



The Mid-South Chronicle

National Weather Service
Memphis, TN
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Winter Weather Tips

For your vehicle...

- Cell phone with some way of recharging the battery
- Blankets
- Flashlight with extra batteries
- First Aid kit
- Knife
- Non Perishable food
- Spare, dry clothing
- Large empty container to use as a toilet, Kleenex and toilet paper for sanitary purposes
- Extra water
- Shovel
- Bag of sand or kitty litter to use as traction
- Windshield scraper and brush
- Tow rope
- Battery jumper cables
- Compass and road maps



Volume V, Issue 2

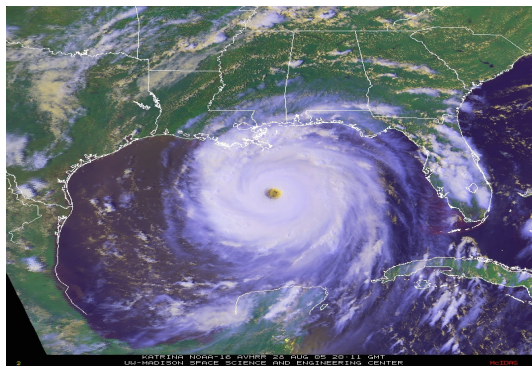
Winter 2005-2006 Edition

Trio of Hurricanes Slam the Gulf Coast

By Jason Beaman
Intern Meteorologist

The 2005 Atlantic Hurricane Season has been memorable for all the wrong reasons. Sadly, three major hurricanes have struck the northern Gulf Coast in a span of three months. The devastation caused by these storms has been immense and people from the Florida Panhandle to the Upper Texas Coast have felt the wrath of this unprecedented hurricane season.

While a couple of tropical storms affected the Gulf Coast early in the hurricane season, it was Hurricane Dennis that was first remembered. Dennis made landfall near Navarre Beach, FL as a Category 3 hurricane on July 10th. Extensive damage was caused by the storm and unfortunately hit areas that were devastated by Hurricane Ivan in 2004. The remnants of Dennis moved into the Mid-South during the night of July 10th and early morning hours of July 11th. Tropical storm wind gusts were felt across northeast Mississippi which knocked down trees and power lines. One to two inches of rain were common across the region and helped to bring



Satellite Image of Katrina as a Category 5 August 28th, 2005

some temporary relief from the persistent dry conditions.

The second storm to impact the Gulf Coast was Hurricane Katrina. On August 29th, 2005, Katrina made its first landfall as a Category 4 hurricane near Grand Isle, LA and its second landfall as a Category 3 near the Mississippi-Louisiana border.

Continued on Page 7...

Winter Weather Safety

By Dan Valle
Journeyman Forecaster

With winter fast approaching, we should recall the snow and ice storm that impacted much of the Mid-South prior to Christmas of last year. This storm impacted my travel as I headed home for the holidays. It was most definitely not a pleasant experience. I found myself in bumper to bumper traffic with the roads ice packed and several cars off the road. While my girlfriend was counting rosary beads, I was wishing that I hadn't even pulled out of the driveway. Let's hope that winter will be kinder to us this year. In

case it's not, here are some winter weather safety tips to keep you and your family safe.

If you are planning on traveling, make sure that you are aware of the latest weather conditions. Over 70% of injuries that occur during a snow or ice storm are due to vehicle accidents. If the forecast does not recommend travel, then don't unless it's a life or death situation.

Continued on Page 5...

Meet the Newest NWS Memphis Employee - Jody Aaron

Hello Jody. It is nice to meet you. Let me first ask you what is your job at the National Weather Service in Memphis and when did you start? Thanks for having me. Here at the National Weather Service in Memphis I am a Meteorologist Intern and I started in May 2005.

So now for some background, where are you from? I was born in Birmingham, Alabama and lived 18 years in Alabaster, Alabama (just south of Birmingham).

Where did you go to college? I went to the University of South Alabama in Mobile. I graduated with a degree in Meteorology in 2000.

