

# The Wilmington Wave

National Weather Service, Wilmington, NC

VOLUME 1, ISSUE 1

FALL 2011



## Our Newsletter and the Office

Welcome to the debut edition of The Wilmington Wave! It has been a few years since our last newsletter, but here we are back up and running! Our newsletters will be filled with information of past weather events, local office research, work and collaboration within the community, weather safety awareness tips, a look into various services we provide, and much more!

You will find that information within our newsletter is tailored to those areas in which the National Weather Service office located here in Wilmington, NC (ILM) serves. Though located near the Wilmington International Airport, our area of responsibility includes eight counties in northeastern SC (Darlington, Dillon, Florence, Georgetown, Horry, Marion, Marlboro, and Williamsburg), six counties in southeastern NC (Bladen, Brunswick, Columbus, New Hanover, Pender and Robeson), and 40 nautical miles along the coast.



and state officials, outreach events, and much more!

We here at NWS ILM hope that you enjoy this newsletter and find it beneficial. Our newsletter will be published twice a year, with possible issues in between. We welcome feedback, comments, and suggestions for future newsletter issuances!

Our primary goal in the National Weather Service is to protect life and property which we achieve through the dissemination of weather information, collaboration with county



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## Weather and Climate in Wilmington, NC

- Tim Armstrong

It was February 9, 1870, and President Ulysses S. Grant signed into law a bill that instructed the U.S. Signal Service Corps to begin collecting weather observations. The establishment of a telegraph system just ten years earlier meant these weather reports could be seen by forecasters in Washington DC just minutes after recording the information. This was the beginning of the effort that would later become the U.S. Weather Bureau, and

eventually today's National Weather Service.

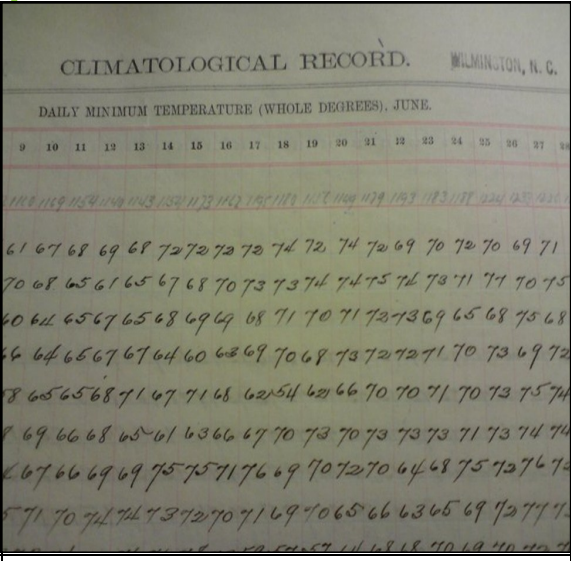
Weather observations consisting of temperature, humidity, pressure, cloud cover, and wind force (a reliable device to measure speed had not yet been invented) initially were recorded at just 24 stations, all in the Eastern United States and Great Lakes. This later grew to 284 stations by 1878. These reports were plotted by hand after being re-

ceived by a telegraph operator. Within a short time a fully analyzed weather map complete with fronts, highs, and lows was presented to a meteorologist who would then apply simple forecasting techniques to produce a short-range forecast for the nation. Forecasts were sent by telegraph back down to the local weather offices where Signal Service officers would raise flags of special shapes and colors to indicate strong winds, cold, or rain expected within the next 24 hours.

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# Weather and Climate in Wilmington



Daily Highs, Lows and Rainfall amounts were handwritten in the Station Climate Book until the introduction of computerized recording in the 1960s.

House Building (now called the Alton Lennon Federal Building) on Water Street, overlooking the Cape Fear River.

With the growth of air travel in the 1940s and the enormous importance of weather information to its safe operation, the weather office and official weather observations were moved northeast just over three miles to the New Hanover County airport in 1951. The office was initially located on the second floor of the old Airport Administrative Building, and moved to its current modern facility on Gardner Drive on October 23, 1994.



The first weather office at the New Hanover County Airport, November 1952.

Instruments used by meteorologists to record the weather have changed markedly over the years. Up until the 1960s mercury thermometers were still used to record temperature. These were replaced by an electronic thermometer called an "HO-62" in the 1960s which was later replaced in the 1980s by an "HO-83." This instrument was upgraded in the 1990s by ASOS – the Automated Surface Observing System. ASOS replaced the human observer with a computer-controlled system that records temperature, humidity, wind speed and direction, rainfall, thunderstorm occurrence, visibility, and even cloud cover and height. This information is available on a minute-by-minute basis and produces a very finely detailed climate record for later study.

establishing a high-precision record of short-term, hourly and daily rainfall.

Radars and weather satellites didn't exist before the 1950s and 1960s respectively, enhancing our ability to more completely record the weather and how it changes over time.

