\NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) Columbia, SC
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		REPORT FOR: MONTH Oct. YEAR 2019
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE Leonard Vaughan DATE 11/08/2019

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

X An X inside this box indicates that no flooding occurred within this hydrologic service area.

River Conditions for October 2019

Summary

October brought record temperatures and near normal rainfall to the Midlands and Central Savannah River Area. Temperatures averaged 4 to 6 degrees above normal, while rainfall averaged 2 to 5 inches across the area. With temperatures around 100 degrees with dry conditions for the first week of the month, the area and intensity of the drought expanded. The remnants of Tropical Storm Nestor brought some relief to the region on the 19th and 20th with rainfall amounts from 1 to 4 inches. Additional rainfall during the last two weeks of the month helped to improve the drought conditions across the area. It was the 4th warmest October on record at Columbia and the 6th warmest on record at Augusta.

Precipitation

The total precipitation at Columbia Metro Airport was 2.36 inches. The total precipitation at Augusta Bush Field was 4.12 inches. Precipitation

records for Columbia began in 1878. Precipitation records for Augusta began in 1871.

Here are a few reports from NWS Coop Stations:

Fairfield Pump Storage (PASS1) – 5.24 inches
Lincolnton (LNCG1) – 5.23 inches
Waynesboro (WYNG1) – 4.99 inches

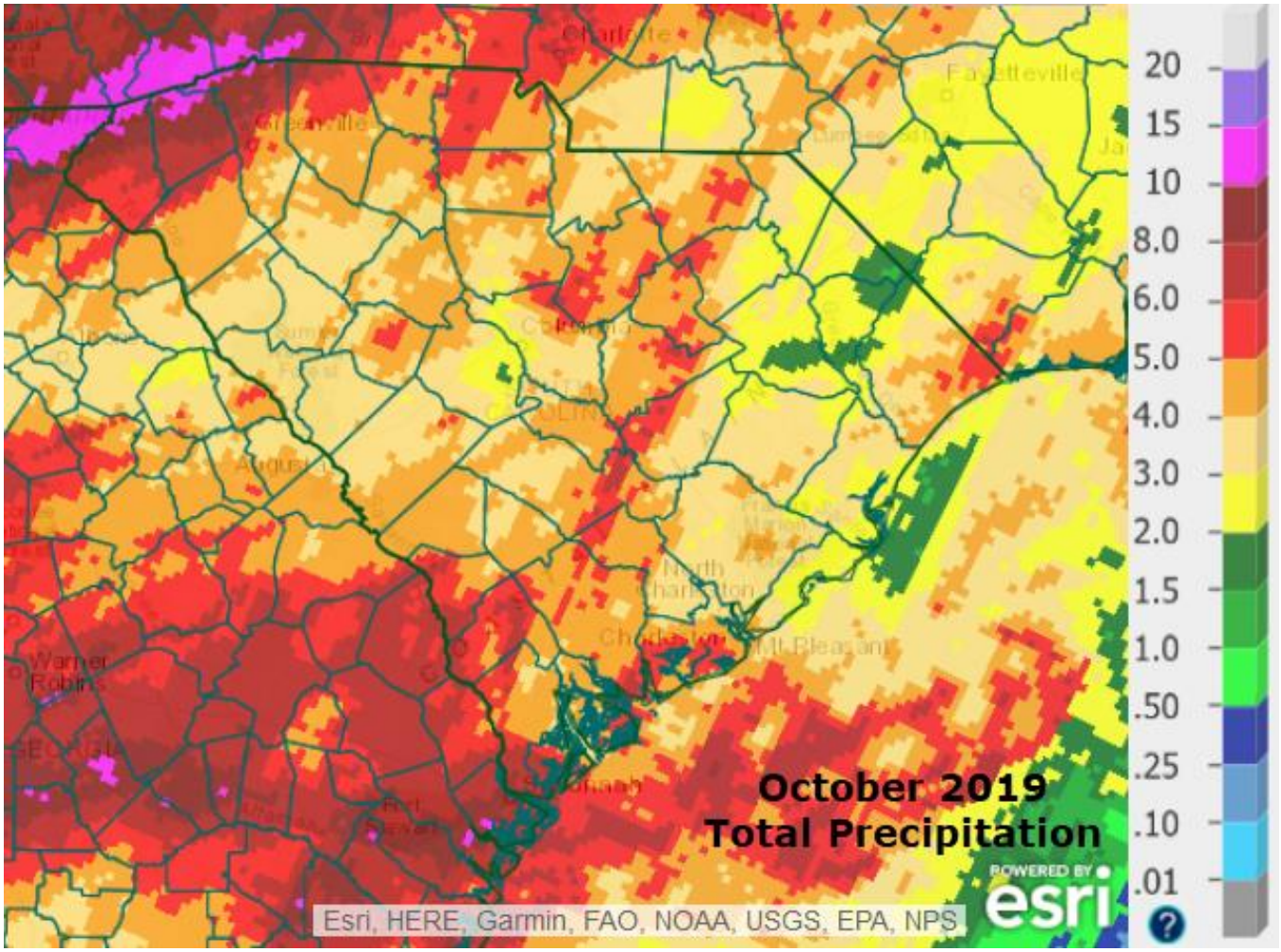
Johnston 4 SW (JOHS1) – 2.61 inches
Cedar Creek (BLYS1) – 2.83 inches
Clarks Hill (CHDS1) – 2.85 inches

