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August 2015

CISA & CoCoRaHS Condition Monitoring Newsletter

Dear CoCoRaHS Observer,

August's newsletter gives a summary of the conference call CISA team members hosted with a few of our observers. We heard many great ideas about condition monitoring on the call. In response to the feedback from the call, we have an article in the newsletter on how drought can impact your health. We hope these articles will give you some new ideas on topics to include in your condition monitoring reports.

In addition to the U.S. Drought Monitor Update, as drought conditions continue to persist in the Carolinas, we feature pictures and reports from some of our observers to highlight the valuable information that all of you have been providing. Be sure to check out the [blog](#) for additional Carolina drought updates and to learn how the North Carolina Drought Management Advisory Committee uses condition monitoring reports and the pictures like the one shared in this month's newsletter.

Thank you for supporting the CISA and CoCoRaHS Condition Monitoring Project!

Sincerely,

The CISA Team - Amanda, David, Janae, Kirsten,
Kirstin and Sumi

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Drought Update for the Carolinas

The most recent [U.S. Drought Monitor \(USDM\)](#) map published on August 4, 2015, shows most of South Carolina and parts of North Carolina in some stage of drought ranging from "Abnormally Dry" (D0) to "Severe Drought" (D2) classifications. Drought intensity in both states has been worsening due to above normal temperatures and below average rainfall in many areas. Changes in drought status for counties by each state's drought response or management committee help alert local officials to review drought and water related ordinances and regulations.

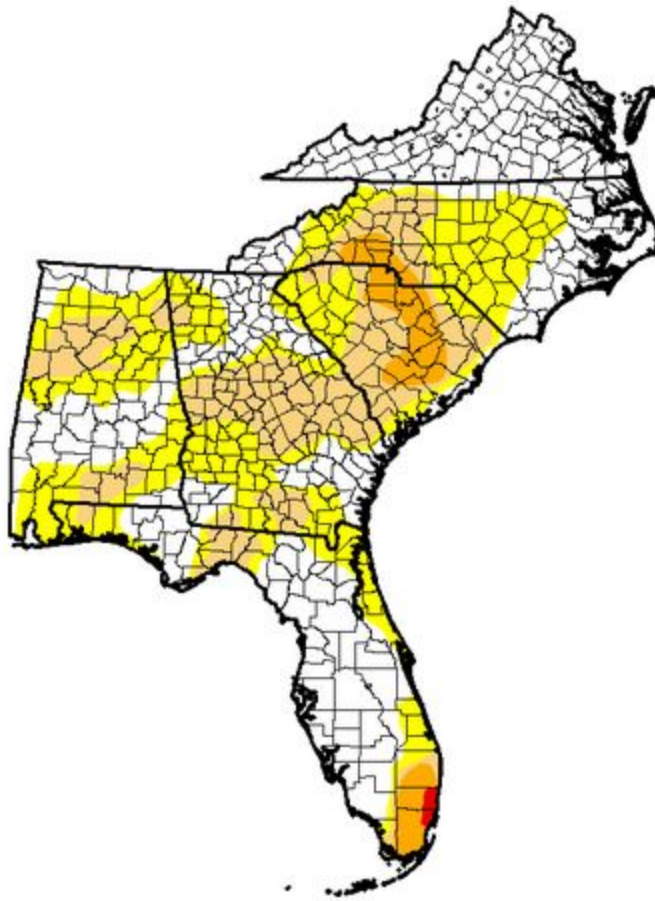
In South Carolina, over half (63.6%) of the state has an intensity of D1 or D2 [according to the USDM](#). The [SC Drought Response Committee](#) has placed every county in the state in either incipient or moderate drought status as of their last call on July 16, 2015. Drought impacts compiled by the [National Drought Mitigation Center's Drought Impact Reporter](#) for South Carolina during the month of July indicate that boat ramps have been closed in Aiken State Park and Lake Wylie due to low water levels. Reports also indicate plant and crop stress and damage from dry conditions.

According to the [USDM for North Carolina](#), over half the state's area has been classified as D0, D1, or D2. The [North Carolina Drought Management Advisory Committee](#) has advised residents, local officials, and other water users in affected areas to adopt water conservation actions and follow local water use restrictions. Some local officials have already begun implementing water shortage response actions such as voluntary measures in the [City of Hendersonville, NC](#) and mandatory restrictions in the [Town of Tryon, NC](#).

For more information on drought impacts information in the Southeast, check out the [July 2015 Drought and Impact Summary](#) from the National Drought Mitigation Center.

What's the difference between D1 and D2?

Not sure what the distinction is between the different drought intensities? Check out this [video](#) to learn more.



