The Wilmington Wave

National Weather Service, Wilmington, NC

VOLUME IV, ISSUE I FALL 2014

INSIDE THIS ISSUE:

Hurricane Hazel 60th Anniversary

- Sandy LaCorte

It was 60 years ago, on October 15, 1954, that Hurricane Hazel made landfall along the Carolina coast. Thought it was first spotted on October 5th just east of the Windward islands, it's been found that many residents in North Carolina had no idea what was to come. Weather forecasting in the early 1950's was not nearly as advanced as it is today. As a Category 4 strength hurricane on the Saffir-Simpson scale, it not only devastated North Carolina, but it continued well into the US and even into Canada just within 12 hours, where it became extratropical. From high seas and wind speeds to massive and destructive flooding, the devastation left behind was incomprehensible, with just under 200 fatalities and approximately $381 million dollars in damage to the states and up to 1000 fatalities in Haiti. As a result, Hurricane Hazel went down in history as one of the most memorable hurricanes for all in its path.

The Dispatch

HURRICANE KILLS AT LEAST 15 IN N.C.; DAMAGE RUNS TO "FANTASTIC" FIGURES

Storm Damage Not Heavy Here

Hazel Blamed For At Least 74 Fatalities

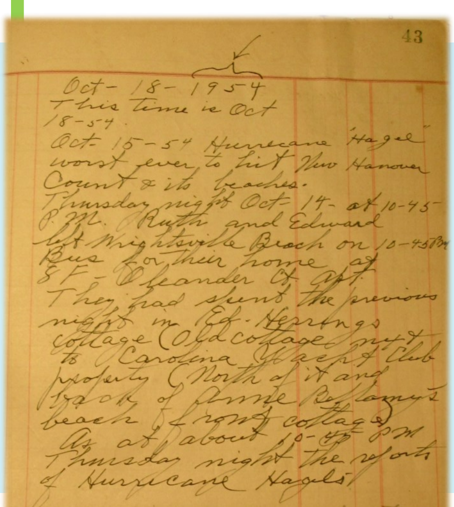
Storm's Cost In Lives, Property Climbs Rapidly

The News and Courier

Hurricane Hazel Batters Coast Resorts

'Party Lever' Issue Likely To Be Dropped

Horry, Georgetown Beaches Hard Hit



Oct- 18- 1954
This time is Oct
18-54.
Oct- 15-54 Hurricane Hazel
worst ever, to hit New Hanover
County & its beaches.
Thursday night Oct 14- at 10-45
P.M. Ruth and Edward
left Wrightsville Beach on 10-45 P.M.
Bus for their home at
8 F- Oleander Ct Apt
They had spent the previous
night in Ed. Herring's
cottage (Old cottage next
to Carolina Yacht Club
property (North of it and
back of Annie Bellamy's
beach front cottage)
As at about 10-45 PM
Thursday night the reports
of Hurricane Hazel's

Here's a journal entry made by Ed Wooten (Wilmington, NC) whose great-uncle founded the Carolina Yacht Club in Wrightsville Beach, NC, back in 1853.

Sent to us by Mr. Wooten's granddaughter, Anne Russell (Wilmington, NC), an author, she explains that he kept a personal notations journal about weather events and made this entry as Hazel was affecting New Hanover County. "My grandfather was an "old salt" and engineer whose most fond avocation was daily keeping up with the weather.

As a part of the Hurricane Hazel anniversary, the NWS Wilmington NC office teamed up with the NWS Morehead City NC office, as well as NC Sea Grant and other partners to bring together stories, videos, and detailed information about this historic event.

For memorable stories & photos, and much more on Hurricane Hazel, visit:
www.weather.gov/ilm/HurricaneHazelAnniversary

NWS Wilmington NC Provides Support for North Carolina Sea Grant Rip Current Research

- Brad Reinhart

On July 23, NWS Wilmington, NC meteorologists Brad Reinhart and Sandy LaCorte and student volunteer Dawn Wedig assisted with the deployment of data-logging rip current drifters at Carolina Beach in support of ongoing North Carolina Sea Grant research.

