

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 YEAR Dec. 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 01/22/2019
<i>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).</i>		

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

River Conditions for December 2019

Summary

The month of December trended back to the above normal temperatures that have occurred through much of 2019. However, it was extremely wet during the month with most locations receiving 5 to 10 inches of precipitation. Temperatures averaged 4 to 5 degrees above normal. It was tied for the wettest December on record at Columbia and the 3rd wettest at Augusta. It was the wettest December on record at Cheraw where 9.27 inches of precipitation fell. Records for Cheraw go began in 1893. It was also the wettest December on record at Saluda where 8.97 inches of precipitation fell. Records for Saluda began in 1902. It was the 2nd wettest December on record at Orangeburg where 8.07 inches of precipitation fell. Records for Orangeburg began in 1919. All three sites are NWS Coop Observer sites. On the afternoon of December 23rd, a dam breached along an unregulated pond along Richardson Lake Road near Woodlake Drive just south of the Town of Aiken. A Flash Flood Watch was in effect for the area. Rainfall amounts from 2 to 3 inches fell in an area where the

soils were already saturated. The flooding damaged the roadway, cars and a home.

Precipitation

The total precipitation at Columbia Metro Airport was 9.31 inches. The total precipitation at Augusta Bush Field was 8.12 inches. Precipitation records for Columbia began in 1878. Precipitation records for Augusta began in 1871.

Here are a few reports from NWS Coop Stations:

North (NRTS1) – 11.00 inches
Swansea 3.5 NE (SWAS1) – 10.32 inches
Graniteville 1.2 NE (GNTS1) – 9.91 inches
Lugoff 2 NE (LUGS1) – 9.62 inches
Cheraw (CEWS1) – 9.27 inches

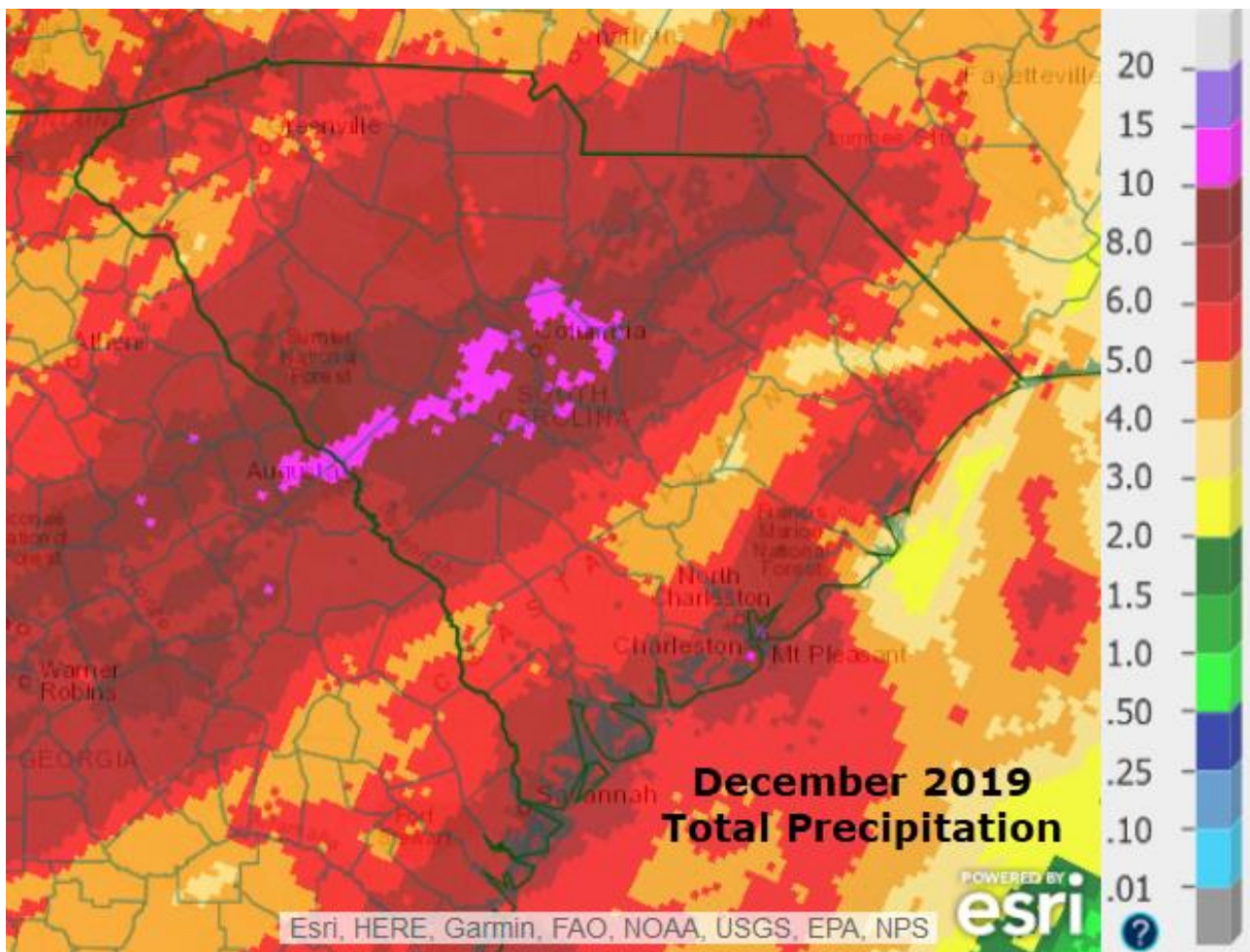
Here are a few reports from the CoCoRaHS (Community, Collaborative, Rain, Hail and Snow Network) observers in South Carolina and Georgia.