After college, what was your first job? My first job was with a commercial weather company in Edmond, Oklahoma (just north of Oklahoma City). I started there right after graduation and worked there for 5 years.

What did you do there? I started out as a forecaster but moved up to Consulting Division Manager by my

fourth year.

Why did you leave to work for the National Weather Service? I was ready for another challenge in the weather business. I had experienced the commercial side of the business, but wanted to help the community more. I also wanted to move closer to my family. My parents are still in Alabama and my wife's parents are as well.

You said you were married, how long? I married my wife in June of 1999 after dating throughout college and then we had a child in June of 2003.

Is there anybody specifically that inspired you to get into the weather sector? Yes, a television weatherman in Birmingham. He was always willing to help out, especially with science fair projects when I was in elementary school. During college, I was able to do a summer internship with him. I did not really enjoy being on camera, but when severe weather hit, I really thrived and enjoyed helping people stay ahead of the storm (of

course I stayed off camera).

Final question, of all the weather events you have experienced, what is your favorite type of weather occurrences? Well, going to school in Mobile and living in Alabama for 23 years, hurricanes have always been an impact. I have a desire to know as much as I can about these storms. My dream job would be working at the National Hurricane Center.



Storm Shelters Can Save Your Life

By Jim Belles
Meteorologist In Charge

The Mid-South is one of the deadliest regions in the world for tornadoes. The combination of violent tornadoes, which can often occur at night, a high percentage of mobile homes, and even well constructed homes without basements, contributes to the high casualty rate.

For example, in Mississippi 124 people per year are killed and/or injured in tornadoes. That's four people killed and/or injured per tornado! Only the state of Texas has more casualties per year and they have a significantly larger land area!

What can be done to mitigate the effects of twisters in the Mid-South? Certainly we've done much to help our

warning processes, including an improved understanding of severe storms and more rapid dissemination of warnings. Education has helped tremendously as well. Most people in the Mid-South understand fully where to go when a tornado warning is issued and how to receive such vital information. But what more can be done? Simple, build more storm shelters!

Storm Shelters provide the most adequate protection against the violent winds of tornadoes. Mobile homes do not provide adequate shelter in any sized tornado and even a well constructed brick home would likely not withstand a powerful F3 or stronger



With few basements in the Mid-South, a storm shelter could mean the difference in saving your life!

tornado. So, unless you have basement protection from tornadoes, then storm shelters should be a consideration for all.

Continued on Page 5...

Record Low Mississippi River Stages

By **Buzz Merchlewitz**
Service Hydrologist

Wasn't it just this past January 2005 that we were talking about the Mississippi River flooding and excessive rain across the mid section of the country? The situation has really changed. During this past July and August we saw near record low Mississippi and Ohio River stages from Cairo, IL downstream to Helena, AR. Contrast the Mississippi river stage at Memphis, TN of 35.7 feet in January to the -8.5 foot stage recorded on August 17th. That's a difference of 44.2 feet! That -8.5 foot stage is the fourth lowest on record (for records that go back

to November 1871.) The record low stage is -10.7 feet which occurred on July 10, 1988.

The severe drought over the middle of the country was the cause of the low river levels. The drought not only affected the farm crops in the Midwest and Mid-South, but it also hindered the barge traffic that takes place on the Mississippi and Ohio Rivers. The U. S. Army Corps of Engineers, instead of watching for levee leaks as it did in January, was very busy with dredging activities to keep the naviga-

tion channel open. And whether the water is high or low, the U.S. Coast Guard must keep the navigation buoys properly positioned. There's a lot of activity that takes place to maintain this very important river system that we don't usually hear about.

To stay up to date with the latest river stages and forecasts check our web page at www.srh.noaa.gov/meg and click on Rivers and Lakes AHPS under current conditions.



Mississippi River stage at 35.7 feet looking north at Mud Island Harbor in front of Memphis



Mississippi River stage at -8.5 feet looking north from the same position



Dredging activities on Mississippi River looking downstream near Mud Island

The Mid-South's Newest StormReady Communities!