At the deployment, Brad and Sandy spoke with various media outlets about rip current safety and the importance of the ongoing research.

Dawn Wedig (Student Volunteer), Sandy LaCorte (Meteorologist), Brad Reinhart (Meteorologist)

The project has garnered national attention as stories about the drifter release appeared on Good Morning America as well as numerous other local and regional TV networks and news sites.

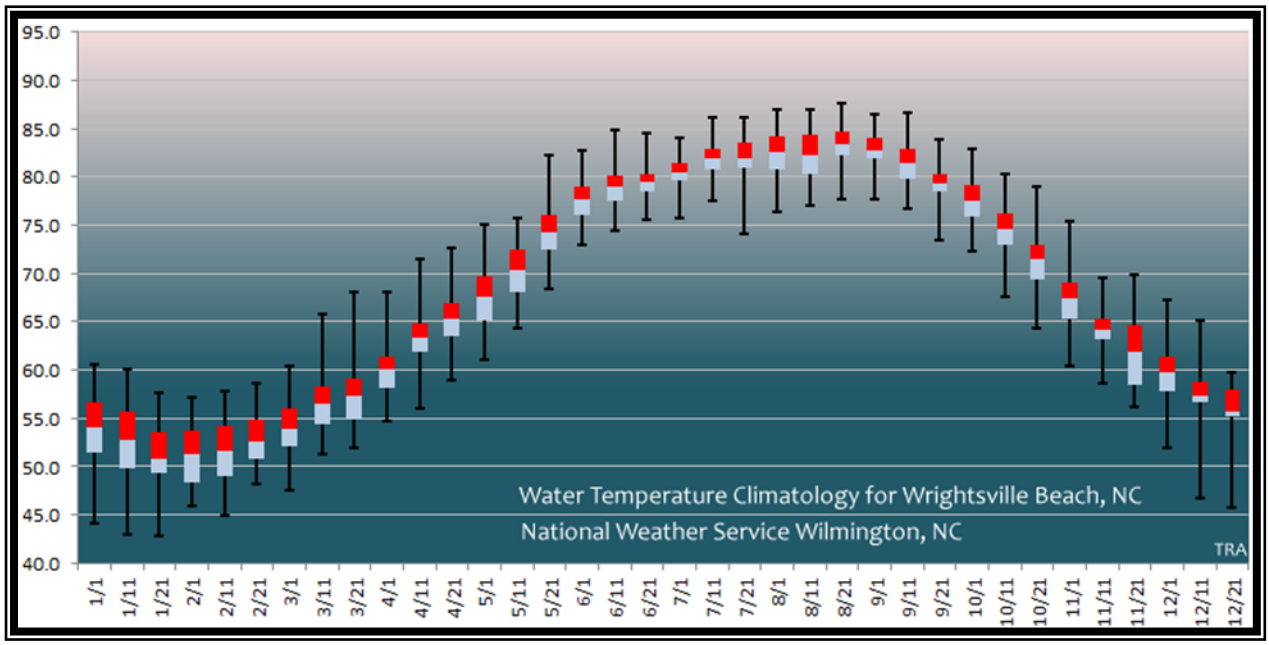
NWS Wilmington is one of the supporting partners of the project, which is funded by North Carolina Sea Grant and based at the University of North Carolina Wilmington Center for Marine Science. The drifters, which are each mounted with a GPS device, are strategically released into the surf zone so they will get caught in a rip current. The data collected will help researchers better understand the trajectory, velocity, and other characteristics of rip currents along the East Coast in the Wilmington forecast area.

This summer, NWS Wilmington meteorologists provided rip current outlooks to researchers and notified them when wind and wave conditions appeared favorable for enhanced rip current activity. NWS Wilmington staff also had the opportunity to participate in drifter releases at Carolina Beach. Collaborative outreach efforts were also planned with coastal geomorphologist and renowned rip current researcher Dr. Rob Brander (known as “Dr. Rip”). These opportunities forged an even stronger relationship with our core rip current partners.

