

South Carolina's Journey for Drought Impact Reporting

Elliot D. Wickham

Water Resources Climatologist

South Carolina State Climatology Office

South Carolina Department of Natural Resources

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SC SCO involvement in Drought Monitoring prior to 2019

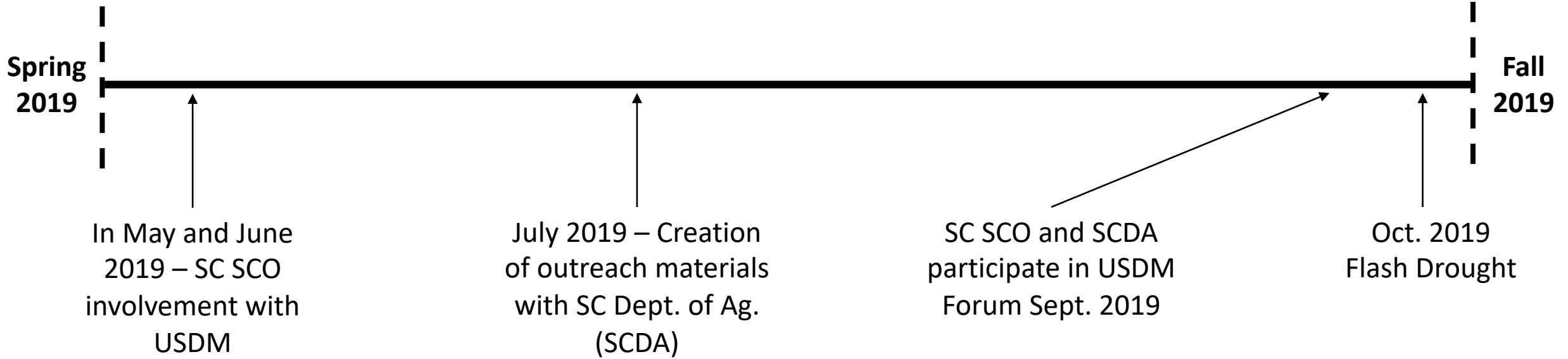
South Carolina Drought Response Committee (DRC)

- SC SCO is the lead entity for the DRC (est. 2000)
- The DRC:
 1. Main focus is to protect water resources for municipal use.
 2. Is comprised of local representatives and state agencies make county-level designations
 - Local agencies mainly comprised of public water suppliers
 3. Meets when needed

United States Drought Monitor (USDM)

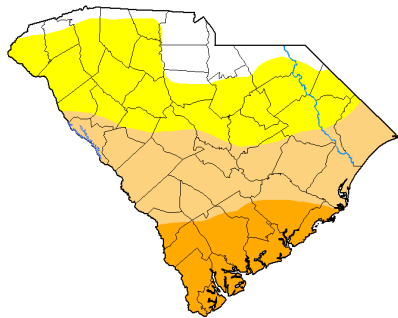
- Limited involvement
- Was involved when needed

SC SCO involvement in USDM in 2019



U.S. Drought Monitor
South Carolina

June 4, 2019
(Released Thursday, Jun. 6, 2019)
Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

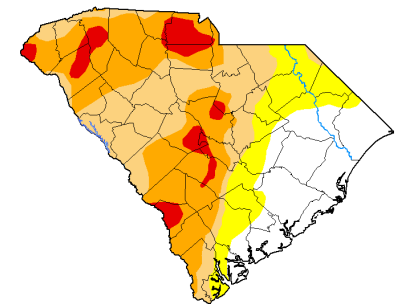
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Simeral
Western Regional Climate Center

droughtmonitor.unl.edu

U.S. Drought Monitor
South Carolina

October 8, 2019
(Released Thursday, Oct. 10, 2019)
Valid 8 a.m. EDT



Intensity:

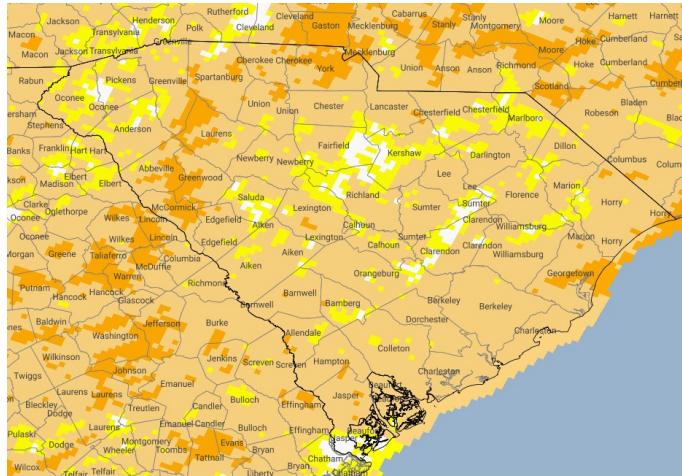
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Author:
Brian Fuchs
National Drought Mitigation Center