By **Scott Cordero**
Warning Coordination Meteorologist

Within the past year, the Memphis Weather Forecast Office has recognized the cities of Caruthersville, Missouri; Oakland, Tennessee; and Tippah County, Mississippi as the Mid-South's newest *StormReady* Communities. The communities were honored in separate ceremonies at the Caruthersville Public Library in the Bootheel of Missouri, the Oakland Police Department in Fayette County in west Tennessee, and the Tippah

County Courthouse. Also the city of Senatobia, MS was honored at a ceremony in City Hall.

Please visit:

<http://www.stormready.noaa.gov/>

for more information regarding the StormReady program. Pictures of re-

cent StormReady ceremonies can be found on page 5 of the newsletter.



The Midsouth Severe Weather Database

By Scott McNeil
Lead Forecaster

The National Weather Service in Memphis is in the process of cataloging past severe weather events that have occurred across the Mid-South. These severe weather events will include tornadoes, damaging winds, hail, flooding, and various types of winter weather. References that are being used to compile this database include, "Significant Tornadoes (1680-1995)" by Tom P. Grazulis, NOAA Storm Data publications (1950-present), and the Storm Prediction Center tornado database (1950-1995).



The database will document all hazards that have been recorded in the Mid-South.

The database will be available through our web site (<http://www.srh.noaa.gov/meg>) and searchable by county, date, event type along with various other parameters. The data will include a description of the event and maps of event location, including tornado tracks. The tornado section will include data from the late 1800s through the present while the remainder of the events will cover the period from 1959 to the present. Cataloging all of these severe weather events is very labor extensive and the goal for completion is late 2006. However, we hope to place a partial database on our web site at an

earlier date.

Some interesting facts have already been uncovered during recent work on the database. Did you know that two F5 tornadoes were recorded in the Mid-South from the late 1800s through 1949? The first occurred on the afternoon of March 11, 1923, tracking 13 miles across Chester and Madison counties in Tennessee. This tornado killed 20 people, injured 70, and leveled much of the town of Pinson. Another F5 moved east northeast across the northern half of Tupelo, Mississippi on the afternoon of April 5, 1936. This tornado destroyed many homes in residential area of the city and resulted in over 200 deaths and 700 injuries.

NOAA Weather Radio "The All Hazards Network"

By Corey Chaskelson
Journeyman Forecaster

When a warning is issued by the National Weather Service in Memphis, you may wonder what all the sounds mean. There are two tones sent by NOAA "All Hazards" weather radio. These tones are the SAME tones and a 1050 hz tone. Newer weather radios equipped with Specific Area Message Encoding (SAME) technology allow receivers to alert only for specific emergency (weather and non-weather related) situations in a particular county. SAME technology allows weather radios and televisions specially equipped to activate and identify the location and type of emergency. The SAME codes work by sending 3 long code bursts containing the county or counties alerted for, and the type of warning issued. After the warning message is completed, a set of short SAME bursts are sent to signify the end of the warning message for the receivers. The other tone heard after the SAME burst is a 1050 hz

tone, which allows older radios not compatible with the new technology to still alert the listener when warnings are issued. Older radios unlike the newer SAME radios will alert for any warning issued in the transmitter listening area.

The United States Federal Communications Commission approved in 2002 the use of additional non-weather related SAME codes for NOAA "All Hazards" weather radio. Listed below are just a few of the types of non-weather related warnings that you may see appear on weather radio:

Non-Weather related warnings

Emergency Action Notification (EAN)
Emergency Action Termination (EAT)
Child Abduction Emergency (CAE)
Civil Danger Warning (CDW)
Earthquake Warning (EQW)

Evacuation Immediate (EVI)
Fire Warning (FRW)
Hazardous Materials Warning (HMW)
Law Enforcement Warning (LEW)
Local Area Emergency (LAE)
911 Telephone Outage Emergency
Nuclear Power Plant Warning (NUW)
Radiological Hazard Warning (RHW)
Shelter in Place Warning (SPW)

If you have any comments or suggestions such as voice pronunciation improvements to NOAA Weather Radio, feel free to contact us by one of the methods listed below:

Mail: See back page of newsletter
(901) 544-0405, Monday through Friday between 8 am and 4 pm

Storm Shelters Continued (from Page 2)...