Climatological Ocean Water Temperatures

- Tim Armstrong

Are you curious when the ocean is normally warm enough to go swimming? What's the hottest the water's ever been? Or the coldest? The answers to these questions and others can be found in a recent study by the National Weather Service in Wilmington. Water temperature data from 2003 through 2013 was analyzed for four locations: Wrightsville Beach, Oak Island, Myrtle Beach, and the Frying Pan Shoals weather buoy offshore.



Average Water Temperatures for Wrightsville Beach

January			February			March			April			May			June		
1-10	*11-20*	*21-31*	*1-10*	*11-20*	*21-29*	*1-10*	*11-20*	*21-31*	*1-10*	*11-20*	*21-30*	*1-10*	*11-20*	*21-31*	*1-10*	*11-20*	*21-30*
54	53	51	51	52	53	54	56	57	60	63	65	68	70	74	78	79	79

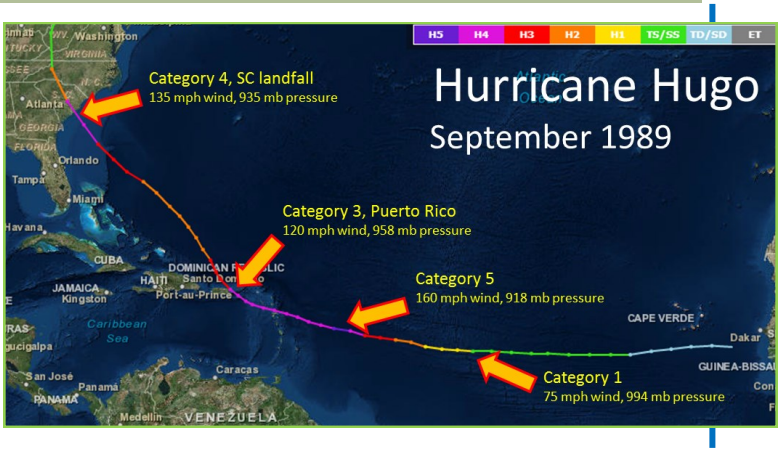
July			August			September			October			November			December		
1-10	*11-20*	*21-31*	*1-10*	*11-20*	*21-31*	*1-10*	*11-20*	*21-30*	*1-10*	*11-20*	*21-31*	*1-10*	*11-20*	*21-30*	*1-10*	*11-20*	*21-31*
81	82	82	83	82	83	83	81	79	78	75	71	67	64	62	60	57	56

In addition to beachgoers being interested whether or not their kids can splash in the waves, fishermen, surfers, kayakers and university and government researchers can use this information to assist with their ocean activities. We have also generated detailed statistical tables to show how water temperatures can vary from their average throughout the year.

***All of this data is available online at*: http://www.weather.gov/ilm/WaterTemp-WrightsvilleBeach**

Hurricane Hugo: 25 Years Later

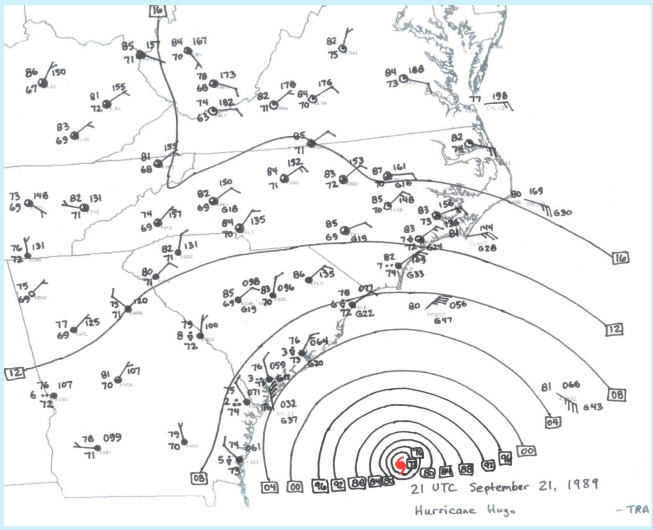
Taken from Hurricane Hugo webpage created by Forecaster Tim Armstrong
www.weather.gov/ilm/HurricaneHugo