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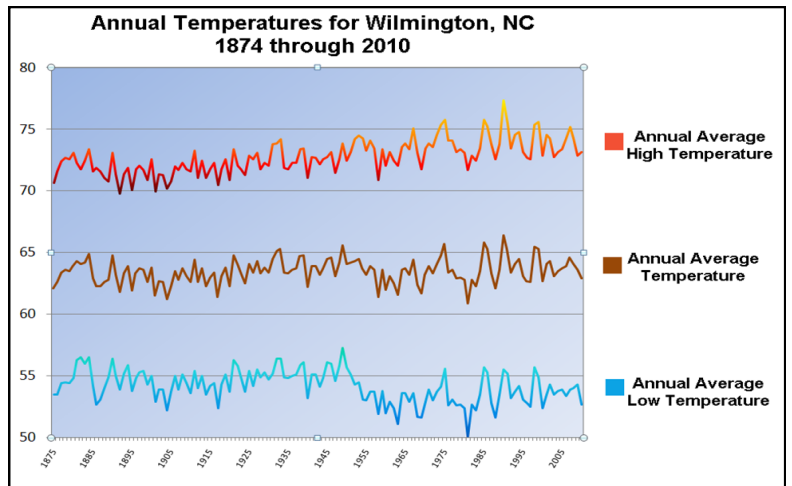
Official weather observations of rainfall began in Wilmington on December 18, 1870. Wilmington's first weather office was established at the southeast corner of Water and Market Streets, the current location of the blue Riverboat Landing restaurant. Daily high and low temperatures were recorded beginning January 1, 1874 and the office moved later that year to the corner of Princess and Front Streets. Another move in 1890 placed the weather office in the Post Office building at the corner of Front and Chestnut Streets. In 1931 the weather office moved yet again into the Customs

Similar advances in technology have improved the measurement of humidity and wind speed. Even the lowly rain gauge, for hundreds of years simply a bucket open to the sky, is now a high-precision apparatus that weighs the amount of rain that falls moment by moment,

With nearly 140 years of weather records from Wilmington now in the books, we have not observed the rapid warming that other parts of the world have. Our long-term temperature record shows only a 0.1 degree Fahrenheit rise every 20 years. Low temperature records actually show a cooling trend which became particularly apparent in the 1950s. Rather than a climate shift this is probably due to the station move from downtown to the airport in 1951. Open grassy areas like airports often have cooler nighttime temperatures than urban areas do. Long-term climate records like those from Wilmington will become even more important in the future to determine how quickly and in what way climate may be changing.



Official weather observing equipment on top of the Customs House Building along Water Street in Downtown Wilmington, 1934.



# The Carolinas Tornado Outbreak: April 16<sup>th</sup>-17<sup>th</sup>, 2011

- Mark Bacon

Though tornadoes are an annual occurrence in the Carolinas, April 2011 was an event this part of the country had not seen in years. April 14<sup>th</sup>-16<sup>th</sup>, 2011 brought three consecutive days of dangerous severe weather that translated east from the Great Plains and ended as a tornado outbreak across the Carolinas and Virginia. North Carolina was the hardest hit, with over 40 tornado reports, 24 fatalities and more than 400 injuries. It was the worst severe weather event across the Carolinas since the infamous tornado outbreak of March 28, 1984. This article will take a quick look at some of the factors that came together to lead to this once-in-a-generation outbreak.

A strong upper level storm system moved out of the Rockies and into the Plains on April 14th. This developed an area of surface low pressure over Kansas. A severe weather outbreak then ensued across eastern Oklahoma and much of Arkansas.

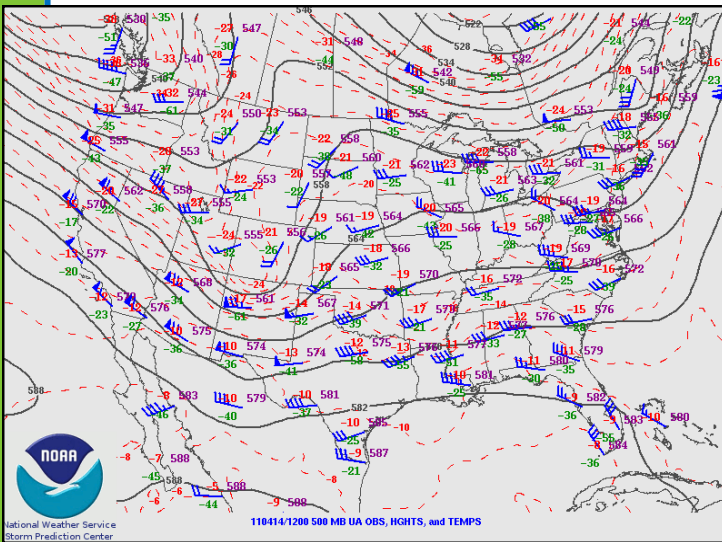


Figure 1: Upper level winds (approx. 20,000 ft) at 8 AM EDT 4/15/2011 showing trough/storm system moving into the Great Plains. Black lines show lines of equal height and are thus correlated with pressure. Wind barbs show wind speed, with each line equal to 10 kt and each flag 50 kts. 80kt winds show up across northern New Mexico and Arizona.