Here are a few reports from the CoCoRaHS (Community, Collaborative, Rain, Hail and Snow Network) observers:

South Carolina/Georgia:
SC-RC-1 Dentsville 6.6 NNE – 7.11 inches
SC-SL-9 Saluda 0.6 NNE – 5.82 inches
SC-LX-49 Chapin 1.3 SSE – 5.52 inches

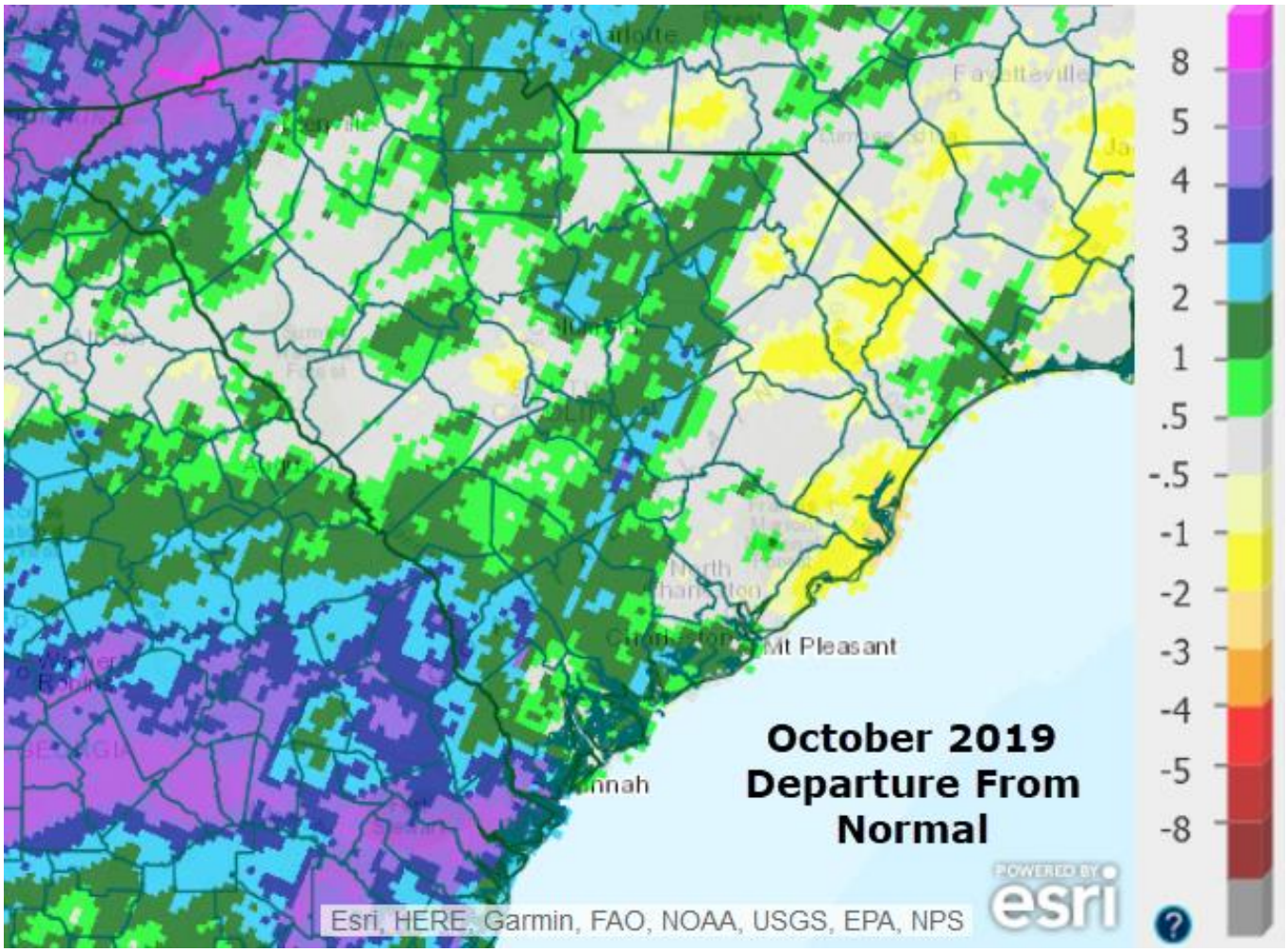
GA-BK-1 Waynesboro 3.3 SW – 5.46 inches
GA-CU-9 Appling 2.0 SE – 4.90 inches
GA-MD-5 Thomson 2.6 S – 4.81 inches

