

YOU SHOULD BE READY!

**ALABAMA SEVERE WEATHER
AWARENESS WEEK
2010**



SEVERE WEATHER AWARENESS WEEK

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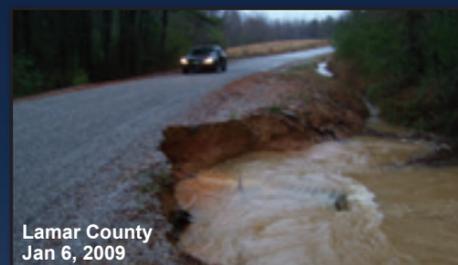
Governor Bob Riley has proclaimed Monday, February 22 through Friday, February 26, 2010, to be Severe Weather Awareness Week in Alabama. Alabamians are encouraged to learn and/or review the proper safety precautions necessary for protecting their lives during severe weather, particularly during this week.



Walker County
May 15, 2009

Throughout this week, the National Weather Service, Alabama Emergency Management Agency, and American Red Cross chapters in Alabama will be conducting educational activities to help people learn how to prevent injuries and deaths from lightning, wind, hail, tornadoes, and floods. Media outlets are encouraged to promote this week through articles, stories, and interviews to inform people about severe weather dangers and the proper safety precautions necessary for survival.

This booklet contains material on severe weather and ways to prepare for it. Lightning, wind, hail, tornadoes, and floods ALL pose a great danger to Alabama. Weather related disasters do occur annually from these phenomena. After nearly every weather disaster, the story is the same; people survived because they knew what to do! By taking a few minutes to learn or review severe weather safety procedures, you could save your life or someone else's.



Lamar County
Jan 6, 2009



Courtesy of Bill Wall
Taken July 21, 2008

Severe Weather Awareness Week in Alabama is an annual public awareness campaign to draw attention to severe weather preparedness. Since its inception by the National Weather Service following the April 3-4, 1974, super-outbreak of tornadoes, this week has been observed each year as part of a continuing commitment to improve severe weather awareness. The National Weather Service has traditionally led this campaign, but additional partners have joined to improve and expand this effort to reach Alabamians with this important information.

MESSAGES FROM THE NWS AND AEMA

Over the past few years, Alabama has experienced many weather extremes. We've seen it all, from the 2005 Hurricane season where three out of the first four named storms directly impacted Alabama and Hurricane Katrina made landfall in September, to the horrific drought of 2007 and the extreme statewide rainfall in 2009, and even the record-breaking cold in early 2010. Severe weather is extreme as well, just on a smaller time scale. From sunny and cool on one day, to large hail and tornadoes the next. One storm produces some light rain while another floods out roads and homes. In Alabama, we see it all, and YOU need to ensure you're prepared. As you go through this book, carefully read the safety tips. YOU know severe weather will happen this year. YOU SHOULD BE READY!

Jim Stefkovich, Meteorologist-In-Charge
National Weather Service, Birmingham



The third week in January 2010, Huntsville, AL was severely impacted by an EF-2 tornado. The destruction created by this event serves as a reminder that Alabama can experience severe weather at anytime. Typically we expect the height of severe weather during spring months and a secondary height in November. In 2009, Alabama received five presidential disaster declarations from the Federal Emergency Management Agency for severe weather events across the state. Overall, Alabama ranks 7th in the nation for presidential disaster declarations. At the Alabama Emergency Management Agency (AEMA), we realize we live in a state prone to natural and man-made disasters. For that reason we work hard to increase citizen preparedness by creating tools such as our website to help citizens better understand their risks and the potential hazards their community faces. I encourage you and your family to use the "Risk Analysis Tool" and take the preparedness survey at www.ema.alabama.gov. On this site, you can learn how to create an emergency preparedness kit, find contact information for your local EMA office, and view current



Brock Long, Director
Alabama EMA, Clanton

weather watches and warnings under the "Situational Awareness" tab. It is our mission to be Alabama's coordinating agency for disaster preparedness, response and recovery. You can help us by making sure you are ready at home and in your communities.

SPECIAL THANKS TO OUR PARTNERS

To recognize their commitment to public service and safety, the National Weather Service extends a special thanks to those contributing to the 2010 edition of the Alabama Severe Weather Awareness Week Booklet:



Additional thanks to Perry County for their contribution as well.

AWARENESS AND PREPAREDNESS...

Preparing for severe weather is the theme of Severe Weather Awareness Week, so how do we go about it? Preparedness plans come in all sizes as dictated by individual and collective needs. Do you know the basic safety rules? Would your children know what to do if home alone? Are plans ready to move elderly or disabled people to shelter quickly? Do you know what the safety plans are at school, work, the local shopping center, recreational facilities, etc.?

Basic severe weather preparedness plans must include:

- 1) A thorough knowledge of safety rules.
- 2) Designation of the best available protective area.
- 3) A reliable method of communication to receive and exchange information.
- 4) An emergency supply kit.
- 5) Drills to test and practice the plan.

Contact your local emergency management agency, National Weather Service office, or American Red Cross chapter for additional weather safety information.

Be Red Cross Ready...

Being prepared for emergencies is crucial at home, work, school, and in your community. Disaster can strike quickly and without warning. It can force you to evacuate your neighborhood, workplace, or school; or confine you to your home. What would you do if basic services - water, gas, electricity, telephones - were cut off? Local officials and relief workers will be on the scene after a disaster, but they cannot reach everyone right away. You and your family should be prepared before disaster strikes. The Red Cross encourages you to:

-Get an emergency kit with essential supplies for the entire family and emergency items such as flashlights, batteries, blankets, a portable radio, food and bottled water for three days for each person, and a first aid kit. Examples of an emergency kit and portable radio are shown here.

-Make and practice an evacuation plan as a family, including escape routes and a predetermined meeting place. Include pets in your plan. Learn when and how to turn off utilities and to use life-saving tools such as fire extinguishers. Everyone should know where emergency information and supplies are stored.

-Be informed about your area. Get emergency information from NOAA Weather Radio All-Hazards, local television and radio stations, cell phones/text messages, or local warning systems. Know which type of severe weather is common to your area. Take action when needed by assessing the situation, calling 911 if someone is injured, and administering first aid, if needed.

Learn more information about disaster training and emergency supply kits at www.birminghamredcross.org or www.redcross.org.



...BEFORE THE STORM

Resolve to be Ready in 2010 - With the New Year comes the inevitable urge to make ambitious resolutions for 2010. High on people's lists should be a determination to become better prepared for emergencies. Jefferson County Citizen Corps Council, along with other Citizens Corps Councils throughout the State, urges all Alabama Citizens to prepare for all emergencies whether man-made or natural.

