SEVERE WEATHER AWARENESS WEEK

NATIONAL WEATHER SERVICE

Above: Tornado on the ground in Peach Orchard, AR on Oct. 18, 2004. Picture taken from viewer of KAIT-Channel 8 Jonesboro.

Awareness Week Dates for 2005:

- **Mississippi:** February 14– 18
- **Tennessee:** February 13 – 18
- **Arkansas:** February 14 – 18
- **Missouri:** March 14 - 18

We need YOUR storm and damage reports!

Call 1-800-432-0875

Severe weather reports are vitally important to the effectiveness of the National Weather Service public warning program. Those who voluntarily report severe weather play a major role in the decision-making process of the radar meteorologist. When severe weather is bearing down, many things happen quickly at the weather office. Additional staff is mobilized, new products are issued, and our Skywarn spotter network is activated. The Skywarn network includes amateur radio operators, citizen volunteers, and law enforcement officials.

Typically, once a severe storm develops, the radar meteorologist at the NWS will issue a severe weather warning. In other words, radar has indicated that large hail, tornadoes, or damaging winds are occurring or will likely occur in minutes.

(CONTINUED ON PAGE 2)

Severe Weather Awareness Weeks

By Scott Cordero, Warning Coordination Meteorologist

The weeks listed on the left have been designated Severe Weather Awareness Weeks in the Mid South. The National Weather Service and the Mississippi, Arkansas, Tennessee and Missouri Emergency Management Agencies are again asking for your help in spreading information to the public about the threat of severe weather and the life saving measures to be taken when severe weather occurs.

Severe weather watches and warnings are ineffective if the public does not receive the message or is not knowledgeable of the safety procedures to follow. The purpose of the Mid South Severe Weather Awareness Weeks is to provide people with the knowledge necessary to protect their lives when severe weather threatens.

Severe weather can develop very quickly, whether in the form of severe thunderstorms, tornadoes, or flash floods. Once a tornado approaches, or flooding develops, it is too late to start working on a preparedness plan. When severe weather develops, and warnings are issued, we must take immediate action to protect ourselves. Preparing for severe weather is the theme of this program.

So how does one prepare for severe weather? For a severe weather preparedness plan to be successful, it must include the following: knowledge of terminology such as watches and warnings, a thorough knowledge of safety rules to follow when severe weather strikes, a reliable method of receiving emergency information, the designation of an appropriate shelter, and drills to test the plan. **(Continued on page 2)**

Commerce Department Awards Gold Medal To WFO Memphis

By Scott Cordero, Warning Coordination Meteorologist

The U.S. Department of Commerce has awarded its Gold Medal to the staff of the National Weather Service's Memphis Forecast Office for "exemplary, life-saving performance during the devastating May 4 to May 8, 2003 tornadoes."

The Secretary of Commerce bestowed the Gold Medal -- the Department's highest honors award -- for extraordinary achievements in support of the Department's critical objectives. These achievements have a significant beneficial effect on the nation, and sometimes the world.

James Duke, former and retired Meteorologist In Charge and Robert Wagner, Senior Forecaster went to accept the Gold Medal from then **(Continued on page 2)**

Severe Weather Awareness Weeks

(Continued from page 1)

The best way to ensure the success of a preparedness plan is to test it. A Tornado Drill will be conducted between 9:00 and 9:30 am on Wednesday, February 16, 2005 for the citizens of Arkansas, Mississippi, and Tennessee. Everyone is encouraged to participate!

The drill will give everyone in homes, schools, hospitals, and businesses the opportunity to test their readiness in the event of an actual tornado. In many areas, emergency management officials will test local sirens when the practice warning is issued. Should the weather be threatening that day, the drill will be postponed until the following day, or later if necessary, to avoid confusion.

Also, during the week, the NWS will broadcast severe weather safety information on NOAA Weather Radio (NWR) and will transmit Public Information Statements (PNS) on news and weather wires.