SC-AK-39 N. Augusta 1.5 WSW...12.36 inches
SC-ED-2 Trenton 6.3 SSW...12.16 inches
SC-LX-5 Lexington 1.6 WSW...11.10 inches
SC-OR-35 North 5.1 NE...11.00 inches
SC-CA-17 Swansea 3.9 ENE...10.32 inches

GA-CU-6 Martinez 0.9 NW...11.78 inches
GA-CU-3 Evans 2.1 NW...11.74 inches
GA-RC-12 Augusta 4.2 W...11.47 inches

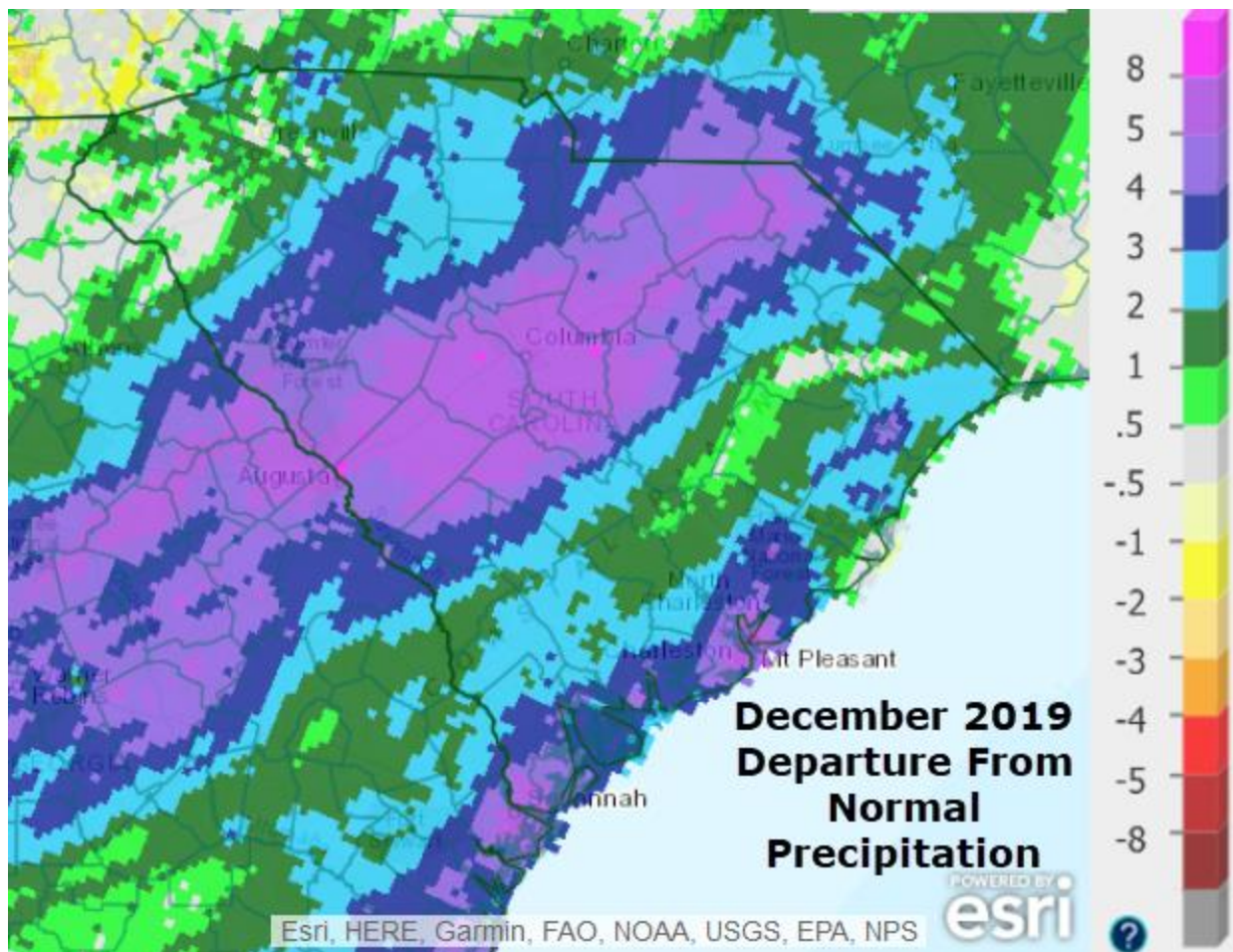
GA-MD-5 Thomson 2.6 S...10.39 inches
GA-BK-9 S. Augusta 4.1 S...8.75 inches

(Please see the precipitation maps below).



