



# Alabama Severe Weather Awareness Week



*Only a Matter of Time...*



*are you ready?*

An Annual Educational Effort Sponsored by



Mercedes-Benz



American Red Cross



Jim Walter Resources



Jefferson County EMA



Jefferson County Alabama



# Messages from the National Weather Service and Alabama Emergency Management Agency

For the men and women of your National Weather Service Forecast Offices, there is great pride taken in issuing severe weather warnings, and great satisfaction when people receive the warnings and take action to protect themselves. Accordingly, one of our greatest disappointments is when people fail to receive warnings or take action during severe weather. No matter where you live in Alabama, severe weather is possible year round. You need to, and "can", know if severe weather is possible days or hours in advance, develop an action plan for every situation you are in, and practice that plan before the event occurs. Let us help! Go to [www.weather.gov](http://www.weather.gov), to learn about weather and safety, or call your local National Weather Service Office. It's only a matter of time before severe weather affects you. Will you be ready?

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



Within the last year, Alabama experienced very active weather patterns, from the deadly North Alabama storms to the destructive tornadoes that ripped through central Alabama, severely impacting Prattville. The dramatic images from those storms show the importance of being prepared and having a plan of action. The time to prepare is now. The theme for the 2009 Severe Weather Awareness season is "Only a Matter of Time-Are you Ready"? Alabama is a unique state that has two distinct tornado seasons. That means at all times you need to make sure you are prepared. Preparedness is not only knowing what's going on with the current weather pattern, but also having a communication plan, knowing where your safe place is in your home or business, having a three-day emergency kit, and making sure your family discusses and practices this plan. The Alabama Emergency Management Agency staff conducts a series of training programs and exercises annually to ensure we know how to respond; therefore, we are asking Alabama residents to make sure they know and practice their family plan. To learn more about being prepared, contact your local Emergency Management Agency regarding Community Emergency Response Teams (CERT) in your county. If you need assistance creating your family plan, log on to [www.ema.alabama.gov](http://www.ema.alabama.gov).

Brock Long, Director  
Alabama EMA, Clanton



## Special Thanks to Our Partners

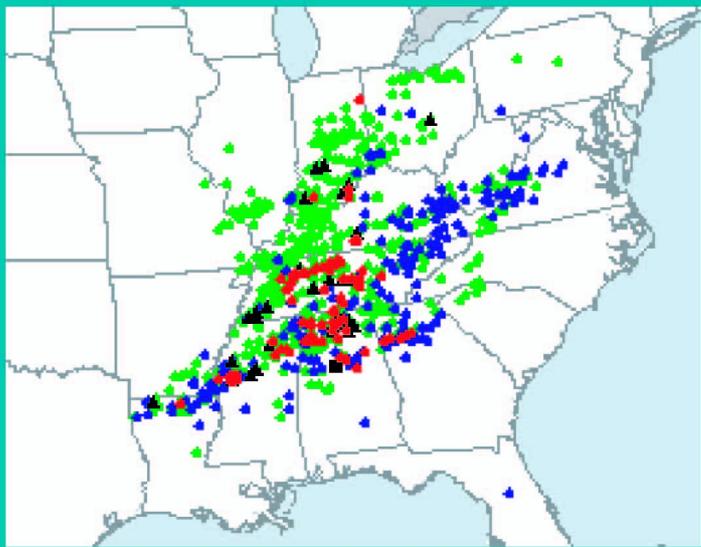
To recognize their commitment to public service and safety, the National Weather Service extends a special thanks to those contributing to the 2009 edition of the Alabama Severe Weather Awareness Week Booklet:



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.



As the event unfolded on that Friday, supercell thunderstorms began to erupt rapidly across western Tennessee and Kentucky during the late morning hours. Several of these supercells continued to gain strength and wind energy as they tracked across the Nashville metropolitan area by early afternoon. Storms were slower to develop across Alabama because a warm layer of air at approximately 5000 feet above the ground, commonly referred to as a thermal inversion or cap, limited the growth of thunderstorms. As moisture increased during the late afternoon and the upper level storm system brought cooler temperatures to the layer above the surface, this inversion began to erode.



Total storm reports from the Storm Prediction Center from April 7, 2006. Green dots indicate hail reports; blue indicates wind; red indicates tornadoes.

Thunderstorms developed across northern Mississippi around 4 PM Friday afternoon, and quickly became severe. The first tornadic supercell moved into northwest Alabama around 5 PM, producing a brief tornado touchdown near Cherokee in Colbert County. This proved to be only the beginning of a long night across Alabama. Supercells, some of which were long-lived, pushed across the state, affecting many metropolitan areas. The last tornado touched down near Childersburg at 2:03 AM. The storms continued to move southeastward, producing large hail as far south as Dale and Geneva counties in southeast Alabama Saturday afternoon.