Storm shelters come in a variety of shapes and sizes. Some shelters are above ground and are comprised of well constructed concrete or steel. They can be placed in one's yard or garage. Other storm shelters are below ground level. Again, they can be placed in your garage or yard. A special room, know as a "safe room," in your home can be concrete lined to provide protection. Storm shelters can be constructed in all different sizes to accommodate thirty people or more.

The cost for storm shelters is approximately \$2000-\$6000. Some states, like Arkansas, provide financial assistance. If you are building a new home we strongly urge people to consider a storm shelter as part of the construction. Storm shelter construction for a new home may be less expensive and when the cost is amortized over a 30-year mortgage, rather affordable.

We can't stop violent tornadoes from occurring, but we can do something about their toll on human life. Equip your home with a NOAA Weather Radio and if at all possible consider

building a storm shelter. It may save your life!



Winter Weather Safety Continued (from Page 1)...

I learned this lesson the hard way. The National Weather Service constantly updates its forecast through its website at www.weather.gov. NOAA weather radio is also an excellent way to receive weather information along with television and radio broadcasts.

Here are a few numbers and websites to check for road conditions. We especially recommend these websites because they offer maps that show where poor road conditions exist.

In Arkansas...501-569-2374 or www.arkansashighways.com

In Missouri...1-800-222-6400 or www.modot.state.mo.us

In Tennessee...1-800-342-3258 or www.tdot.state.tn.us

In Mississippi...1-888-728-4218 or www.dps.state.ms.us

In Kentucky...1-800-459-7623 or <http://511.ky.gov>

Here are some things to keep in the home in case the power goes out.



- Flashlight with extra batteries
- Candles and either matches or lighters

- Battery powered radio
- Extra water and food that does not require heating or refrigeration
- First aid supplies
- Emergency heat source such as a fireplace, wood stove, or space heater. Make sure these are ventilated properly! Many deaths occur from generators running in poorly ventilated areas.
- Fire extinguisher and smoke alarm. Test your smoke alarm once a month
- Make sure your pets have plenty of unfrozen water, food and a warm place to stay

StormReady Photos



Oakland, TN June 23, 2005



Caruthersville, MO June 25, 2005



Senatobia, MS June 25, 2005

Establishing a Mesonet In the Midsouth

By Jonathan Howell
Journeyman Forecaster

Exciting plans are in the works at the Memphis National Weather Service to implement a new weather observation network. This observational network, known as a mesonet because of its dense array of stations, will provide additional weather observations across the Mid-South. Over the next year National Weather Service staff will work in conjunction with local partners to establish the mesonet. These committed partners include both regional universities and interested weather enthusiasts. We're also looking to recruit other local agencies into the mesonet project, such as county emergency management agencies, local law enforcement agencies, local governments, state highway departments, and farmers. These additional weather observation sites will help improve our Memphis National Weather Service forecasts and warnings, and benefit interests that require detailed weather data.

The benefits of establishing a mesonet

are numerous. The Memphis National Weather Service will use the data to improve our knowledge of where and when severe weather may strike. In addition, forecasters use the data to identify critical temperature patterns to improve winter precipitation forecasts. For example, forecasters could more accurately locate where freezing rain, sleet, or snow was falling in a winter storm.

County emergency management, local law enforcement, and local governments can use the mesonet to obtain critical real-time wind and temperature information that is vital to determine where a chemical or biological gas may flow. Temperature data obtained from the mesonet sites located along important transportation thoroughfares would benefit state highway departments tasked with determining the needs and locations of snow removal and treatment operations. The mesonet can also provide farmers with important weather infor-

mation needed for planning crop sprays, fertilization schedules, planting and harvesting activities. As you can see, the creation of the mesonet will assist planning and response activities for many interests.

