

C.M. Stripling Irrigation Research Park

Monthly Newsletter

September 2021



Drone photo of peanut plots.



In This Issue

- ▶ From the Superintendent
- ▶ Drought Conditions
- ▶ Water Resources
- ▶ Past & Upcoming Events
- ▶ In The News
- ▶ At the Park
- ▶ Brain Teasers
- ▶ SIRP Weather
- ▶ Contact Information



College of Agricultural &
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From the Superintendent

Calvin Perry

Well, August was another rainy month for Stripling Park. We received 6.54 inches of rainfall over 14 rainy days spread over the entire month. Our high temps ranged from a nice 80.3F to a warm and sticky 97.7F while our lows were fairly consistent, ranging from 75.3F to 70.2F. The long term average rainfall during August for SIRP is 4.92 inches.

Needless to say, irrigation hasn't exactly been needed on our research plots. But there are plenty of other tasks to keep us busy. We prepped plot land for State-Wide Variety Testing (SWVT) to plant two sections of "ultra-late" soybeans, sprayed fungicide on cotton and peanut plots, sprayed PGR on cotton plots, prepped and planted pumpkins for grad student Jermaine, repaired a leak in Dr. Sintim's SDI irrigated cotton, re-sprayed some plot alleys and removed others, and began harvesting border rows of corn in two of our fields. We also inverted some 'Virginia' type peanuts and harvested them with our very old Lilliston peanut combine. These went home with the SIRP staff as 'green' peanuts ready for boiling. With all the rain, we obviously had to mow nearly every day.

Visitors to the Park in August included Dr. Henry Sintim & crew, Dr. Bob Kemerait & crew,

Dr. George Vellidis' crew, Dr. Cris Pilon's crew, grad students Shelby Sangster, Giannis Gallios, Devendra Chalise and Laxmi Pandey, and Brian Hayes (Mitchell Co. ANR agent). Other visitors included Garrison Piel, grad student in UGA Entomology and friends from USDA-NRCS / GA including Randy Odom, engineer out of the Moultrie office.

SIRP served as a multimedia site as Perri Cooper with the Flint River Soil & Water Conservation District hosted Aaron Brown and Huiet Joseph with Cox Enterprises sustainability group – Cox Conserves. The Cox group provided funding for ag water efficiency work the District is doing near Radium Springs and needed a center pivot irrigation system and soil moisture sensors as backdrops for a video and photo shoot. What better place to do this than Stripling Park!

SIRP was very pleased to host the state 4-H Land Judging Contest last month. We assisted Dr. Glen Harris in preparing the two soil pits used in the contest. That Saturday the Park hosted the 4-H students, their advisors and numerous parents for the half day event. UGA Extension's Craven Hudson did a great job organizing the contest.

Finally, a reminder that our 2021

Virtual Field Day, which premiered on July 21, is available for your viewing pleasure. Just point your web browser to this link to the video: <https://youtu.be/3-16YpRAv8k>

