Tallahassee topics

The National Weather Service (NWS) office in Tallahassee, FL provides weather, hydrologic, and climate forecasts and warnings for Southeast Alabama, Southwest & South Central Georgia, the Florida Panhandle and Big Bend, and the adjacent Gulf of Mexico coastal waters. Our primary mission is the protection of life and property and the enhancement of the local economy.

Hurricane Irma—A Summary of Local Impacts
By Katie Nguyen and Jessica Fieux

Hurricane Irma brought numerous impacts to the Florida Big Bend, southwest Georgia and southeast Alabama including widespread downed trees and powerlines, roads blocked by trees, power outages, and trees on homes. Two people died during the event - one due to a car crash (Liberty County) and another that had a heart attack (Worth County). Two indirect deaths occurred due to carbon monoxide from a generator (Taylor County).

Hurricane Irma was a long lived storm. It formed just west of the Cape Verde islands, tracked across the Atlantic with the eye sliding just north of Puerto Rico, causing catastrophic damage to the northeastward Leeward Islands, then along the Cuban coast and finally made a northerly turn toward Florida on Sunday, September 10. Hurricane Irma had maximum sustained winds of 185 MPH at its peak in the Atlantic Ocean, which it maintained for over 35 hours, making it one of the strongest storms on record in the Atlantic basin as well as the longest lived storm of that intensity anywhere in the satellite era. Hurricane Irma’s first continental U.S. landfall occurred at Cudjoe Key in the Florida Keys with maximum sustained winds of 130 MPH (category 4) at 9:10 AM EDT on Sunday September 10, the climatological peak of the Atlantic hurricane season. At 3:35 PM EDT that same day, Irma made its second continental U.S. landfall over Marco Island, FL with maximum sustained winds of 115 MPH (category 3). A peak wind gust of 142 MPH was reported at Naples Municipal Airport (KAPF) during Irma’s eyewall passage. After making its second continental U.S. landfall, Irma slowly weakened as it continued north-northwestward across north Florida and southwest Georgia through Monday September 11. Irma had decayed to a tropical storm by 11 AM EDT September 11 but had a very large wind field, with tropical storm force winds extending up to 415 miles from the center of the storm. That is roughly the distance from the Alabama-Mississippi state line to north Florida’s Atlantic coastline!

Irma’s extensive size and slow movement made for several hours of tropical storm force winds, which resulted in widespread tree and power line damage across the area. (Story continued on page 4)
Employee Spotlight: Blair Scholl
Lead Forecaster
By Katie Nguyen & Blair Scholl

What sparked your interest in meteorology?
As far back as I can remember, I have always had a liking of all things weather. Growing up in western Tennessee, I got to experience the wide variety of severe and wintery weather. We had a fair share of severe weather outbreaks, tornadoes, and snow and ice storms. I remember watching the evening news before dinner just to watch the local weather and when The Weather Channel was created back in the early 1980s, I was hooked. I knew this was what I wanted to do in life. Pursuing a meteorology degree was tough, it was not offered at any Tennessee colleges at the time, and I had to travel out of state to attend a school that offered the degree. This also kept my interest engaged because it was a tough degree to earn and my personal odds were against me at the time. It was a real challenge!

You worked as a meteorologist in the Air Force before you joined the NWS and are still a member of the reserves. What’s your favorite part of working as a meteorologist in the Air Force?
Upon graduating college, I went straight into active duty Air Force. I served at several stateside and overseas locations, I deployed in support of Operation Enduring Freedom, I commanded my own weather unit, and served in several key staff positions. I left active duty after seven years of service to join the Air Force reserves. Currently, I am attached to a battlefield weather detachment supporting the Army. As a brand new young lieutenant, I had a full bird Colonel tell me that “Weather affects everything that we do. Give me your best weather forecast and keep doing what you are doing.” Reflecting on what the Colonel said, we do what we do to give the best weather intel possible to key decision makers. In this case, our weather information is used to train and equip our Nation’s warfighters. This is my favorite part of being an Air Force meteorologist.

How did you get your start with the NWS?
I gained a lot of operational knowledge and experience from the Air Force, as well as leadership experience and team dynamics. This experience made me highly competitive to join the National Weather Service.

My first duty location was Goodland, Kansas as an intern meteorologist. Here, I learned the importance of outreach and decision support services to our overall mission. This set me up well for a journey forecaster position at Brownsville, Texas. Brownsville was a wonderful challenge with deep South Texas presenting a unique set of social vulnerabilities. The challenge was to take our weather information and make it useable and actionable for a primarily Spanish speaking population. After spending four years in Texas, I was promoted to lead forecaster here in Tallahassee in 2016.