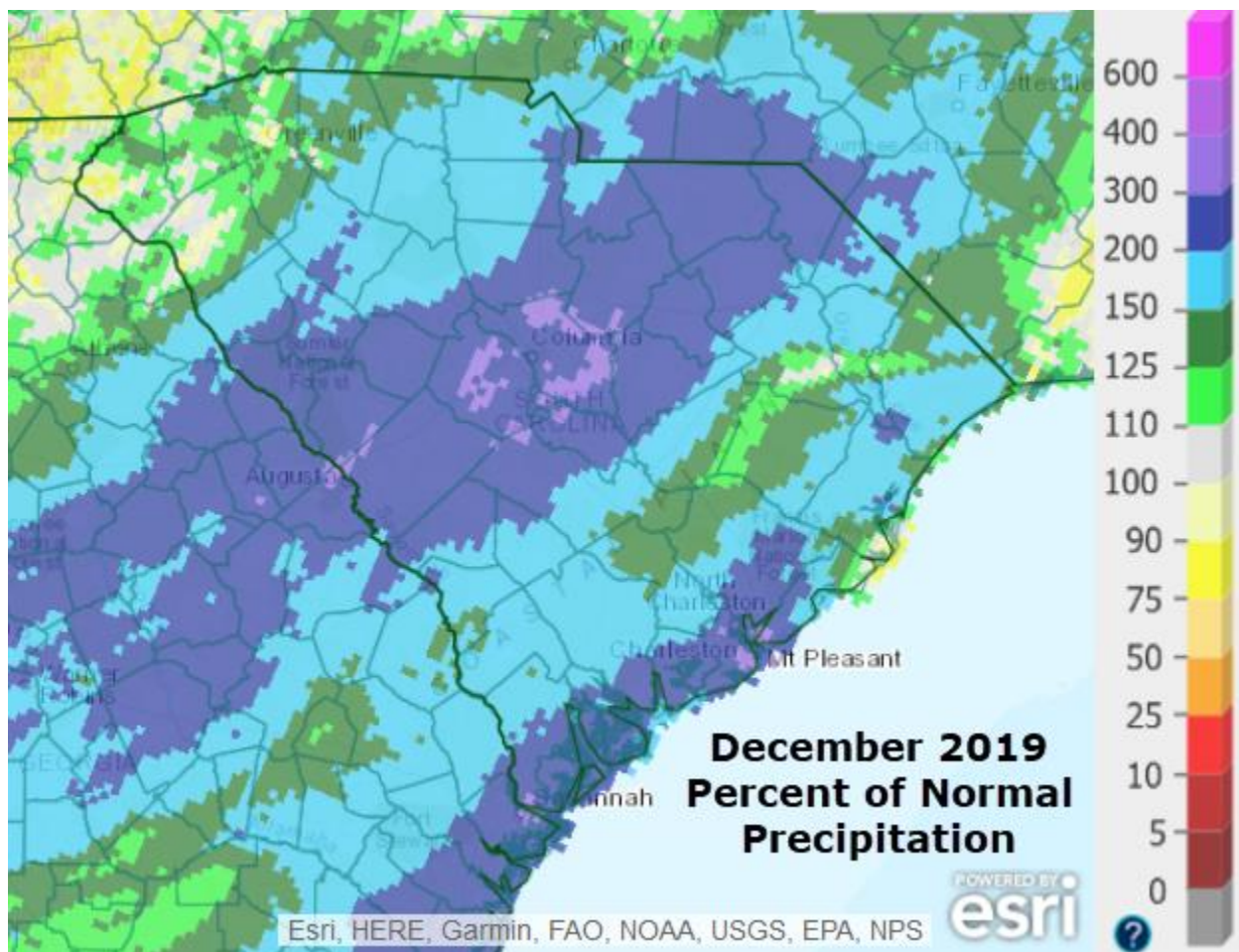
December 2019 Total Precipitation (inches)

Source: Advanced Hydrologic Prediction Service, NWS



December 2019 Precipitation Departure from Normal (inches)

Source: Advanced Hydrologic Prediction Service, NWS



December 2019 Percent of Normal Precipitation

Source: Advanced Hydrologic Prediction Service, NWS

December 2019 precipitation at observation sites was as follows:

Station	Rainfall	Normal	Departure From Normal
Augusta (AGS)	8.12	3.39	+4.73
Augusta (DNL)	11.34	3.62	+7.72
Columbia (CAE)	9.31	3.22	+6.09
Columbia (CUB)	M	3.21	M
Orangeburg (OGB)	5.75	3.32	+2.46

River/Flood Conditions (December)

Rainfall was much above normal across the headwaters and much of the main stems of the area rivers. This produced river flooding across much of the Midlands and Central Savannah River Area. The Great Pee Dee River at Cheraw crested at 29.42 feet on the afternoon of the 15th, just below the flood stage of 30.0 feet. The Congaree River at Columbia crested at 11.76 feet, producing nuisance flooding, on the afternoon of the 15th. Flood Advisory Stage is 10.0 feet. The Congaree River at Carolina Eastman crested at 117.90, producing minor flooding, on the afternoon of the 15th. Flood Stage is 115.0 feet. The Congaree River at Gadsden-Congaree NP crested at 16.48 feet, producing minor flooding, on the overnight hours of the 16th. Flood Stage is 15.0 feet. The North Fork of the Edisto River crested at 8.15 feet, producing minor flooding, on the early morning hours of the 19th. Flood Stage is 8.0 feet. The Congaree River at Columbia crested at 14.94 feet, producing nuisance flooding, on the afternoon of the 25th. The Congaree River at Carolina

Eastman crested at 120.60 feet on the evening of the 25th, producing moderate flooding, on the evening of the 25th. The Congaree River at Gadsden-Congaree NP crested at 17.36 feet, producing minor flooding, on the late evening of the 25th. The North Fork of the Edisto River at Orangeburg crested at 8.66 feet, producing minor flooding, on the early morning hours of the 25th. Stevens Creek at Modoc crested at 20.37 feet, producing minor flooding, on the late evening hours of the 25th. The Enoree River at Whitemire crested at 25.79 feet, producing minor flooding, on the early morning hours of the 25th.