Looking back at 2009, we see the importance of preparedness as we recall the variety of severe weather that occurred across Alabama.

All too often, people take the assistance of first responders for granted.

They assume that first responders will routinely ride to the rescue, arriving in time to meet human needs. Unfortunately such a benign outcome cannot be guaranteed, and a host of obstacles can delay their arrival.

Thus, preparedness is everyone's responsibility. Individuals and families must take preparedness measures of their own ahead of time, measures that can enable them to respond safely and faster when an emergency occurs.

The Emergency Management Agencies and County Citizen Corps Councils across the state encourage you to visit www.ready.gov or call your local Emergency Management office to learn how to prepare your families, homes, and businesses for all types of emergencies.

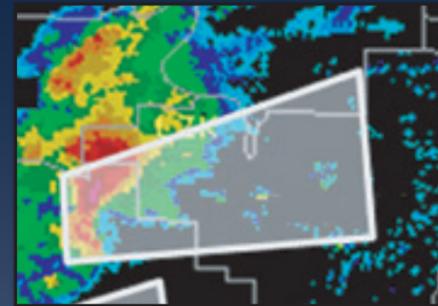


NATIONAL WEATHER SERVICE WATCHES AND WARNINGS

Although radar, satellite, and computer systems continue to improve, if you do not know what to do or where to go during severe weather, watches and warnings are not effective! Remember, severe weather can develop rapidly and advance warning time may only be a few minutes. When severe weather is imminent, you should execute your safety plan calmly and quickly.

A **Watch** means that conditions are favorable for severe thunderstorm, tornado, or flash flood development. This is the time to be weather-aware. You should keep alert by listening to your weather radio, a television or radio station, or check the NWS webpage for the latest weather information. Know where your children are. Recall your safety plan. Be aware of where to go and what to do if a severe thunderstorm, tornado, or flash flood threatens. A watch typically covers a large area and has a four to six hour duration. An example of a severe thunderstorm watch is pictured to the right.

A **Warning** means a severe thunderstorm, tornado, or flash flood has been sighted or indicated by radar. People in the path of the storm should take immediate life-saving actions. Put your safety plan into action. Go to your predetermined shelter area. Warnings are valid for 30 minutes to an hour and can cover portions of one or more counties. To the left is an example of a storm-based tornado warning.



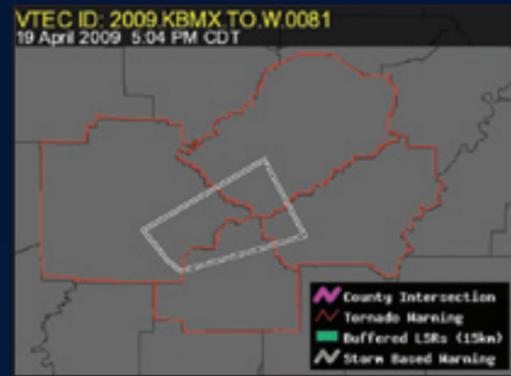
POLYGON WARNINGS - WHAT ARE THEY ALL ABOUT?

Have you ever heard a tornado siren blaring and looked up to see nothing but blue sky overhead? That may be because somewhere in your county there is a real threat for severe weather, but not for your neighborhood. No doubt you have seen severe thunderstorm or tornado warning polygons on television broadcasts or on the internet. So, just what are those polygons, and what do they mean for you?

In the past, severe thunderstorm, tornado, and flash flood warnings were issued for entire counties. On October 1, 2007, the National Weather Service began issuing warnings in the shape of a polygon, which are intended to warn only the locations and people inside the polygon of impending severe weather.

Warning polygons represent state of the art NWS capabilities and understanding of severe weather, which enables us to specify the locations that are most likely to be affected by a severe thunderstorm, flash flood or tornado. Our forecasters are continually monitoring the radar, following storms and watching for signs that the storm may be trouble. At the point which most storms become severe, forecasters have been following them for a while and know where the storms will track and how they will behave. Based on this information, NWS forecasters then draw a polygon that defines the locations that are threatened by the storm.

In the example seen here, the NWS issued a tornado warning at 5:04 PM on April 19th, 2009. Notice that while the warning affects the four counties of Tuscaloosa, Jefferson, Bibb, and Shelby (outlined in red), the area within those four counties defined by the warning polygon (outlined in white) is much smaller. The total warned area was decreased from 3879 square miles to 508 square miles, a reduction of 87%! It just so happens that for this warning, the cities of Tuscaloosa and Birmingham are NOT included in the warning.



So what does this mean for you? Well, when the sirens sound or you become aware of a severe weather warning for your area, you need to act quickly! If it is dark and ominous, go to your shelter immediately. If the sun is out or the weather is benign, tune to your NOAA Weather Radio All-Hazards or your favorite local media outlet to get more details on the storm.

It is our goal that only those inside the polygon should take action. As technology in outdoor sirens and personal warning devices advances, we hope to minimize your personal false alarm rate, or the number of times you are alerted for impending severe weather when it does not actually affect your location. If ever in doubt over whether you are at risk, seek additional weather information immediately.



THE VOICE OF THE NATIONAL WEATHER SERVICE

NOAA Weather Radio All Hazards (NWR), the voice of the National Weather Service (NWS), provides updated weather information continuously, 24 hours a day, 365 days a year. Watches, warnings, advisories, forecasts, current weather conditions, and climate data are broadcast in three to five minute cycles on NWR stations across the nation.

To listen to NWR broadcasts, a special radio capable of receiving signals in the Very High Frequency (VHF) public service radio band is required. Seven frequencies from 162.400 to 162.550 megahertz (MHz) are used. Weather radios can be purchased at most electronics stores and online. Prices of these radios vary from location to location and depend on the type of radio purchased.



The map to the left shows the names and locations of all NOAA Weather Radio transmitters located in the state of Alabama. Transmitters shown in yellow are maintained by NWS Huntsville, those in red by NWS Birmingham, and those in blue by NWS Mobile.

The names of each of the 67 counties have been included on the map, as well as the SAME codes for each county.

For SAME codes for the rest of the United States and marine areas visit:
www.nws.noaa.gov/nwr/indexnw.htm

NOAA Weather Radio All Hazards is useful anytime, but it becomes more important during severe weather. During threatening weather, normal broadcasts are interrupted, and the focus is shifted to the local severe weather threat. Watches and warnings are given the highest priority and are frequently updated.