(Please see the precipitation maps below).



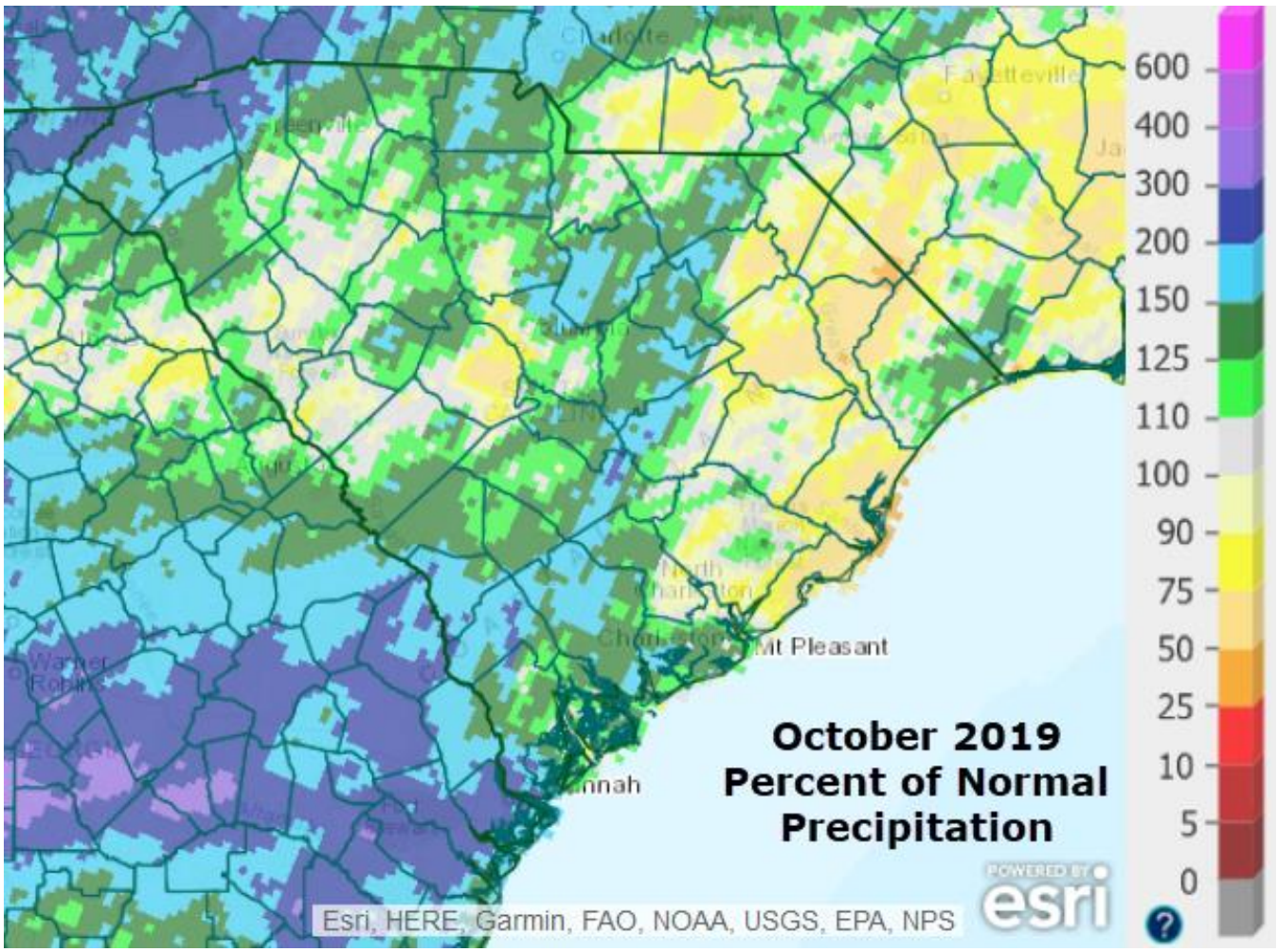
October 2019 Total Precipitation (inches)