Twenty-three tornadoes occurred across Alabama on April 7th and 8th. Thirteen of these were rated EF0; ten were EF1 intensity. There were also dozens of damaging straight-line wind and large hail reports. Golf ball-sized hail, or larger, was reported many times to weather service offices. Even softball-sized hail was reported in Marshall and Morgan counties. Dozens of businesses and homes were damaged, some severely, and hundreds of trees snapped or uprooted. Several area high schools received damage to their outdoor athletic facilities and building roofs. Unfortunately, this storm system was responsible for several weather related injuries and one fatality, all due to falling trees. Timely warnings and prompt actions taken by emergency management and the public worked together to limit the number of injuries and fatalities, during this overnight, particularly dangerous storm system.



Roebuck (Jefferson Co.)  
Photo Courtesy of Tim Coleman



Ohatchee (Calhoun Co.)



Huntsville (Madison Co.)

# 2008 - Alabama Year in Review



In Alabama, tornadoes, thunderstorm wind damage, severe hail, and/or flash floods were reported on 89 days in 2008. The number of severe weather days decreased by 14 compared to 2007. Severe weather stats from 2008 and total number of severe weather warnings issued by the National Weather Service for these events is shown below.

## SEVERE WEATHER STATS

Ninety-three tornadoes were reported on 21 days in 2008 (compared to 42 tornadoes on 11 days in 2007).

Thunderstorm wind damage was reported on 65 days (compared to 59 days in 2007).

Severe hail was reported on 45 days (compared to 36 days in 2007).

Flash floods were reported on 28 days (compared to 15 days in 2007).

### Warnings Issued for Alabama by the National Weather Service:

Tornado Warnings - **401** (306 in 2007)

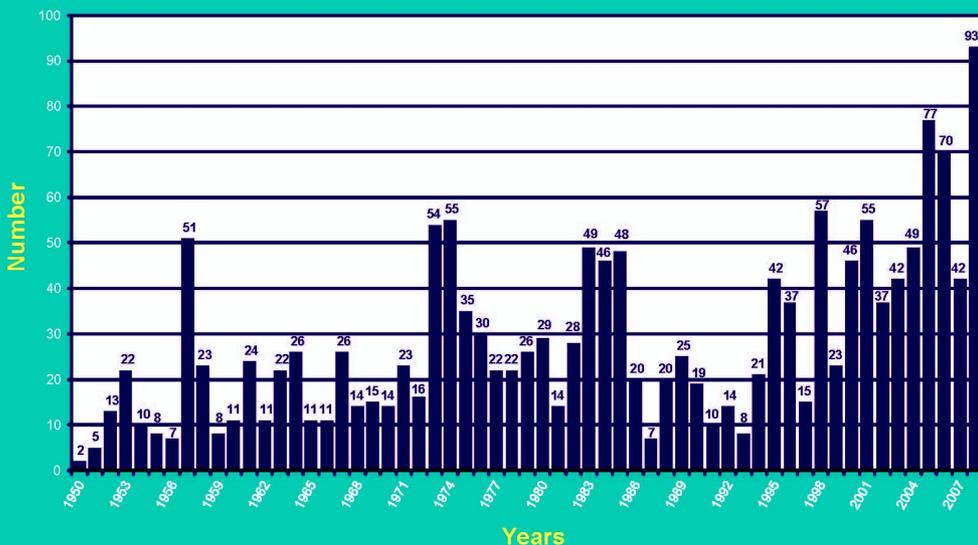
Severe Thunderstorm Warnings - **958** (680 in 2007)

Flash Flood Warnings - **71** (101 in 2007)

Total - **1430** (1087 in 2007)

The National Weather Service does not issue warnings for lightning because all thunderstorms contain lightning. In 2008, there were over ten reports of structural damage caused by lightning. Across the state, six people were injured from lightning strikes, and one horse was killed after being struck by lightning in Cherokee County. Lightning also caused power outages across parts of Covington County and in the city of Huntsville.

**Alabama Tornado Count By Year**  
1950 - 2008



The year 2008 was a record-breaking year for tornadoes. A total of 93 tornadoes touched down across the state, including three EF3 tornadoes and two EF4 tornadoes. Five people lost their lives, and approximately 70 were injured.

There were six distinct tornado outbreaks in which more than five tornadoes occurred on a single day across the state last year. Perhaps the two most devastating outbreaks would be the "Super Tuesday" outbreak on February 6th and the outbreak of tornadoes associated with Tropical Storm Fay on Aug 24th-25th. The other outbreaks occurred on Feb. 17th, Apr. 11th, and May 8th.

# Awareness Starts With You

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



Debris surrounds a tornado shelter in southeast Fayette County after a tornado moved through the area on April 6, 2008.

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 can restrict 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](http://www.birminghamredcross.org) or [www.redcross.org](http://www.redcross.org).

# Preparedness is key when dealing with any weather hazard!

**Resolve to be Ready in 2009** - With the New Year comes the inevitable urge to make ambitious resolutions for 2009. 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 manmade or natural.