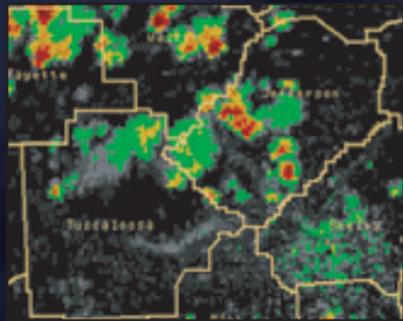
NWR is a major part of the Emergency Alert System (EAS) that disseminates critical warning information rapidly through commercial broadcast outlets. In an emergency, each NWR station will transmit a warning alarm tone signal followed by information on the emergency situation. This signal is capable of activating specially designed receivers by increasing the volume or producing a visual and/or audible alarm. Though not all weather band receivers have this capability, all weather radios can receive the emergency broadcasts.

The warning alarm device is normally tested each Wednesday between 11 AM and Noon, weather permitting.

THUNDERSTORMS

Thunderstorms are a common occurrence in Alabama, producing damaging winds, heavy rainfall, hail and tornadoes. Severe thunderstorms are more frequent during the active severe weather months of the spring and fall, but can occur anytime of the year, at any time of day.

What exactly makes a thunderstorm “severe”? One of several things: a tornado, winds at or above 58 mph, or quarter-size (one inch diameter) hail or larger. Several different types of thunderstorms exist; all are capable of becoming severe.



Single cell thunderstorms usually occur during the summer months when the air is warm, moist, and unstable, and winds are weak. These thunderstorms, also known as pulse or airmass storms, form as individual cells or unorganized clusters of thunderstorms and have little to no movement.



Multicell thunderstorms and squall lines are organized complexes of thunderstorms that cover large areas. These storms are more likely to produce severe weather, particularly damaging winds, since they move rapidly across an area. Tornadoes, hail and flash flooding are also possible.



Supercell thunderstorms are the strongest and most dangerous form of thunderstorms. They can produce long-lived tornadoes, winds in excess of 100 mph, and large hail. Fortunately, these storms are not common and usually cover small areas.

The best defense against thunderstorms is to stay inside a substantial building or shelter that will protect you from lightning, wind, hail, tornadoes, and heavy rain. Fortunately, thunderstorms generally pass within an hour. When thunderstorms are expected, stay tuned to your NOAA Weather Radio All Hazards for up to date information. Postpone outdoor activities. Recall your weather safety plan and be ready to take action!

LIGHTNING

All thunderstorms contain lightning, and although not considered a requirement for a severe thunderstorm, it is very dangerous. From 1995 to 2009 in Alabama, approximately 129 injuries and 23 deaths have been attributed to this underrated killer. Lightning strikes Earth over 20 million times a year. It will follow a path of least resistance, typically striking the tallest object in a given area. This could be you, a power pole, or an isolated tree in an open field. Lightning can also travel great distances, striking as far away as 10 miles from the parent thunderstorm. You could be struck well before or after the other effects of a thunderstorm pass your area. You could be struck even if it does not rain!



Courtesy of Bill Wall
Taken March 15, 2008



Courtesy of Bill Wall
Taken May 15, 2009

Anyone outdoors is particularly vulnerable to lightning. Each person, group or school involved in outdoor activities should have a plan that can be activated quickly when lightning threatens. You should take shelter in a sturdy, enclosed building. Sheds, dugouts, tents and gazebos are not safe. Avoid open spaces, isolated objects, and high ground. Avoid metallic objects such as fences, pipes, power poles, and bikes. Take cover in a hard top automobile, keeping windows up and doors closed. Get out of boats and away from bodies of water.

Once indoors, stay away from windows, doors, and off porches. Avoid contact with any plumbing and electrical items, including TVs and computers. Do not use corded phones, except for emergencies. Do not lie on concrete floors or lean against concrete walls. Remember to bring pets indoors.



Courtesy of Bill Wall
Taken May 15, 2009

Remember, if you can hear thunder, you are close enough to a storm to be struck by lightning. For more information on lightning safety, visit www.lightningsafety.noaa.gov.

TORNADOES

Tornadoes are violently rotating columns of air that descend from thunderstorm clouds and make contact with the ground. They typically develop when the right atmospheric ingredients come together, including warm, moist, unstable air near the surface; cooler, dry air aloft; and strong, atmospheric winds, increasing with height. All thunderstorms can produce tornadoes, but they are most likely to develop within supercells.



Courtesy of Kenny Griffin
Marshall County, Apr 10, 2009

In Alabama, most tornadoes occur during two peak severe weather seasons. The spring severe weather season spans March, April, and May. The fall severe weather season includes November and early December. Tornadoes typically develop during the warmest part of the day, but are possible any hour of the day or night, and during any month of the year (see graphs on page 17). Alabamians are encouraged to be prepared when there is any potential for tornadoes.

Tornadoes come in different sizes, from narrow rope-like swirls to large wedge-like funnels. They have wind speeds that vary from as little as 65 mph to speeds over 200 mph and move with the thunderstorms that produce them, with forward speeds ranging from nearly stationary to 70 mph. Most tornadoes travel from the southwest toward the northeast. In Alabama, tornadoes are often rain-wrapped and hidden or obscured by terrain. This makes them more dangerous.

Remember, tornadoes form quickly! You may have only a few seconds to react and find shelter. When a tornado threatens, your immediate actions can save your life! Know what to do and where to go! Be Calm, Smart, and Safe.

TORNADO SAFETY

IN HOMES OR SMALL BUILDINGS:

Go to a pre-determined shelter, such as a basement. Get under something sturdy like a heavy table, if available. Protect yourself from flying debris with pillows, heavy coats, blankets, or quilts. Use bicycle or motorcycle helmets to protect your head.

If an underground shelter is not available, go to a small interior room, such as a closet, bathroom, or interior hallway, on the lowest level. Put as many walls between you and the outside as possible. Stay away from windows and doors.



Courtesy of Shelby County EMA



Courtesy of Shelby County EMA

IN MOBILE HOMES:

Leave well in advance of approaching severe weather and go to a strong building. If there is no shelter nearby, get into the nearest ditch, depression, or underground culvert and lie flat with your hands shielding your head.

IN PUBLIC BUILDINGS:

Go to the best available, predesignated, protective area. Basements are best, but interior locations on the lowest level also offer protection. Stay away from windows and other hazards inherent to the building.