"Hurricane Hugo was one of the strongest hurricanes in South Carolina's history, and was at the time the most costly hurricane ever in the Atlantic Ocean. Hugo's destruction wasn't limited to just South Carolina; Hugo also devastated the Caribbean Islands of Guadeloupe, St. Croix, and Puerto Rico, and even seven hours after its final landfall still produced hurricane-force winds across the western Piedmont and foothills of North Carolina. In all, Hugo was responsible for at least 86 fatalities and caused at least $8 to $10 billion in damage [unadjusted 1989 dollars; some sources quote higher damage and fatality statistics].

Hugo originated from a tropical wave that moved westward off the African coast September 9, 1989. By the morning of September 10th the system displayed enough organization on satellite imagery that it was classified as a tropical depression, the eleventh one of the 1989 Hurricane Season. Hugo gradually strengthened as it moved across the warm waters of the tropical Atlantic, remaining between 12 and 14 degrees north latitude. Hugo attained hurricane strength on September 14th, then turned west-northwestward early on September 15th as it quickly strengthened into a rare category five hurricane with maximum sustained winds near 160 mph and a central pressure of 918 millibars (27.11 inches Hg). The fascinating story of how Hugo nearly killed the crew of a NOAA Hurricane Hunter aircraft sent to investigate the storm is available at : http://www.wunderground.com/resources/education/hugo1.asp

Hugo weakened to a category 4 hurricane on September 16th as it aimed at the Leeward Islands of Guadeloupe and Montserrat. Maximum sustained winds were estimated near 120 knots (140 mph) as the hurricane crossed Guadeloupe around 1 a.m. on September 17th. Hugo's eye crossed St. Croix in the U.S. Virgin Islands early in the morning of September 18th, then just six hours later struck the island of Vieques along the east coast of Puerto Rico with winds estimated near 110 knots (125 mph). An anemometer on the ship *Night Cap* in the harbor at Culebra measured a wind gust of 148 knots (170 mph). Hugo then slammed through Puerto Rico itself during the day of September 18th, making landfall near the town of Fajardo. The airport in San Juan registered wind gusts up to 80 knots (92 mph) with 104 knot (120 mph) gusts measured at the former Roosevelt Roads Naval Station.



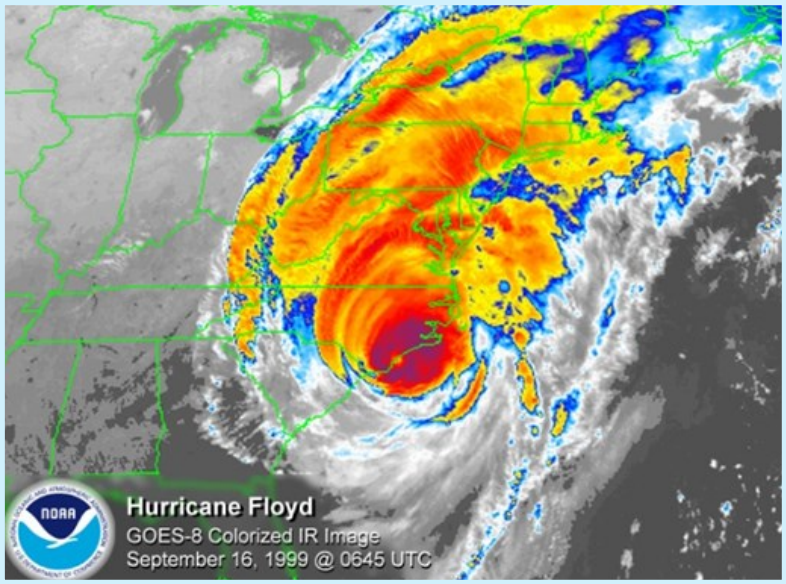
Passage over the high terrain of Puerto Rico weakened Hugo significantly; the central pressure rose from 940 millibars at landfall to 966 millibars during the afternoon of September 19th and maximum sustained winds fell to 90 knots (105 mph). Hugo's eye filled with clouds on visible satellite imagery and a clear eye was not discernable again until September 20th."