The weather community encourages all local and regional agencies, as well as any weather enthusiast, to support the mesonet. How can one help? One way is to set up a weather station and make the data available to all. Getting the data out, so that it could be used for all the good purposes described is what the National Weather Service is trying to accomplish.

For more information on this program, please contact Jonathan Howell, Jason Beaman, or Ed Ingram, at the Memphis National Weather Service at (901) 544-0400. Together, we can establish a great weather observation network that will serve the needs of many organizations and help protect the public from both natural and manmade hazards.



Are you a weather enthusiast who has a personal weather station?

Are you interested in sharing the data from your weather station through the internet?

If so, the NWS Memphis is looking for you!

Through the Citizen Weather Observer Program, persons with private weather stations and access to the internet can send their data to NOAA. This data will be utilized by the National Weather Service and other organizations for scientific ventures. If you are interested, please send an e-mail to Zwemer.Ingram@noaa.gov, Jason.Beaman@noaa.gov, or Jonathan.Howell@noaa.gov or call 901-544-0400. Also, stay tuned to our webpage at www.weather.gov for additional information regarding this program.

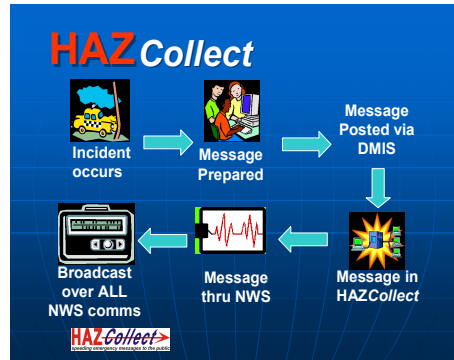
HAZCollect - Speeding Emergency Messages to the Public

By Scott Cordero

Warning Coordination Meteorologist

HAZCollect is a system developed by the National Weather Service in partnership with the Department of Homeland Security/Federal Emergency Management Agency. **HAZCollect**, through voluntary participation, allows emergency management agencies and others to generate messages for automated distribution through all NWS communication channels including NOAA Weather Radio and the Emergency Alert System.

The purpose of the All-Hazards Emergency Message Collection System – or **HAZCollect** for short – is the collection of emergency messages generated by local incident information sources for relay to the public through communications channels used by the NWS daily. **HAZCollect** enables emergency service agencies (all levels local, state, Federal) access to the communication resources of the NWS. In simple terms, a local emergency manager creates a Non-Weather Emergency Message on a computer and that message travels directly from the local source into and throughout the communication network of the NWS for



immediate issuance and broadcast to the public.

HAZCollect begins when a local emergency occurs. Local emergencies occur everyday, but if an emergency is of sufficient magnitude, an emergency manager may need to notify the media and the public. These messages include specific actions necessary to reduce the impact of the emergency, such as evacuation orders or instructions for sheltering.

The local EMA prepares a message in their own words using specific knowledge of the local area. The message is then transmitted via a personal computer using a toolkit that is part of

FEMA's DMIS, Disaster Management Interoperability Services.

The information is then authenticated and sent to the **HAZCollect** server for authorization of geographic area. At the **HAZCollect** server, the message is also reformatted for distribution through the NWS dissemination systems.

Once the message moves through these communication channels, it is disseminated via such well known and well used methods as NOAA Weather Radio, NOAA Weather Wire Service, EMWIN, Internet web pages, cell phones, pagers, facsimiles, etc. NWS messages also travel through the communication networks of private and commercial vendors enabling the widest distribution of the emergency message possible.

Here are some websites that provide additional resources for information on **HAZCollect**:

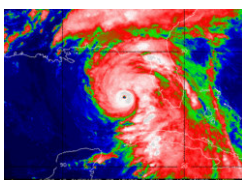
NWS weather.gov/os/hazcollect

DMIS www.dmi-services.org

FEMA www.fema.gov

Trio of Hurricanes Continued (from Page 1)...