Looking back at 2008, we see the importance of preparedness as we recall the return of an extremely active hurricane season, especially along the Gulf Coast.

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. For one thing, disasters are unpredictable. Responders cannot always reach the beleaguered in time. 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.

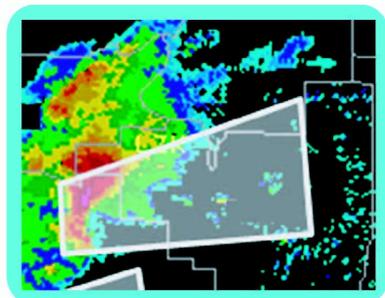
The Emergency Management Agencies and County Citizen Corps Councils across the state encourage you to visit [www.ready.gov](http://www.ready.gov) or call your local Emergency Management office to learn how to prepare your families, homes, and businesses for all types of emergencies.



## 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.

# 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](http://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.



# Damaging Wind & Hail

## Straight-Line 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 overturned. 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.

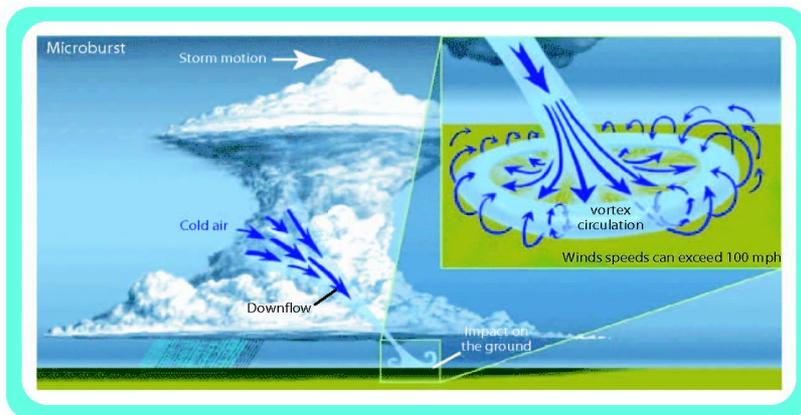
The combination of warm, moist, unstable air near the surface and cold, dry air at mid levels of the atmosphere provides favorable conditions for downbursts to develop. When heavy precipitation falls in a thunderstorm, dense, rain-cooled air is pulled downward toward the ground. This downward rush of 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.



Montgomery (Montgomery Co.), May 8, 2008



Vrendenburgh (Monroe Co.), April 14, 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.



Northport (Tuscaloosa Co.), August 2, 2008

# Lightning

EVERY THUNDERSTORM contains lightning. The electrical charge of a lightning strike, which may reach 300 million volts, searches for the path of least resistance to complete the circuit from the cloud. It might strike you, an isolated tree, or an object in the open. Keep in mind that you do not have to be standing directly beneath a cloud to be struck. Lightning can strike under clear skies as long as the parent thunderstorm cloud is nearby.

Lightning has been called "the underrated killer" since it usually does not get as much headline attention compared to other dangerous weather phenomena. In a typical year, lightning will strike over 20 million times and will claim more victims than tornadoes or hurricanes. On average, about 100 deaths and 500 injuries occur nationally each year as a result of lightning strikes. Between 1995 and 2008 in Alabama, 127 injuries and 22 deaths have been attributed to lightning.

Anyone outdoors is particularly vulnerable to lightning. Every person, group, or school involved in outdoor activities should have a plan that can be activated quickly, when lightning is possible. Take time to learn lightning safety rules. A quick dash out in the open with a nearby thunderstorm may unnecessarily expose you to the possibility of being struck. Is it worth the risk?



Photo courtesy of Jeff Loney in Huntsville, AL

## Lightning Safety

### Indoor Safety:

- Stay away from windows and doors, and off porches.
- Do not use phones or cell phones, except for emergencies.
- Avoid contact with TVs, power tools, appliances, computers, and any other electrical equipment.
- Avoid contact with plumbing, including washing dishes and laundry.
- Do not lie on concrete floors or lean against concrete walls.

### Outdoor Safety:

- Take shelter in a strong, sturdy, enclosed building. Sheds, dugouts, picnic areas, tents, and gazebos are not safe.
- Get in an enclosed motor vehicle, if available. Keep windows up and doors closed.
- Avoid metallic objects such as fences, pipes, poles, power lines, and bikes.
- Stay away from bodies of water.
- Avoid open spaces, isolated objects, and high ground.

For more lightning safety information visit [www.lightningsafety.noaa.gov](http://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; strong, atmospheric winds, increasing with height; and a nearby low pressure system to lift the air.

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, between noon and 8 pm. However, they can occur at any hour of the day or night, and during any month of the year (see graphs on page 17). Therefore, Alabamians are encouraged to be prepared when there is any potential for tornadoes.

Tornadoes have wind speeds that vary from as little as 65 mph to speeds over 200 mph. They 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.



Photo Courtesy of Randolph County EMA. February 17, 2008.