This upper level trough in the jet stream intensified the following day across the Plains which allowed a powerful jet stream to form over the Gulf States. A swath of tornadoes claimed the lives of 7 people in Mississippi and Alabama as a result.

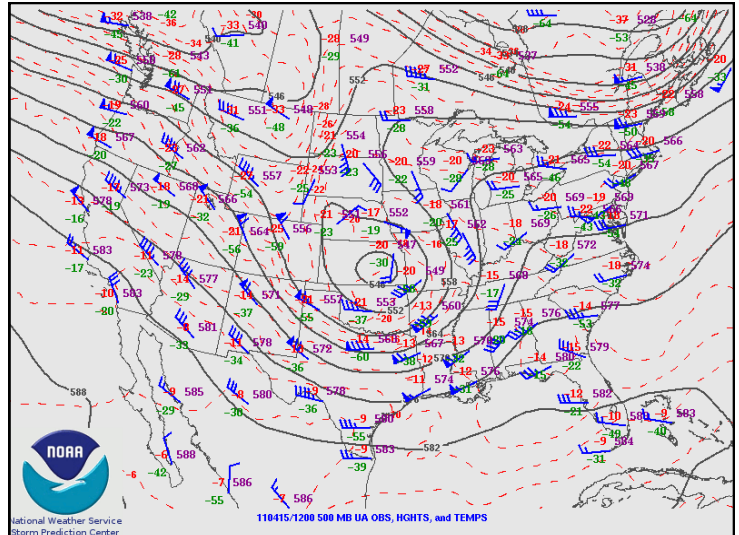


Figure 2: Upper level winds (approx. 20,000 ft) at 8 AM EDT 4/16/2011 showing trough/storm system moving into the Great Plains. Black lines show lines of equal height and are thus correlated with pressure. Wind barbs show wind speed, with each line equal to 10 kt and each flag 50 kts. 80kt winds show up across northern New Mexico and Arizona.

These powerful jet stream winds translated north and east on April 16th. A favorable alignment of strong winds above and below this level then also congealed over the eastern Carolinas. As a result, the low level winds just 1000-3000 ft above the ground began to approach speeds of 80 kt (90 mph). This provided a tremendous source of shear and rotation for thunderstorms, which were expected to rapidly develop that afternoon across the Southeast due to the strong lift provided by the jet stream disturbance aloft as well as an approaching cold front. At the surface a warm and humid airmass was in place across the Carolinas, boosted by an unseasonably warm Gulf of Mexico. This allowed afternoon temperatures to heat up into the 70s while dewpoints surged into the upper 60s across the Coastal Plain as thunderstorms moved into the upstate regions. As the squall line of storms along a cold front marched into the Piedmont and Coastal Plains the strong wind shear in place caused them to fragment into separate rotating supercell thunderstorms.

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# The Carolinas Tornado Outbreak: April 16<sup>th</sup>-17<sup>th</sup>, 2011



Figure 3: Solid squall line of storms over NC just starting to fracture into supercells over northeastern SC.



Figure 4: Long broken line of tornadic supercells across the Coastal Plains.

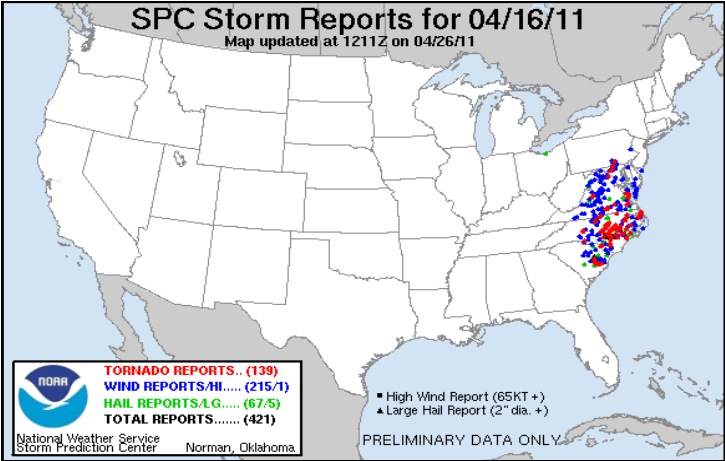


Figure 5: Storm reports from the Storm Prediction Center for April 16th, 2011. Red dots depict reports of tornadoes from local NWS offices.



Figure 6 & 7 (Above and Below): Tornado damage from April 16th-17th Outbreak across the Carolinas.