The two periods of river flooding lasted for nearly a week each on the larger river systems.

Here are a few new stories, Facebook posts and Twitter posts about the impact of the flooding during December.

Terry Ward Dec 27, 2019 0



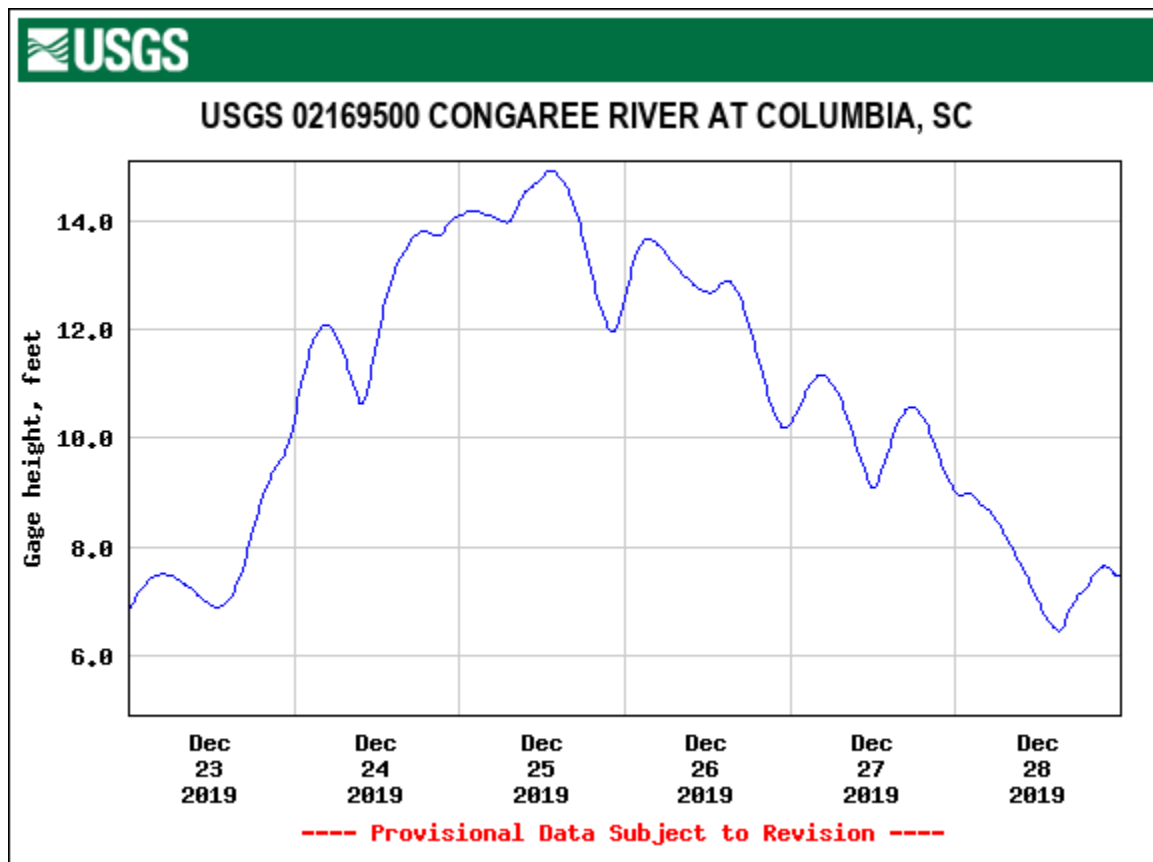
Three parts of the Cayce Riverwalk are closed due to flooding. Phase 4 of the Riverwalk, and the Timmerman Trail were not included in the city's announcement as being closed.

The city of Cayce posted an announcement regarding the closing on Christmas day. It reads as follows: *Due to the amount of rain impacting our area over the past week causing elevated water levels, the City of Cayce is closing Phase 1, 2 and 3 of the Cayce Riverwalk as of Dec. 25. This begins at the Blossom/Knox Abbott Street Bridge and ends at the Thomas Newman Boat Landing. The city will announce when Riverwalk reopens*