**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 the basement or a small interior room, such as a closet, bathroom, or interior hallway, on the lowest level. 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.

Do not bother opening or closing windows and doors. This will not protect the structure, but only waste valuable time which may put yourself and possibly others at greater risk. Use those seconds to find a place of safety.



Community Storm Shelter in Vincent (Shelby Co.)  
Photo courtesy of Shelby Co.EMA

**Stay away from windows, doors, and outside walls!**

### In Mobile Homes or Vehicles:

Leave them 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 Schools, Nursing Homes, Hospitals, Factories, and Shopping Centers:

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.

# Floods

Floods are the most damaging, costly, and deadly severe weather-related phenomena. Annually, floods cost the U.S. over \$4 billion in property damage and are responsible for approximately 150 deaths.

All of Alabama is vulnerable to floods anytime of the year. Due to the state's close proximity to the Gulf of Mexico, Alabama has an almost unlimited supply of available moisture. When low pressure systems move into the area and combine with this moisture, the resulting heavy rains can produce floods. Also, slow-moving, summertime thunderstorms can produce flooding rains in a very short period of time.



Alabaster (Shelby Co.), August 2008  
Photo Courtesy of Rick Lacey

## Flash Flood

Flash floods can occur within a few minutes or hours of heavy rainfall or from a dam or levee failure. These floods can destroy structures, down trees, roll boulders, and create new waterways. Rapidly rising water can reach heights of 30 feet or more! Furthermore, flash flood producing rains can also trigger catastrophic mudslides. You may not always have a warning of these sudden and deadly floods.



Homewood (Jefferson Co.), September 2004  
Photo Courtesy of Jefferson Co. EMA

## Urban Flood

Floods can be magnified in urban areas. As land is converted from fields and woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization increases runoff two to six times over what would occur on natural terrain. During periods of urban flooding, streets can become swift moving rivers, while basements can become death traps as they fill with water.



Woodville (Jackson Co.), December 2004

## River Flood

River floods are a natural and inevitable part of life in Alabama. Low lying areas near rivers, streams, lakes, and reservoirs are susceptible to river floods. Some river floods occur seasonally when winter or spring rains fill river basins with too much water too quickly. Others occur from slow-moving low pressure systems. Torrential rains from decaying tropical systems can also produce river floods.



Catoma Creek (Montgomery Co.), March 2005

## Area Flood

These nuisance long-duration floods are usually not life-threatening. Standing water in a low-lying area such as an open field is an example of an area flood. Significant agricultural losses and displaced livestock can occur with these floods. In addition, stagnant water from this type of flooding can serve as a breeding ground for insects and diseases.

# Flood Safety

## Types of Flood Watches and Warnings

### FLASH FLOOD WATCH

Issued when conditions are favorable for flash floods (sudden short-term floods that last 6 hours or less). This includes floods from dam or levee failures.

### FLOOD WATCH

Issued when conditions are favorable for long-duration floods (longer than 6 hours). This includes river floods.

### FLASH FLOOD WARNING

Issued when floods occur or are imminent within 6 hours of the event.

### FLOOD WARNING

Issued when floods occur or are imminent and are expected to persist for more than 6 hours.

### RIVER FLOOD WARNING

Issued when a flood is occurring or expected to occur near streams, rivers, lakes, or reservoirs.



*The driver of this vehicle is putting himself in incredible danger.*

***NEVER drive your vehicle across flooded roadways.***

***Water is a very powerful force that should never be underestimated.***



Shoal Creek (Lauderdale Co.), February 2003

## Flood Safety Rules

- \* ***Move to higher ground and stay away from low-lying areas such as stream beds, drainage ditches, and culverts.***

Heavy rainfall or dam/levee failure may cause excessive water to run off rapidly, overflowing natural and man-made drainage systems with rushing flood waters. These flood waters may carry debris that can cause serious injury or even death.

- \* ***Stay away from flooded areas.***

Water may still be rising and is usually flowing fast. Children are especially vulnerable and should not be allowed to play or walk in flowing water. Only 6 inches of fast-moving water can knock over an adult.

- \* ***Never drive your vehicle into water of unknown depths or around barricades.***

Many flood deaths occur when people drive their vehicles into flood waters. Flood waters can rise very quickly, covering the vehicle or sweeping it away. Just 2 feet of water can move most vehicles, including trucks and large SUVs. If your vehicle stalls, abandon it and immediately seek higher ground.

- \* ***Be especially cautious at night when it is harder to recognize flood dangers.***

# 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.**



Blount County, March 15, 2008

-Remain calm and locate your emergency supply kit containing essential first aid materials. 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, as 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.