DAMAGING WIND

Each year in Alabama, damaging wind events occur ten to 20 times more often than tornadoes. Often times, initial storm reports erroneously attribute significant damage to tornadoes when actually strong, straight-line winds are responsible. Straight-line winds are damaging winds from a thunderstorm which are not associated with rotation. These winds can reach speeds above 100 mph with a damage path extending many miles. Trees and power lines can be knocked down. Mobile homes over turned. Well-built structures, such as homes and office buildings, damaged.

A downburst is one type of damaging, straight-line wind, which typically occurs during the summer months in single-cell afternoon thunderstorms. Downbursts develop quickly and are very difficult to detect. They can occur with little or no advance notice and can be accompanied by a loud roar. As a result, downbursts are often mistaken as tornadoes. Wind speeds associated with downbursts usually exceed 60 mph and rarely exceed 100 mph. Microbursts, spatially small downbursts, can produce bursts of winds stronger than 100 mph.

The combination of warm, moist, unstable air near the surface and cold, dry air at mid levels of the atmosphere provides favorable conditions for downbursts to develop. When heavy precipitation falls in a thunderstorm, dense, rain-cooled air is pulled downward toward the ground. This downward rush of air creates a downburst. As the air impacts the ground, it spreads out laterally causing gusty winds. If the winds are strong enough, isolated areas of significant damage can occur.



Jackson County
Apr 12, 2009



Cullman County
Apr 4, 2008



HAIL

Although hail forms in every thunderstorm, it only reaches the ground if atmospheric conditions are favorable. Hail typically has the best chance of falling to the ground in springtime thunderstorms, when the atmosphere is colder, especially at mid and high levels. Hail may take on many different sizes and shapes, such as a thin flat penny or a baseball.

Large hail can be very dangerous. It can cause damage to objects, such as motor vehicles, structures, and trees. Bodily injuries, or even deaths, can result if people are caught outdoors when large hail occurs.

Beginning January 2010, the severe warning criteria for hail size will increase to one inch (the size of a quarter) or larger.



Tallapoosa County
Apr 10, 2009



Dallas County
Feb 18, 2009

FLOODING

Alabama is susceptible to flooding year-round due to its proximity to the Gulf of Mexico and the nearly unlimited supply of moisture it provides. When storm systems move into the area and combine with this moisture, resulting heavy rainfall can produce flooding. This can occur from large storm systems, decaying tropical systems or slow-moving, summertime thunderstorms, which produce large amounts of rainfall in a short amount of time.

Flash floods often occur within minutes or hours of heavy rainfall or a dam failure. The rapidly rising water can destroy structures and bridges, down trees, create new waterways and trigger catastrophic mudslides. Areas most prone to flash floods are urban areas, small streams and rivers, culverts, and storm drains. Urbanization increases water runoff two to six times over what would occur in natural terrain. This causes streets and parking lots to become swift moving rivers, and basements and building ground floors to quickly fill with water.



Escambia County
Dec 14, 2009

Flooding can also occur when the water level of a river, stream, or lake increases. This can happen when spring or winter rains fill the basin with too much water too quickly. Other events occur from slow moving storm systems or decaying tropical systems. Water overflows the river banks into low lying areas and can last for several days or weeks.



Before and after pictures of Walnut Creek in Chilton County. Waters quickly rise above bank full and spread into nearby fields during flood events. Note the roadway in the before picture is now completely under water. Photos provided by John Simon.

FLOOD SAFETY

Flooding is the most damaging, costly, and deadly severe weather-related phenomena, costing the United States over \$5 billion in property damage annually. On average, flooding is responsible for more deaths each year than lightning or tornadoes. How are you going to be ready?

Know what to listen for.

A Flash Flood or Flood Watch means conditions are favorable for sudden short-term (less than 6 hours) flooding or long duration (longer than 6 hours) flooding, respectively. A Flash Flood or Flood Warning means flooding conditions are imminent and you should take action immediately. A River Flood Warning is issued when river, stream or lake levels are expected to rise above bankfull.



Courtesy of Michael Amberson
Etowah County, Jan 7, 2009

Move to higher ground away from low-lying areas, storm drains, and stream beds. Do not return to flooded areas. Flood waters carry debris that could cause serious injury or death. Water could be moving very quickly just below the surface. Only 6 inches of fast-moving water can knock an adult over. Children should not be allowed to play or walk near flowing water.

Never drive across flooded roadways or around barricades.

Flood waters can rise very quickly, covering your vehicle or sweeping it downstream. Just two feet of water can move most vehicles, including trucks and large SUVs. Road surfaces could be washed away or large debris might be located below the surface. If your vehicle is caught in rising water, abandon it immediately and seek higher ground.



Montgomery County
May 7, 2009



Courtesy of Matthew Romei
Jefferson County, Sept 19, 2009

Be especially cautious at night, when it is harder to recognize flood dangers.

MAY 2009 FLASH FLOOD EVENT

Torrential rain caused severe flash flooding in Montgomery and surrounding areas on May 7, 2009. During the early morning hours on this Thursday, an area of thunderstorms moved into northern Elmore and Autauga counties. As the thunderstorms continued southeast into Montgomery, Macon and Bullock counties over the next few hours, additional storms redeveloped upstream in Autauga and Elmore counties and moved southeast across areas already drenched from heavy rainfall. This pattern produced very severe flash flooding, encompassing areas in and near Wetumpka and Montgomery.



Widespread rainfall totals of six to eight inches, with local amounts in excess of 10 inches, occurred in less than six hours, producing widespread severe flash flooding. One fatality from drowning occurred in Montgomery when a man attempted to drive across a flooded street. He was swept away by flood waters while rescuers tried to save him.



Courtesy of Tim Lennox

Numerous roads and highways were closed due to flooding, with many culverts and bridges washed out across the area. Flooding of homes occurred in several areas, including parts of Coosada, Millbrook and Montgomery. The Alabama state legislature had to abandon the statehouse as water filled the basement and forced power to be turned off in the building.

Damage estimates indicated 7.4 million dollars in damage in these areas. This included 4.9 million dollars in Elmore county, primarily to county roads and city streets, and 1.8 million dollars in the greater Montgomery area. Autauga county damage was estimated at over half a million dollars, primarily to drainage ditches, while Bullock county suffered over \$100,000 in damages from heavy rainfall.



