



# *The ArkLaMiss Observer*



*Second Edition, Summer 2003*

The official newsletter of the Jackson, MS Forecast Office

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## **Graphical/Gridded Forecasts Available on Internet**

**by Jeff Craven, Science and Operations Officer**

The NWS Jackson Office is routinely issuing graphical forecasts for our service area and posting them on the Internet. The forecasts can be found on the main Jackson, MS NWS home page under "Forecasts" and the submenu "Graphical Forecasts".

<http://www.srh.noaa.gov/data/ifps/jan/GFE/>

Forecasts of high and low temperatures, probability of precipitation (POP), cloud cover, and expected rainfall can be found for the next 48 hours. In addition, 3 hourly forecasts of temperature, wind, relative humidity, and heat index/wind chill are also available. Skilled forecasters at your National Weather Service office in Jackson routinely spend many hours manually creating these graphics from scratch. Some of the products are created by adjusting parameters from sophisticated computer models of the atmosphere. Production of these weather forecasts in a graphical sense as opposed to typing text forecasts has been a significant revolution in how your forecasts are now disseminated.

Since each of the nearly 120 Forecast Offices across the USA are making these gridded forecasts, they are available graphically for the lower 48 states at:

<http://www.weather.gov/forecasts/graphical/>

This allows for quick access to weather across the country for travel purposes. It also gives you a quick glance at what dramatic changes in temperature or precipitation may be approaching your area from nearby states. You can see what the weather will be like at distant locations where relatives or friends might live. Best of all, information about sharp gradients in temperature or precipitation can be provided using graphical forecasts that are difficult if not impossible to do using spot or text forecasts.

This National Digital Forecast Database (NDFD) allows you to zoom into an area of interest and look at the forecast for any 12 hour period up to a week in advance. You'll notice the high resolution nature of the temperature forecasts, especially in the mountainous terrain of the Western states. As the NDFD expands, you'll see more and more different types of weather parameters added to the forecast page.

# **NWS and Our Partners: Working Together to Save Lives**

**by Jim Butch, Warning Coordination Meteorologist**

Over the past two years there has been a lot of emphasis placed on Homeland Security in this country. While this is vitally important, we should also not lose sight of the fact that mother nature was and will continue to be one of the greatest risks to our society. Weather disasters disrupt and destroy people's lives.

During the months of April and May, there were over six hundred tornadoes reported across the United States. Property damage from these record number of tornadoes will likely total in the billions of dollars, yet the loss of life was minimal when compared to previous outbreaks. Over the past 5 years we have seen a downward trend in the fatality rates from weather disasters, and one has to ask why? Certainly, there are several factors that contribute to this downward swing. One factor is a staff of highly skilled and highly motivated employees at National Weather Service offices across the country, whose mission is to protect lives and property. Second, the National Weather Service, in conjunction with Emergency Managers, the Red Cross, and other partners, conducts education and outreach programs to help people better understand and prepare for natural disasters. Finally, the National Weather Service works closely with our partners and customers, including the media and emergency management, to disseminate the most accurate and immediate information available.

Your National Weather Service Office in Jackson serves 47 counties in Mississippi, 9 parishes in Louisiana, and 2 counties in Arkansas. This is a total of 58 counties that comprise our County Warning Area (CWA). From October 2002 through June 2003, there have been a total of 63 tornadoes reported in our CWA. During this same period, the Jackson office issued 309 tornado warnings. Of the tornadoes that did occur, warning lead times averaged around 15 minutes. There were a total of 73 people injured from these tornadoes and unfortunately one fatality occurred in Lowndes county.

It has also been a very active season for flooding and flash flooding. During the same time period listed above, the Jackson office issued a total of 287 Flash Flood Warnings. Of that number of warnings, flooding occurred in 163 of them, and warnings were issued on average nearly one and one half hours before the flooding began.

Some of the more significant events from October last year through June this year were an F3 tornado that slammed into Columbus, MS and another F3 tornado that struck Brandon, MS. Another significant event occurred on April 6<sup>th</sup> and 7<sup>th</sup>, when 8 to 12 inches of rain fell over central Mississippi causing record flooding across several counties. One person died from flooding in Scott county when he drove his car into flood waters.