Calhoun County, August 24, 2008



Russell County, February 17, 2008



Jackson County, February 6, 2008



Escambia County, February 17, 2008



Lawrence County, February 6, 2008

# Storm Spotters

Storm spotters play a vital role in the warning system. They come from all walks of life, joined by their interests in weather and community service. Spotters are associated with SKYWARN, a volunteer program developed by the National Weather Service (NWS), to train and organize spotters. Spotters are coordinated with local emergency management agencies, amateur radio clubs, personnel from fire departments, rescue squads, law enforcement agencies, and public participants.

Spotters are critical because they provide timely information on the actual weather that is occurring at or near the ground. This information is known as ground truth. Satellite imagery and Doppler radar provide NWS meteorologists with large amounts of information about storm structure, but not on the actual weather occurring at or near the ground. This is where spotters become the eyes and ears for their communities. This ground truth combined with radar and satellite data is used during the warning decision process. With early warning, lives can be saved.

Storm spotters go through training provided by the NWS to gain an understanding of thunderstorm structure, exposure to visual clues, tornado safety, and procedures for reporting information.



Warning Coordination Meteorologist Tim Troutman presents a Storm Spotter Class.



The amateur radio operation area inside the National Weather Service

**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](http://www.alert-alabama.org).

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 to 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.

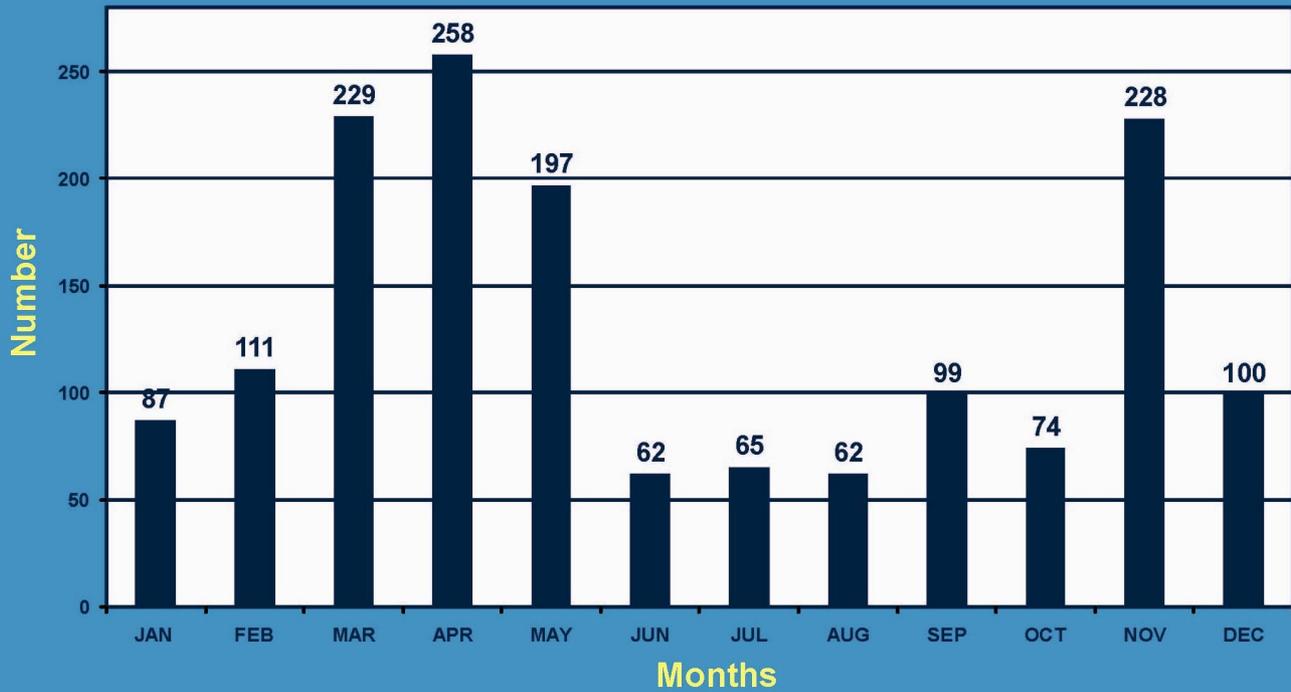
The Alabama SKYWARN Foundation relies on tax deductible donations to underwrite the costs of producing and distributing weather-related educational material. The Foundation is pleased to have the help of such wonderful groups as Mercedes-Benz International, Russell Corporation, Jim Walter Resources, Black Warrior Methane, Jefferson County Citizens Corps Council and Emergency Management Agency, Alabama Emergency Management Agency, and the American Red Cross Birmingham Chapter for their direct support in making this annual publication possible.

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](http://www.alabamaskywarn.org).