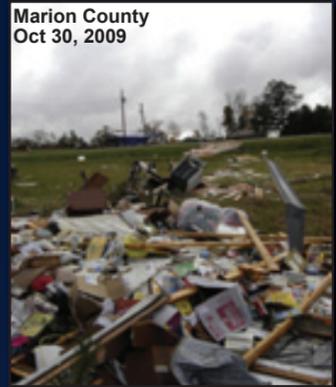
SAFETY AFTER THE STORM

Safety does not stop after the storm has passed. Everyone should be aware of the many dangers that might exist after bad weather has moved out of the area.

- Remain calm and locate your emergency supply kit containing essential first aid materials, blankets, and bottled water. Visit the American Red Cross webpage at www.redcross.org for a complete list of items for your supply kit.
- Promptly treat any injuries you or your family suffered during the event.
- Check neighbors for injuries. Call for medical assistance. Do not move seriously injured people, unless they are in immediate danger of further injury.
- Wear sturdy shoes or boots, long sleeves, and gloves when inspecting your home or business for damage or when handling debris. Be aware of exposed nails, broken glass, and weakened trees and tree limbs.
- Do not light matches, burn candles, or turn on electrical switches if you suspect damage to your home or business. Any of these actions can ignite fires. Use a flashlight or battery powered lantern.
- Do not touch downed powerlines or objects in contact with downed powerlines. Keep children and pets a safe distance away. Report electrical hazards to the police and the utility company.
- If there is frayed wiring or sparks, or an odor of something burning, shut off the electrical system at the main circuit breaker.
- If you smell gas or suspect a leak, turn off the main gas valve, open all windows, and leave the house immediately. Notify the gas company and the police or fire departments. Do not do anything that could cause a spark. Do not return to the house until you are told it is safe to do so.
- Clean up or rope off dangerous areas.
- Remember to care for pets after a disaster has occurred.



Lee County
Feb 28, 2009



Marion County
Oct 30, 2009



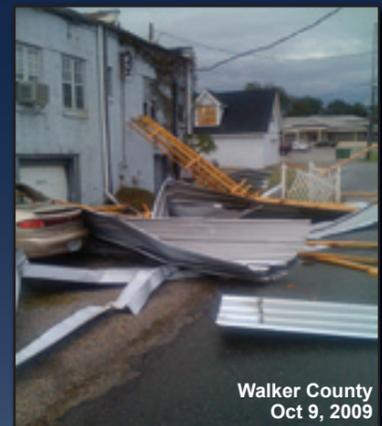
Washington County
Jan 10, 2009



Russell County
Apr 19, 2009



Randolph County
Oct 12, 2009



Walker County
Oct 9, 2009

2009 - ALABAMA YEAR IN REVIEW

In Alabama, tornadoes, thunderstorm wind damage, severe hail, and/or flash floods were reported on 99 days in 2009. The number of severe weather days increased by 10 compared to 2008. Severe weather stats from 2009 and total number of severe weather warnings issued by the National Weather Service for these events are shown below.

SEVERE WEATHER STATS

Seventy-two tornadoes were reported on 22 days in 2009 (compared to 93 tornadoes on 21 days in 2008).

Thunderstorm wind damage was reported on 71 days (compared to 65 days in 2008).

Severe hail was reported on 38 days (compared to 45 days in 2008).

Flash floods were reported on 56 days (compared to 28 days in 2008).

Warnings Issued for Alabama by the National Weather Service:

Tornado Warnings - 296 (401 in 2008)

Severe Thunderstorm Warnings - 966 (958 in 2008)

Flash Flood Warnings - 281 (71 in 2008)

Total - 1543 (1430 in 2008)

The National Weather Service does not issue warnings for lightning because all thunderstorms contain lightning. In 2009, there were at least a dozen reports of structural damage caused by lightning, with most of the damage caused by strikes that resulted in fires. Three homes were completely destroyed by fire. Across the state, two people were injured from lightning strikes, and one person was killed after being struck by lightning in Atmore, AL.

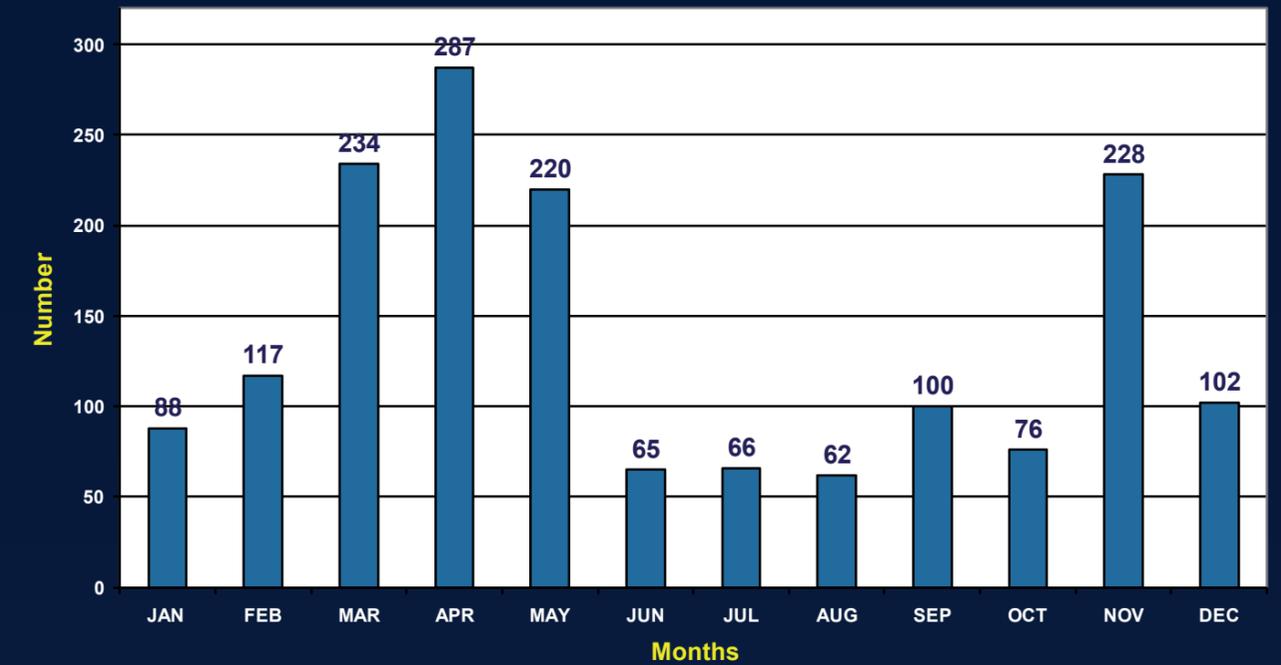
2009 was a very active year across Alabama. Despite having fewer tornadoes than 2008, the number of tornadoes was still above average. Most of these tornadoes occurred during a very active spring season; which is the primary severe weather season here in Alabama, covering the period from March through May.



