Stripling Irrigation Research Park

November 2020

After all crops have been harvested…

This Month

UNIVERSITY OF GEORGIA
College of Agricultural & Environmental Sciences

C.M. STRIPLING IRRIGATION RESEARCH PARK

From the Superintendent

Like many of you, October at Stripling Park was the month for harvest. We inverted then harvested peanut plots for Drs. Kemerait, Porter, Sintim and Vellidis. We prepped cotton by spraying with defoliants and later picked studies for Drs. Porter and Sintim. (Studies for Drs. Snider and Vellidis were picked Nov 2). Drs. Liakos' and Vellidis' soybean study had to be sprayed again for insects early in October and by the 8th we terminated irrigation in their study. As is often the case, we spent a good bit of time servicing and repairing our old equipment, including our very old Lilliston HiCap 7500 peanut combines so we could harvest border rows in our fields. We use our newer Colombo 2-row peanut combine for 'data' rows (to bag yield).

With the completion of Dr. Vellidis' 3-year study in the "Newton" lateral field, we helped his tech Matt remove surface runoff flumes and earthen berms that had been installed in 6 plots in this study. We also began sowing rye seed for a winter cover crop.

October lived up to its claim as driest month of the year as we received only 2.56 inches of rain over 4 rain events (1 associated with Hurricane Zeta). For the year, we have received 46.41 inches. Our long term average is 44.53 inches at this point. Our daily high temps ranged from 89.7F to 70.2F (long term average Oct high is 80.8F). Our daily lows ranged from 74.3F to a chilly 48.2F (long term average Oct low is 55.2F).

As we've noted since March, with the Covid-19 restrictions, we have very few visitors to SIRP. In addition to visits from our scientists and their technicians and grad students, we did have visits from Allen Moore, CAES Assoc Dean for Research, Bob Stougaard, CAES Asst Dean for Research, Brian Hayes, Mitchell County Extension agent, Lindsay Irrigation's Marty Saylor, Ben Kerns with Trellis, Steve Abernethy and Corbett Falgout with Senninger, as well as representatives from Nutrien led by Tim Moore from Camilla office.

I attended a number of virtual seminars, including "How to incorporate automation into your agricultural irrigation business", "Irrigation 20/20", and "Micro-Irrigation Maintenance".

Later in this newsletter, be sure to read through the article by Cale Cloud and David Hall on winterizing, uniformity testing, etc. They provide some valuable information for taking care of your irrigation systems during the off-season.

In closing, I'd like to wish all of you a very **Happy Thanksgiving!**

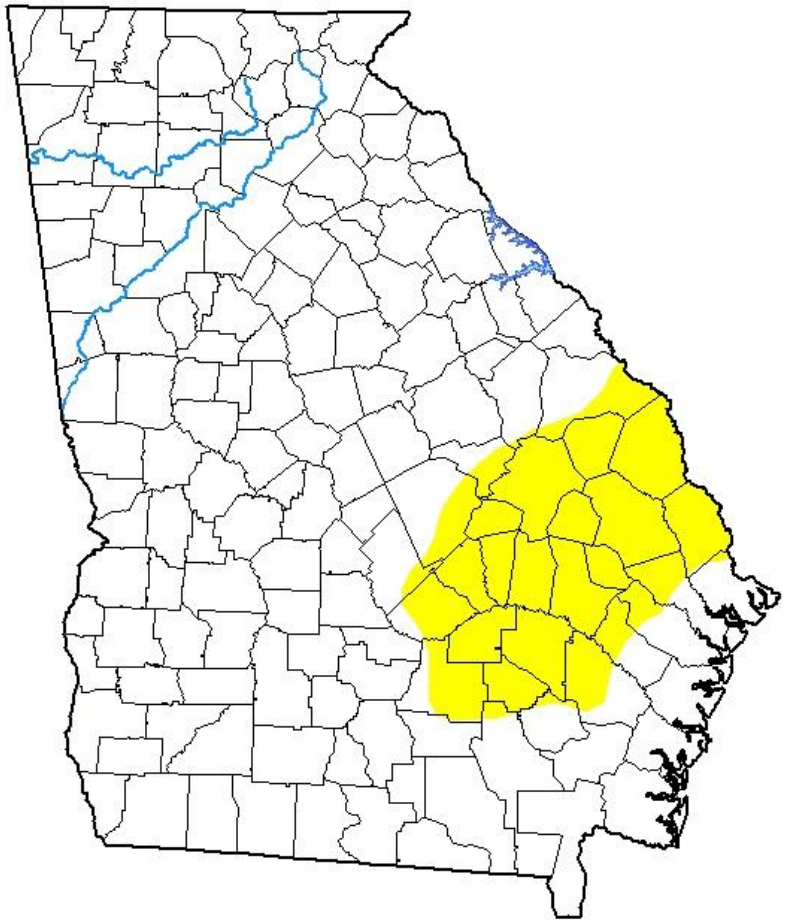
Don't forget - on our website, near the bottom right, in a bright red banner, is a "Donate Now" button. Use it to make a donation to help our facility!