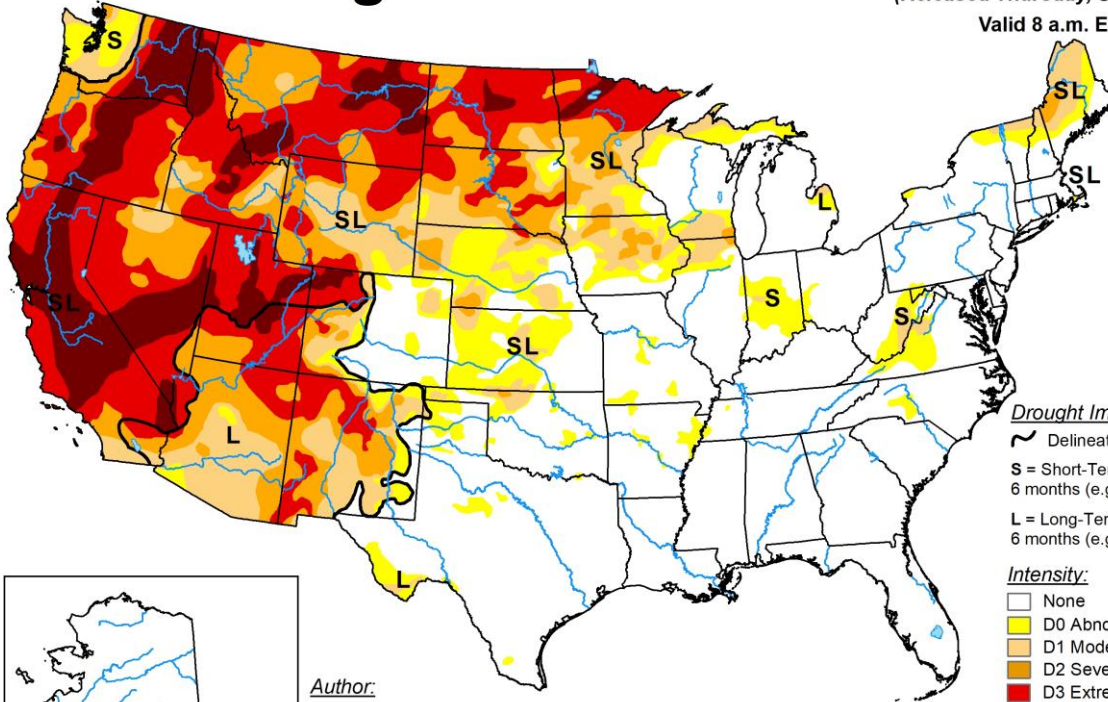


Drought Conditions

U.S. Drought Monitor

August 31, 2021
(Released Thursday, Sep. 2, 2021)

Valid 8 a.m. EDT

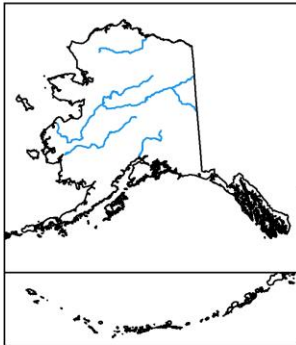


Drought Impact Types:

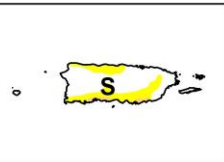
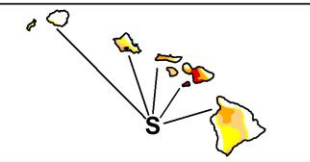
- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

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



Author:
David Simeral
Western Regional Climate Center



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



droughtmonitor.unl.edu

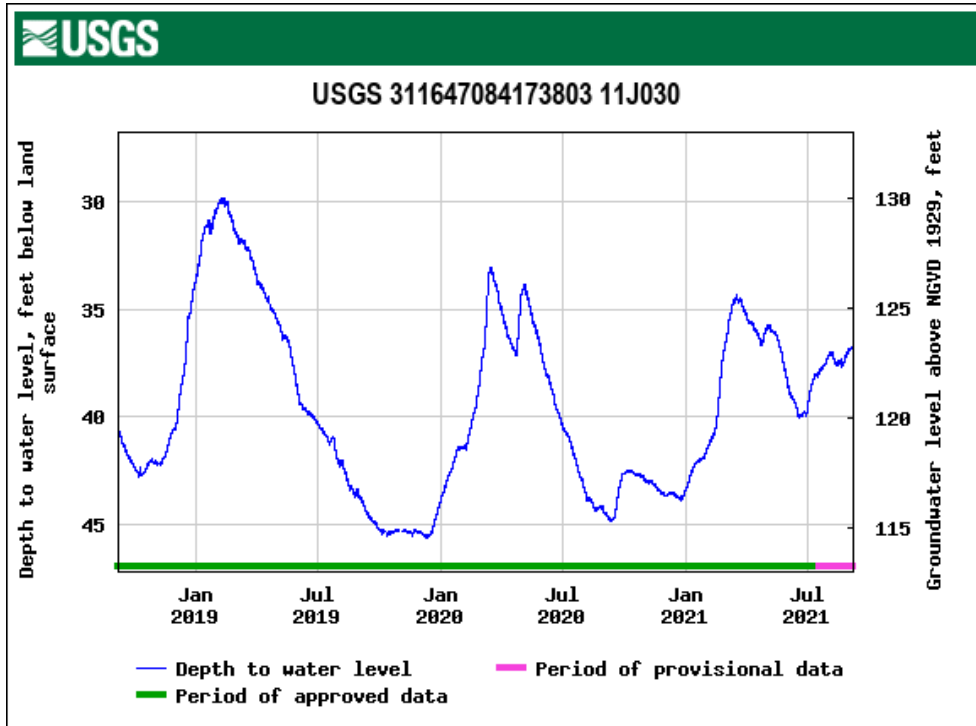
Drought Monitor map for the entire U.S. as of August 31. Currently, Georgia has NO areas of “Abnormally Dry” conditions. In the western U.S., the drought conditions are severe.