...Continued from Page 3

The rich supply of warmth and moisture provided by the Gulf of Mexico and the unusual strength of the upper level jet stream winds (and eventually the low level jet stream winds) were the main factors that really set this event apart from other severe weather outbreaks normally experienced in the Carolinas. Despite the extent of the violent weather experiences across the Carolinas that day, residents were generally well prepared. The National Weather Service had been forecasting the likelihood of severe weather for many days prior to the event and issued numerous Tornado Warnings as the storms raced across the area. The increased awareness helped to reduce the loss of life especially when compared to the 1984 outbreak of similar magnitude, which lead to 57 fatalities and over 1200 injuries.

# Hourly Weather Graph: Real Life Applications

- Stephen Keebler

For the past few years, the National Weather Service in Wilmington has been updating the 24 hour weather forecast with greater frequency. The forecast is updated at least every three hours, sometimes more, depending on the situation. Officially, this technique is called the Enhanced Near-Term. Who benefits from this forecasting technique and what are some examples?

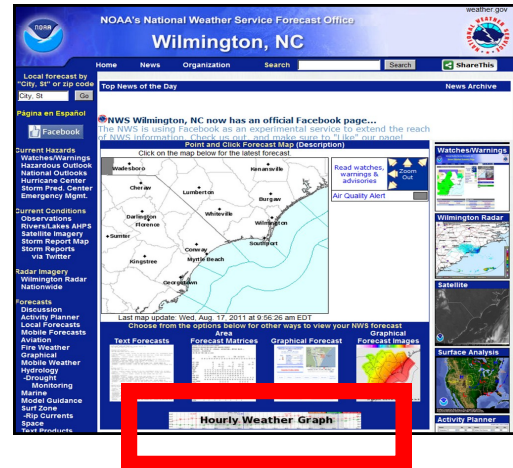
First let's apply it to the construction/contractor industry. Say for instance, you are a contractor working on a project outside, whether it is pouring concrete, painting or roofing, the hourly weather graph can be a tremendous asset. You know from the radio there is a chance of rain today, but knowing the area, you know it typically rains in the late morning and early afternoon hours and to finish the job you only need two to three hours of dry conditions. You can view the hourly weather graph for the exact location by latitude and longitude. A similar application would be sneaking in a few hours on your favorite local beach in between the raindrops.

Let's take another example, this time for a winter type scenario. You are a school superintendent or DOT supervisor. You hear some rumblings of snow, sleet, and freezing rain in the forecast, something that has become all too familiar the past couple of years. You need to know if it will be more advantageous for you to completely cancel school or opt for a two hour delay. You can visit the hourly weather graph and see just how many hours of frozen precipitation are expected. As a DOT supervisor, the same information would be very beneficial.

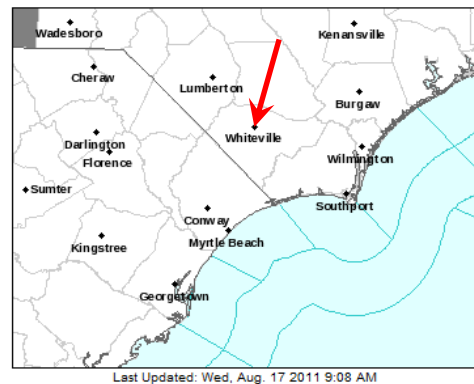
Finally, let's finish with a recreational point of view. This can be visiting the beach, fishing, golfing or any other outdoor recreational activity our area offers. Before you head out, check the hourly weather graph, you may need to change plans or adjust your timing.

How to Use:

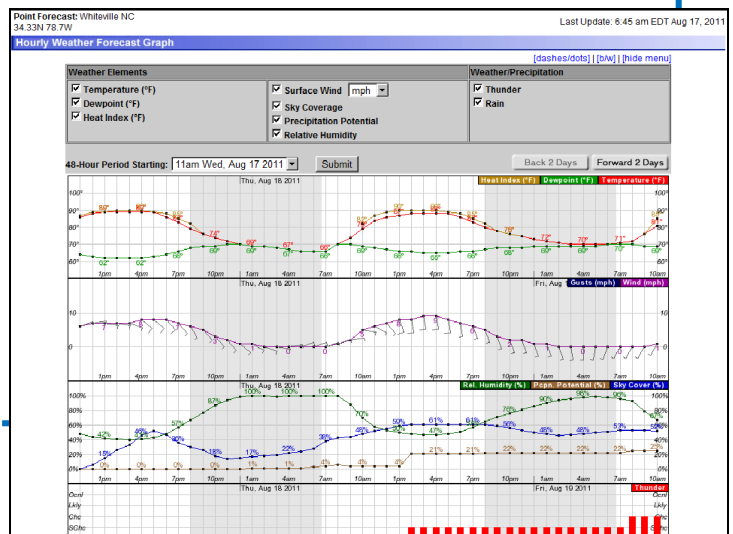
1. Go to [www.weather.gov/ilm](http://www.weather.gov/ilm)
2. Click on the Hourly Weather Graph image as seen below



3. Click on the area you are interested in on the map (for example: Whiteville).



4. This will bring you to the image below:



# Hurricane Irene Impacts North Carolina Coast

- Sandy LaCorte

On August 27<sup>th</sup>, 2011 around 8:00 AM EST, Hurricane Irene made landfall approximately 5 miles north-northeast of Cape Lookout, NC as a Category 1 on the Saffir-Simpson scale. As it slammed into the Carolina coast, Irene topped in at maximum sustained winds of 85 mph.