Please go to your National Weather Service web page (http://www.srh.noaa.gov/meg/SWAW) for materials which will be useful during the Severe Weather Awareness Week campaign. You are also invited to contact the National Weather Service for interviews, information, or answers to any questions you may have. In many instances, we are also able to present severe weather awareness programs to civic and industrial organizations, schools, amateur radio clubs, and hospital staffs.

Storm reports

(CONTINUED FROM PAGE 1)

Once a warning is issued, obtaining information about the storm is imperative. This is vital for two reasons. First, tracking the storm and relaying that information to the public can save lives and property; and second, severe weather reports help perfect the radar operator's interpretive ability.

We need your help in the warning process. We desperately need the number of severe weather reports to increase. Our toll free number for reporting **severe weather ONLY** is 1-800-432-0875. Please ensure that public officials, like law enforcement and fire, have this number available to call in severe weather reports.

For more information, contact the following: Scott Cordero (Warning Coordination Meteorologist) at the National Weather Service Office in Memphis, TN (901-544-0411).

Commerce Department Awards Gold Medal To WFO Memphis

(Continued from page 1)

Commerce Secretary Donald Evans at a ceremony in Washington, D.C. on November 9.

Countless lives were saved because of the excellent warnings issued by the Memphis Forecast Office during the tornado outbreak. The average tornado warning lead time was 20 minutes; some areas were warned more than 30 minutes ahead of tornadoes. Despite having as many as four tornadoes on the ground at one time, forecasters were the picture of professionalism as they issued 325 county warnings in during the 5 day stretch. Forty two tornadoes hit the Mid South, making it the largest outbreak in regional history.

"The skilled dedication of our staff and the technology came together to produce an exemplary performance we can be proud of," said retired Meteorologist-in-Charge James Duke.

The Department of Commerce presented a Bronze Medal to the Memphis forecast office for its major life saving contributions involving the tornado outbreak in November 2001. The Department also presented a Silver Medal to the Memphis office for their life saving performance during the January 1999 tornado outbreak.

Right: Meteorologist Dan Valle and retired MIC Jim Duke hold up the coveted gold medal award at the Office

Storm Spotters

By Scott Cordero, Warning Coordination Meteorologist

Technology plays a critical role in severe weather, but another important element in the warning system is the storm spotter. Storm spotters come from all walks of life, joined by their interest in weather and serving their community.

Spotters are associated with SKYWARN, a volunteer program developed many years ago by the National Weather Service (NWS) to train and organize spotters in every community. Spotters are organized around local emergency management agencies, amateur radio clubs, and public service personnel from fire departments, rescue squads, and law enforcement agencies.

Spotters are critical because they provide timely information on the actual weather that is occuring at the ground, known as ground truth. Satellite imagery and Doppler radar provide NWS meteorologists with large amounts of information about the storm and its structure, but does not provide the specifics about the weather actually occurring at the ground. This is where spotters become the eyes and ears for the community.

Storm spotters go through training provided by the NWS to gain an understanding of storm structure, especially the most severe thunderstorms, climatology of Mid South tornadoes, exposure to visual clues, and information on tornado safety and reporting procedures. Amateur radio operators compose one of the largest groups of spotters in the Mid South because of their ability and willingness to communicate using their radios even when power and conventional communication methods are knocked out. NWS offices have established working relationships with the amateur radio community by including radio equipment in the offices to communicate with spotters in the field.

Fujita Intensity Scale (F Scale)

This scale is named after Dr. T. Fujita, the noted meteorologist who has studied tornadoes extensively and classified the damage created by these storms.