For more info:

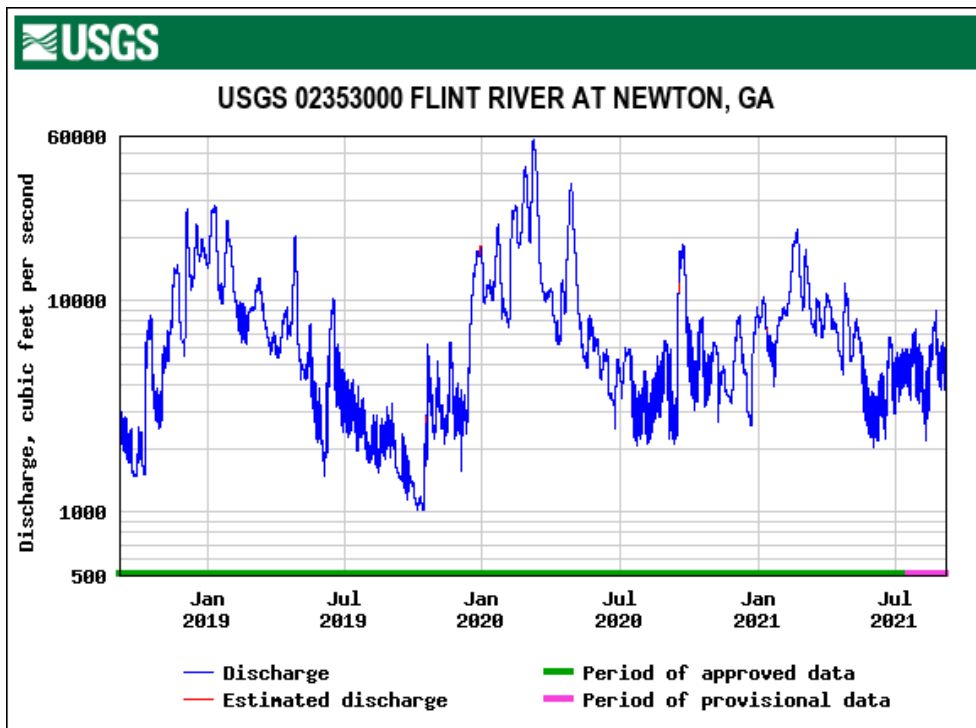
<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?GA>



Water Resources



Above - USGS data for the past 3 years for a groundwater monitoring well here at SIRP in Floridan aquifer. Below - stream gage on the Flint River at Newton for past 3 years.