The motto of the NWS is "Working Together To Save Lives." That is our mission at NWS Jackson. We take our responsibility to the people of our County Warning Area very seriously and we are committed to providing you with the best weather services we possibly can.

# Stay Safe This Summer

by Jennifer Colson

Summertime means hot temperatures and high humidity. This causes afternoon thunderstorms to randomly develop throughout the season. With summer also being the greatest time for outdoor sports and activities, here are a few safety tips to keep in mind if you're ever caught outside when a thunderstorm strikes.

## **Lightning Safety:**

1) If possible, get indoors immediately! If you can hear thunder, you are close enough to be struck by lightning. Once indoors, unplug all appliances not needed to obtain weather information and avoid using the telephone or taking a shower.

2) If shelter is not available, find a low spot away from trees, poles and fences. Squat low to the ground on the balls of your feet to make yourself the smallest target possible, and to minimize your contact with the ground. Then, place your hands over your ears and put your head between your knees.

## **Flash Flood Safety:**

1) Avoid walking, swimming, or driving in flood waters. Seek higher ground if you are in an area susceptible to flooding.

2) Stay away from high water, ditches and storm drains. If you come upon flood waters, turn around and go another way. If it is moving swiftly, even water six inches deep can knock you off your feet.

## **Tornado safety:**

1) Seek shelter in a sturdy building. Move into a small interior room or hallway on the lowest floor, and get under a sturdy piece of furniture. Stay away from windows, and try to put as many walls as possible between you and the outside.

2) If caught in your automobile, leave it for safe shelter immediately. Do not try to outrun a tornado in your car. Lie flat in a nearby ditch or depression and cover your head with your hands. Be aware of flying debris...this is what causes most injuries and fatalities.

To avoid being caught outside, remember to monitor the weather and recognize when the potential for thunderstorms is high. If you hear that the county in which you live is under a tornado or severe thunderstorm watch, this means that conditions are favorable for tornados or severe thunderstorms to occur. If you hear that a tornado or severe thunderstorm warning is in effect for your county, seek shelter immediately! A warning means that a tornado or severe thunderstorm is occurring or imminent, and those in the path of the storm are in imminent danger to life and property.

# Spring Flood Events

by John Gagan and Marty Pope

The winter and early spring of 2003 brought two significant heavy rainfall and flooding events to the Jackson, Mississippi county warning area (CWA). Both events resulted in top fifteen crests of the Pearl River at Jackson, with a crest in February of 35.20 feet, and a crest in April of 35.15 feet. Both were the highest river crests since 1983. At first glance, one might think two crests near 35.2 feet would cause similar flooding problems. However, the meteorological events responsible for these crests, and their ultimate effect on the public within Jackson's CWA, were quite different.

In late February, a strong late winter storm moved into the Lower Mississippi River Valley and brought two waves of heavy rainfall to the region. The first wave produced a steady, moderate to heavy rainfall, which began during the late evening hours of February 20<sup>th</sup> and lasted through the mid morning hours of February 21<sup>st</sup>. Between two and four inches of rain fell across Southeast Arkansas, Northeast Louisiana and Central Mississippi, while three to five inches of rain fell over Southern Mississippi. The steady, prolonged rainfall acted to gradually saturate the already moist soils throughout Northeast Louisiana and Central and Southern Mississippi. The rainfall briefly stopped during the late morning and early afternoon hours of February 21<sup>st</sup>, however, a second wave of heavy rainfall moved into the area from the south and overspread the region during the late afternoon and evening hours. An additional three to five inches of rainfall accumulated over the entire Jackson CWA.

With saturated soil conditions present over the area, moderate flash flooding occurred, particularly over southern and central portions of Mississippi. The extended duration of the waves of heavy rainfall aided in limiting the severity of the flash flooding. Varying categories of river flooding were also observed in the Jackson CWA. Sharp rises on smaller streams were observed, while the Pearl River gage at Jackson observed a steady 3-day climb from 23 feet at the onset of the event, to a record crest for the month of February at 35.2 feet.