F Scale	Speed	Damage Threat
F0 (weak)	40-72 mph	Light damage...shallow rooted trees pushed over.
F1 (weak)	73-112 mph	Moderate damage...mobile homes overturned; roof surfaces peeled off.
F2 (strong)	113-157 mph	Considerable damage...large trees uprooted...mobile homes destroyed
F3 (strong)	158-206 mph	Severe damage...trains overturned; well built homes lose roofs and walls
F4 (violent)	207-260 mph	Devastating damage...well built homes leveled; cars tossed about
F5 (violent)	261-318 mph	Incredible damage...well built homes disintegrate; cars thrown.

To find the nearest Skywarn Spotter Class to your community please go to: http://www.srh.noaa.gov/meg/skywarncalendar.html
Or contact our Warning Coordination Meteorologist, Scott Cordero, at (901) 544-0411 or scott.cordero@noaa.gov

Inside the *Chronicle*...

For more on National Weather Service, see Page 5 of the *Mid-South Weather Chronicle.*

Or visit us on the web at http://www.srh.noaa.gov/meg/

Links to Severe Weather Safety Tips

Web Links for Emergency Preparedness
and Safety for Severe Weather Emergencies

http://www.srh.noaa.gov/meg/SWAW/
http://www.tnema.org/EP/EP_WX.htm
http://www.lightningsafety.noaa.gov/
http://www.redcross.org/services/disaster/
http://www.firstgov.gov/Topics/weather.shtml
http://www.fema.gov/library/diskit.shtm
http://www.ecu.edu/oehs/EmergencyProcedures/severeweather.htm
http://www.fema.gov/rrr/talkdiz/thunder.shtm
http://www.wreg.com/Global/story.asp?S=383269
http://www.tornadoproject.com/safety/safety.htm

Valid Time Event Code

By Corey Chaskelson, Meteorologist

VTEC is coming to the Mid-South this February. VTEC...what does this acronym mean for the National Weather Service (NWS)? No, its not related to engines in vehicles. VTEC for the NWS stands for Valid Time Event Code (VTEC). VTEC was created to allow the end users (media, public safety, emergency management, etc.) an easy way to display watches and warnings graphically on computer systems. It also allows quicker dissemination of the watch, warning, and advisory information. Here in the Mid-South, we started using VTEC officially on February 8th in Tornado Warnings, Severe Thunderstorm Warnings, Severe Weather Statements, and the Storm Prediction Center's (SPC) Watch Outline Update (WOU).

Here are some Frequently Asked Questions about VTEC:

Why is the NWS using VTEC? The NWS is using VTEC to improve dissemination to external users, standardize products, and to help diminish mistakes when issuing warnings.

How do I read a line of VTEC coding: Here below are a few different hypothetical examples...

New Warning Issuance:
/O.NEW.KMEG.WW.Y.0023 050119T1600Z-050120T0300Z/

O-Operational VTEC **NEW**-New Hazard (First issuance)
KMEG- National Weather Service, Memphis, TN
WW-Winter Weather **Y**-Advisory
0023-23rd Winter Weather Advisory issued this year
050119T1600Z-Hazard begins at 16z (10am CST) on 1/19/05
050120T0300Z-Hazard ends at 03z (9pm CST) on 1/20/05

Continuation of a Warning:
/O.CON.KMEG.HW.A.0004 050319T1600Z-050320T0300Z/

O-Operational VTEC **CON**-Continued Hazard (followup)
KMEG- National Weather Service, Memphis, TN
HW-High Wind **A**-Watch
0023-4th High Wind Watch issued this year
050319T2000Z-Hazard begins at 16z (11am CDT) on 3/19/05

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Volume V, Issue 1

SPRING/SUMMER '05

Mid-South Weather Chronicle

Visit us online: www.weather.gov

National Weather Service Memphis, TN

Serving the Mid-South

Inside this issue:

2004 MidSouth Weather Year In Review

By Jason Beaman, Intern Meteorologist

The year 2004 will be remembered as a very active weather year for the MidSouth, with its fair share of unusual and even historic events. The region saw everything from tornadoes and damaging winds, to flash floods, to winter storms, to record highs and lows. Here is a look back at the weather that was for the year 2004.