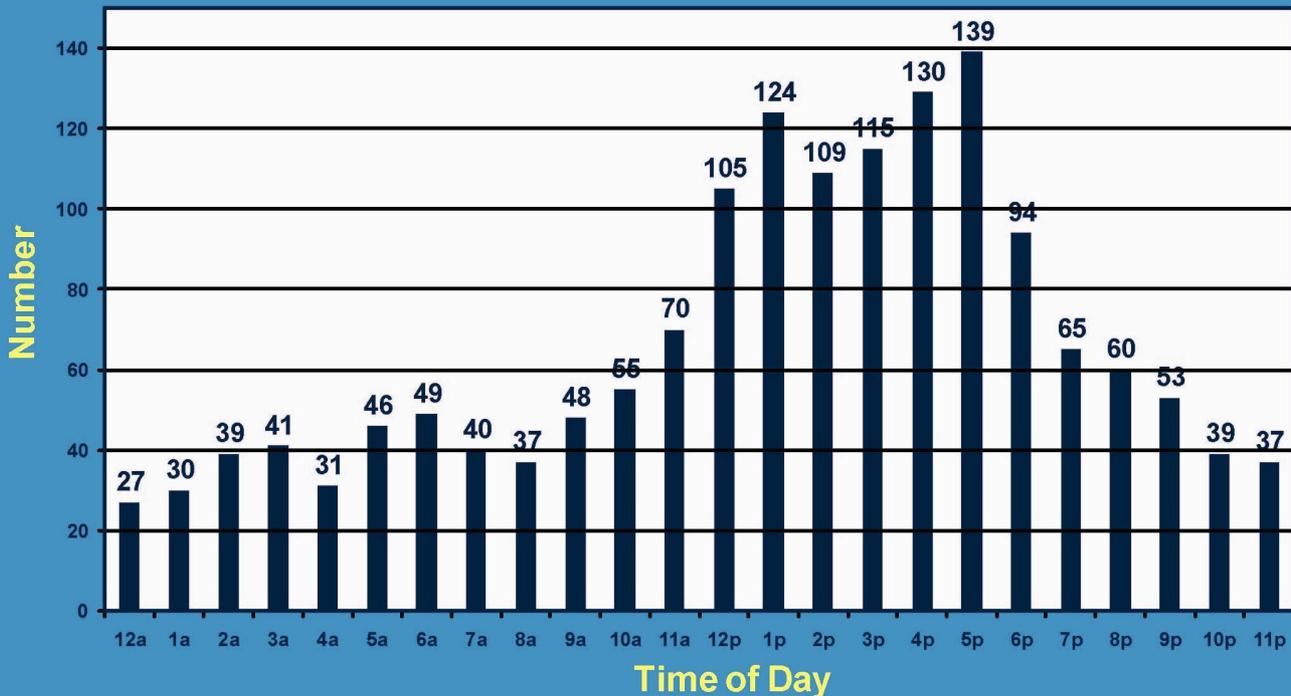


# Tornadoes by Month and Hour in Alabama

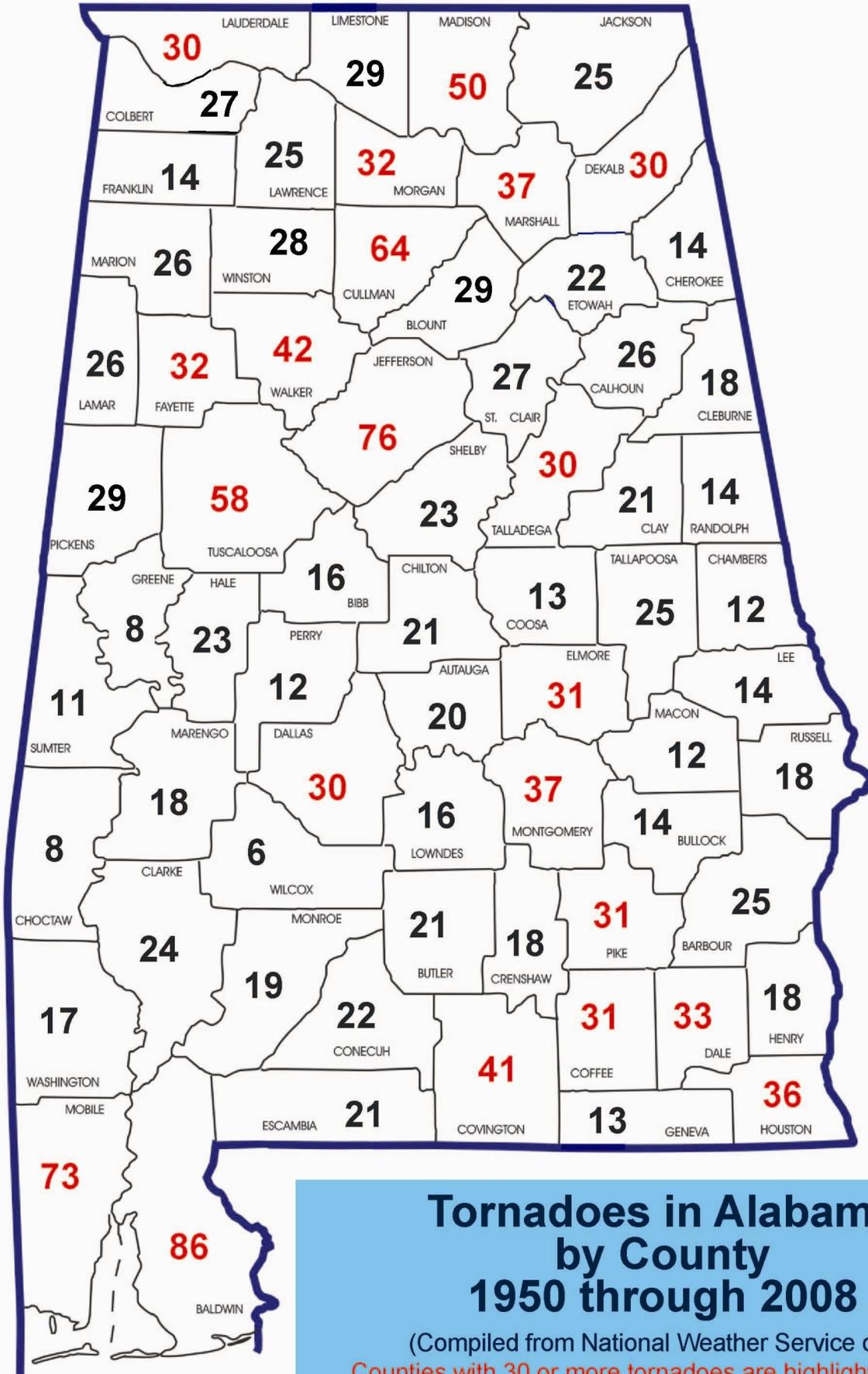
## Tornadoes By Month 1950 - 2008



## Tornadoes By Hour 1950 - 2008



# Tornadoes by County in Alabama



# 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](http://www.weather.gov)

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...

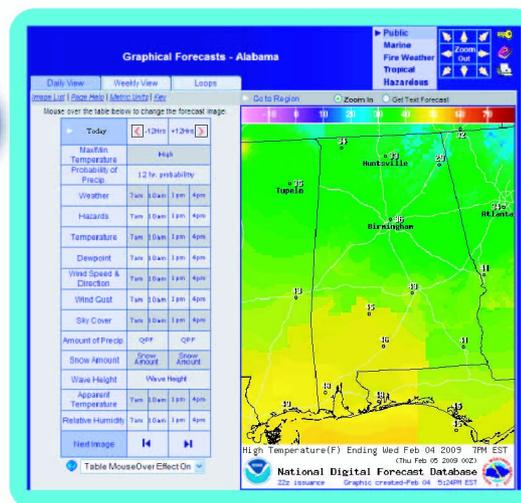


## Climate Data

Climate information from across the state can be found by going to the following website [www.weather.gov/climate](http://www.weather.gov/climate). Simply click anywhere on Alabama and you will be directed to the