Source: Advanced Hydrologic Prediction Service, NWS



October 2019 Precipitation Departure from Normal (inches)

Source: Advanced Hydrologic Prediction Service, NWS



October 2019 Percent of Normal Precipitation

Source: Advanced Hydrologic Prediction Service, NWS

October 2019 precipitation at observation sites was as follows:

Station	Rainfall	Normal	Departure From Normal
Augusta (AGS)	4.12	3.27	+0.85
Augusta (DNL)	3.66	3.23	+0.43
Columbia (CAE)	2.36	3.17	-0.81
Columbia (CUB)	2.64	3.32	-0.68
Orangeburg (OGB)	3.33	3.39	-0.06

River/Flood Conditions

Rainfall was slightly above normal or very close to normal across the headwaters and much of the main stems of the rivers. Therefore, there were no high water events along any of the rivers across the Midlands or Central Savannah River Area.

Drought Conditions

The beginning of October was unseasonably warm and dry. However, by the middle of the month temperatures were closer to normal and systems had begun to bring rain to the region. The remnants of Tropical Storm Nestor produced 1 to 4 inches of rain across the Carolinas and Georgia on the 19th through the 20th. Rainfall was more consistent across the region during the last two weeks of the month. No drought continued along and east of the I-95 corridor. Drought continued west of this line. An area of D2 (Severe Drought) and D3 (Extreme Drought) persisted from the lower Central Savannah River Area into Jasper county and extended northward into Orangeburg County and then into the western portion of the Columbia Metropolitan Area and Richland County. Additionally, the area of D1 (Moderate Drought) and D2 (Severe Drought) continued across the Upstate and Piedmont.

(Please see the maps below).

Drought in South Carolina

Residents in drought:
2,716,000

651,000 more in abnormally dry areas.

This is:
61%

of the state's population,
14% more in abnormally dry areas.