Three significant severe weather events occurred during the course of the year. The Memorial Day Weekend severe weather outbreak on Sunday May 30th produced two confirmed tornadoes (a F-1 in Tippah County, MS and a F-2 in Cross County, AR) along with numerous reports of damaging winds and large hail. The estimated cost of damage was $950,000 but fortunately no injuries were reported. The next significant event occurred on the 4th of July. A line of severe thunderstorms produced a swath of damaging winds from northeast Arkansas to the Tennessee River. Northeast Arkansas was the hardest hit, where winds exceeded 75 mph and caused some structural damage. There were numerous trees and power lines downed throughout the area. The tornadic storms of October 18th was the last major severe weather event for the year across the Midsouth. Numerous supercells spawned a total of 14 tornadoes, including a F-2 that hit Cooter, Missouri and two F-1s that struck Dyersburg and Paris in western Tennessee. Unfortunately, three people in Cooter were killed when the tornado hit their farm house. Substantial damage was also reported in Dyersburg and Paris.

The biggest flash flooding event occurred in Tishomingo County, Mississippi on the morning of August 25th. National Weather Service Doppler Radar indicated that 11.5 to 12 inches of rain fell in a 12 hour period over a small portion of southern Tishomingo County. Tragically, an 87 year old man drowned when he tried to drive his car through water flooding over Highway 4 near the Natchez Trace Parkway.

Winter storms were also a part of the Midsouth's 2004 weather. On February 15th, an upper low dropped up to 7 inches of snow over portions of western Tennessee south of the Interstate 40 corridor as well as parts of northern Mississippi. Another snowfall event produced 2 to 4 inches of snow on April 13th east of the Memphis metropolitan area. In fact, it was the latest snow ever recorded at Jackson, TN. Prior to this snowfall, the latest snowfall on record was April 5th, 1971. The year also ended wintry as a winter storm hit the Midsouth on December 22nd. A combination of freezing rain, sleet, and snow fell across the region. Extreme northern portions **(Continued to page 8)**

Mississippi River Flooding of January 2005

By Buzz Merchlewitz, Hydrologist

The Mississippi River caused widespread flooding through the heart of the mid-south during January. Just where does all this water come from? People who are familiar with the river know to look upstream to the Ohio River to see what's coming down our way. Since the Ohio River contributes most of the flow to the Lower Mississippi River, it has the largest impact on the local river stage levels. The Upper Mississippi River can have a significant effect also, but not nearly as much as the Ohio River.

Widespread heavy rain and snow melt across the Ohio River basin during December and early January produced major flooding along the Ohio River. Between January 1st and January 11th, the city of Columbus, Ohio had already received its seasonal, January, February, and March rain totals. Many of the small stream and rivers in Ohio were at record levels for this time of the year. Widespread rain across Tennessee also brought the Tennessee River to flood levels in late December. All this combined to cause the Lower Mississippi River to rise over flood stage all the way down to Memphis by mid and late January. The gauge at Helena Arkansas crested just below flood stage. Although not near the highest river levels we have seen on the Mississippi, they were some of the highest stages **(Continued to page 7)**

Memphis Meteorologist in Charge James Duke Retires

By Scott Cordero, Warning Coordination Meteorologist

Jim Duke
Picture taken by Meteorologist Andy Sniezak.

After nearly three and half decades of distinguished service to the National Weather Service, veteran meteorologist, **Jim Duke** left his position as Memphis Weather Forecast Office Meteorologist in Charge. His retirement was effective on January 3, 2005.

Jim Duke has consistently provided innovative and inspired leadership to the National Weather Service. His contributions to the science of meteorology and weather forecasting services, his tireless and unwavering dedication to the safety and well being of the American people - have been truly outstanding. Jim Duke will be missed. The National Weather Service is blessed to be on the receiving end of his years of steady and imaginative leadership that has set a standard of excellence.