Calvin Perry

Drought Conditions

U.S. Drought Monitor

Georgia



October 27, 2020

(Released Thursday, Oct. 29, 2020)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	85.09	14.91	0.00	0.00	0.00	0.00
Last Week *10-20-2020*	90.94	9.06	0.00	0.00	0.00	0.00
3 Months Ago *07-28-2020*	47.47	52.53	1.98	0.00	0.00	0.00
Start of Calendar Year *12-31-2019*	96.00	4.00	0.00	0.00	0.00	0.00
Start of Water Year *09-29-2020*	97.20	2.80	0.00	0.00	0.00	0.00
One Year Ago *10-29-2019*	3.89	96.11	81.67	28.98	2.35	0.00

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. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

David Miskus

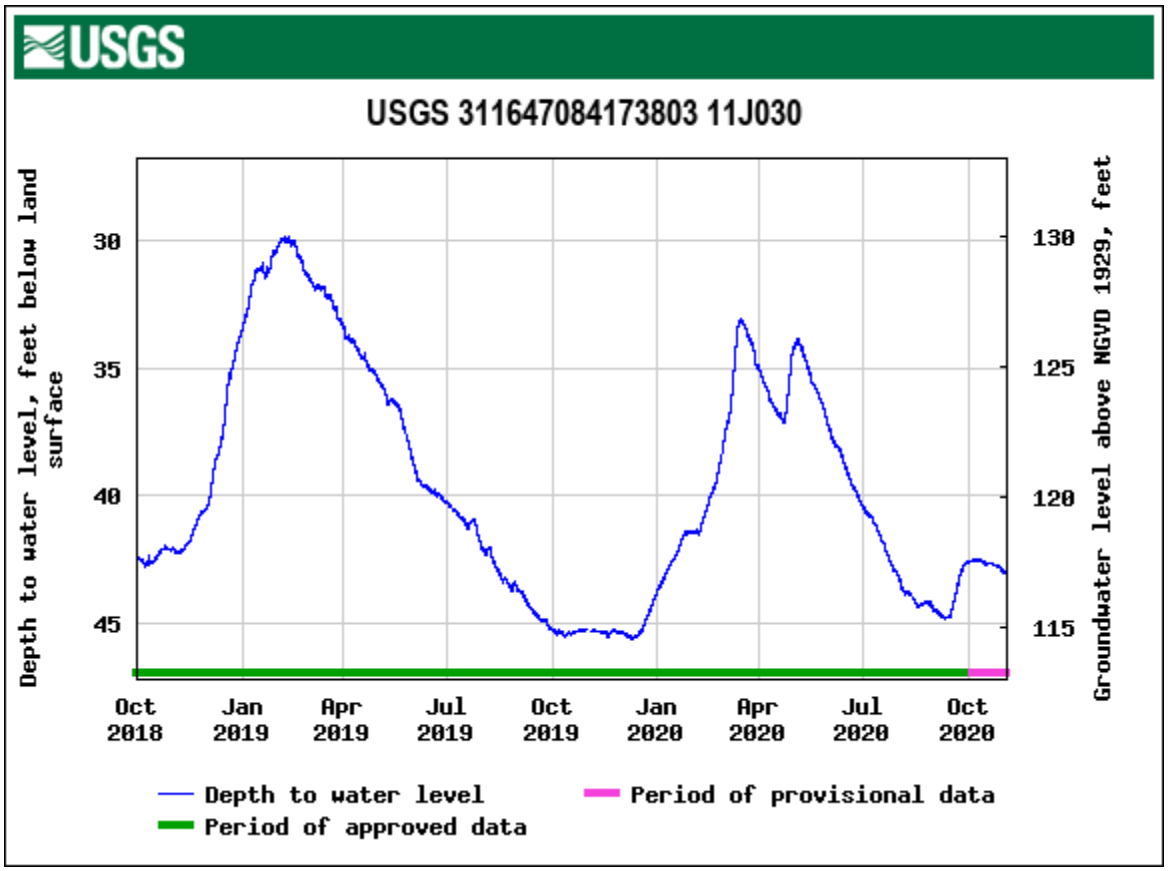
NOAA/NWS/NCEP/CPC

droughtmonitor.unl.edu

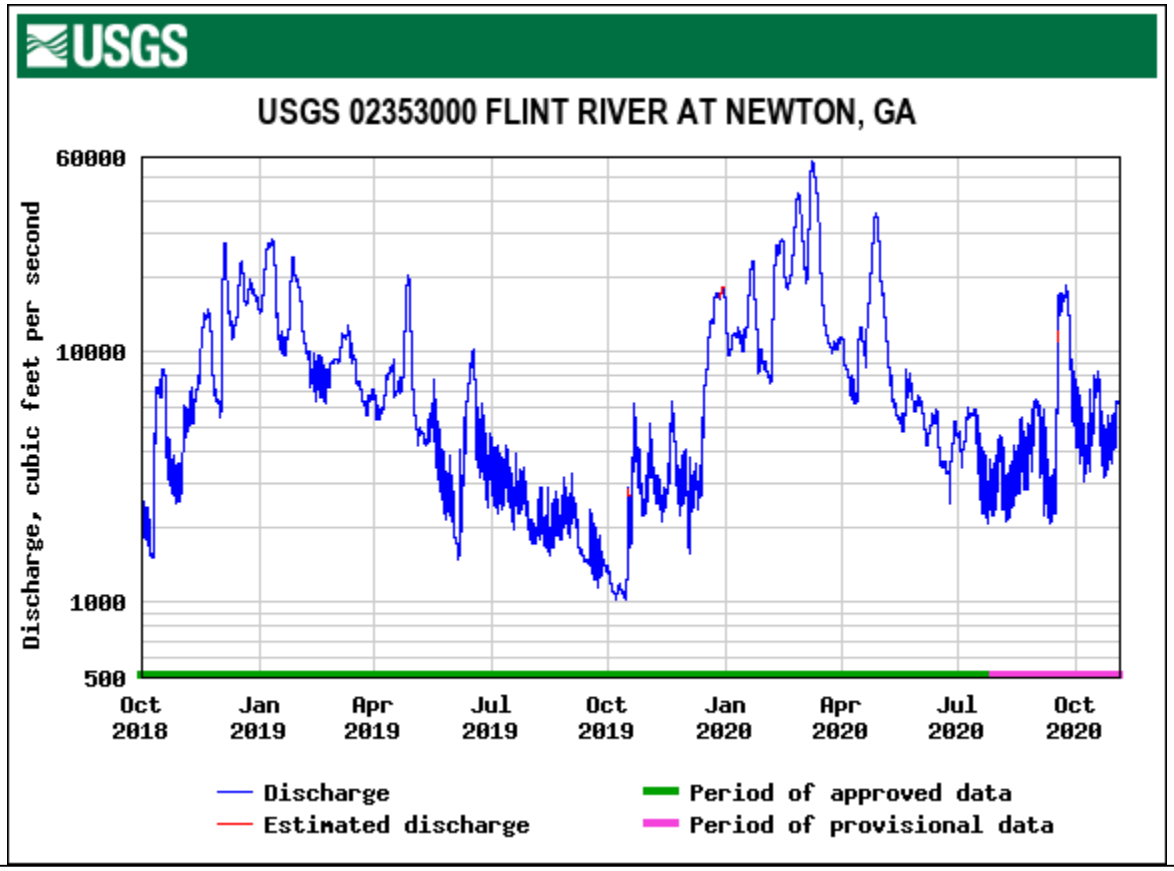
Drought Monitor map for Georgia as of Oct 27. As you can see, only 14.91% of of Georgia is abnormally dry. Currently, 85% of the state of Georgia is considered in no drought condition. Last month, we only had 4.59% of the state, also mostly in SE Georgia, in Abnormally Dry status.