Wilmington and the surrounding areas experienced minimal damage with trees down, minor flooding, and widespread power outages.

Just two weeks prior to landfall, the soon-to-be first named hurricane of the 2011 season began as a tropical wave near the Cape Verde Islands, just west of Africa. On August 20<sup>th</sup> around 8:00 PM EDT, the disturbance had matured into a tropical storm. With maximum sustained winds near 50 mph and a minimum central pressure of 1006 millibars (mb), this tropical system had officially become Tropical Storm Irene. Approximately 190

miles east of the Leeward Islands, Tropical Storm warnings were issued for Puerto Rico and the U.S. Virgin Islands as Irene's westward track continued at a speed of 22 mph. Over the next several hours, Tropical Storm Irene began to shift more west-northwest. Though it just missed the Leeward Islands, it remained on track to hit Puerto Rico. Around 12:25 AM EDT Monday, August 22<sup>nd</sup>, the center of Tropical Storm Irene made landfall near Punta Santiago, along the eastern coast of Puerto Rico. A few hours later at 4:00 AM, approximately 25 miles west of San Juan, Puerto Rico with maximum sustained winds of 75 mph and a minimum central pressure of 987 mb, Irene became the first named hurricane of the 2011 season in the Atlantic Ocean.

Over the next few days, Hurricane Irene would cycle through many phases. As it hit the Bahamas, Hurricane Irene reached its maximum strength as a Category 3 with maximum sustained winds of 120 mph and a central minimum pressure of 950 mb on Wednesday, August 24<sup>th</sup>.

Just days before landfall, the forecast models seemed to come into better agreement, focusing in on the

North Carolina coast. With extra staffing in place and extensive collaboration with city, county and state officials, as well as raising public awareness, NWS ILM prepared for the worst. Though Wilmington did not take a direct hit, the affects were apparent across the area. The maximum wind gust registered across the NWS CWA was 71 mph at a data buoy offshore near Wrightsville Beach and the largest rainfall amount measured was approximately 8.49 inches in Holly Shelter.



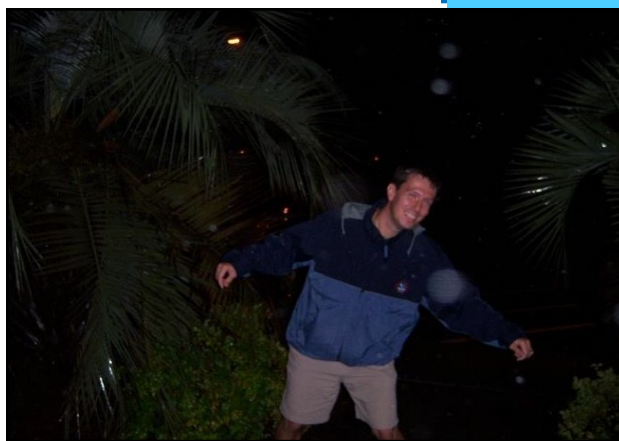
Forecaster Stephen Keebler keeps a close eye on Hurricane Irene as it heads towards the NC Coast.

**"...Irene became the first named hurricane of the 2011 season..."**

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Forecaster Rick Kreitner observing Hurricane Irene just hours before landfall.



Tim Armstrong, forecaster, takes a moment to "enjoy" a 55 mph wind gust in the office parking lot.

# Saffir-Simpson Scale

Category	Sustained Winds (MPH)
1	74-95
2	96-110
3	111-130
4	131-155
5	Greater than 155

Source: NOAA



Meteorologist Josh Weiss working through the night tracking Hurricane Irene's approach to the North Carolina coast.



Meteorologist Sandy LaCorte takes evening observation during Hurricane Irene.



Glenn Cox, SKYWARN Amateur Radio Operator, receives reports of flooding.

For more information about Hurricane Irene, including a complete review, additional storm reports including storm surge, and satellite imagery, check out the following webpages.