Jim has built many relationships with emergency management, the media, and first responders, stressing always the importance of building strong relationships within the Mid South community and the National Weather Service. This has enhanced our mission to work together to save lives.

Valid Event Time Code

(Continued from page 4)

050320T1200Z-Hazard ends at 03z (10pm CDT) on 3/20/05

Cancelled/Cleared Hazard:
/O.CAN.KMEG.SV.W.0003 050619T1600Z-050620T0300Z/

O-Operational VTEC **NEW**-New Hazard (First issuance)
KMEG- National Weather Service, Memphis, TN
SV-Severe Thunderstorm **W**-Warning
0003-3rd Severe Thunderstorm Warning issued this year
050619T1600Z-Hazard begins at 16z (11am CST) on 6/19/05
050620T0300Z-Hazard ends at 03z (10pm CST) on 6/20/05

Will any other products in the future use VTEC?

Some products that will use VTEC across the Mid-South in the future will be Watch County Notification ((WCN) issued by the local forecast office), SPC intermediate Watch Outline Updates (WOU), all Winter Weather watches, warnings, and advisories (WSW), All Non-Precipitation watches, warnings, and advisories (NPW), Fire Weather Watches and Red Flag Warnings (RFW), and all hydrological products.

Where can I learn more online about VTEC and its associated codes?

Visit http://www.nws.noaa.gov/om/VTEC for more information about Valid Time Event Codes.

StormReady

By Scott Cordero, Warning Coordination Meteorologist

StormReady is a nationwide community preparedness program that uses a grassroots approach to help communities develop plans to handle all types of severe weather...from tornadoes to tsunamis.
The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear cut guidelines on how to improve their hazardous weather operations.
To be officially StormReady, a community must:
*Establish a 24 hour warning point and emergency operations center.
*Have more than one way to receive severe weather warnings and forecasts to alert the public.
*Create a system that monitors weather locally.
*Promote the importance of public readiness through community seminars.
*Develop a formal hazardous weather plan, which includes training severe weather spotters, and holding emergency exercises.

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Mississippi River Flooding of January 2005

(Continued from page 5)

we have seen recently for this time of the year.

The Ohio River gauge at Cairo IL crested at 52.2 feet on January 17th, which was 12.2 feet above flood stage. The Mississippi River crested at Tiptonville TN on January 18th at 42.3 feet, 5.3 feet above flood stage, at Caruthersville MO on January 19th at 39.7 feet, 6.7 feet above flood stage, and at Memphis it crested at 35.7 feet on January 22nd, 1.7 feet above flood stage. Most of the land inside the main line levee system was flooded and backwater flooding from the smaller tributary rivers affected thousands of acres of land outside the main levee system. The Obion River in Dyer County Tennessee caused the most backwater flooding which affected thousands of acres of farm land and closed highways 104 and 88.

Through all of this, the Army Corps of Engineers at Memphis kept a close eye on the condition of the mainline levees from Cairo down to Helena. Everything held up well.

We may still have some springtime flooding to deal with and, as always, residents of the MidSouth need to always be prepared for flooding conditions. Stay up to date with the latest river stage forecasts and flood bulletins by checking our web page at www.srh.noaa.gov/meg and clicking on Rivers and Lakes AHPS under current conditions.

Below left: January 21, 2005 Memphis River Front showing Mud Island and Mud Island Harbor cobblestones covered by water. Memphis Stage 35.5 feet.

Below right: January 20, 2005 Western Dyer County, TN backwater flooding from the Obion River near Hwy. 104.