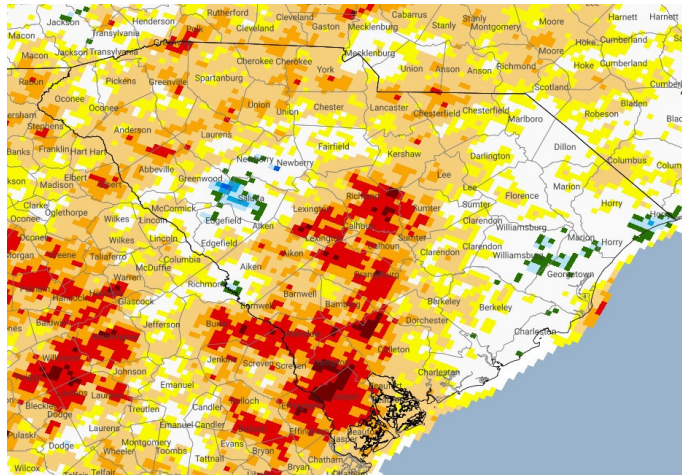
droughtmonitor.unl.edu

2019 Flash Drought Data



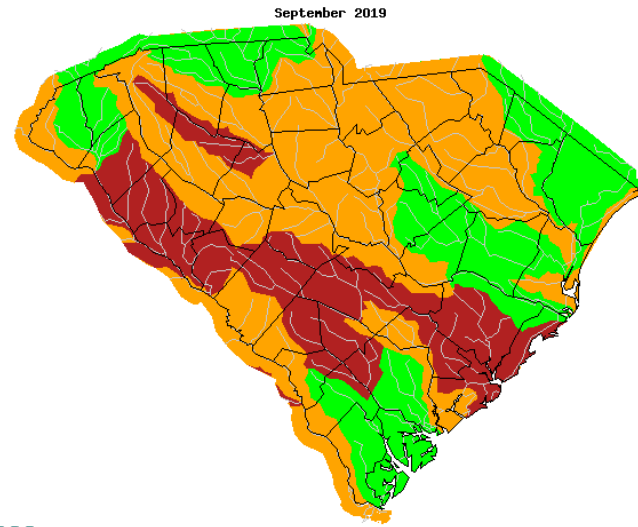
Oct 8, 2019

30-day SPI



Oct 8, 2019

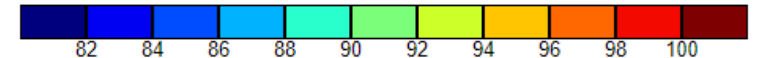
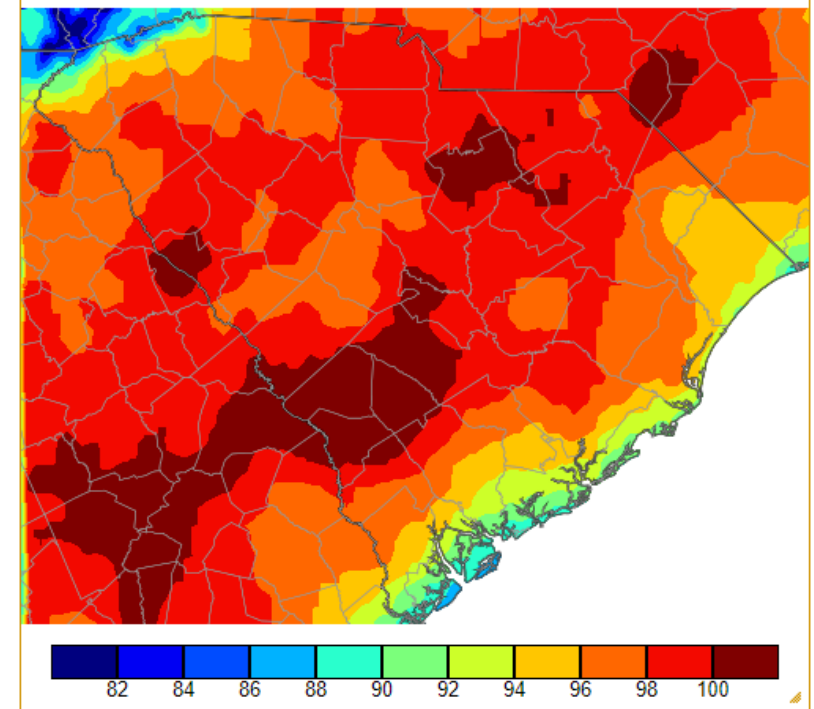
90-day SPI