In early April, a potent early spring storm moved into the Jackson CWA and brought with it a significant mix of severe weather and heavy rainfall. Several supercell thunderstorms developed over Northeast Louisiana and moved into Central Mississippi during the morning and early afternoon hours of April 6<sup>th</sup>. While the severe weather, in the form of large hail and several tornadoes, dominated the attention of the public within the Jackson CWA, between two and four inches of rain fell across the I-20 corridor from

Vicksburg to Meridian. This rainfall helped to saturate dry soil conditions over Central Mississippi.

By the late afternoon hours of April 6<sup>th</sup>, a second wave of severe thunderstorms developed over Northeast Louisiana and moved eastward into Central Mississippi. Where severe weather dominated the first wave of thunderstorms, heavy rainfall dominated the second round. Rainfall accumulations ranging from five to eight inches fell during the late afternoon and evening hours of April 6<sup>th</sup> over the same area that had received between two and four inches of rain earlier in the day. By the end of the event, Jackson International Airport reported 8.5 inches of rain, setting the all-time 24-hour rainfall record for the station. In addition, several NWS cooperative stations reported 24-hour rainfall greater than nine inches, with areas in and around the Ross Barnett Reservoir reporting between 10 to 12.5 inches.

The excessive rainfall accumulations, which fell during a period less than 18 hours, resulted in widespread, major flash flooding across much of Central Mississippi, with many creeks and tributaries inundating the populated regions of the Jackson Metropolitan Area and other areas of East Central Mississippi. Runoff from the creeks and tributaries caused river levels to rise dramatically within 24 hours. In the end, the Pearl River at Jackson reported a crest of 35.2 feet, while in east Mississippi, the Chunky River reported an all-time record crest of 27.13 feet, and the Chickasawhay reported an all-time record crest of 43.13 feet.

The flooding events of late February and early April resulted in similar crests of the Pearl River at Jackson, however each flood had a vastly different impact on the public. Stark differences in rainfall accumulation, duration, and areal coverage defined the dominant flooding hazard during these events. The late February event had rainfall accumulations between five and seven inches over a 30-hour period across the majority of the Jackson CWA. Moderate flash flooding occurred, but the primary hazard was river flooding. The excessive rainfall of April 6<sup>th</sup> and 7<sup>th</sup> occurred in a matter of 18 hours, primarily along the I-20 corridor from Vicksburg to Meridian. Unprecedented rainfall accumulations resulted in major flash flooding, and the subsequent runoff resulted in a fast rising Pearl River. By far, the April event posed a higher danger to the public, as fast rising small streams and creeks temporarily became raging rivers, flooding urban and suburban neighborhoods not normally prone to widespread flooding. As the events of late February and early April demonstrate, not all 35.2 foot crests are created equally.

# The New NOAA Weather Radio

## by Douglas Butts

Since April, you might have noticed a few changes to the weather radio broadcast from your National Weather Service in Jackson. These changes were made in order to improve the overall quality of the broadcast, while continuing to provide the most up-to-date weather and hazard information. For the most part, we have only made minor changes, mostly dealing with which voice reads each product. However, we have also added a few new products to our weather radio broadcast. These products include:

**Traveler's Forecast** – This product gives the expected weather conditions, as well as forecast highs and lows, for major travel destinations around the country. It is broadcast for three hours beginning about 6:30 am (CDT) and 6 pm (CDT).

**Regional Weather Synopsis** – With this product, you'll get a brief look at weather systems expected to affect our region over the next 24 to 48 hours. This product is updated around 5:30 am and 5:30 pm.

**Coastal Marine Forecast** – Only broadcast on our transmitters serving the Natchez and Hattiesburg areas, this will provide marine interests a look at the expected winds, sea height, and sea state for the next five days along the Mississippi Coast. It is generally updated around 4:30 and 10:30 pm (CDT), as well as 4:30 and 10:30 am (CDT).

We have also updated the hourly weather roundup for our nine transmitters to provide a broad look at weather conditions around the region.