Flash flooding presented a major problem across much of the state at various times last year. The total number of flash flooding days doubled from that in 2008. Many cities and towns throughout the state dealt with major flooding issues, from extreme rainfall accumulations over a short duration, to prolonged periods of rainfall that lasted for several days; both leading to rivers and streams cresting well above their banks. During many events, numerous road closures occurred and many homes and businesses were flooded.

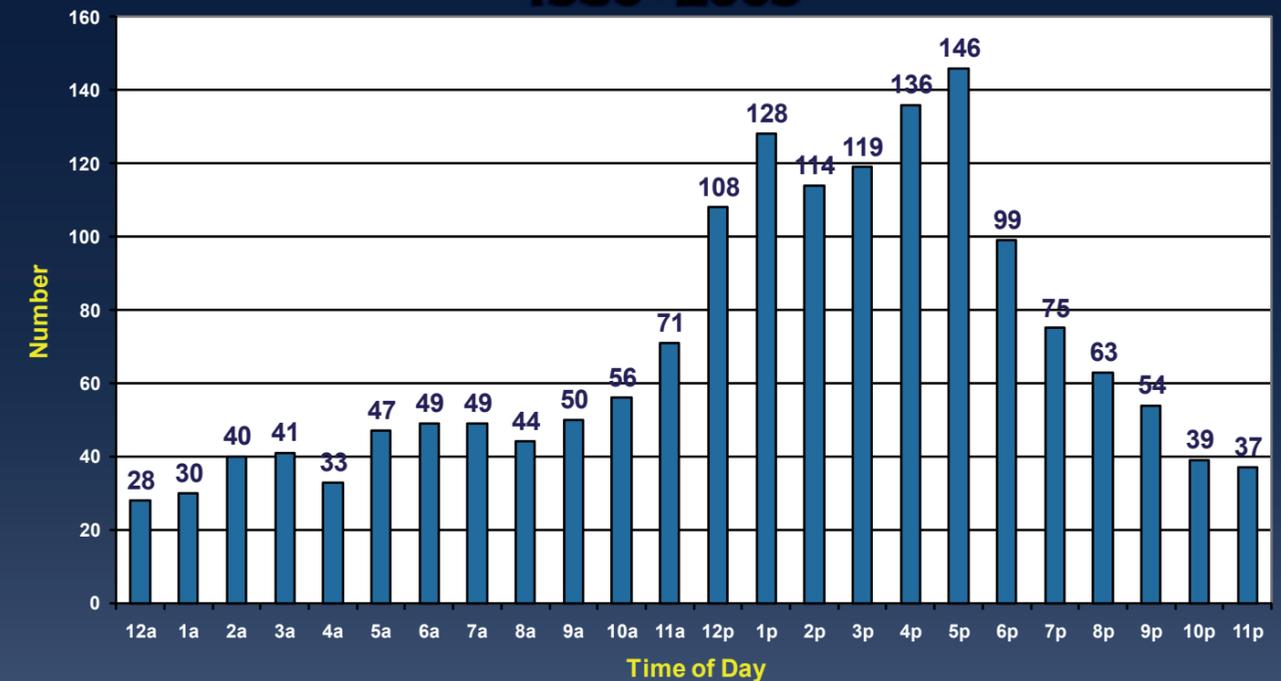
TORNADOES BY MONTH IN ALABAMA

1950 - 2009

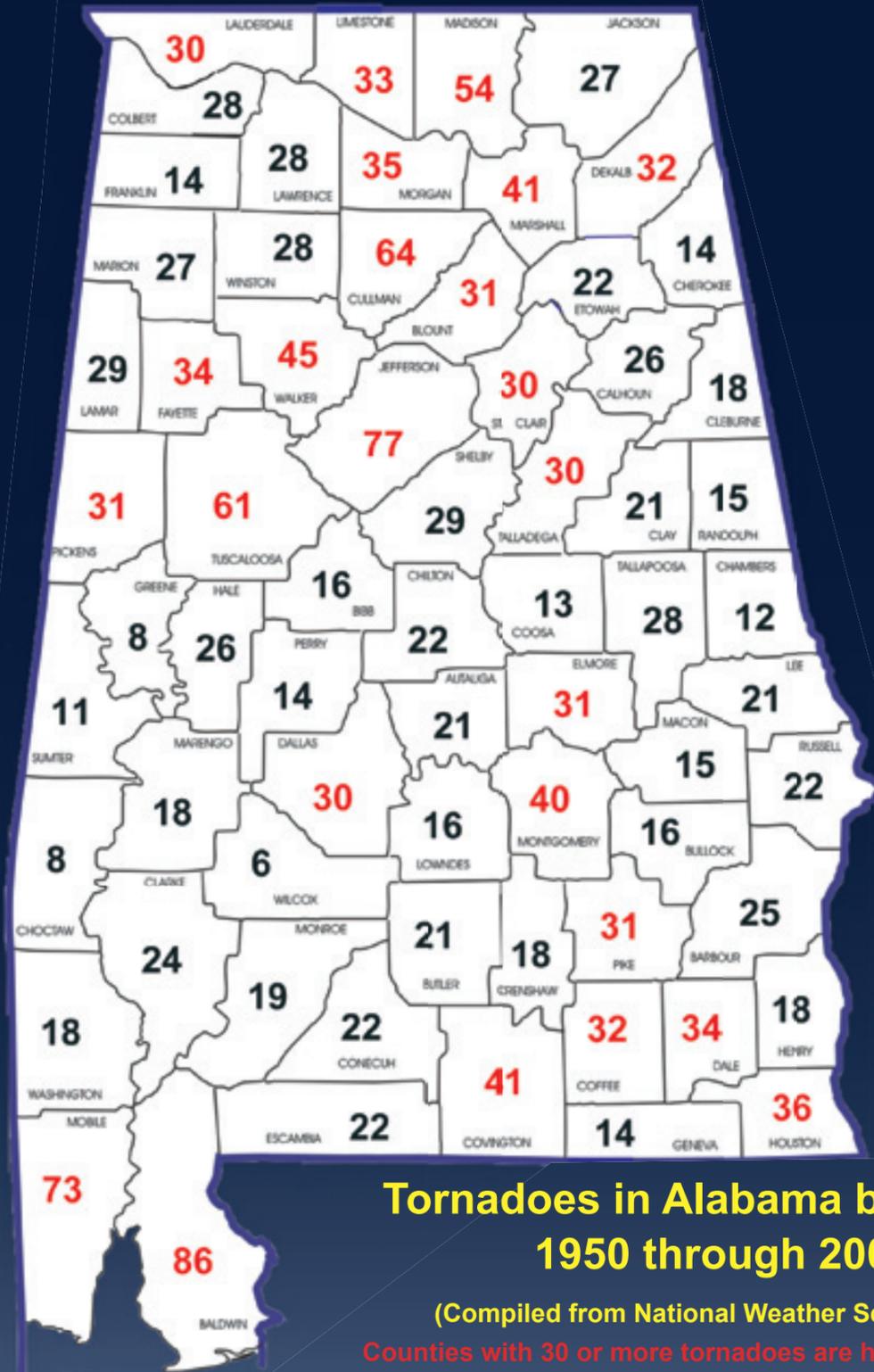


TORNADOES BY HOUR IN ALABAMA

1950 - 2009



TORNADOES BY COUNTY IN ALABAMA



Tornadoes in Alabama by County 1950 through 2009

(Compiled from National Weather Service data)

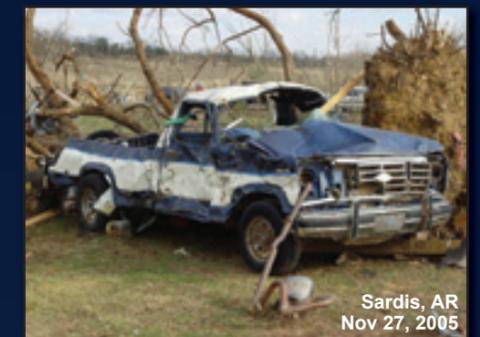
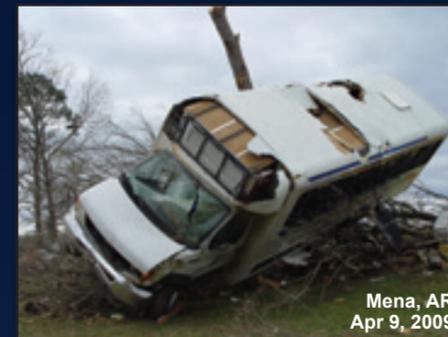
Counties with 30 or more tornadoes are highlighted in red.

CAR VS. DITCH - NO GOOD ANSWERS

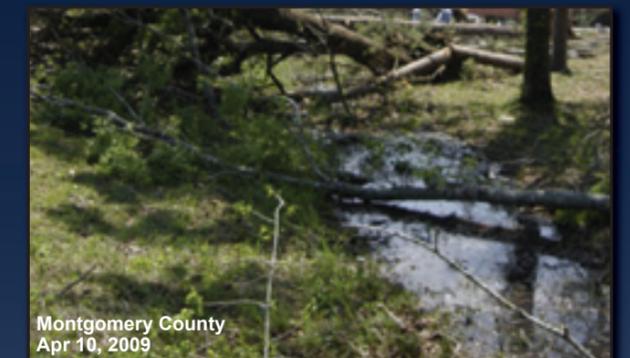
Recently, the American Red Cross and the National Weather Service revised the tornado safety rules regarding what to do if you are in your car and a tornado approaches.



While a car offers the possibility of actually escaping a tornado, and may offer some protection from weaker tornadoes, there are factors that point against that advice. This strategy depends on accurately determining the motion of the tornado, and then actually finding an escape route that will take you away from danger. Of course, your safety then depends on you and the other vehicles driving safely in a high stress situation! While it is estimated that it would take winds of over 115 mph to overturn most cars, there is still a danger of flying debris, as well as breaking glass. Finally, it is virtually impossible to determine the strength of a tornado just by looking at it. We have all seen pictures of cars such as these that have been damaged nearly beyond recognition.



On the other hand, the option of leaving your vehicle and finding a ditch is also not without its own limitations. There are dangers such as running across rough terrain or encountering fencing and other obstacles. The possibility of getting muddy and/or wet in a ditch pales in comparison to getting hurt. Most debris will likely pass over your head, but if you miscalculate and don't get far enough away from the road, your car or other heavy debris could wind up on top of you.