Climate webpage of one of the four National Weather Service offices that serve the state. Once there, you can easily find loads of climate information for various Alabama cities, including daily and monthly climate averages, totals, and extremes, as well as record event reports. There is also climate data unique to local areas, such as cold and warm weather facts, specific past severe weather events, and Weather Year in Review products issued by several of the NWS offices.

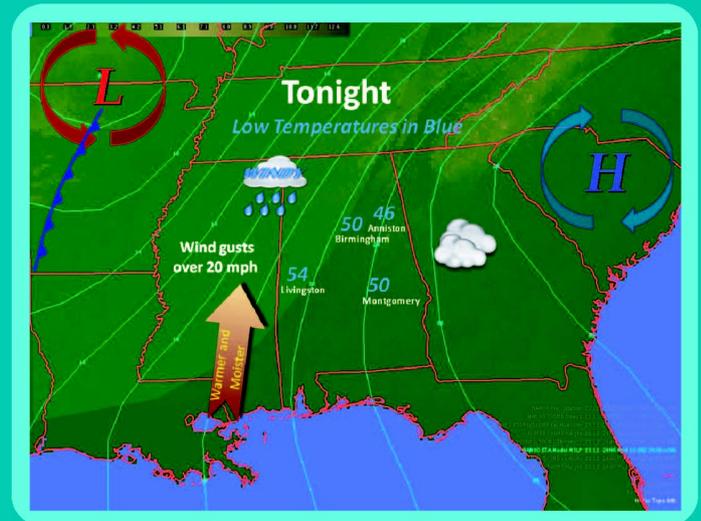
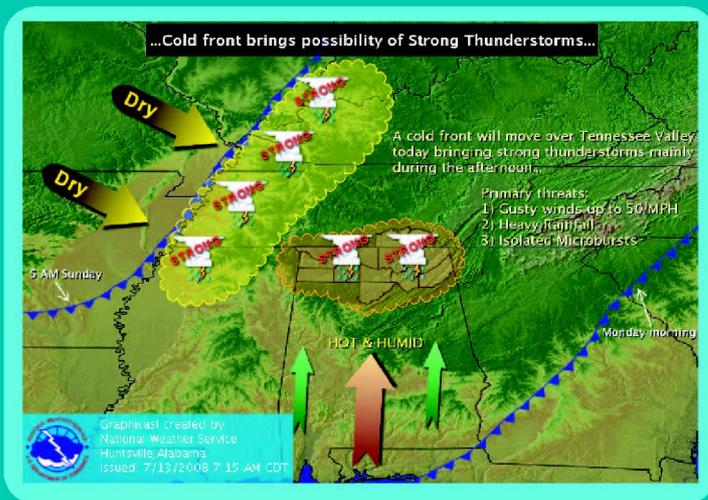
## Digital Forecast Database

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.