Report Your Drought Impacts

Last Month | Last Week | Current

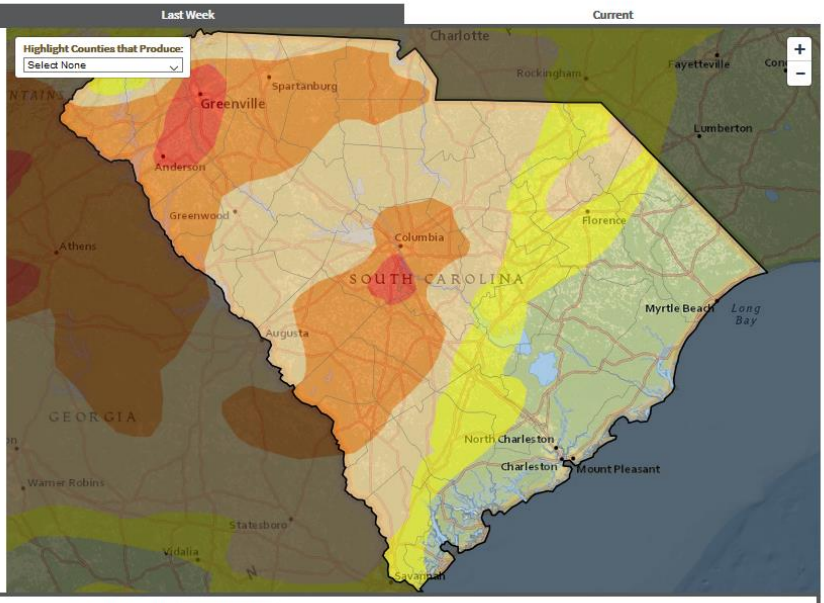
Enter a city or zip code to add location to map

Add to Map | Clear All

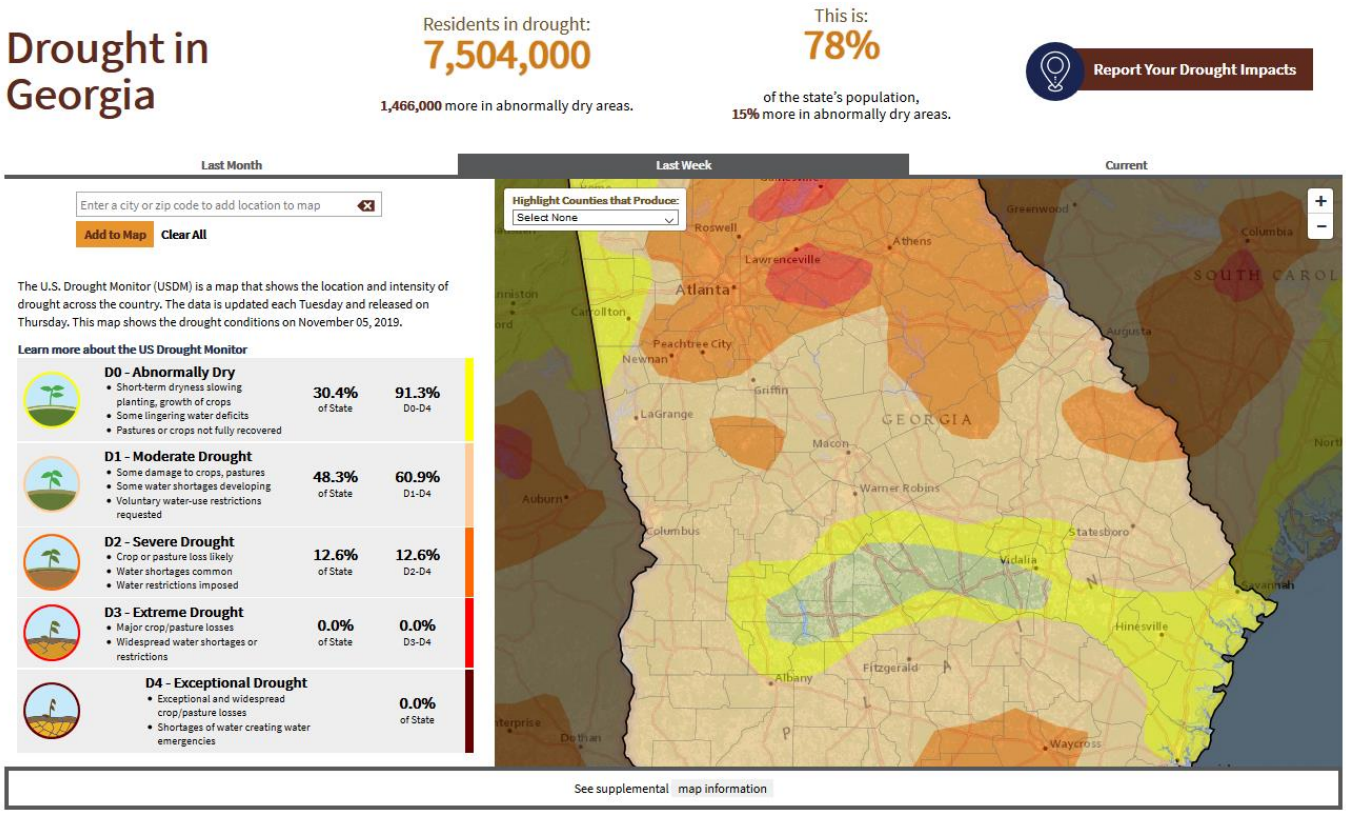
The U.S. Drought Monitor (USDM) is a map that shows the location and intensity of drought across the country. The data is updated each Tuesday and released on Thursday. This map shows the drought conditions on October 29, 2019.