Clearly, neither of these options is a good one! The NWS and the American Red Cross advise you not to put yourself in a situation where you have to decide whether to stay in your car or head for a ditch. When severe weather is approaching, limit your outdoor plans or finish them early. Stay close to a sturdy shelter. When the warning is issued, get in the shelter or go to a small room in the middle of the house, on the lowest possible level. Remember to put as many walls between yourself and the tornado as possible.

EVERYONE CAN BE A SPOTTER

Storm spotters play a vital role in the warning process by providing *ground truth* – information about what is happening on the ground – about the storms the National Weather Service (NWS) sees on radar and satellite. Storm spotters become the remote eyes and ears of the NWS, providing critical information about the storm structure and features that can only be seen from the ground. NWS meteorologists constantly evaluate all this information, and make critical warning decisions that save lives.

Storm spotters are community volunteers that are typically coordinated by local emergency management agencies, amateur radio clubs, fire departments, or rescue squads. Local NWS offices work closely with these organizations to train spotters on storm structure, safety, and reporting procedures, usually in the spring and fall each year.

Anyone can become a storm spotter! Check with your county's emergency management agency or your local NWS office's webpage for a schedule of classes and information. While you're there, check out the latest information on evolving NWS web-based storm reporting technologies!



Meteorologist Kelly Godsey presents a Storm Spotter Class.



<-- eSpotter is a program by which trained spotters can submit storm reports to the NWS. Spotters can register on the eSpotter website at <http://espotter.weather.gov>.

The general public may submit their storm reports via the "Submit a Storm Report" link which can be found on the front page of many of the NWS offices' websites. -->



SKYWARN



Assisting the educational effort to prepare Alabamians for severe weather, the Alabama SKYWARN Foundation is a non-profit organization established to provide local help to the NWS in promoting statewide weather education. Education and advance preparedness are key elements in keeping deaths and injuries to a minimum. When we understand the dangers Alabama weather brings and the safety precautions needed when the weather threatens, people in Alabama can respond quickly in the face of danger.

The Alabama SKYWARN Foundation relies on tax deductible donations to underwrite the costs of producing and distributing weather-related educational material. The Foundation hopes that with your support additional efforts can be undertaken to improve severe weather safety and awareness across our great state. More information about the Foundation can be found at www.alabamaskywarn.org.

