergency Management)

Surveillance: Video recording or monitoring activities, taking notes, using cameras, maps or binoculars near key facilities or events

Suspicious Questioning: Attempting to gain information in person, by phone, mail, email, etc. regarding a key facility or people who work there

Tests of Security: Testing physical security or procedures and a facility or event

Acquiring Supplies: Attempting to acquire suspicious or dangerous items such as explosives, weapons, chemicals, uniforms, identifications, or uniforms for facilities or events.

Suspicious Persons: Any people who may not seem to belong in that particular environment such as workplaces, neighborhood, and establishments.

“Dry Runs”: Behavior that could be preparation for an terrorist attack. This includes mapping routes, scenario roleplay, monitoring facilities and events, timing trafficking lights, etc.

Deploying Assets: Leaving items, such as vehicles, materials, or people abandoned and unattended near facilities or events.

Types of terrorist attacks

- Biological Threat
- Chemical Threat
- Nuclear Threat
- Radiation Threat
- Ricin



<https://komonews.com>

If You See Something, Say Something: Contact law enforcement if you suspect suspicious behavior. Even if you are unsure, a simple phone call could prevent a terrorist attack.

Public Health & Terrorism References

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Services for Disaster Relief

There are many services and outreach programs created in order to protect you and your family in the event disaster strikes in the state of Georgia. GEMA/HS (Georgia Emergency Management Agency & Homeland Security) is the state's preparedness, response, and recovery agency. They work with public and private sector organizations to prevent and respond to natural and man-made emergencies (Georgia Emergency Management Agency, 2019).

TRAINING

The first step in being ready to respond to an emergency is training. In partnership with various agencies, disaster training programs offer a variety of courses designed to help individuals and communities prepare for emergency events and become trained disaster volunteers (GAVOAD, 2019).

Some organizations with disaster training programs in Georgia:

- The Salvation Army- Georgia Unit
- Georgia Disaster Mental Health
- Georgia Emergency Management Agency
- American Institute of Architects
- American Red Cross
- Guardian Centers Georgia
- Georgia Public Safety Training Center
- Georgia Youth Preparedness Institute

FOOD SERVICE

When disaster strikes, one of the first signs that help is on the way is often the arrival of a mobile feeding unit, offering meals, snacks and drinks to rescue workers and survivors. Georgia has 21 mobile feeding units located across the state (“Emergency Disaster Services”, 2019).



<https://salvationarmygeorgia.org/ways-we-help/emergency-disaster-services/>

EMOTIONAL AND SPIRITUAL CARE

Often motivated by Christian faith, many religious organizations deploy specially trained individuals to offer emotional and spiritual care to rescue workers and disaster survivors (“Emergency Disaster Services”, 2019).



<https://salvationarmygeorgia.org/ways-we-help/emergency-disaster-services/>

EMERGENCY COMMUNICATIONS

The Salvation Army Team Emergency Radio Network (SATERN) includes a worldwide network of volunteer amateur radio operators and other communications specialists, who may be mobilized to transmit emergency information during a disaster event. During a major disaster, time is of the essence in letting families know their loved ones are safe. We locate survivors and provide information to their family and friends through SATERN (“Emergency Disaster Services”, 2019).



<https://salvationarmygeorgia.org/ways-we-help/emergency-disaster-services/>

DISASTER SOCIAL SERVICES

After a family has lost everything in a disaster, relief organizations are there to provide emergency assistance to help meet survivors' most urgent needs for food, clothing, shelter and medical services. Examples of disaster social services can include traumatic stress interventions, resource distribution, and psychological debriefing to oppressed and damaged individuals (GAVOAD, 2019).

DONATIONS MANAGEMENT

Each disaster is unique. Organizations determine what the biggest needs are and seek out individuals and organizations that can provide these items to survivors. This includes food, water, toiletry items, clothes, cleaning supplies, blankets, and much more. However, **monetary donations** are often the most effective and quickest way to support the emergency relief work ("Georgia Region", 2019).

RECOVERY

The Red Cross, FEMA, and The Salvation Army support long-term disaster recovery operations with flexible programming that is adaptable to the unique needs of individual communities, including short-term grants for medicine, groceries, and other pressing needs. When the road back to normal is a bit longer, there are partnerships with many agencies to give long-term financial help. (“Emergency Disaster Services”, 2019).

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