Events

Past events

August 10	FRSWCD meeting
August 28	State 4-H Land Judging

Upcoming events

September 14	FRSWCD meeting
September 23	IGEL
September 29	Extend Leadership Group
October 12	FRSWCD meeting



In The News

[Georgia: Cotton/Peanut Research Field Day, Tifton, Sept. 8](#)

[Tough summer has crops limping into fall](#)

[Federal judge rejects Alabama, enviro groups' water suits](#)

[Will Georgia Fruit Have a Home?](#)

[Breaking Pandora's Box: Resistant Weed Future Looms Large for US Farmers](#)

[Climate-smart agriculture is a sustainability solution](#)

[Seven-lock cotton boll](#)

[Recent predictions point to a 'sweet spot' in U.S. peanut market](#)

[Axe falls on chlorpyrifos. What's next?](#)

[Stewardship Planning on Your Farm](#)

[Ag Lenders Can Now Apply for USDA's New Heirs' Property Relending Program](#)

[NCGA to EPA: Don't Saddle Farmers with Unnecessary Water Regulations](#)

[USDA-NIFA and NSF Invest \\$220M in Artificial Intelligence Research Institutes](#)

[Champion for Cotton Growers, Advocate for All Ag](#)

[Fall Approaches – Time to Think about Crop Fertility for 2022](#)

[Entomologist Reports Worst Fall Armyworm Outbreak In 30 Years](#)

Videos:

[Georgia Peanuts: Through the Eyes of a Farmer – Ken Hall – Video](#)



At the Park

Right: Corn damage from Tropical Storm Fred.

Below: Planting ultra-late soybeans.



At the Park

Right: Dr. Bob Kemerait rating disease in cotton plants.



Below:
Dr. Kemerait funded an upgrade to our LeeAgra "Spider" sprayer to add a nice research boom.



At the Park

Right & Below:
Dr. Glen Harris
and Craven
Hudson prepare
for 4-H Land
Judging contest.



At the Park

Right & Below:
4-H Land Judging
contest at SIRP.



At the Park

Right: Lightning damaged cotton in the "FF-S" field.



Below: Summer intern, Amy Deariso, graduation at Rock Eagle.



Figure 1: A UGA SSA soil moisture sensor node consists of a large antenna, a probe with three sensors, and a computer board. The probe collects moisture readings at three different depths, relays them to the computer which then uploads them to a cloud server.

Introduction

The SmartIrrigation Applications have improved irrigation scheduling for farmers by providing them with science-based tools. Currently, there are SmartIrrigation Apps available for cotton and soybeans. This summer I was able to assist in field-testing the prototype for corn.

Field-Testing the SmartIrrigation App for Corn

Amy Deariso, Stripling Irrigation Research Park Intern

Description

Based upon a crop coefficient curve (Kc curve), meteorological data, and soil type, a SmartIrrigation App informs users when soil moisture is depleted and irrigation is needed. Two different Kc curves for the Corn App were compared in this study to determine which is more accurate in predicting soil moisture. The soil moisture predictions of the Kc curves were compared to soil moisture measured with UGA SSA soil moisture sensor nodes.



Figure 2: A snapshot of the application in use. Including a notification example, the running application, and what it looks like to add irrigation records.

Results

As shown in Figure 3, the new Kc curve has a lower water deficit throughout the season, meaning it was a more accurate in terms of corn's water needs, compared to the previous curve. In Figure 4, the readings from the probes were compared to the water deficit percentages resulting from the Corn App's new Kc curve, showing that in most cases the curve and probe data match well.

Summary

The SmartIrrigation Corn App functions well and is easy to use but the developers of the App continue to refine its algorithms to improve performance. The new Kc curve is more accurate than the last, but it still reaches a large water deficit reading around the middle of the R2 stage (81 days after planting). There is a spike in the deficit reading from the app, compared to the actual readings from the soil moisture sensors, meaning the Kc curve needs to be updated accordingly and further refinement is needed.

The SmartIrrigation Apps are available at www.smartirrigationapps.org.

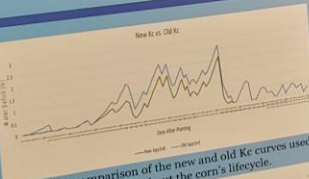


Figure 3: A comparison of the new and old Kc curves used by the application throughout the corn's lifecycle.