Tippah County, Mississippi Becomes StormReady

By Scott Cordero, Warning Coordination Meteorologist

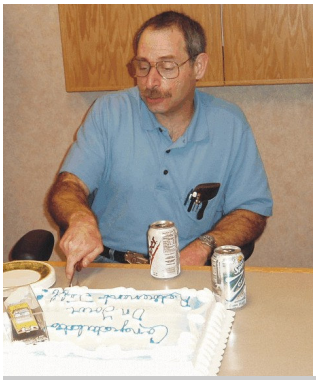
A special celebration was held on December 10, 2004, when the National Weather Service (NWS) designated Tippah County Mississippi as a "StormReady" community. The NWS, as well as Mississippi state and local representatives recognized the accomplishments of Tippah County for their mitigation and preparation to obtain StormReady status. The StormReady ceremony for Tippah county was held at the Tippah County Court House in Ripley, MS.

December 10, 2004 Ripley, MS from left: NWS WCM Scott Cordero, NWS Memphis currently retired MIC James Duke, Tippah County Emergency Manager Tom Lindsey, Mississippi Emergency Management Agency Executive Director Robert Latham.

Forecaster Jeff Lustig Retires

By Scott Cordero, Warning Coordination Meteorologist

Jeff Lustig retired on **January 8, 2005** from the National Weather Service. We thank Jeff for his 31 years of service to the citizens of the United States. We give best wishes to Jeff for a long and rewarding retirement and many thanks for his years of selfless performance and devotion to duty.



Jeff Lustig
Picture taken by Hydrologist Buzz Merchlewitz

Jeff was part of several historic weather events. They include the 'Governor's Tornado' in 1977, the 'Storm of the Century' in 1993, the Germantown Tornado of 1994, the Mid-South Tornado Outbreak in 1999, the Veteran's Day tornado outbreak in 2002, and the record breaking May 2003 tornado onslaught. The experience and skill gained through handling those major events led to the life saving performance that gained the Department of Commerce's Bronze, Silver and Gold Medals. The superior performance also earned Jeff the Federal Executive Association's 'Employee of the Year' recognition.

As Jeff retires, he will be missed and in our thoughts often. Jeff will always be a part of the National Weather Service family. We wish Jeff the best as he sets forth on a new adventure, along a new road in life.

2004 MidSouth Weather Year in Review

(Continued from page 5) of the MidSouth received up to 8 inches of snow, while the Memphis area received 2 inches of sleet and snow. Many people across the area did not have to dream of a white Christmas, as arctic air allowed the white stuff to remain on the ground for several days.

2004 was an average year in the temperature department, but an above normal year for rainfall. Memphis recorded 53.71 inches, 1.62 inches above normal. Jackson, TN recorded 59.40 inches, 4.62 inches above normal. Jonesboro, AR received 51.75 inches, 5.57 above normal. Tupelo, MS was the big winner with 69.62 inches, which was 13.76 inches above normal!

StormReady

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For more information on what is required for your community contact Scott Cordero or Jim Belles at the National Weather Service Forecast Office in Memphis at (901)-544-0411.
StormReady information is available on the Internet website: www.nws.noaa.gov/stormready/

MidSouth Winter Storm

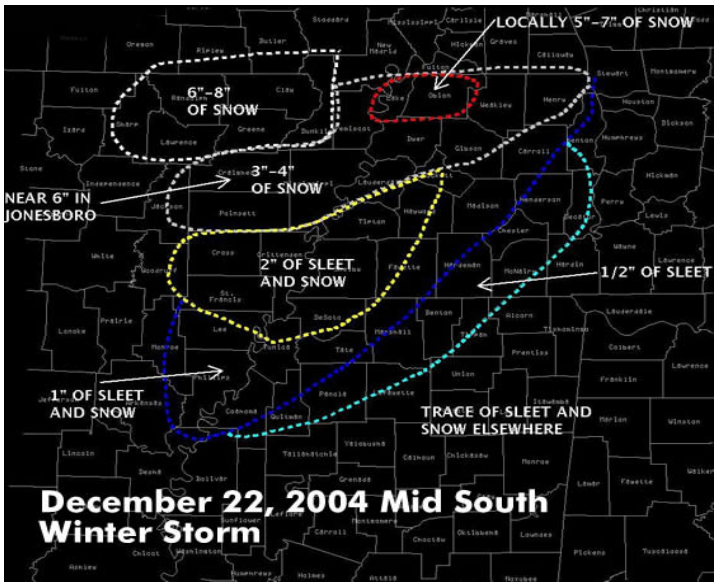
By Scott Cordero, Warning Coordination Meteorologist