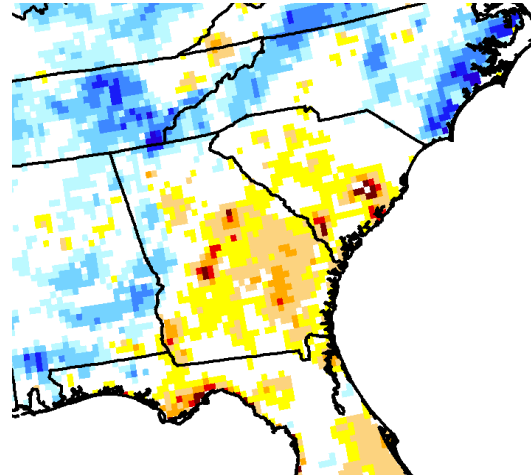
September 2019



Highest Max Temperature - October 1, 2019 through October 8, 2019



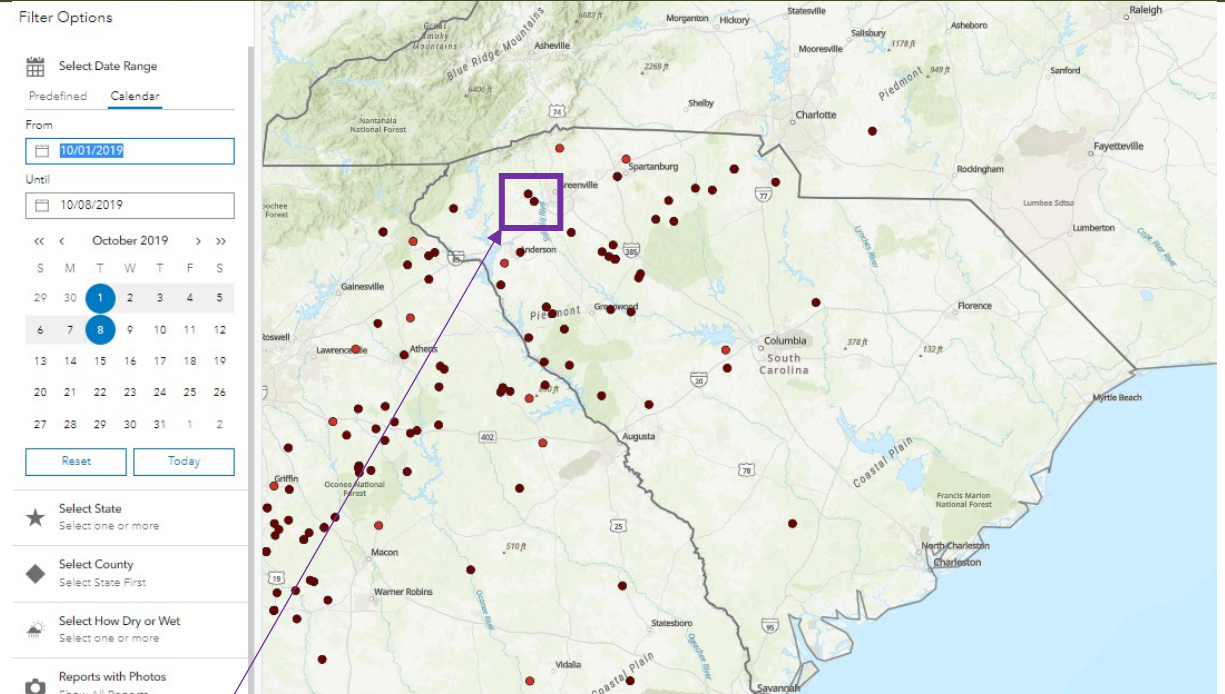
NASA GRACE-Based Root Zone Soil Moisture Drought Indicator
October 08, 2018



2019 Flash Drought Impact Reporting

Using Impact Reporting

- CoCoRaHS Reports
 - Generally, not ag focused
- NASS Reports
 - Broad scale
- CMOR Reports
 - Detailed reports w/ pictures
 - Sept 1- Oct 8, 2019: 74 reports
 - Oct 1-8, 2019: 44 reports



Report Detail: 10/3/2019

State/Territory: SC
County: Pickens

Date: 10/3/2019

How dry or wet is it? Severely Dry

U.S. Drought Monitor Intensity: D2 (Severe Drought)

How localized or widespread are the conditions you are reporting?

