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May 2016

# CISA & CoCoRaHS Condition Monitoring Newsletter

Dear CoCoRaHS Observer,

Summer is almost here, marked by kids and grandkids getting out of school, the buzz of Memorial Day Weekend travel, and gardens continuing to flower and beginning to produce fruit. In this month's newsletter, we discuss summer climate and weather and other seasonal risks, such as the 2016 hurricane outlook. In the monthly climate update, we review April climate and weather for the region and share key points from the National Oceanic and Atmospheric Administration's (NOAA) Summer Temperature Outlook and Drought Outlook. We include a piece about the North Carolina Drought Management Advisory Council's annual meeting to highlight how one state in our region prepares and responds to ongoing dry conditions and drought. Additionally, we discuss NOAA's 2016 hurricane outlook and tips on how to be more prepared if you live in an area that might be vulnerable to tropical storms. Tropical Storm Bonnie might have served as a reminder this past weekend. Finally, we recognize Ed Barrows from Wake County, North Carolina as our Condition Monitoring Star of the Month.

We hope you enjoy this newsletter, and as always, do not hesitate to reach out to us at cisa@sc.edu.

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## **Regional Climate Update**

According to NOAA's <u>April Regional Climate Summary for the</u> <u>Southeast Region</u>, observed temperatures were relatively mild while precipitation totals varied across the region. Below are some highlights from the regional climate summary:

- **Temperature:** Parts of the region including Alabama, Florida, some of northern Georgia, upstate South Carolina, western North Carolina, and western Virginia saw monthly mean temperatures that were above average by about 1 to 3 degrees F. However, other regions such as eastern North Carolina and Virginia experienced monthly mean temperatures 1 to 2 degrees below average. The region saw the coldest weather of the month on April 6th and 10th, with late freezes damaging crops in North Carolina and Virginia.
- **Precipitation:** Portions of the Southeast that received less than half the normal amount of precipitation for April included parts of central and southern Florida, northern Georgia, northeastern Alabama, upstate South Carolina, central North Carolina and central Virginia. However, other parts of the region saw monthly precipitation totals between 1.5 to 3 times greater than normal amounts, with some cities such as Macon and Augusta, GA also experiencing their wettest April day on record.

#### Drought

The most recent <u>U.S. Drought Monitor</u> (USDM) shows that dry conditions persist in parts of western North Carolina, northwest South Carolina, and the northern parts of Georgia and Alabama. According to the <u>USDM text summary</u>, parts of South Carolina and southeastern Georgia were removed from drought classification due to rainfall and improved streamflow in these areas.



U.S. Drought Monitor map for the Southeast released on May 26, 2016. The U.S. Drought Monitor is published every Thursday at 8 a.m. EDT.

The <u>U.S. Seasonal Drought Outlook</u> by NOAA's Climate Prediction Center evaluates seasonal drought tendency. Their drought outlook for May 19th through August 31st forecasts drought removal across the Southeast based on short and medium-range forecasts that favor widespread precipitation. The next Seasonal Drought Outlook will be issued on June 16th, 2016.



#### Summer weather outlook

NOAA's Climate Prediction Center forecasts in their <u>2016</u> <u>Summer Outlook</u> that many parts of the United States may experience above-average temperatures this summer. Based on their analysis of the climatological record and ongoing short- and long-term atmospheric and ocean trends, the Southeast has a 40 to 50% chance of having a warmer than normal summer. To prepare for upcoming summer weather, be sure to check out the National Weather Service's <u>Heat</u> <u>Safety Resources page</u>, which explains the difference between a heat watch versus a warning and provides tips on preparing for common heat-related illnesses.



Temperature outlook for June through August 2016

## Managing Drought in North Carolina: North Carolina Drought Management Advisory Council Annual Meeting

The North Carolina Drought Management Advisory Council (DMAC) was created in 1992 and became responsible for assigning drought advisories in the state in 2003. The DMAC provides up-to-date information on the status of drought conditions to inform local municipalities' response to drought and water use management strategies. The DMAC also supports national drought preparedness actions by providing information to products such as the U.S. Drought Monitor.

On Thursday, April 28, 2016, the DMAC held their annual meeting at the Gov. James G. Martin Building on the NC State Fairgrounds in Raleigh, NC. The meeting is held each year to comply with NC General Statue 143-355.1(d), which states that "The Council shall meet at least once in each calendar year in order to maintain appropriate agency readiness and participation." Meeting participants included members of DMAC, many of whom gave presentations on their agency or organization's respective drought indicators and current conditions. For instance, Curtis Weaver with the US Geological Survey (USGS) presented information on how the USGS measures stream flows and recent surface water levels affected by below normal rainfall amounts throughout the late winter and spring. Amanda Farris also had the opportunity to share more information with the council on the CoCoRaHS condition monitoring project.

A major point of discussion was whether or not the council would recommend an upgrade in the drought status for much of the state. At the time of the meeting, the majority of NC was <u>designated as D0</u> (abnormally dry) on the US Drought Monitor map. Thankfully, rainfall that followed in the week after the meeting alleviated these conditions across the state. However, portions of Western NC did not receive this rainfall and are still <u>designated as D1</u> (moderate drought).

For more information about NC DMAC and to view copies of presentations from all of the speakers at the annual meeting, be sure to check out the <u>NC DMAC website</u>.

### 2016 Atlantic Hurricane Season Outlook

The Atlantic hurricane season runs from June 1st through November 30th. The National Oceanic and Atmospheric Administration (NOAA) <u>predicts</u> that this hurricane season will be considered average in the Atlantic. The current outlook expects 10 to 16 named storms, 4 to 8 of those hurricanes, and 1 to 4 major hurricanes. At the time of this article, there was one tropical depression, Bonnie, impacting the southeast coast. There have already been two named tropical storms so far in this pre-season.