To find out the rest of Hugo's history, along with storm reports, personal stories, satellite & radar images, and much more, be sure to check out the webpage!

Significant Hurricanes of the Past…and what we can learn for the future.

- Steve Pfaff

This year marks a number of important anniversaries for hurricanes that have significantly impacted the Carolinas including the 15 year anniversary for Hurricane Floyd (1999), 25 year anniversary for Hurricane Hugo (1989), and 60 year anniversary for the mother of all NC Hurricanes – Hazel (1954). The storms wreaked havoc in their own way from deadly storm surge and destructive winds, to catastrophic inland flooding. Although the scars from these storms have been erased over the years by the substantive growth in population and changes to infrastructure across the region the threat of another nightmare storm continues to weigh on the mind of coastal Carolinians each hurricane season. Those who have endured these horrific storms and have witnessed tragedy and destruction in the past can only wonder when another Hazel type of storm will reappear on the dark horizon. For those new to the area, they can only begin to imagine what may occur, what the landscape may look like after landfall, and do what they can to prepare based on limited experience with tropical storms and hurricanes.



Surely most of the population in the area has experienced a brush-by with a storm over the past few years, but one thing is certain – experiencing the next major hurricane landfall will be like no other for most. This major storm will produce a huge catalog of destruction from long duration communication and power failures, hazardous materials spills, inaccessible debris covered roadways, road failures/scours, major structural damage, and the loss of low-lying bridges.

Trying to paint the picture of the devastation that can occur from these types of hurricanes is obviously a difficult task, especially since the number of people that experienced Hazel is diminishing and their stories become lost with time. That is why it is important to recognize the anniversaries of major weather events – share what happened so that communities can do all they can to prepare for the worst. We not only need to paint the picture of storm surge, wind, tornado, and flooding hazards but help people understand how these impacts will alter life for many when a Hazel or Hugo type of storm returns. More importantly, as a Weather Ready Nation we need to be able to understand the threats that may impact us, know how to find and understand weather information to take necessary actions to save lives, and enhance personal resiliency. In other words communities need to be better prepared before, during, and after a storm. One can become better prepared by learning about the history of storms to impact the area.

In addition, make sure your family has a plan for when the next disaster strikes. This plan includes how you will stay in touch with family members, where you will go, and what you will need in the days and weeks after a storm. Visit Ready.Gov for more information on how to better prepare your family.

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Learn more about Hurricane Hazel at: http://www.weather.gov/ilm/HurricaneHazelAnniversary

and Hurricane Hugo at: http://www.weather.gov/ilm/HurricaneHugo

& www.weather.gov/chs/Hugo25thAnniversary

Visit Ready.gov for more information on how to better prepare your family.

Coastal Carolinas AMS/NWA Local Chapter

Calling all local weather enthusiasts!! Did you know that there's a new local chapter of the American Meteorological Society & National Weather Association chapter?! The Coastal Carolinas AMS/NWA chapter is fairly new, as they were founded in 2013. The group is comprised of National Weather Service, media, and private sector meteorologists, as well as local area students, retirees, and weather enthusiasts. From Myrtle Beach, SC to Wilmington, NC, the chapter is gradually growing, and while a majority of their interests lie within this area, anyone across the Carolinas is welcome. Anyone with an interest in weather is encouraged to attend and participate as meetings are held throughout the year across the area.