December 22, 2004

Overview:

On Wednesday, December 21, an arctic front was located just to the north of the Midsouth. The front marked the boundary between mild air to the south (temperatures in the 40s and 50s) and very cold air to the north (well below freezing). Meanwhile, a strong upper level system was organizing over the southern Plains. By the early morning hours of the 22nd, rain began to overspread the region as the system began to progress eastward toward the region. At the same time, the arctic boundary began to move south. As below freezing temperatures began to spill into the Mid South Region, the rain quickly changed over to a mixed bag of winter precipitation.

When the event was over, 6-8" of snow had accumulated across the extreme northern portion of the CWA. 3-6" of snow was reported from Jonesboro to Dyersburg. Further south, 2" of sleet and snow accumulated in Memphis and surrounding areas. The Tupelo area was spared as the colder air did not arrive until the precipitation had almost ended. Therefore, Tupelo only reported a trace of snow. Most locations that received sleet and snow, first received around one tenth to one quarter inch of freezing rain.



This photo was taken in Lexington, Tennessee on Thursday morning, December 23, 2004 by Mr. Lynn Murphy, Henderson County EMA director. Lexington received an inch of freezing rain, an inch of sleet, a few snowflakes. A couple more hours of freezing rain instead of sleet would have been a real problem.

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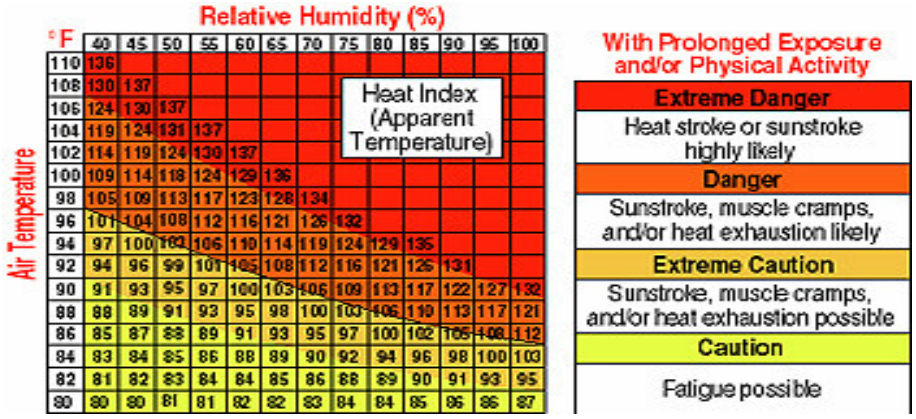
http://www.srh.noaa.gov/meg/



You can prepare yourself and family for excessive heat and humidity by listening for advisories and warnings issued by the National Weather Service (NWS).

The NWS issues a **Heat Advisory** when: 1) an afternoon HI of 105 degrees is forecast or observed during two (or more) consecutive daytime periods, with an intervening overnight minimum air temperature of 78 degrees of greater, or 2) anytime the HI is forecast or observed to be 110 degrees or greater.

The NWS issues an **Excessive Heat Warning** when the HI will be 115, or greater for 3 hours or more and the HI will be 80 degrees or greater for 24 hours.

The following are a few safety tips to follow during heat waves:

1. Drink more NON-alcoholic beverages
2. Wear light color and loose fitting clothes
3. Stay inside air conditioned places as much as possible. Check on those who live without air conditioning, especially the elderly. If you don't have air conditioning, stay near a fan.
4. Do outdoor activities in the early morning and evening hours, when temperatures are at their coolest.