Description and/or caption information:
Photos by Jessica Stumpf taken in front yard of my house. What you're looking at is multiple areas of cracking in my yard from how dry the ground is. Even when watered, it takes hours for water to soak in. It just stays on top. I do not grow crops. I do not raise animals (other than an indoor dog). I am part of a municipal water system. These cracks are widespread in my front yard.

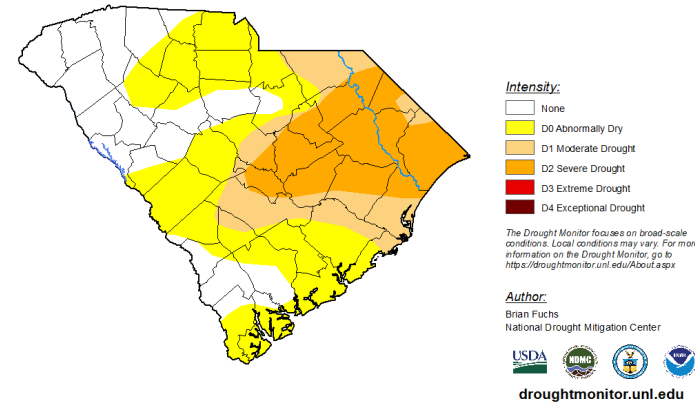


2020 – Present: My Involvement with Drought Reporting

- Started in August 2020
- Provide weekly input to USDM
 - Includes use of:
 - CMOR
 - NASS Reports
 - CoCoRaHS Reports
- Impact reporting did not really increase until 2022
 - In part, drought with impacts during growing season 2022