For more information at the chapter, as well as upcoming meeting information, visit:
www.ametsoc.org/chapters/coastalcarolinas

Winter Weather: Are You Prepared?

- Sandy LaCorte

Exposure to extreme cold, fires and poisoning due to the improper use of heaters, and vehicle accidents are just a few reasons as to why dozens of fatalities are reported each year due to winter weather, an overlooked significant threat. Now you may be thinking that a winter season across the Coastal Carolinas is nothing compared to, for example, the New England region. Well, we have our share of winter weather across the Carolinas, thus you should always be prepared.

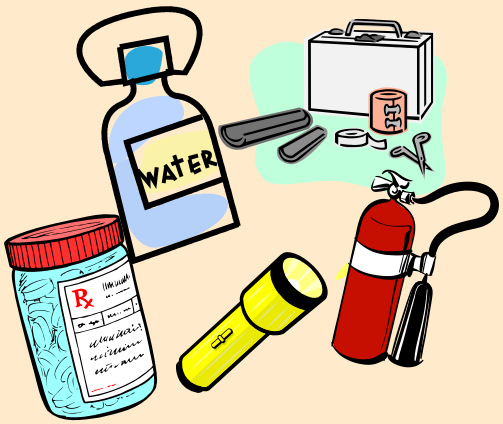
In preparation for a winter weather event, keep in mind that the primary concern will be the loss of heat, power outages, and shortage of supplies if storm or proceeding conditions persist for more than one day.

Before winter weather strikes, be sure to take necessary precautions such as maintaining, cleaning, and annually inspecting chimneys and other heating equipment, and making sure your vehicle is prepared by having a full gas tank and inspecting the antifreeze levels, brakes, battery, and more!

For additional information, visit www.ready.gov

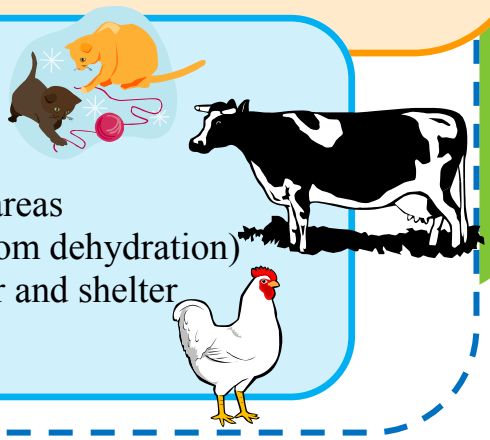
Disaster Kit: Home/Work

- Flashlight and extra batteries
- Battery-powered NOAA Weather Radio
- Extra food and water (one gallon of water per person, per day)
- Prescription medicines
- Special items for infant, elderly or disabled family members
- Emergency tools
- Cash and a credit card, emergency phone numbers
- Important documents
- Blankets and change of clothing per person
- First aid supplies
- Fire extinguisher/smoke alarm/carbon monoxide detector
- Heating fuel
- Emergency heat source (fireplace, space heater, etc)



Safety Tips: Animals/Pets

- Move animals to sheltered locations
- Have extra feed on hand or near feeding areas
- Have water available (animals may die from dehydration)
- Make sure pets have plenty of food, water and shelter



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Disaster Kit: Vehicle

- Mobile phone, charger, batteries
- windshield scraper and small broom
- flashlight with extra batteries
- battery powered radio
- compass and road maps
- water and snack food
- matches
- extra hats, socks, mittens, and clothing
- first aid kit with pocket knife
- necessary medications
- blanket(s)/sleeping bags
- tow chain and/or rope
- road salt and sand, booster cables
- emergency flares/fluorescent distress flag

Safety Tips: Vehicle

- Drive only if it is absolutely necessary. If you must drive: travel during the day; don't travel alone; keep others informed of your schedule; stay on main roads and avoid back road shortcuts.
- If driving on snow or ice-covered roadways, reduce your speed. Driving at the regular speed limit will reduce your ability to control the car if you begin to slide. Leave plenty of room between you and other vehicles.
- If conditions worsen and you can no longer drive safely, pull off the highway. Stay calm and remain in your vehicle. Do not set out on foot unless you can see a building close by where you know you can take shelter.
- Let someone know your destination, your route, and when you expect to arrive. If your car gets stuck along the way, help can be sent along your predetermined route.