For more info:
https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?GA

Water Resources



Above - USGS data for the past 2 years for a groundwater monitoring well here at SIRP in Floridan aquifer. Below - stream gage on the Flint River at Newton for past 2 years.



Irrigation System Maintenance and Winterization

Cale Cloud and David Hall

With winter just around the corner, now would be a good time to perform some preventive maintenance on your center pivot irrigation system(s) and also get your system winterized. Irrigation system maintenance during the winter months is very important because it can ensure the system's longevity and regular maintenance can also potentially reduce the risk of experiencing downtime at critical crop stages during next year's growing season. Here are some things to check when performing winter maintenance on your center pivots:

Conduct a Pivot Uniformity/"Catch Can" Test

° Prior to shutting the system down for the year, perform a "catch-can" uniformity test to verify that the system is applying water uniformly (see UGA Extension Circular 911, "Evaluating and Interpreting Application Uniformity of Center Pivot Irrigation Systems"). Some important things to check for when doing a uniformity test include: leaks, missing or malfunctioning sprinklers, damaged pipes, etc. If your system has poor uniformity, it would be wise to apply for cost share assistance through the NRCS program EQIP for a new sprinkler package. If you need assistance with performing a catch can test, contact your local University of Georgia county extension agent.

° When performing a catch can test, it is also important to check your end gun settings. A drop or excessive amounts of water application on the end gun area is a sure sign of incorrect settings, worn or sticking end gun brake kits, worn booster pump or a blown out end gun orifice. If correct end gun arc settings are not available from the installation package, feel free to contact your dealer on the correct setting. All pivots are not the same on the end and many require special settings. If all else fails, start with a basic 65-degree reverse stop and a 95-100 degree forward stop (or a 10-3 o'clock setting). Then, perform another uniformity test on the end gun arc area and adjust accordingly if needed.

Irrigation System Maintenance and Winterization

Drain the Irrigation System

Once you have conducted a uniformity test and are certain you will not be using your irrigation system until the next growing season, the next step will be to drain the system of any remaining water within it. Remove the plugs to drain pipes, valves, pumps, sprinklers, booster pumps, and anything else on the above ground portion of the irrigation system that can hold water. Clean out the sand trap on the end of the pivot. Also, make sure you have drained any condensed water from wheel gearboxes and gear motors.

Check Panel Boxes

Make sure there are no loose or damaged connections. Seal up any openings to help avoid damage from rodents. Apply rodent bait as needed, perhaps even multiple times a few weeks apart. Check the ground rod and grounding connection.

Service Required Parts

° Check all of the wheel gearboxes and gear motors and make sure they have an adequate amount of gear oil and that there are no leaking seals. Make sure to check the U-joints between the gear box and gear motor. If there is more than ¼" of movement, they should be replaced. In addition, perform normal greasing of parts. Steel moving on steel without proper lubrication can lead to unnecessary wear and tear on irrigation equipment. Be sure to grease all moving parts, including the pivot point bearing, towable hubs, corner legs and rollers.

° If you are using a diesel powered motor, make sure to change the engine oil, oil filters, and fuel filters.

Restore the Soil In and Around Pivot Tracks

Repair any rutted pivot wheel tracks. Repairing tracks at the end of the season will help reduce erosion during the winter and spring.