<http://www.erh.noaa.gov/ilm/archive/08-27-11/index.php> (Created by Josh Weiss, Forecaster)

<http://forecast.weather.gov/product.php?site=NWS&issuedby=ILM&product=PSH&format=TXT&version=1&glossary=1>



## Top 5 Wind Gusts

Location	Max Gust (mph)	Source
Wrightsville Beach 27 East	71	NDBC Buoy
Johnny Mercer Pier	70	C-MAN
Back Island	70	RAWS
Bald Head Island	68	Mesonet
Frying Pan Shoals	67	NDBC Buoy

## Top 5 Rainfall Amounts



Location	Rainfall (in)	Source
Holly Shelter	8.49	RAWS
Wilmington 7 SE	8.36	COOP
Southport 1 NE	8.01	CoCoRaHS
Wilmington 9 ENE	7.78	CoCoRaHS
Boiling Springs Lakes 2 NE	7.73	CoCoRaHS

# NWS Wilmington Outreach Event: Science Night

- Stephen Keebler

If you think the weather has been active the past few months, the National Weather Service in Wilmington North Carolina has been even more active in reaching out to the community. From visiting local schools, numerous spotter training sessions, attending festivals, along with local office tours, many members of the staff have been active in increasing our visibility and educating folks throughout southeastern North Carolina and northeastern South Carolina. One of the most popular events is the annual Science Night held at South Topsail Elementary School located in Hampstead, North Carolina.

Science Night is where local and regional entities such as museums, fisheries, and colleges gather to display and educate elementary school kids on science, mission statements, safety, and much more. The National Weather Service brought along the tornado simulator to emphasize tornado safety. The simulator is always a great draw. This, along with the South Topsail Elementary PTA, who provided small plastic bottles for mini-tornados made for a perfect mix.



Lead forecaster Mike Colby explains the intricacies of the tornado simulator.

With the plastic bottles, soap, and a little glitter for affect, the kids were awarded a small mini-tornado with a label showing the picture of the school in the background as well as a couple of standard tornado safety rules. To earn the torna-

do, the kids had to successfully complete a short quiz on tornado safety. All of the answers were provided on the display. Several of the older students (fifth graders) assisted in the endeavor as well by helping the younger students assemble the tornadoes and answering the questions. Approximately 300 kids and parents visited the booth in just under two hours! The theme of the tornado safety was certainly appropriate as the historical tornado outbreak in North Carolina occurred just over a week later.



Journey forecaster Stephen Keebler goes over tornado safety with a young lady.

As mentioned earlier in the article, the National Weather Service in Wilmington has several staff members who participate in these types of activities year-round. Whether it be a school visit, a local office tour, a local festival or any similar event, we are here to serve. We can bring the tornado simulator (it works best inside), cloud charts, safety brochures and best of all, an educational and entertaining presentation. If you or your organization would like to request a visit or training session, please contact our office by email: [ilm.webmaster@noaa.gov](mailto:ilm.webmaster@noaa.gov) or by phone: 910-762-8724.



# Forecasters Provide Incident Support for Large Wildfires

- Ron Steve

A weakening line of thunderstorms moved through southeast North Carolina on June 18, but had an unusual and long-lasting impact. With the rain dying out, and a severe drought already underway, lightning strikes sparked two wildfires: the Juniper Road Fire in the Holly Shelter Game Land, and the Simmons Road Fire in northern Bladen County. With the continued heat and drought, as well as several days with gusty and shifting winds, the Juniper Road Fire would eventually grow to over 31,000 acres, and the Simmons Road Fire would grow to over 5,600 acres. North Carolina Forest Service deployed state-level Incident Management Teams to each fire, and the NWS Wilmington staff provided round-the-clock support to both teams.



Lightning strike associated with a line of thunderstorms while wildfires were ongoing.

*Photo: North Carolina Forest Service*

Weather information was vital to the management of both fires in two ways. First, the immediate protection of lives and property depended on knowledge of the short-lived weather phenomenon, such as shifting winds from sea breezes and nearby thunderstorms, which would affect the fires. To this end, NWS forecasters were in frequent communication with the Fire

Behavior Analysts (FBAN) working each fire. On the more active weather days, NWS forecasters were on the phone with the Forest Service several times in a single shift. Many of these calls were initiated by NWS Wilmington forecasters, who proactively called the FBANs to provide a “heads-up” that significant weather changes would soon be impacting the fire sites.



Juniper Road Fire.

*Photo: North Carolina Forest Service*

Another way that the FBANs relied on weather information was in developing the Incident Action Plans, which detailed Incident Objectives for the next day. NWS forecasters supported this planning effort by providing Spot Forecasts, which are highly detailed weather forecasts tailored specifically to the site of the fire. Armed with this information, the Incident Management Teams were able to plan and safely execute burnouts and other fire containment efforts.

Our role on these wildfires did not end with our interactions with the North Carolina Forest Service. Rather, our forecasters were coordinating information and relaying alerts for the North Carolina Division of Air Quality. Several Dense Smoke Advisories were issued for areas near the fires, and forecasters were in close communication with local emergency managers. Behind the scenes, as incident managers identified specific needs, the NWS team worked together to make improvements to software in order to more easily and consistently meet the users’ information needs.