Carbon Monoxide: The Invisible Killer

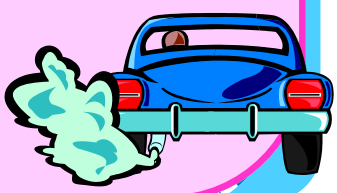
Carbon monoxide (CO) is a deadly odorless, colorless, and poisonous gas that is the cause of fatalities each year, especially during the winter weather season. It is a result of the incomplete burning of various fuels (ie coal, wood, kerosene, propane) from equipment such as generators and cars.

Symptoms

- Dizziness, nausea, fatigue, headache, shortness of breath
- High level of CO poisoning: vomiting, mental confusion, loss of consciousness

Prevent CO poisoning:

- Never operate equipment in enclosed spaces, such as a garage or locations within a home.
- Never leave car running in an attached garage (even with garage door open)
- Never burn charcoal inside home, vehicle, garage
- Never use gas appliances to heat your home (ovens, clothes dryers, etc)
- Never operate equipment where people are sleeping
- Install carbon monoxide alarms in central locations on every level of your home
- If carbon monoxide alarm sounds, move quickly to fresh air



NWS Wilmington Office History

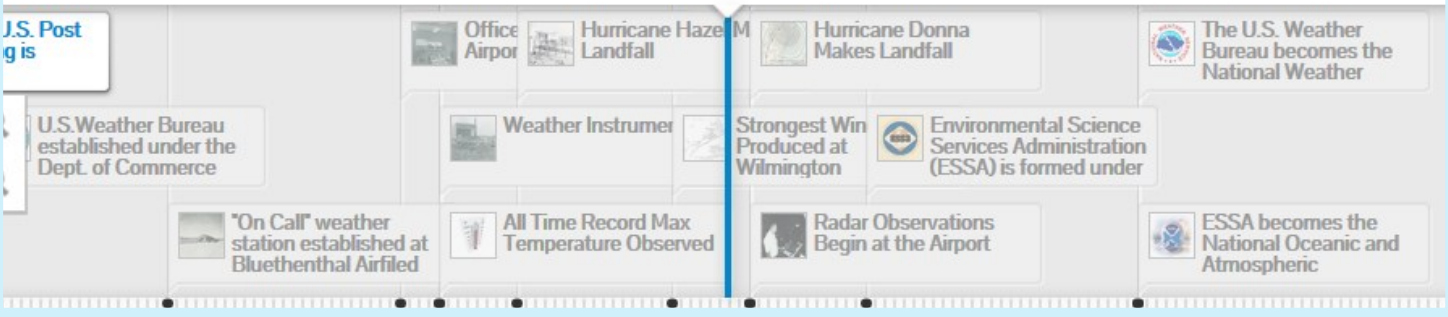
They say everyone has a story, and for the National Weather Service office in Wilmington, NC, that story begins with December of 1870. It was then that the U.S. Signal Corps began taking sporadic snowfall measurements. Jump ahead a few years to 1973, when in April, the first complete and continuous set of weather observations began in a building located in downtown Wilmington, which no longer exists. From historic weather events to multiple moves for the office location, a lot has happened since 1870.

U.S. Post Office building slowly demolished beginning in 1936.

1936

Old office in U.S. Post Office building is demolished.

After being located in the U.S. Post office building for 41 years (1890-1931) the old building was demolished in 1936.



Take a ride down memory lane through our office history timeline:

http://www.weather.gov/ilm/TimelineNWSILM

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