Sanitation

Clean up excess vegetation around the pivot point and at the well. This will help make the space less inviting to rodents and other pests.

Irrigation System Maintenance and Winterization

Inspect and Test the Metering Equipment

Make sure the flow meter on your withdrawal point (usually at your pump) is functioning properly. A properly functioning meter can be used as a means to determine proper operation of the pumping unit. Note the end reading so that, in conjunction with a starting reading, you will have a record of water used over the growing season. If you have an improperly functioning flow meter, contact the Georgia EPD for further assistance.

Protect from Livestock

If you are grazing cattle or other livestock on a winter crop, make sure to protect the system and pumping plant from the livestock.

Web Links

- Winterizing Your Irrigation System
- Checklist for Winterizing Your Center Pivot
- How to Winterize Your Center Pivot: 9 Things Every Grower Should Remember For Long Pivot Life
- AgFax - Irrigation: 6 Steps to Winterizing Center Pivots
- Evaluating and Interpreting Application Uniformity of Center Pivot Irrigation Systems

Cale Cloud, UGA Extension Water Agent, SW District (jackson.cloud@uga.edu)

David Hall, UGA Extension Water Educator, SE District (david.hall1@uga.edu)

At the Park

Above: Harvesting peanuts in border rows.
Below: Dr. Vellidis' crew hand harvesting cotton in his research plots.

At the Park

Above & Below: Working late on cotton harvesting & the end result next day.

At the Park

Above: Harvesting cotton in border rows.
Below: Harvesting peanuts in Dr. Sintim's plots.

At the Park

Above: Re-spraying defoliants on Dr. Kemerait's cotton in Front 4 field.
Below: Pulling cotton stalks in Access field.

At the Park

Above & Below: Harvesting soybeans with our well ‘seasoned’ IH combine.

Events

Past events	

Upcoming events	

All events have been cancelled or delayed until further notice due to the COVID-19 virus.

We hope that everyone is practicing ‘Social Distancing’, and that you all stay safe, happy and healthy!

In the News

FCC Creates 5G Fund For Rural America

Time to pick the peanuts? There might be an app for that

Geologists dig into question of Martian soil fertility

Conserving Water and Power through Irrigation Water Management

Alphabet's Mineral moonshot wants to help farmers with robotic plant buggies

Georgia Pecans: What's Going on With the Market?

UGA Releases Three New Wheat Varieties for 2020

GA Pecan producers forecast big production gain in 2020

Cotton looks strong, but it must remain sustainable and in demand

Woodard Farms first began as a hope to return

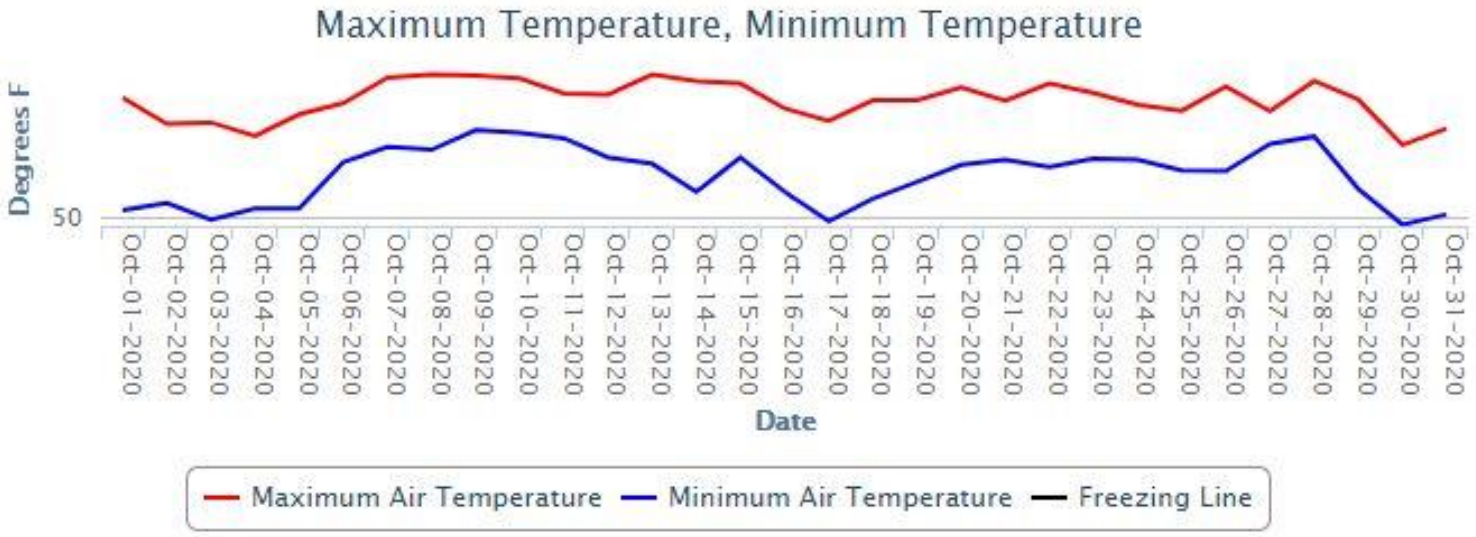
Self-watering soil could transform farming