The storm has become one of the worst natural disasters to ever strike the United States. Katrina caused over 1,000 fatalities and cost estimates of over \$100 billion in damage (figures have not been finalized.) Its estimated 30+ foot storm surge devastated the Mississippi and Alabama coasts. It also compromised the levee system in New Orleans which resulted in catastrophic flood damage. Katrina was still a strong tropical

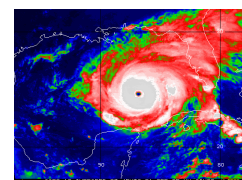


Hurricane Dennis Approaching the Gulf Coast

storm when it moved across northeast Mississippi and near the Tennessee River. Widespread reports of tropical storm force winds were received across the region and as far west as the Mississippi River, including the Memphis area. Katrina also produced 3 to 7 inches of rain across the area with localized flooding.

Hurricane Rita will go down in history as the third most powerful hurricane ever documented in recorded history.

The barometric pressure dropped to a record low reading of 897mb while located in the Central Gulf of Mexico. Rita made landfall near the Texas-Louisiana border during the early morning hours of September 24th as a Category 3 hurricane. Extensive damage occurred along the southwest Louisiana and upper Texas coasts. Rita brought isolated tornadoes, tropical storm force wind gusts, and 1 to 4 inches of rain to the Mid-South.



Hurricane Rita as a Category 5 with a Pressure of 897 mb in the Central Gulf of Mexico

**National Weather
Service**

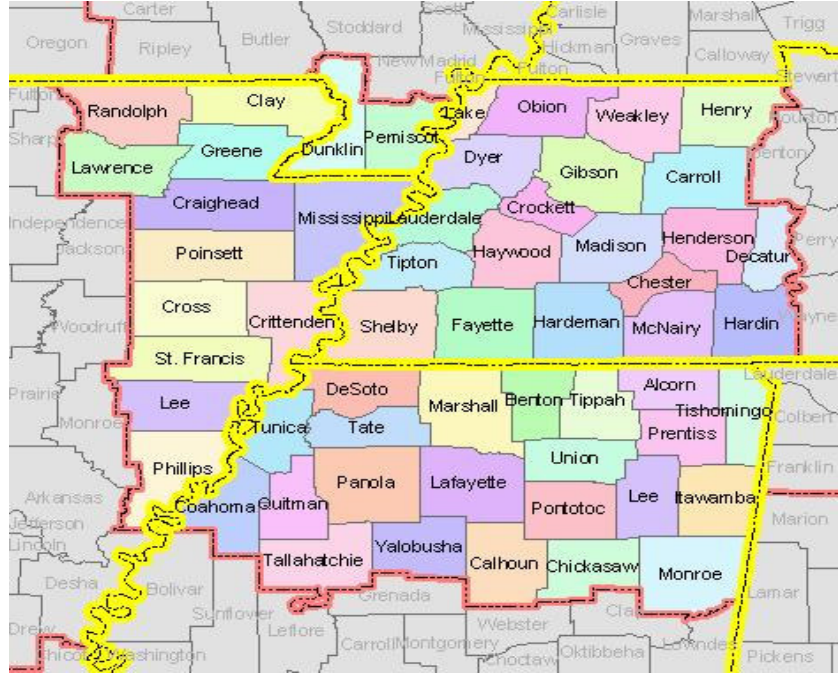
7777 Walnut Grove Rd OM-1
Memphis, TN 38120

Phone: 901-544-0399
Fax: 901-544-0414
River Line: 901-544-0415

**Working Together To
Save Lives!**

Visit us on the
web!
www.weather.gov

The National Weather Service office in Memphis, TN proudly serves 56 counties in 4 states.



NWS Memphis Wants Your Storm Photos!

Are you a weather enthusiast with a digital camera or a cell phone with a camera? If so, you might be able to assist the Memphis National Weather Service. Our office is seeking all photographs related to local weather events. Whether it is a tornado, hail, winter weather, flooding, or any damage resulting from severe weather, we want to see it!

To send your photos, please email us at

sr-meg.wx@noaa.gov

Please include your name, your location, and the time the photo was taken. Your photograph may even be published in the official Storm Data publication!