Learn more about the US Drought Monitor

D0 - Abnormally Dry • Short-term dryness slowing planting, growth of crops • Some lingering water deficits • Pastures or crops not fully recovered	**16.1%** of State	**77.6%** D0-D4	
D1 - Moderate Drought • Some damage to crops, pastures • Some water shortages developing • Voluntary water-use restrictions requested	**32.3%** of State	**61.5%** D1-D4	
D2 - Severe Drought • Crop or pasture loss likely • Water shortages common • Water restrictions imposed	**26.0%** of State	**29.2%** D2-D4	
D3 - Extreme Drought • Major crop/pasture losses • Widespread water shortages or restrictions	**3.2%** of State	**3.2%** D3-D4	
D4 - Exceptional Drought • Exceptional and widespread crop/pasture losses • Shortages of water creating water emergencies	**0.0%** of State		



See supplemental map information

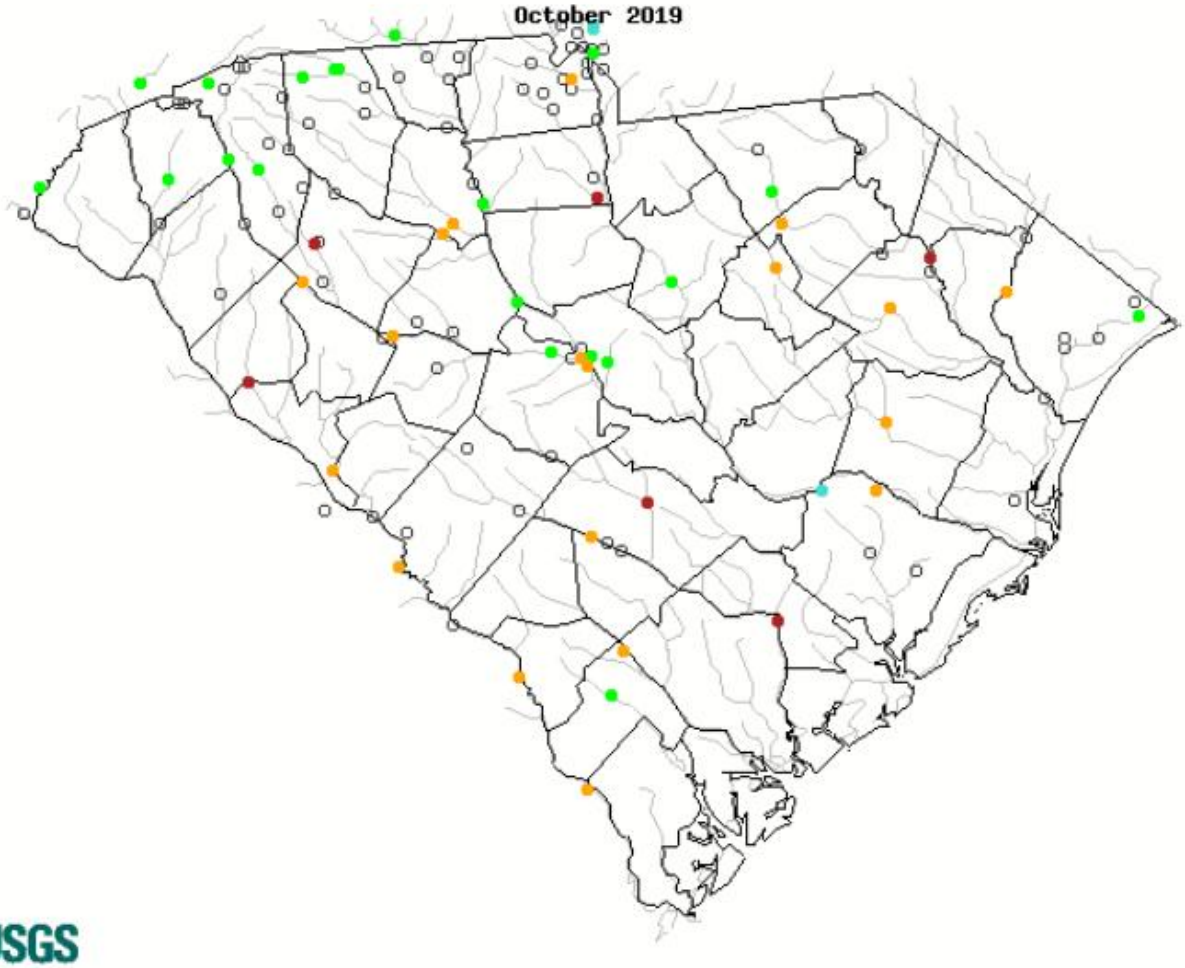


Streamflow Conditions

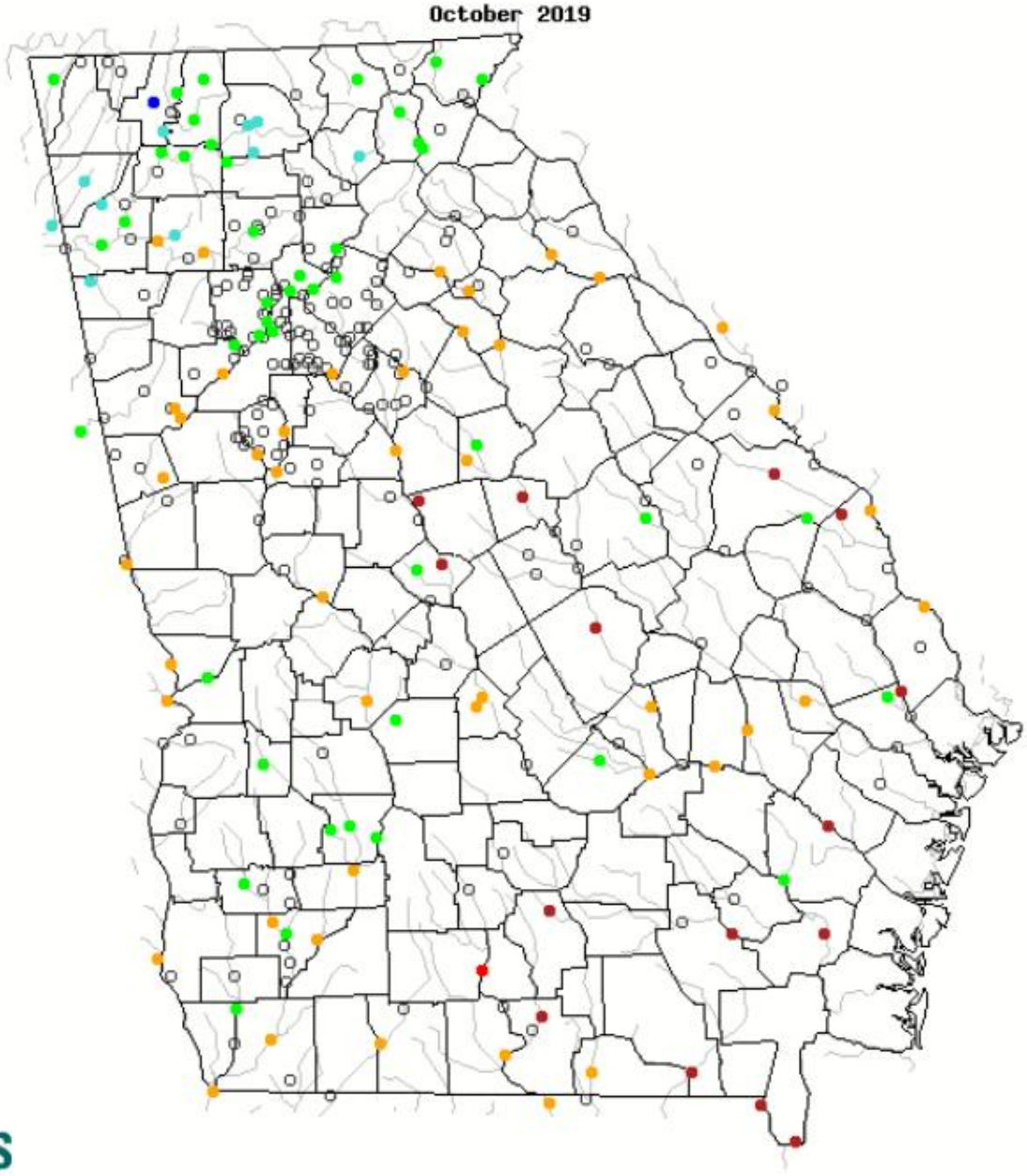