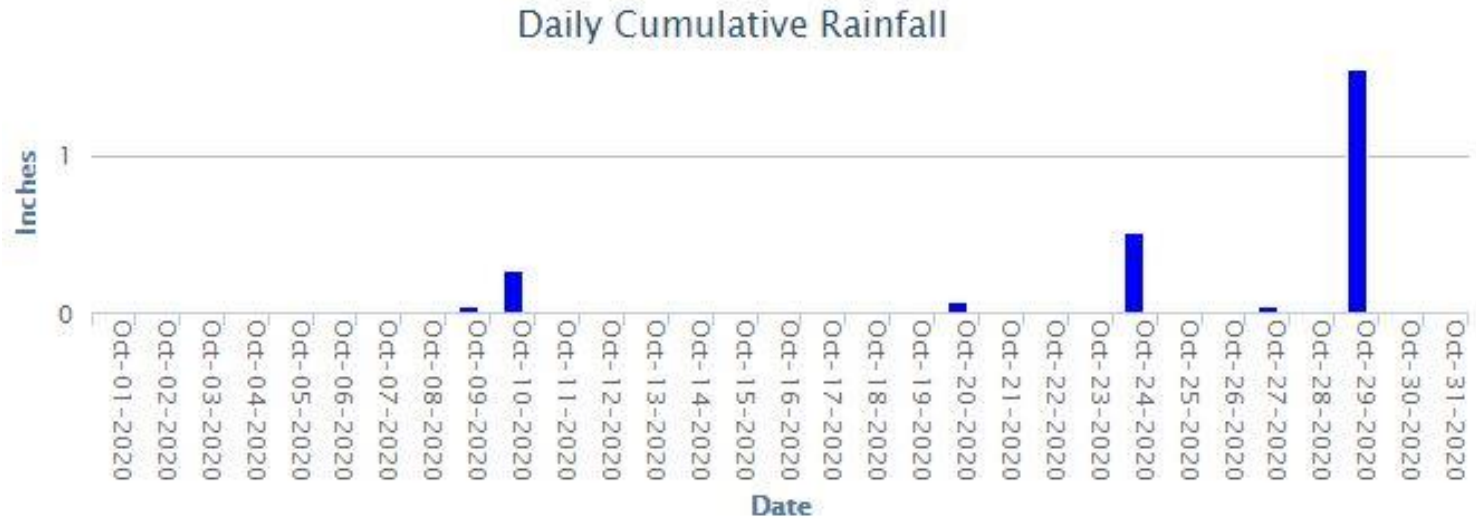
Place, West talk UGA College of Ag with GFB Leaders

Have a marketing plan

Crews vacuum 'murder hornets' out of Washington nest

SIRP Weather





For October, SIRP had 2.56 inches of rainfall, compared to 7.21 inches in September, 5.28 inches in August and 4.28 inches in July.

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

Contact Information

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Trivia:
Which country consumes the most chocolate per capita?

Answer: Switzerland