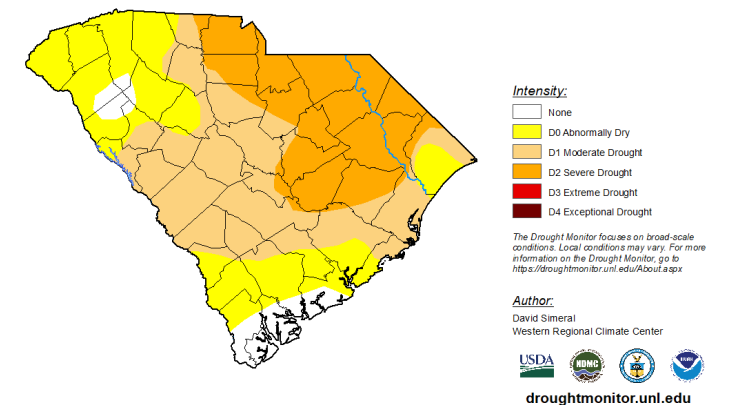
U.S. Drought Monitor
South Carolina

June 1, 2021
(Released Thursday, Jun. 3, 2021)
Valid 8 a.m. EDT

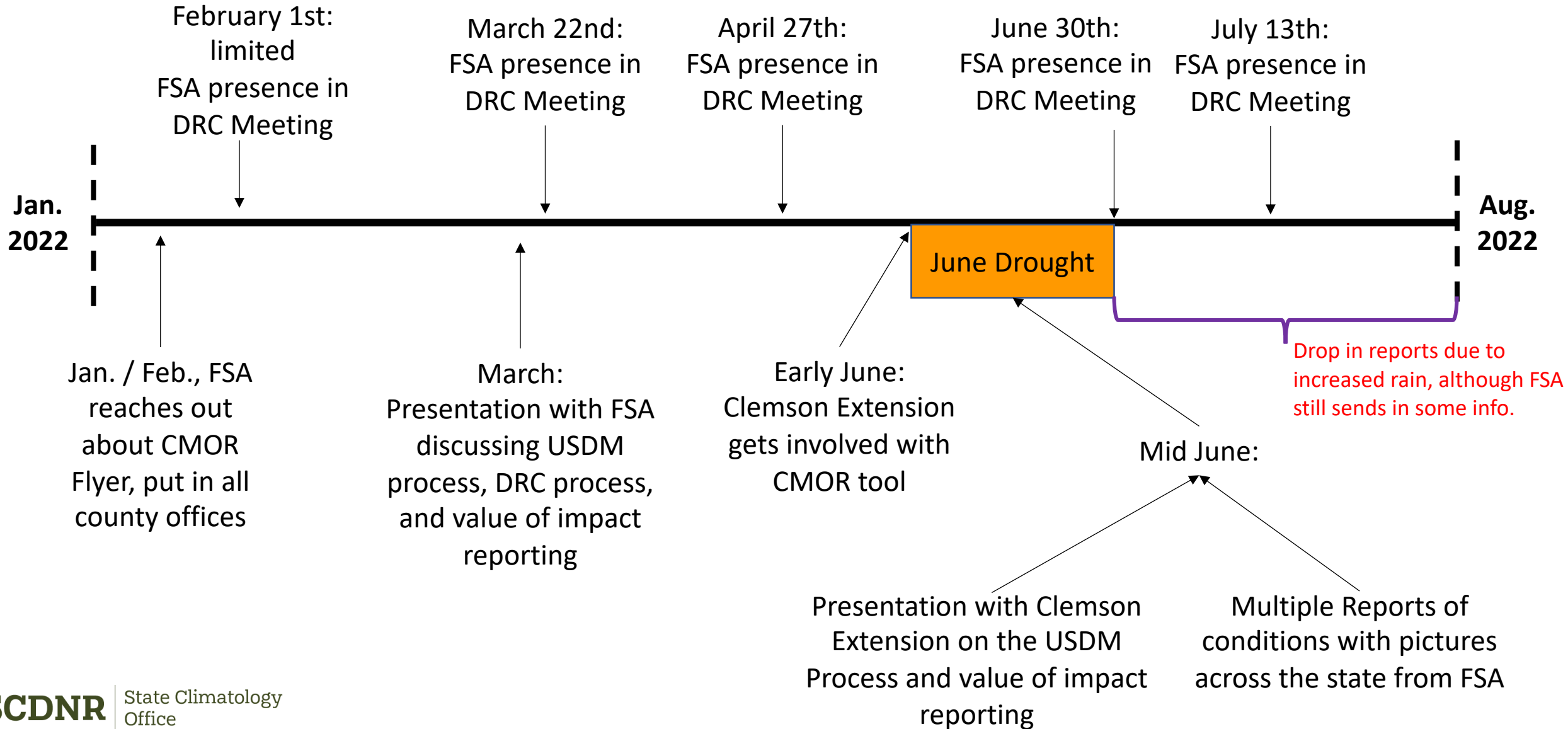


U.S. Drought Monitor
South Carolina

December 7, 2021
(Released Thursday, Dec. 9, 2021)
Valid 7 a.m. EST



Improvement of Drought Reporting in 2022



Reports during June Drought

CMOR reports in June (36)

about half were from Clemson Ext.

FSA email Chains (34)

Calls and emails from Producers (10)

Depleted Pond in Edgefield County
(Texts from a producer)



Corn Stress Colleton County (FSA)



"soil moisture" Marion County
(FSA)



"Streamflow" Kershaw County
(FSA)



Non-irrigated
Corn

Richland
County

Personal Farm
visit

Positives in Drought Reporting

- Huge increase in reporting, particularly from FSA
- Clemson Extension is becoming more involved
- Producers are learning to call our office.
 - Generally eager to use CMOR tool
- CMOR tool App

Use Your Phone to Submit Conditions

Condition Monitoring Observer Reports (CMOR) Tool

<https://droughtimpacts.unl.edu/Tools/ConditionMonitoringObservations.aspx>

Download and Setup the App:

- Open the Camera App on your phone, point the camera QR code, and click on the link that appears on your screen.
- After clicking on the link, it should have opened a browser window. At the bottom, click the black box that says, "get it on Google Play" or "Download on the App Store".
- Clicking on this will open your phone's App Store with the needed app "ArcGIS Survey123". Press "install".
- Once installed, the app will open and ask you to use device location. This option will make geotagging information more accurate, but it is not required.
- Allowing this app to access your pictures and camera will help when submitting with reports with photos.
- Click "continue without signing in"
- In the search bar at the top, click the QR code icon.
- This will open up the camera. Again, take a picture of the QR code provided.
- This will open a link in your browser. Click "Open in the ArcGIS Survey 123 field app".
- The CMOR 2022 Survey should appear and then the download will start.