Figure 4: A comparison of the application's new Kc curve and the averaged soil moisture readings from the sensors.

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At the Park

Right: Flint River Soil & Water Conservation District (FRSWCD) and visitors with Cox Conserves doing photo-op.

Below: Kyle harvesting border row corn.



At the Park

Right: Repair SDI
leak in the
Access field.

Below: Kyle
replanting
pumpkins and
collards in the
VRI field for grad
student
Jermaine.



Brain Teasers...

How can a man who shaves several times a day still sport a long beard?

He's a barber

What can't talk but will reply when spoken to?

An echo

What can you keep after giving to someone?

Your word

A man dies of old age on his 25 birthday. How is this possible?

He was born on February 29th

I have branches, but no fruit, trunk or leaves. What am I?

A bank

The more of this there is, the less you see. What is it?

Darkness

Where does today come before yesterday?

The dictionary

What can you hold in your left hand but not in your right?

Your right elbow

What has many keys but can't open a single lock?

A piano

What is cut on a table, but is never eaten?

A deck of cards

What kind of band doesn't play music?

A rubber band

What building has the most stories?

The library

It stalks the countryside with ears that can't hear. What is it?

Corn

What is 3/7 chicken, 2/3 cat and 2/4 goat?

Chicago

If you drop me I'm sure to crack, but give me a smile and I'll always smile back. What am I?

A mirror

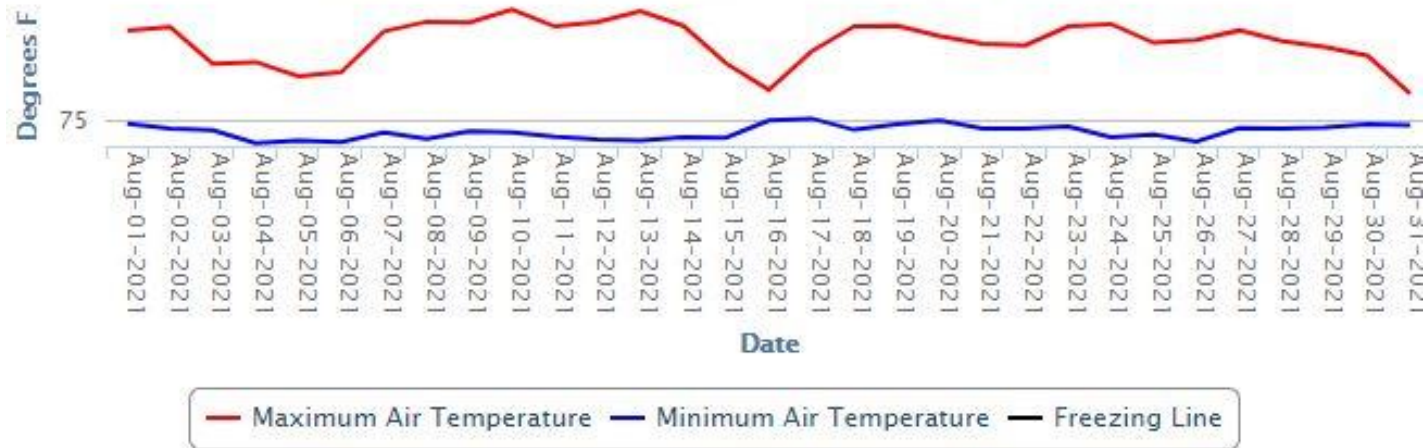
What would you find in the middle of Toronto?

The letter "o"



SIRP Weather

Maximum Temperature, Minimum Temperature



Daily Cumulative Rainfall



For August, SIRP had 6.54 inches of rainfall, compared to 6.91 inches in July, 8.77 inches in June and 2.10 inches in May. From Jan. 1 to Aug. 31 we've received 45.95 inches of rain so far, and we still have 4 mo. to go.

To explore weather information, visit www.georgiaweather.net.



Contact Information



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Trivia:

Which country produces the most coffee in the world?

Answer: Brazil

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