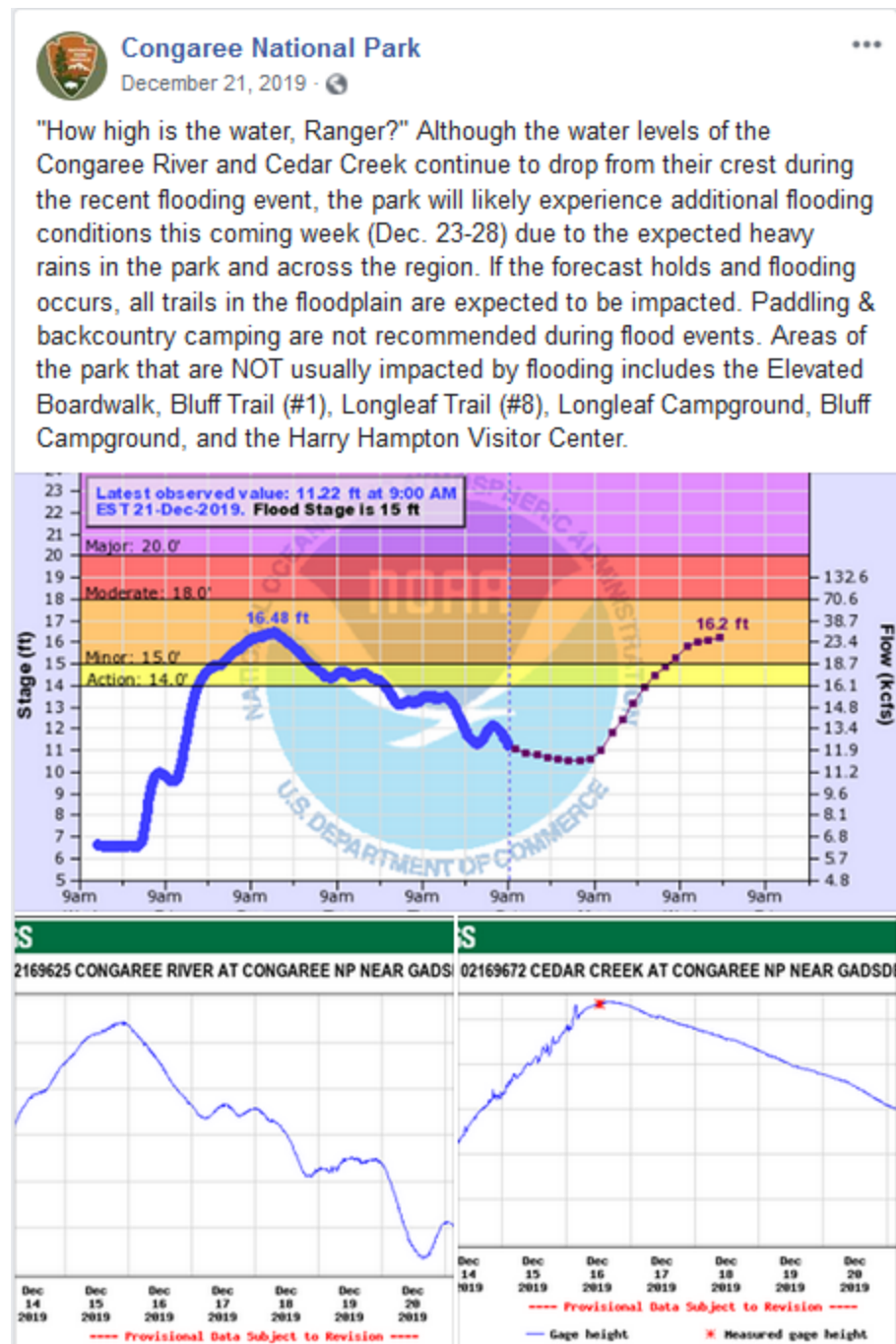


Photo Courtesy of ColaToday

Below is the USGS Hydrograph of the Congaree River gauge at Columbia during the event.



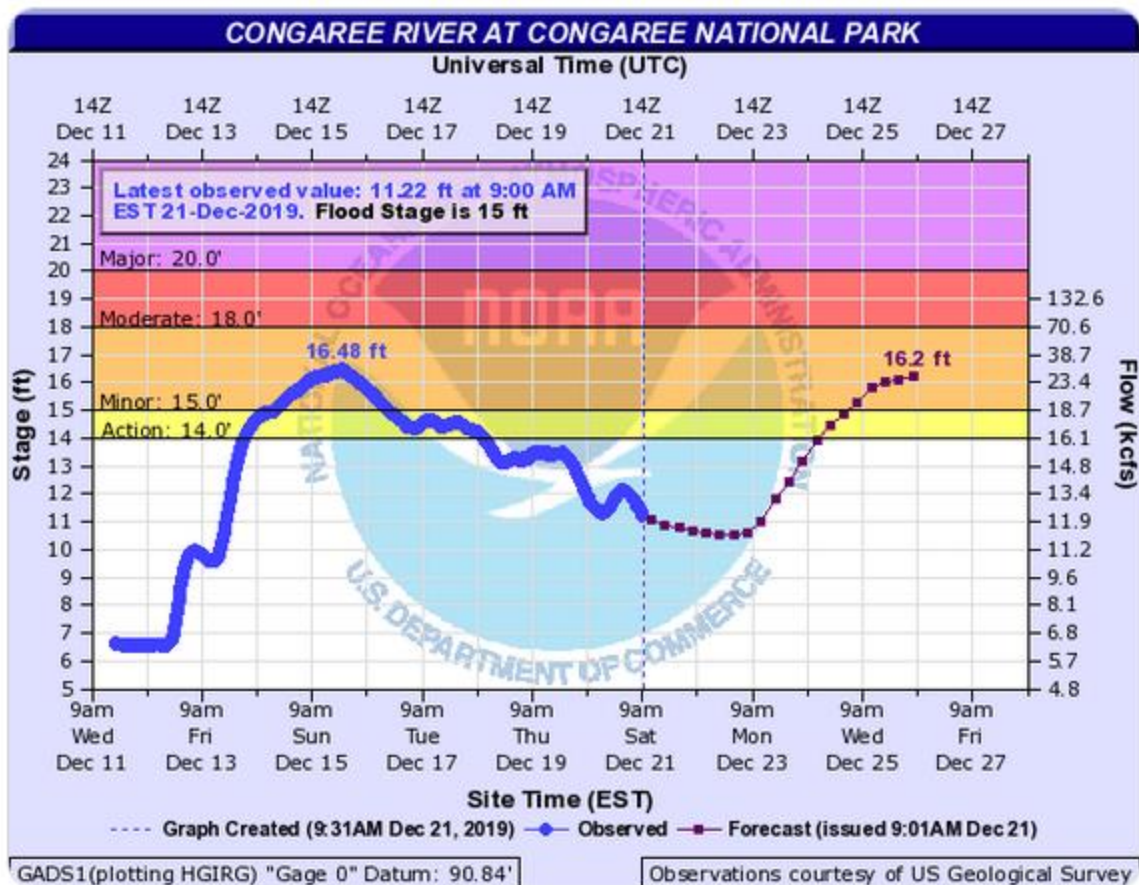
Twitter and Facebook posts from the Congaree National Park on impacts within the park during the event.