Monthly average stream flows for October across the Midlands and Central Savannah River Area show lower than normal flows across much of the Midlands and Central Savannah River Area. Average stream flows for October ranged from Above Normal to Much Below Normal across the region. Above Normal conditions were noted along the Santee River just downstream from Lake Marion. Normal conditions were noted along sections of the Broad River, Saluda River near

Columbia and the Wateree River. Below Normal conditions were noted along the Savannah River Basin, Congaree River Basin, Lynches River Basin, South Fork of the Edisto River and Pee Dee River Basin. Much Below Normal conditions were observed along the North Fork of the Edisto River, Stevens Creek and Brier Creek.

Stream Flow Compared to Historical Stream Flow for the Month



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		



USGS

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Temperatures

October 2019 temperatures were above normal for the month.

The monthly average temperature at Columbia (CAE) was 70.1 degrees. This value was 6.0 degrees above the normal of 64.1 degrees. The highest temperature during the month was 100 degrees reached on the 3rd and 4th. The lowest temperature was 41 degrees that occurred on the 18th and 20th.

The average temperature for the month at Augusta (AGS) was 70.6 degrees. This value was 6.2 degrees above the normal of 64.4 degrees. The highest temperature during the month was 101 degrees reached on the 4th. The lowest temperature was 43 degrees that occurred on the 24th.

The average temperature for the month at Orangeburg (OGB) was 70.5 degrees. This value was 5.3 degrees above the normal of 65.2 degrees. The highest temperature during the month was 98 degrees reached on the 3rd and 4th. The lowest temperature was 47 degrees that occurred on the 24th.

Hydrological Products

The following products were issued during October 2019.

DGT	Drought Statements	1
ESF	Hydrologic Outlooks	0
FFA	Flash Flood Watches	0
FFS	Flash Flood Statements	0
FFW	Flash Flood Warnings	0
FLS	Flood Statements	0
FLW	Flood Warnings	0
FLS	Areal Flood Advisories	1