U.S. Drought Monitor Map - released August 4, 2015

Intensity:

D0 - Abnormally Dry
 D1 - Moderate Drought
 D2 - Severe Drought

D3 - Extreme Drought
 D4 - Exceptional Drought

**Maps created by the U.S. Drought Monitor are typically published every Thursday morning by 8:30 am.*

Send Us Your Photos of Weather Impacts!

Many observers are describing how increasing dryness affects their households, neighborhoods and communities. But have you thought about taking photos of these impacts? In June, observer Melinda Ball in North Augusta, SC, sent us photos showing how lack of rainfall has caused her soil to crack. She also included the following report:

The pictures are showing the dry cracked clay soil conditions on the lot where my new house is being built in the River North

Community in North Augusta. The two pictures were taken in what will be my new backyard in a few weeks. What I wanted you to be aware are the huge giant dry cracks in the soil due to the lack of rainfall here. The cracks are anywhere from 1/4" to 1/2" wide. Soil looks more like soil in the desert SW rather than in the SE. Anyways, notice how big the cracks are. Pool is under construction, but also look in the background at the pond. Trees are still very green, but pond level is getting very low & algae growth is way high right now. We have gone 15 days without measurable rainfall here.



Lack of rainfall caused cracks in the soil on Melinda Ball's property in North Augusta.

Photo submitted by Melinda Ball.

Melinda Ball's observations and photo are an excellent example of how photos can help us to visualize the information you share through your condition monitoring reports. Unfortunately, CoCoRaHS does not provide a way to upload photos online, so they should be e-mailed to the CISA team directly. Photos along with credits and related reports will be used in our [blog](#), [website](#), and newsletter.

PHOTO SUBMISSION INSTRUCTIONS:

Please e-mail your photos to cisa@sc.edu. Don't forget to include your name, the location and date the photo was taken, and a brief description of the weather or weather impacts that the photo captures.

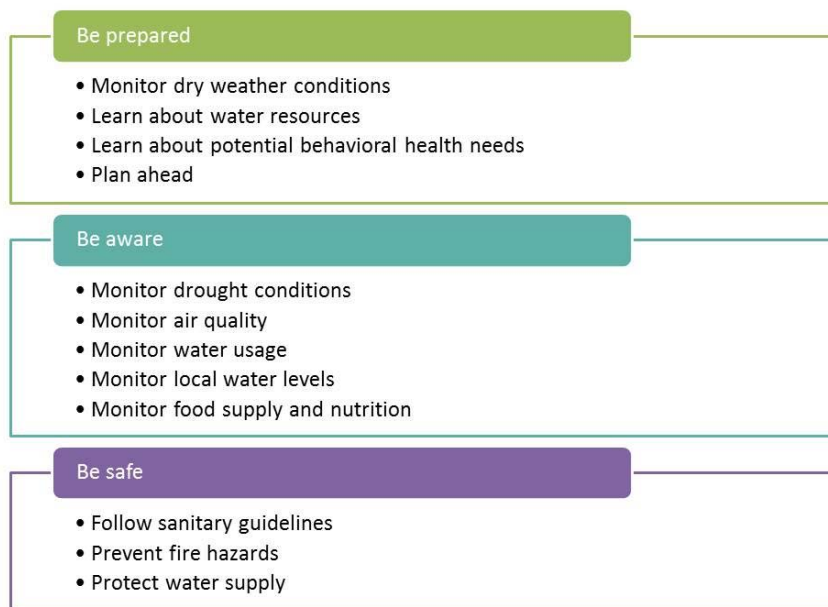
We look forward to seeing how weather affects your home, neighborhood, and community!

How Does Drought Impact Your Health?

While it might not be the first thing that comes to mind when submitting condition monitoring reports, drought can also impact your health. According to the Centers for Disease Control (CDC), drought can cause immediate, short, and/or long-term impacts to public health. Additionally, the slow onset of drought makes it difficult to connect indirect and long-term health impacts with drought. For example, dry soil and other conditions that lead to wildfires, which often occur over a period of time, can degrade air quality and may increase respiratory infection risk, worsen asthma, and irritate the lungs. Although these changes in air quality might not be noticeable during the beginning stages of drought, in areas with years of drought such as California, various news stories and even a report from the American Lung Association identify drought as a contributor to particle pollution in the air from dust and wildfires in the Western parts of the United States.

The CDC also identifies drought impacts to health from decreases in the quantity and quality of surface water and groundwater resources caused by less rainfall and warming water temperatures. Contamination of drinking and irrigation water increases the risks of water-borne illnesses transmitted from drinking water or even eating crops grown using contaminated water. Lower surface water levels may also result in more physical injuries during water recreational activities.