NWS ON THE WEB

The NWS is dedicated to providing the most up-to-date weather information to each and every community using the latest technology. Forecast offices are staffed around the clock with meteorologists performing a wide range of duties from issuing warnings on the most life threatening storms to the pleasant task of issuing a sunny day forecast. Once a warning or forecast has been issued, it is disseminated through numerous communication networks including weather wires, NWS Weather Radio All Hazards, and the Internet.

www.weather.gov



www.srh.noaa.gov/hun



www.srh.noaa.gov/bmx



www.srh.noaa.gov/mob



www.srh.noaa.gov/tae

The award winning NWS Internet site is highly accessible to the general public. Nowhere else will you find such complete, in-depth coverage of your local weather. For any location in the United States, a network of 122 offices provides all your weather needs in a standardized, easy to navigate website. Whether you are seeking radar, climate, or forecast information, the site provides a one-stop shopping point. In addition to those features, every NWS internet site has a clickable weather status map. This map displays all current watches, warnings, statements, and advisories, quickly alerting you of any weather threats that may be occurring in your area. That's just the front page...

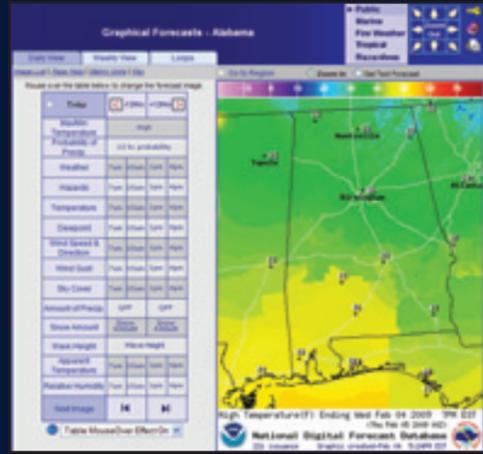
Your National Weather Service offices across Alabama continually work to improve the quality of the products we provide to our community. Using the newest technologies available, the NWS is now creating several new products, including the Multimedia Impact Briefings and Graphiccasts. Forecast changes, uncertainty in a forecast, any upcoming hazardous weather, and significant changes in the latest forecast are all points that may be highlighted in the Graphiccasts and Multimedia Impact Briefings. These products are issued multiple times a day and can be found on the front page of each office's webpage. Shown below are examples of the types of graphics featured as part of the Graphiccast (left) and Multimedia Impact Briefings (right).



OTHER WEB FEATURES

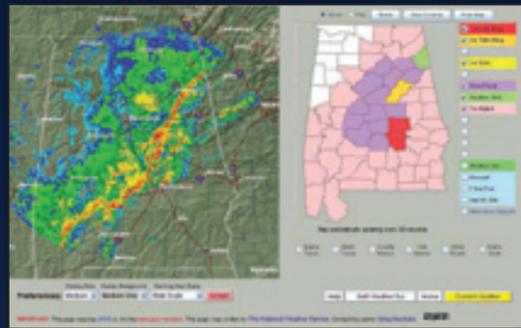
DIGITAL FORECAST DATABASE

Another web feature is the point-and-click forecast map which allows you to retrieve customized weather forecasts using the NWS National Digital Forecast Database (NDFD). NDFD incorporates high resolution graphical forecasts of precipitation, temperature, wind, and sky cover across the entire nation. From this expansive database, you can get as detailed as one-hour forecasts for your location or regional graphical forecasts for the next seven days.



STORM WATCH

An enhanced storm watch page can be found at <http://nsstc.uah.edu/alclimate/weatherwatch/wxwatch.php>. This user friendly page allows you to display live radar data next to a color coded map that highlights the latest weather hazards for Alabama and surrounding areas. The radar data and color coded map can be customized to fit your needs. Not to mention, valid NWS products including watches, warnings, and advisories for Alabama can be viewed by clicking on the color coded active product map.



ALERT

ALERT - The Alabama Emergency Response Team, is an organization of amateur radio operators from throughout Birmingham and central Alabama. ALERT is dedicated to providing emergency communication services using amateur radio to National Weather Service Forecast Offices. Communication of critical storm spotter reports often falls to this group because of their willingness and commitment to use their radios when conventional power and communication methods are knocked out by severe weather. NWS offices across the state have established working relationships with the amateur radio community by including radio equipment in the offices for ALERT members to communicate with spotters during rapidly changing and dangerous weather situations.



More information on storm spotter activities can be found on the NWS internet web sites. For information on amateur radio, visit www.alert-alabama.org.

CONTACTS FOR MORE INFORMATION

ALABAMA NATIONAL WEATHER SERVICE OFFICES



SOUTHWEST ALABAMA

Mobile (MOB)
David McShane or Jeff Garmon
251-633-6443
www.srh.noaa.gov/mob

NORTH ALABAMA

Huntsville (HUN)
Mike Coyne or David Nadler
256-890-8503
www.srh.noaa.gov/hun

SOUTHEAST ALABAMA

Tallahassee, FL (TAE)
Paul Duval
850-942-8833
www.srh.noaa.gov/tae

CENTRAL ALABAMA

Birmingham (BHM)
Jim Stefkovich or John De Block
205-664-3010
www.srh.noaa.gov/bmx

For the Alabama Emergency Management Agency, contact Yasamie Richardson in Clanton at 205-280-2275.

For the American Red Cross, contact your local chapter or Tim Turner in Birmingham at 205-458-8263.

For the Alabama Department of Education, contact the Information & Communication Office in Montgomery at 334-242-9950.

PHOTO CREDITS

Front Cover - Tornado produced by Tropical Storm Fay in Arley, AL, taken by Wendy Odom on August 24, 2008.
Back Cover - Enterprise, AL tornado, taken by Barry Mott on March 1, 2007.

Background Photos:

Page 8,9 - Lightning over Gulf Shores, AL, taken by Christopher R. Hudson on June 16, 2007.

Page 10,11 - Wall cloud over Florence, AL, courtesy of WHNT-TV 19 in Huntsville, AL. Taken on April 7, 2006.

Page 12, 13 - Flooding in Randolph County, AL, courtesy of Randolph County EMA. Taken on October 12, 2009.

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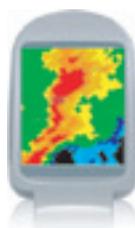
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The National Weather Service has issued a Tornado Warning for...



How Many Ways Do You Get National Weather Service Information?

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