Juniper Road fire burnout. *Photo: North Carolina Forest Service*



Juniper Road fire burnout. *Photo: North Carolina Forest Service*

What can you do about wildfires? These wildfires were caused by lightning, but the leading cause of wildfires in the Carolinas is debris burning.

Think before you burn!

<http://www.state.sc.us/forest/think.pdf>

You can also take steps to reduce your risk of damage from wildfire: <http://www.firewise.org>



Simmons Road, June 27th. *Photo: North Carolina Forest Service*



Juniper Road, July 19th, 2011.

*Photo: North Carolina Forest Service*



Pyrocumulus clouds form from the smoke of the Juniper Road fire, June 28th, 2011. *Photo: North Carolina Forest Service*



# 2011: The Record-Breaking Summer Heat

- Sandy LaCorte

Though many associate the month of May with the beginning of summer, the meteorological summer is officially defined as the period from June 1<sup>st</sup> through August 31<sup>st</sup>. For 2011, the meteorological summer was extremely hot, dry and record-breaking across northeast South Carolina and southeast North Carolina. Though not officially summer, these conditions describe the month of May as well. A severe drought raged across most of the area as June and July brought scorching temperatures. During this two-month span, temperatures were 97 degrees or above for 12 total days, where 7 of these days reached 100 degrees or above. Throughout August, hot temperatures persisted, but returned to seasonable values. Rainfall in August slightly improved drought conditions, especially precipitation from Hurricane Irene as the storm scooted along the Carolina coast.

## Average High Temperatures

Since 1874, when Wilmington began keeping climatological records, the months of June, July and August have all experienced maximum temperatures within the top 12 highest ranked. Overall, the summer of 2011 recorded the hottest average maximum temperature of 91.2 degrees. It also was the 2<sup>nd</sup> hottest average summer on record, with the 2010 summer average temperature of 81.782 degrees as the hottest average summer. However, it should be noted that the values from both years round to an average of 81.8 degrees, with only a few thousandths of a degree between the two. Therefore, both summers are tied for observing the hottest summer on record.

Summer	Average Temperature
2010	81.782°F
2011	81.777°F



## Daily High Temperature Records for Wilmington, NC

May 24<sup>th</sup> and 25<sup>th</sup> set a record high temperature of 97, which broke the previous record of 94 degrees set in 1975. A record high daily temperature of 101 was observed on July 30<sup>th</sup>, which broke the old record of 100 set in 1952, and again in 1999. Lastly, on August 8<sup>th</sup>, the daily high record was 99 degrees, which broke the previous record of 98 set in 2007.

## Monthly/Yearly Records for Wilmington, NC

A monthly (yearly) frequency record is a record that accounts for the number of days within a month (year) in which the high temperature is greater than or equal to a specified degrees. In this case, it accounts for the number of days that reached 97 degrees or greater.

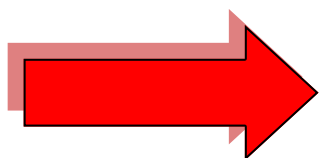
A monthly frequency record for high temperature was set for May in Wilmington, NC. A total of three days observed temperatures at or above 97 degrees in 2011. This breaks the old record of two days, set May 1953. Since 1874, a total of four years have had monthly high temperatures at or above 97 degrees during the month of May (1889, 1953, 1967, and 2011).

The record for monthly frequency at or above 97 degrees in June stands at 8 total days (1952). Far from the record, June 2011 had a total of 4 days which ties the number with four other years (1895, 1959, 1998 and 2008). July 2011 experienced 8 days total at or above 97, just one day shy of the all-time record of 9 days, set in 1875 and 1986.

...continued on Page 12

August remains in 3<sup>rd</sup> place (tied with the year 1954) for monthly frequency record of 5 days at or above 97 degrees. The 1<sup>st</sup> place record of 7 days was set in 1968.

As of September, 2011 breaks the all-time record for the frequency of days throughout the year at or above 97 degrees with a total of 20 days. The previous record of 15 total days was set in 1980. Additionally, 2011 ties the all-time record for number of days within one year in which the temperature was at or above 100 degrees. This record is 7 total days, which was initially set in 1952.



For additional information, visit the Summer 2011 summary link below:

<http://www.erh.noaa.gov/ilm/TEXT/archive/RDUPNSILM.090111.1452>

## Monthly Frequency Records for Wilmington, NC (1874-2011)

*Number of Days Greater Than or Equal to 97 degrees*

### MAY

No. of Days	Year
3	2011
2	1953
1*	1889, 1967

### JULY

No. of Days	Year
9	1986
8	1993, 2011
7	1977, 1999

### JUNE

No. of Days	Year
8	1952
4*	1895, 1959,
	2011

No. of Days	Year
7	1968
6	1980
5	1954, 2011

### AUGUST



# New Additions to the ILM Staff



*Nancy Zerr — Administrative Services Assistant*

Nancy was born and raised in Buffalo, NY where she earned a degree in Travel and Tourism Business Management. In 1997, she moved to Spartanburg, SC where she earned another degree in Horticulture and met her husband who was working for the VA as a Psychotherapist. After several years, a job relocation took them to Key Largo, FL where she continued to work in the horticulture field as Director of Operations for a grower of Interior plant materials. The facility she worked for was completely destroyed by Hurricane Wilma, and soon thereafter they decided to relocate to Portland, ME where Nancy began working for the Department of Defense in 2008 at the Portsmouth Naval Shipyard as Admin Support for the Public Works Department. In her spare time, Nancy enjoys scrapbooking, gardening and spending time with her family.