What’s your favorite part of being a meteorologist with the Weather Service?
Outreach. I enjoy having the opportunity of getting out of the office and interacting with the public and our partners. I believe it is important for us, and part of our mission, to get out and interact with our customers. Whether it is weather education at a local school, manning a booth at an airshow, providing decision support for a local event, or deploying to an Emergency Operations Center, it is crucial for us to get to know our customers and vice versa. The end result is that it strengthens the weather enterprise as a whole and works toward a weather ready nation.

Where do you see yourself in 5-10 years?
I am enjoying the stability I can finally give my family here in Tallahassee. I enjoy the people here, the office, our partners, and our mission. So, where do I see myself in 5-10 years? Possibly still here as a lead forecaster, and that sounds great! If not, then as a Warning Coordination Meteorologist at an NWS office in the southern US or a staff position at the regional or national level.

What do you like to do when you’re off duty?
I enjoy spending time with friends and family. I also enjoy the outdoors, playing sports, and physical fitness. I am looking forward to a few hiking trips around the area in the upcoming months ahead.

Recent Office Changes
By Katie Nguyen

We had two office departures this summer. At the end of August, Emma Weston was promoted to general forecaster. Emma is now getting settled into her new job in Lubbock, TX. You can learn more about Emma by reading her employee spotlight interview from Fall 2014 here. We also lost volunteer student Kirsten Chaney this summer, who moved from her family home in Miami, FL all the way up to Duluth, MN for an intern job. Farewell ladies and good luck in your new adventures!

Before Emma Weston left this summer, she worked to update our marine zones. The new marine zones are better aligned with the National Hurricane Center (NHC) breakpoints for consistent messaging of tropical watches and warnings over the water and inland. The updated zones will also help better align marine and inland convective watches. This change will officially take place on December 5, 2017. More information can be found online here: http://www.weather.gov/tae/marine_zone_changes

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Top, left: Emma Weston
Bottom, right: Kirsten Chaney
Forecasting One to Two Weeks into the Future—Part II

By Jeff Fournier

In our June newsletter, we discussed the concept of teleconnections, a well-observed weather pattern which corresponds to specific temperature and rainfall anomalies across a geographic region. For instance, when El Nino (above-normal water temperatures across much of the equatorial eastern Pacific Ocean) occurs during the summer, there tends to be below-normal hurricane activity in the Atlantic basin. This is primarily due to unusually strong west winds in the upper levels of the atmosphere over the Caribbean Sea, which is unfavorable for the development of tropical cyclones.

El Nino is an example of a seasonal teleconnection. However, there can be considerable variation in the average weather conditions within the course of a season. During the most active portion of the Atlantic hurricane season, August through early October, you may have noticed that there are often quiet stretches lasting a week or two, followed by a flurry of hurricane activity for the next week or two.

This is not by chance. One of the teleconnections associated with this intraseasonal variability is called the Madden-Julian Oscillation (MJO). Think of it as a large wave in the atmosphere that moves slowly eastward across the globe over the course of a month or two. Compared to other atmospheric waves, the MJO is much larger and far more subtle. One can not simply look at a satellite image and observe the MJO. This makes it difficult to track, and meteorologists must rely on sophisticated statistical methods, a long series of satellite imagery using different sensors, as well as numerical weather prediction models to track and predict it.

The MJO typically forms in the Indian Ocean. Near and behind the MJO wave, the large scale atmospheric conditions favor the development of showers and thunderstorms— not everywhere at all times, but where there is organized precipitation, like in a developing tropical cyclone, the favorable region of the MJO can enhance this system’s development even further. While the MJO is in the western and central Pacific Ocean, conditions across much of the Atlantic Ocean are typically less favorable for shower and thunderstorm development.

That’s not to say that existing Atlantic hurricanes will dissipate, it just means that a tropical disturbance, which needs the sustained development of showers and thunderstorms to develop into a tropical storm, will have a more difficult time developing. The net result is for less tropical storm development during this phase of the MJO. As the MJO approaches the western hemisphere, however, much of the Atlantic basin becomes more favorable for shower and thunderstorm development, which can lead to a more active period in the hurricane season.

Climate Recap for Summer

By Tim Barry

The climate for Tallahassee during the 3-month period of June through August saw temperatures that were slightly above normal. The average temperature this past summer was 81.6 degrees which was 0.9 degrees above normal. The hottest temperature recorded at the Tallahassee Regional Airport was 98 degrees on August 18th. The lowest temperature was 60 degrees on June 9th. The low temperature of 64 degrees on August 18th tied the record for that date. There were no other temperature records tied or broken this past summer.