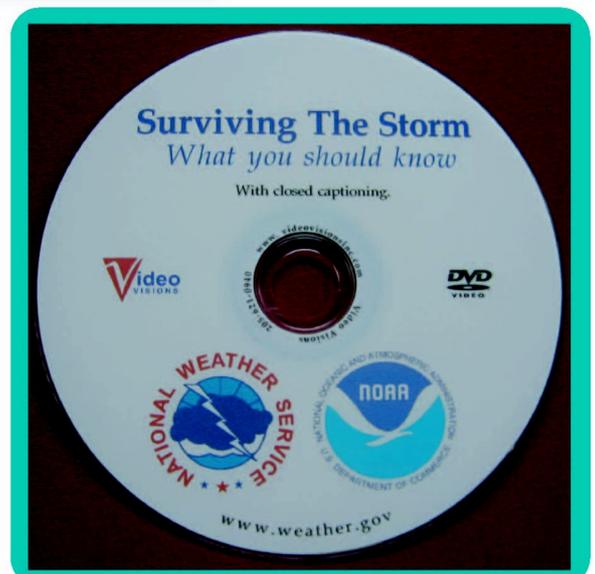
# NWS Multimedia Efforts

Your National Weather Service offices across Alabama continually work to improve the quality of the products we provide to our community. In addition, we strive to stay in touch with new technologies that allow us to provide our products to you in new ways. The Multimedia Impact Briefings and Graphiccasts are two prime examples. We have become a more visual based society, increasingly relying on the Internet to better communicate current weather conditions and what is forecasted. As a result, the NWS began developing Graphiccasts and Multimedia Impact Briefings. These products enable NWS meteorologists to make complex weather scenarios understandable to the general public, serving as a concise weather overview. Forecast challenges, uncertainty in a forecast, any upcoming hazardous weather, and significant changes in the latest forecast are all points that may be highlighted in our 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. The Multimedia Impact Briefing can even be viewed on your wireless device using the latest Flash Player from Macromedia/Adobe for weather information on the go. Shown below are examples of the type of graphics featured as part of the Graphiccasts (left) and the Multimedia Impact Briefings (right).



## Surviving The Storm

Weather safety is important for all ages, but teaching children about the dangers of weather can have lifelong benefits. The NWS in Birmingham recently produced a weather safety DVD entitled, "Surviving the Storm." Whether they are at home, school, or outdoors, this video teaches children to make critical decisions that could save their life. The Alabama EMA and Alabama Department of Education joined together to make the video available to every public/private middle school in Alabama. The video was made possible through generous donations from Alabama Power, Jefferson County Citizens Corps, and local and state Emergency Management Agencies.





# Contacts for More Information

## Alabama National Weather Service Offices



### Southwest Alabama

Mobile (MOB)  
David McShane  
251-633-6443  
[www.srh.noaa.gov/mob](http://www.srh.noaa.gov/mob)

### North Alabama

Huntsville (HUN)  
Mike Coyne  
256-890-8503  
[www.srh.noaa.gov/hun](http://www.srh.noaa.gov/hun)

### Southeast Alabama

Tallahassee, FL (TAE)  
Bob Goree or Paul Duval  
850-942-8833  
[www.srh.noaa.gov/tae](http://www.srh.noaa.gov/tae)

### Central Alabama

Birmingham (BHM)  
Jim Stefkovich  
205-664-3010  
[www.srh.noaa.gov/bmx](http://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 photos represent the weather and damage that occur across Alabama annually. The photos are courtesy of: lightning over Mobile bay, David Rencher; flooding in Jefferson County on May 27, 2008, Logan Dawson; a tornado associated with Tropical Storm Fay over Smith Lake near Arley on August 24, 2008, Wendy Odom.

Background lightning photo on page 11 is courtesy of David Hall.

Back cover photo was taken by Barry Mott of the EF4 Tornado as it moved through Enterprise, AL on March 1, 2007.

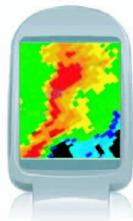


Wall cloud over Florence (Lauderdale Co.) on April 7, 2006.  
Photo courtesy of WHNT-19 TV.

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Calera, AL 35040-5427

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**[www.srh.noaa.gov/wml](http://www.srh.noaa.gov/wml)**