*Sandy LaCorte — Meteorologist Intern*

Though a native of Davidson, NC, Sandy comes to us from Huntsville, AL. She recently earned a M.S. degree in Atmospheric Science at the University of Alabama in Huntsville, where her research highlighted the collaboration of neural networks and severe weather forecasting geared towards tornado development across the TN Valley. Prior to her graduate studies, she earned a B.S. Degree in Atmospheric Sciences from UNC-Asheville. Her career with the National Weather Service began as a summer volunteer at the Greenville-Spartanburg, SC WFO in 2007, followed by a SCEP Student position at the Huntsville WFO. Sandy enjoys being involved in education outreach as well as a variety of other weather-related programs and community events. Unlike most meteorologists, Sandy's love for weather did not start at an early age. In fact, she was terrified of severe weather as a young child. It was not until high school that she realized her fear had become her passion. Aside from her interest in severe weather, Sandy enjoys traveling, whitewater rafting, crafts, and watching/playing sports. GO PANTHERS!



*Paul Denny — Electronics Technician*

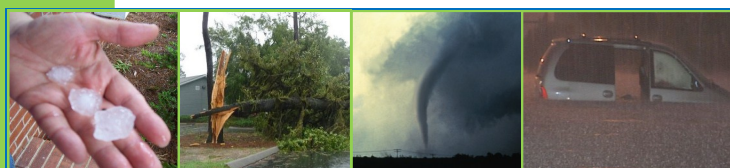
Born and raised in New York, Paul earned an AAS in Natural Resources Conservation in 1979 at the Community College of the Finger Lakes in Canandaigua, NY. Paul joined the Air Force in 1981 and served 5 years as an Integrated Avionics Computerized Test Station and Components Repair Specialist, serving in New York and England. He also earned two additional Associates degrees in Avionics and Engineering technology. After enlistment with the Air Force, he worked as a software engineer in TX and MD. In 1989 he served as an Equipment Specialist with Air Force Engineering and Technical Services and served 3 years in England, where he helped train and provide technical assistance during the first Gulf War. When that base closed he took a job as an Electronics Tech at the NWS in Buffalo, NY. Paul joined our team mid-August, where he looks forward to continuing work in testing new remote sensor technologies. Paul and his wife Erin have been married for 28 years, and have two children, two dogs and a cat. In his spare time, he enjoys fishing, hunting, reading, writing, national politics, metal-detecting, treasure-hunting of any sort.

National Weather Service  
Weather Forecast Office  
Wilmington, North Carolina

2015 Gardner Drive  
Wilmington, NC 28405  
Phone: (910) 762-4289  
[www.weather.gov/ilm](http://www.weather.gov/ilm)



Webmaster's Email: [ILM.webmaster@noaa.gov](mailto:ILM.webmaster@noaa.gov)



### We need your Storm Reports!!

Events of tornadoes, hail, damaging winds,  
and flooding are important to us.

Please call: 1-877-633-6772

The Wilmington Wave  
Volume I, Issue I

#### Contributors:

*Timothy Armstrong*

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## NWS Wilmington, NC now on Facebook!

The screenshot shows the Facebook page for the US National Weather Service Wilmington NC. The page header includes the Facebook logo and a search bar. The profile picture is the NWS Wilmington logo, and the cover photo shows a group of people working in a control room. The main content is a post from the US National Weather Service Wilmington NC, dated yesterday at 9:30am. The post text reads: "As the peak of the Atlantic hurricane season is just a week away, we're keeping a close eye on Hurricane Katia and Tropical Storm Lee. No imminent danger to the eastern Carolinas, but we'll let you know if that changes. This time of year, coastal residents should always be keeping close tabs on the tropics, and have a plan for when the forecast takes a turn for the worse." Below the text is a link: [http://www.nhc.noaa.gov/graphics\\_at2.shtm?5-daynl#contents](http://www.nhc.noaa.gov/graphics_at2.shtm?5-daynl#contents). The post has 1,298 Impressions and 0.15% Feedback. It shows 2 people like this and a "Write a comment" box.

- Submit your weather photos and storm reports
- Find out when weather is expected and how you can stay weather aware ...and much more!

Be sure to LIKE our  
Facebook page!