Rainfall at the Tallahassee Regional Airport measured 25.47”, which was 3.22” above normal. June was the wettest month with 12.74”, 5.01” above normal. The greatest amount in a 24-hour period was 3.92” on June 6th. Tallahassee’s year-to-date rainfall at the end of August was 45.27”, a surplus of 1.36”. A thunderstorm produced a peak wind gust of 48 mph from the east on June 17th.

Climate Outlook for Fall

By Tim Barry

The latest outlook for fall (September through November) from the Climate Prediction Center calls for an enhanced chance of experiencing above normal temperatures and below normal rainfall. The average temperature for Tallahassee during fall is 69.3 degrees and the normal rainfall is 11.42”. Fall is on average our driest season. Early to mid-September is the climatological peak of the hurricane season which runs through the end of November. As of early October, there have been 13 named tropical systems with 8 of them reaching hurricane status. NOAA released their final outlook for the hurricane season on August 9th raising their predictions to 14-19 named storms, 5-9 hurricanes with 2-5 becoming major hurricanes (sustained winds of 111 mph or higher). They also stated that the season had the potential to be extremely active, possibly the most active since 2010 (19 named storms, 12 hurricanes, 5 major).
Outreach Efforts

By Mark Wool

The summer outreach season started out with a flurry of activity related to the start of the hurricane season. On June 1, Warning Coordination Meteorologist (WCM), Mark Wool, participated in a press conference at the Leon County Public Safety Complex. That evening, Mark joined the WXTL weather team in a live hurricane preparedness television special. This was the first time the program was aired live. On June 3, forecaster Andy Lahr manned a booth at The American Red Cross’ Build Your Bucket event (pictured). This year’s event was held at The Center of Tallahassee and drew over 1000 people. On the 16th, regional emergency managers and TV meteorologists were briefed via webinar on the new products and services being provided by the National Hurricane Center this season. On the 20th, Mark briefed Calhoun County, FL officials on hurricane season preparations. On the 22nd, Senior Service Hydrologist, Kelly Godsey, joined Leon County Emergency Manager, Kevin Peters, at a press conference announcing the new Citizens Connect App designed to keep county residents informed during emergencies such as hurricanes. It turned out to be very useful during Irma.

In July, Mark discussed disaster preparedness with personnel at FAMU on the 13th, verified Leon County Florida’s StormReady status on the 17th, and travelled to Lanier County, Georgia to conduct SKYWARN Spotter training on the 27th. The next day, the office hosted a tour at the NWS office for a large group of home schoolers that ended with a live weather balloon launch.

In August, Mark spoke about hurricane season preparedness and the upcoming solar eclipse at a Rotary Club meeting in Chattahoochee, FL on the 7th and manned a booth at the Tallahassee Senior Center on the 8th. Mark also verified Gulf County, Florida’s StormReady status on the 9th and Franklin County’s on the 17th. Mark and Kelly attended a quarterly meeting of the Apalachee Regional Planning Committee where storm surge flood impacts were discussed. Finally, Mark attended a quarterly meeting for Division B of Alabama’s EMA on the 30th.

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(Continued from Page 1)

Trees fell on roofs and cars, damaging property, and sadly taking a two lives. While many counties across the Florida Big Bend and southwest Georgia were impacted, the greatest impacts were across the eastern portion of the area near the I-75 corridor. There were over 6.5 million customers without power in Florida, over 930,000 customers without power in Georgia, and over 45,000 customers without power in Alabama.

In addition to wind impacts, Irma produced flooding across parts of Florida, Georgia, and South Carolina from storm surge and heavy rainfall. The heaviest rain fell just east of our area in the rainfall totals graphic, a sharp line can be seen between the NWS Tallahassee and Jacksonville area of responsibilities. The highest rainfall total recorded in the tri-state area was 4.91 inches in Morgan, GA (Calhoun County).

Our sister office to the east also experienced record storm surge in addition to the heavy rainfall in their area. On the St. John’s River in downtown Jacksonville, there was 5.57 ft of storm surge flooding, exceeding the all-time record of 4.1 ft in 1964 from Hurricane Dora. Further south, a NOAA tide gauge in Naples, FL measured an 8 ft level increase in 2 hours as Irma’s eye passed over. Locally, we saw the opposite of storm surge—ocean and bay waters receded tens of feet after days of persistent north-northeast winds. As Irma passed to our north and winds became more southerly, the waters returned at a steep pace with rises over a foot per hour for over 8 hours at Cedar Key.