Here's where you can help! If you listen to our weather radio broadcast, we value your opinion. After all, this is *your* weather radio. Are there any additional products or services we could provide you? Is there something we're doing that you don't like? Is something being mispronounced? If so, let us know! You can submit your opinion by visiting our website at <http://weather.gov>, then click on the state of Mississippi. You can also drop us a letter at:

National Weather Service  
234 Weather Service Drive  
Jackson, MS 39232  
Attn: Doug

We can't guarantee that every suggestion will be incorporated into the weather radio broadcast. However, if enough people have the same opinion, we will try our best to meet your needs.

Finally, we would like to take a minute to congratulate the winners for our recent name the voice contest. If you listen to weather radio, you've probably heard that Gale won for the female. After over a month's worth of debate, Woody was the winner for the male name. However, a recent software upgrade made a major change, and we hope improvement, in the male voice. Because it is not the original male voice, we have not used the winning male name in our broadcast. The staff of your National Weather Service will be voting on the name for the new male voice, and we'll be sure to let you know what that is when the voting has been completed. We'd like to thank everyone who submitted an entry for the contest.

Thank you for listening to weather radio, your one stop source for weather and hazard information.

# Active Hurricane Season Predicted

by Jennifer Colson

The National Hurricane Center, in collaboration with the Climate Prediction Center and the Hurricane Research Division, are forecasting 11-15 tropical storms to develop this season, with 6-9 of the storms developing into hurricanes, and 2-4 of these becoming major hurricanes of category three strength or greater. Hurricane strengths are defined based on the Saffir-Simpson scale. This consists of categories 1-5, with one being the weakest and five being the strongest. A tropical system becomes a category one hurricane when sustained winds become 74-95 mph. These storms typically cause a 4-5 foot storm surge and minimal damage. Category two hurricanes have sustained winds of 96-110 mph, with a 6-8 foot storm surge and moderate damage. Sustained winds of 111-130 mph define a category three hurricane. These storms cause a 9-12 foot storm surge, extensive damage, and may require evacuation of coastal areas. Category four hurricanes have sustained winds of 131-155 mph, with 13-18 foot storm surge and cause extreme damage. Evacuation of residential areas up to six miles inland may be required. Finally, a category five hurricane has sustained winds greater than 155 mph and a storm surge greater than 18 feet. Catastrophic damage occurs and evacuation of residential areas 5-10 miles inland may be required.

The greatest threat from hurricanes for inland communities, such as the areas in WFO Jackson's County Warning Area, is not typically high winds, but rather the flooding that occurs from the excessive rainfall the hurricane brings. More deaths have occurred in the past 30 years due to inland freshwater flooding from landfalling hurricanes than from any other weather hazards associated with hurricanes combined. For this reason, it is very important to be prepared and informed if a tropical cyclone threatens your area. Make sure you have enough non-perishable food and water available, and be sure to keep battery-powered flashlights and radios in working condition with plenty of extra batteries. Also keep first-aid supplies on hand. Stay advised to the latest information of the storm's progress via NOAA weather radio or your local news media. Be sure to clear all drains and gutters of debris and keep trees and shrubbery trimmed. Bring any light-weight objects that are outside indoors and secure all windows and doors with shutters or plywood. Keep vehicles fueled, extra cash on hand, and bring pets with you. Remember not to drive through flooded areas and, if high winds do strike, take refuge in the most interior room or hallway that is free of windows on the lowest floor of the building.

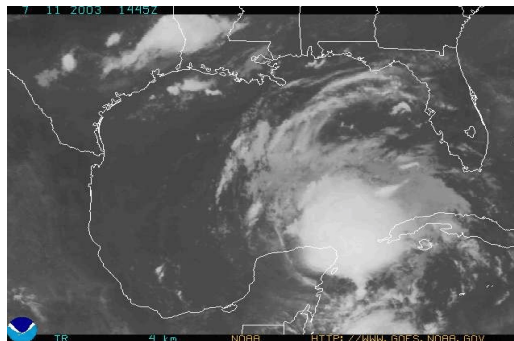


Image of Claudette on 7/11/03 at 1445Z