The Pacific Ocean is expected to develop La Niña conditions over this summer, and there is a 75% chance of La Nina conditions occurring during the fall and winter of this year. If a La Niña does develop, hurricane activity in the Atlantic will likely increase between August and October. NOAA will release an updated outlook for the latter half of the hurricane season in early August.

For comparison, the 2015 hurricane season brought eleven tropical storms, of which 4 became hurricanes and 2 became major hurricanes. This season was considered slightly belowaverage in activity for the Atlantic basin. NOAA is working to determine if the decrease in hurricane activity over the past three years may be an indicator of the end of the period of high Atlantic hurricane activity, which started in 1995.

Hurricane Preparedness week was May 15-21, 2016. This week was created to distribute more information on preparing for tropical storms and hurricanes in order to mitigate loss from storms. <u>The website</u> includes things such as: determining your risk, developing an evacuation plan, securing an insurance check-up, assembling disaster supplies, strengthening your home, identifying trusted sources of information, and completing your written hurricane plan.

## Condition Monitoring Star of the Month: Ed Barrows

The May Condition Monitoring Star of the Month is Ed Barrows from Wake County, NC. Ed has been a CoCoRaHS observer since 2007 and joined the Condition Monitoring project when it started in 2013. He regularly submits weekly reports describing conditions from his home in Wake County, and when Ed travels to the mountains, he continues to submit condition monitoring and CoCoRaHS precipitation reports from his vacation home in Western North Carolina. Below is a sample of one of Ed's condition monitoring reports describing conditions in Wake County, NC:

May 27, 2016: We had a little over a half-inch of rain (0.58) in the past week, however, the soil has dried out considerably. Soil moisture levels are now at or slightly below normal. We will need to start watering if we do not get rain in the next few days. There is a chance a tropical storm may go through but we would rather it just stay out to sea. The stream has stopped flowing into the pond and the water level in the pond is down about an inch from its normal state when full. Water is not flowing out of the pond. The water is slightly murky but there is no evidence of algae buildup. There are some fresh raccoon footprints in the mud by the pond but no deer foot prints were noticed this week. We did not see the wood ducks nor the blue heron that had frequented the pond in previous weeks. The grass is continuing to grow and the plants and trees seem to be doing OK but with less vigorous growth than previously noted. No evidence of stress was noticed.



Ed's backyard where he monitors rainfall and local conditions. Photo submitted by Ed Barrows.

Ed does a great job of describing moisture levels through various indicators, such as the growth of the lawn and nearby vegetation, creek and pond water levels, and soil moisture of his backyard. He also notes wildlife activity. Most importantly, Ed always mentions how these various indicators in his yard vary compared to the "normal" status for that time of the year or how they have changed over the past few weeks, such as the animal behavior and vegetation growth.

In order to learn more about what inspires Ed to participate in Condition Monitoring, the CISA team reached out to Ed via email with some questions:

- Why did you decide to participate in the Condition Monitoring project? Completing the Condition Monitoring reports helps me in putting on my "Observing Goggles" on a weekly basis. I find if I don't make a concerted effort to actively seek out, look, listen, smell and (sometimes) taste the ever-changing environment around me, I'm inclined to miss it. I get too busy with the things I'm supposed to do. The changes in nature are mostly very subtle but over time, they add up to be significant. I find I can appreciate the subtle changes that are taking place if I stop, slow down a bit and take time to examine and note the conditions. The Condition Monitoring program provides a structure for this examination. It's the examination that leads to the greater appreciation of what is going on in the natural world.
- Were you a CoCoRaHS observer before starting?

I first signed on with CoCoRaHS in August of 2007. I already had a rain gauge but I was just entering the rain data along with temperature in a spreadsheet. CoCoRaHS made the data collection much easier.

- Outside of CoCoRaHS, what defines you? How does this inform your monitoring? I see my reporting with CoCoRaHS and the Condition Monitoring programs as just a part of my interest in the world around me and in citizen-science programs. I've been active in reporting in Nature's Notebook with the National Phenology Network, Monarch Watch, several projects in Nature Abounds, Loss of the Night, some Audubon programs and just recently started with CyanoTracker. I also maintain a wild-life tracking camera as part of the <u>eMammal</u> program. It's been set up in a local Long Leaf pine habitat for the past year.
- What do you enjoy about condition monitoring? What are some memorable things that you have observed? Condition Monitor reporting serves as a "big picture" or summary of the data I am collecting. It is sitespecific focused on my local environment and the changes going on in that environment. It's also useful because it will tell me when I need to start and stop watering the plants and lawn. It also gets me looking at the health of the streams and ponds in our area. I'm not sure it's memorable, but since the recent construction of several new housing developments in our area I am seeing far fewer white-tailed deer, other animals and birds. It's more sad than memorable, I hope the trend will reverse itself but I'm not optimistic.
- What tips do you have to other observers about recording precipitation and condition monitoring? The only "tip" I can think of is (apparently) there are no wrong answers. I've had some doubts about what to report and how to report it but (at least as far as I know) nobody has rejected my reporting

Thank you, Ed, for your dedication to CoCoRaHS, Condition Monitoring, and various other citizen science project. We greatly appreciate your consistent and quality observations, and we hope that your reports from this past week give some ideas to other observers on things to include in their reports! If you're interested in reading more condition monitoring reports, check out the <u>List of Drought Impacts Reports</u> on the CoCoRaHS website to search for and view more reports from fellow observers.

Feel free to contact us with any questions.

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