Congaree Natl Park 
@CongareeNPS

"How high is the water, Ranger?" Although the water levels of the Congaree River & Cedar Creek are currently dropping, additional flooding is expected in the coming week. Paddling & backcountry camping are not recommended during flood events.



9:51 AM · Dec 21, 2019 · [Twitter Web App](#)



Congaree National Park

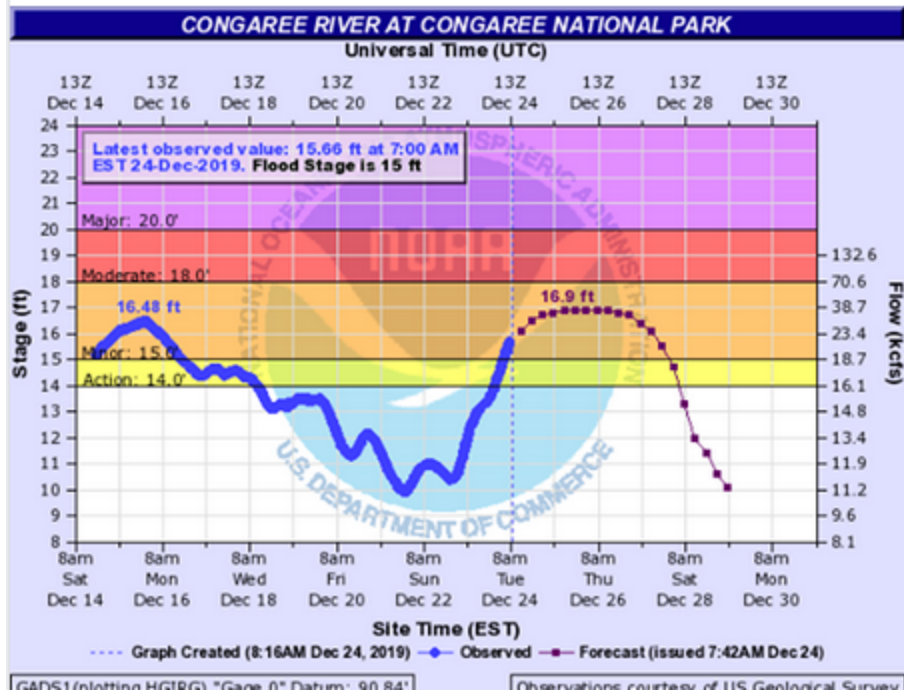
December 24, 2019 at 8:29 AM · 🌐

"How high is the water, Ranger?" The Congaree River is 15.83 feet high and rising; Cedar Creek is 8.08 feet high and rising. Both are above flood stage. The Flood Warning continues for the Congaree River. The river is expected to remain above flood stage for the remainder of the week (see image). Based on the current forecast, it is reasonable to expect flooding conditions to persist inside the park well into the upcoming weekend (even after the river itself has dropped below its threshold).

All trails in the Congaree Floodplain are being impacted. These trails include, River (#5), Oakridge (#4), Weston Lake Loop (#3), Kingsnake (#6), Sims (#2), Fork Swamp (#9), Bates Ferry (#7) and low sections of the Boardwalk. Paddling & backcountry camping are not recommended during flood events. Areas of the park that are NOT usually impacted by flooding includes the Elevated Boardwalk, Bluff Trail (#1), Longleaf Trail (#8), Longleaf Campground, Bluff Campground, and the Harry Hampton Visitor Center.

As a reminder, the Harry Hampton Visitor Center will be closing at 3pm this afternoon (12/24) and will be closed all day Christmas Day (12/25).

<https://water.weather.gov/ahps2/hydrograph.php...>



Here are pictures of the flash flood event that occurred due to the dam breach along Richardsons Lake Road. The photos are courtesy of the Augusta Chronicle and WAGT 26 Augusta.