How to Submit a Report on Your Phone:

- Open the app and Click "Continue without signing in".
- Select "CMOR 2022".
- Press "Collect" at the bottom.
- Use the form to pinpoint your location, or let us know your jurisdiction, as well as the date of your observation or photo.
- How dry or wet is it? Pick from seven levels, ranging from severely dry to severely wet. Short descriptions can be found on the survey to help you determine a level.
- Let us know how many times you have experienced these conditions in the past and if they are localized or widespread.
- What impacts of drought or flooding are you experiencing? Click on any categories that are relevant to you and see a list of potential impacts and check all that you are experiencing.
- Upload a photo. By uploading an optional photo, you agree that it may be used and shared for educational and management purposes. If you plan to submit regular reports, the photo should be of the same spot to provide a consistent set of observations to contrast changing conditions.
- Provided any additional description information.
- Name and email are required for reporting. However, data is not shared publicly by the National Drought Mitigation Center.



Need assistance? See contact information on front page.



NATIONAL DROUGHT
MITIGATION CENTER

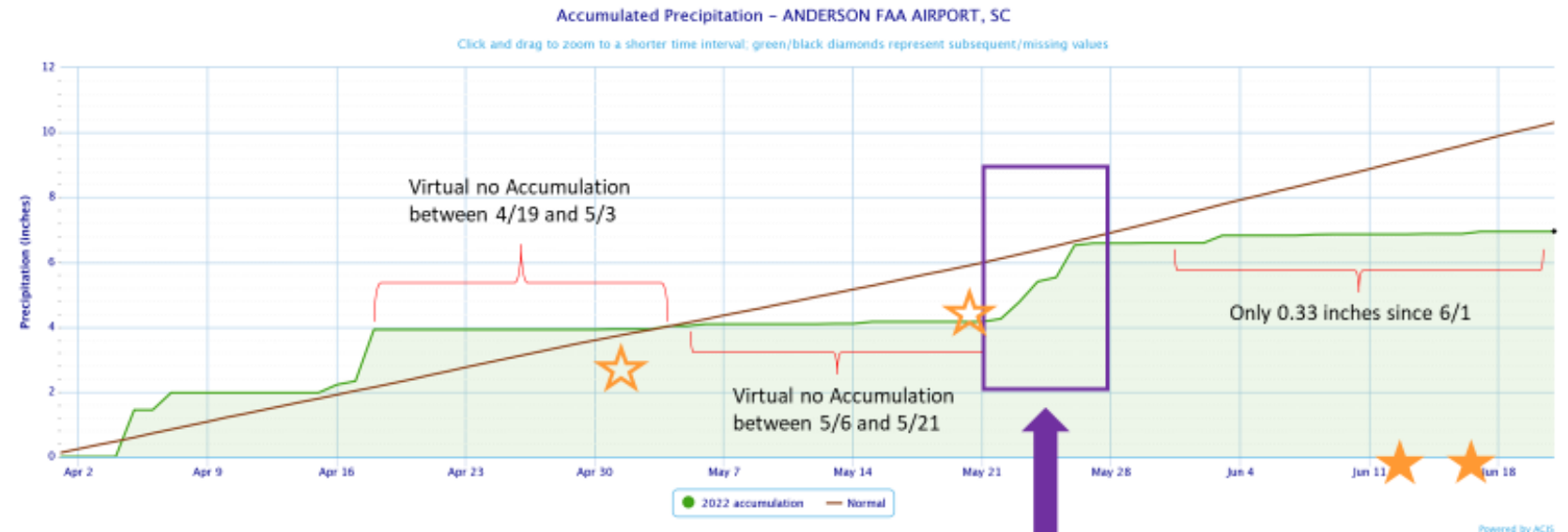


Last Updated:
March 2022
Page 2

Barriers in Drought Planning

- Not reporting early enough
- Not consistently reporting
- Not reporting early enough
- Not reporting when conditions improve
 - Or no improvement if rain does occur
- NASS: removal of county-level conditions or reports

Importance in reporting



Lessons Learned & Future Opportunities

Lessons Learned:

- Provide *context & communication* on the importance of impact reporting
- Provide *resources* to help reporters
- Always be on the lookout for new *partnerships* for increasing reporting
 - *2-way communication*
- *Availability*
- *Stay persistent*

Future Opportunities:

- Increased cooperation with FSA
- Increased cooperation with SCDA
- Further engagement with Clemson Extension
- Bringing SCDNR Soil and Water Conservation Districts into drought reporting

Thank you!

Elliot Wickham

Work Cell: **803-465-1098**

Email: **wickhame@dnr.sc.gov**