Although drought impacts on health might be subtle and indirect, the CDC provides recommendations that you can follow to prepare for possible impacts:



Drought preparedness tips from the CDC Drought Communication Toolbox - <http://www.cdc.gov/nceh/drought/toolkit/default.htm>

As you continue to monitor the environment around you, use these tips from the CDC to help you understand how environmental conditions affect your daily and long-term health. Feel free to send us tips or include in your condition monitoring reports any impacts to health that you notice as dry conditions continue to persist in the Carolinas.

July Observer Conference Call Recap

Early in July we hosted a conference call with CoCoRaHS condition monitoring volunteers to provide an opportunity for us to hear from volunteers about their experiences as citizen scientists. We spoke in detail on various aspects of the entire condition monitoring process, from making observations in the field to a constructive look at what information to include in a report.

Project volunteer Jerry Cutter mentioned that the US Drought Monitor (USDM) map was interesting in determining if the conditions he observed matched with the level of dryness indicated on the map, noting that the USDM map did not always reflect what he observed locally. The location and number of observations in an area play a role in how weather conditions are reported to USDM map authors. This may result in the Drought Monitor Map either conflicting or matching what you observe at your home or in surrounding areas. Let us know in your reports how conditions you observe compare to the

USDM map. The US drought monitor map is published every Thursday and can be found [here](#).

Additionally, during the conference call some of the more experienced observers provided their perspective on making field observations. Edna Gaston, a Master Gardener and long-term observer from North Carolina, shared a few insights. Edna suggested using the Drought Impact Reporting Categories on the online form as "cues" for the information to include in the report. She also checks water level alerts for Hyco Lake from [USGS](#) and includes the information in her condition monitoring report when water levels are above or below normal. Ed Barrow from North Carolina also commented that he uses condition monitoring as an opportunity to take a walk around his property to make observations. Linda Philip from South Carolina looks for differences in conditions in surrounding areas, such as high variability in local rainfall.

Speaking with volunteers gave the CISA team a chance to see the observation process from your perspective. If you have any comments or feedback on field observations and reporting please feel free to email us at cisa@sc.edu. Any information you can provide will help improve citizen science as a whole!

Condition Monitoring Star of the Month

In July, observers discussed many types of drought impacts in their reports. This month, we want to spotlight one report we found useful for understanding the effects of dry conditions in a coastal area of Georgia. This report was posted on July 13 by Karen Schuck in McIntosh County, GA. As our only project participant in Georgia, this dedicated observer reports each week on a variety of conditions at her location. We appreciate how she always begins her summary by reporting rainfall and temperatures for the week. This information helps us to understand recent weather events contributing to the conditions she later discusses in her reports.

Karen's July 13 report also includes a detailed description of damage to her garden vegetables and changes in soil texture. These types of detailed observations not only tell us that conditions are dry, they let us know **how dry** they have become.

The observer also reports on how the current mosquito population compares to last year's numbers. Like many of you, Karen has been submitting reports for over a year and is able

to make comparisons with conditions shared in previous reports. How do this year's weather and weather impacts compare to last year? Your consistent reporting over time will allow you and us to continue making these types of comparisons and can help others monitoring drought to discover patterns and trends at your location.

Lastly, we want to point out that many of this observer's observations are based on her expertise as a gardener and beekeeper. You too can use your knowledge as a gardener, naturalist, recreationist, city dweller, neighborhood walker, or volunteer to report on weather impacts at your home, in your community, and around town. Thanks Karen for your commitment and setting a great example!

July 13, 2015

This is for the week of 6-12 July 2015. We had 0.90 inches of rain over 4 days. The highest rainfall was recorded on 6 July with a total of 0.73 inches. It was another hot week. Saturday was supposedly the hottest day. On Sunday, I went to Richmond Hill, GA for a meeting. When I got into the car the temperature was 104 degrees, the temperature never dropped below 97 degrees during the whole trip. After seeing the temperature yesterday, I really don't want to know how hot it was on Saturday. I am still picking peppers but the plants look bad because of the heat. I checked the Resurrection Ferns this week. On one side of the limb they had died back on the other side they were still green. I pulled some weeds this weekend and the dirt is a fine powder the top inch or so. The juvenile Yellow Crowned Night Herons were out and about this week. One was in the yard walking along the marsh eating Fiddler Crabs. The cutest thing I saw was a Green Heron flew into the yard and landed on the clothes line. It performed quite a balancing act. I wanted to get a picture but I didn't have anything handy near anything that was artificially watered. Mosquitoes are worse this year - at this time - than they have been in past years. Honey bees (we are keepers) are doing all right; continue to have current brood / have plenty of nectar on their colonies - but are slow to turn it into honey / cap it off. Honey crop is still expected - but now about on month later than normal - effected by a loss of forage in late March ad early April due to late freezes.

See the [List of Drought Impacts Reports](#) on the CoCoRaHS website to search for and view more reports from fellow observers.

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