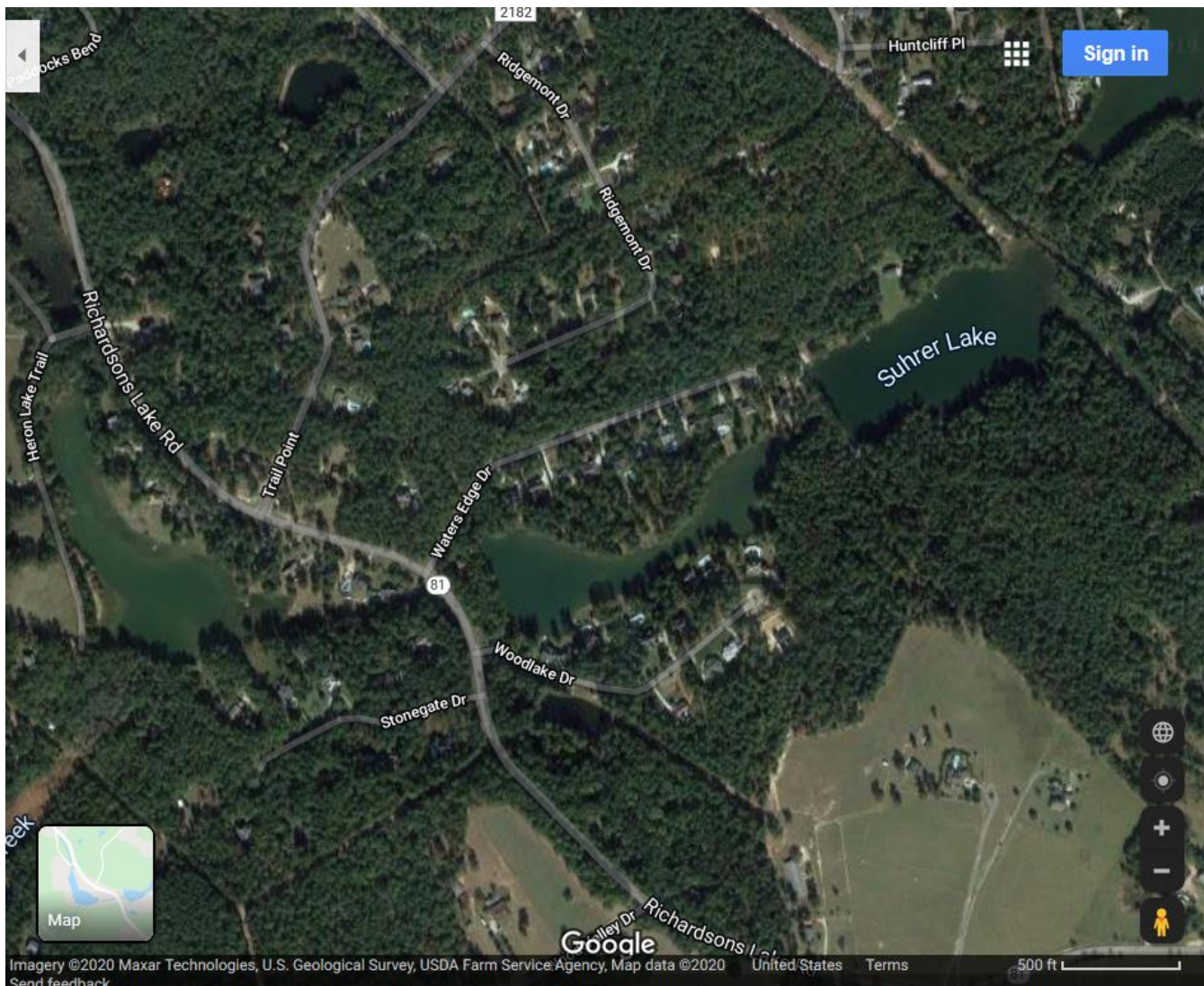
Photo courtesy Augusta Chronicle

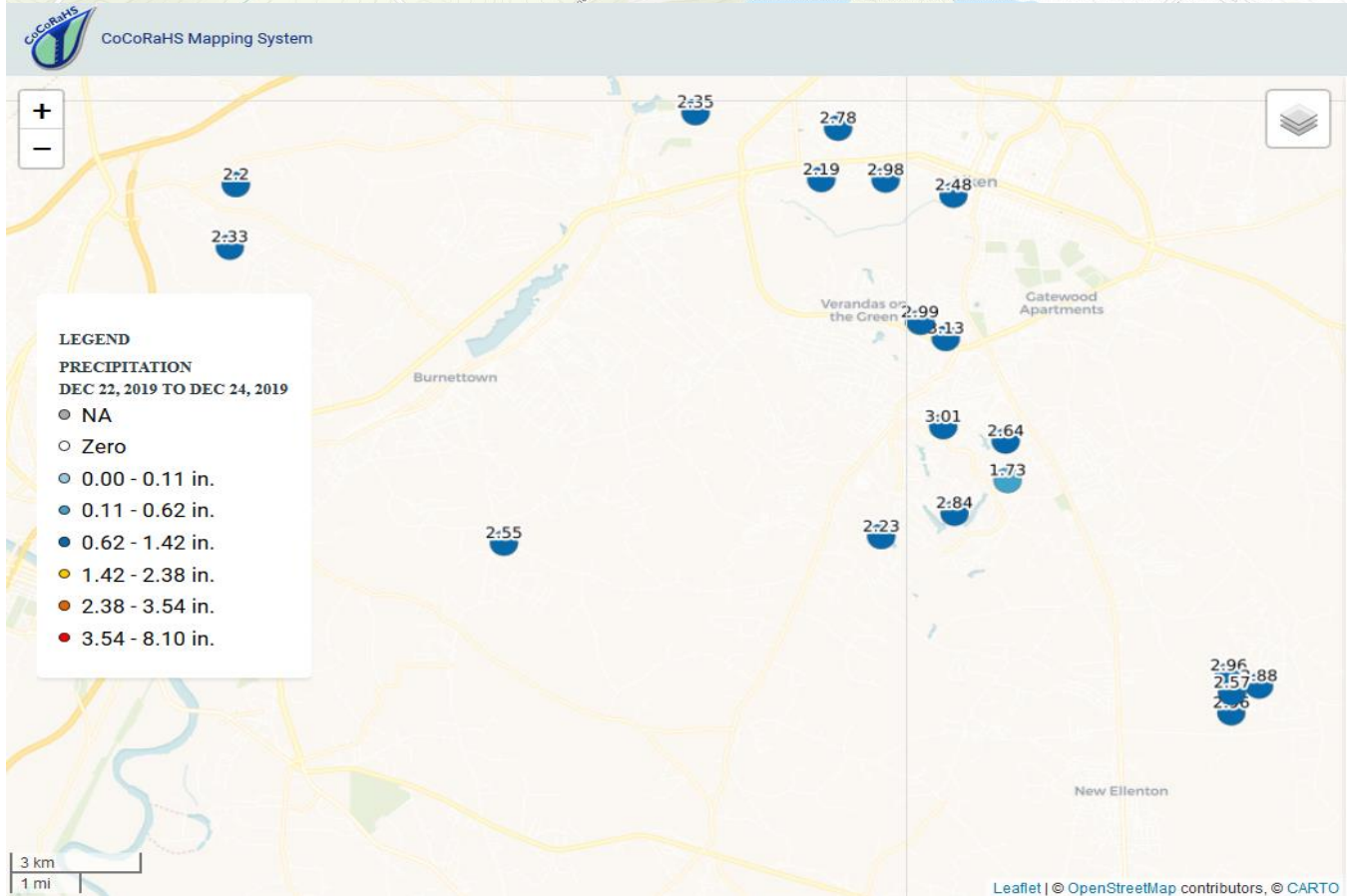
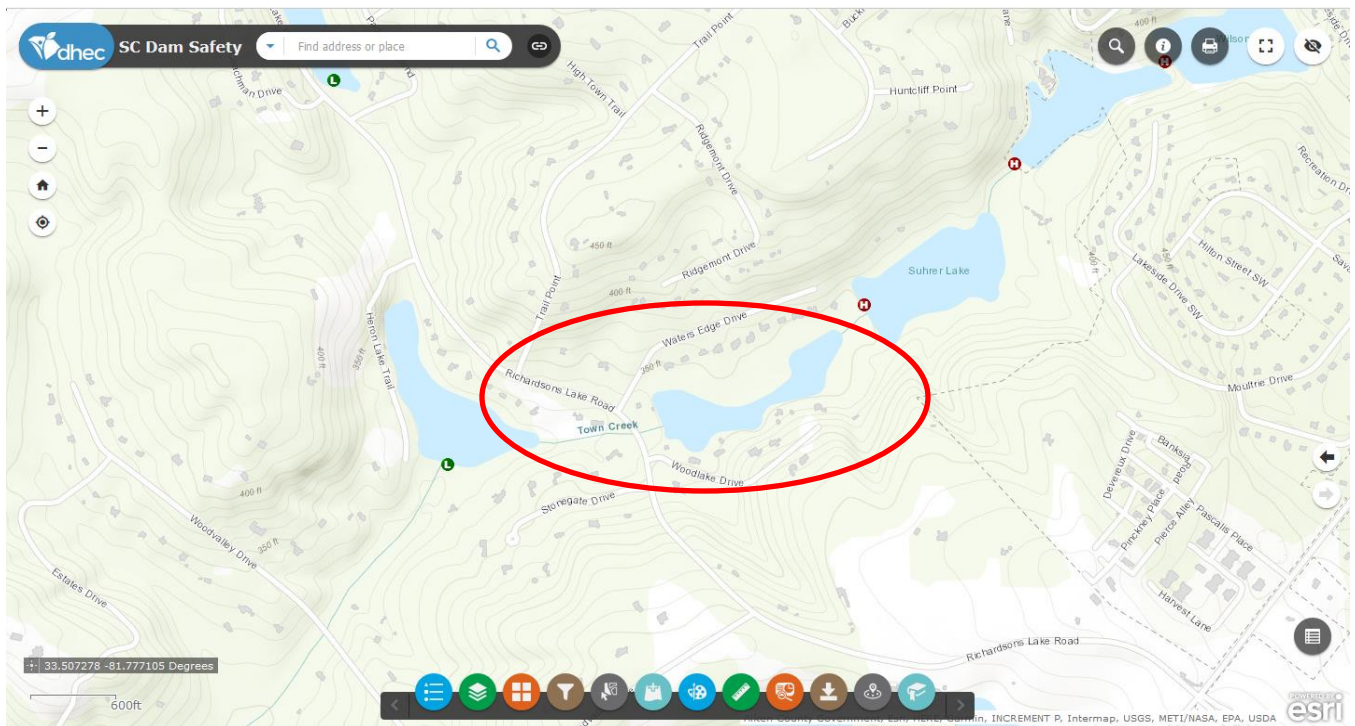


▲ HIDE CAPTION

Water flows through a ruptured earthfill dam in Aiken County, S.C., Monday afternoon December 23, 2019. [MICHAEL HOLAHAN/THE AUGUSTA CHRONICLE]







Drought Conditions

The much above rainfall during the month of December removed all areas of drought from the Midlands and Central Savannah River Area. The area of D0 and D1 drought that were located across the west-central portion of the state and extended westward into east-central Georgia dissipated during the month.

(Please see the maps below).

U.S. Drought Monitor South Carolina



December 31, 2019

(Released Thursday, Jan. 2, 2020)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 12-24-2019	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 10-01-2019	22.06	77.94	48.67	20.47	1.77	0.00
Start of Calendar Year 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 10-01-2019	22.06	77.94	48.67	20.47	1.77	0.00
One Year Ago 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate 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>

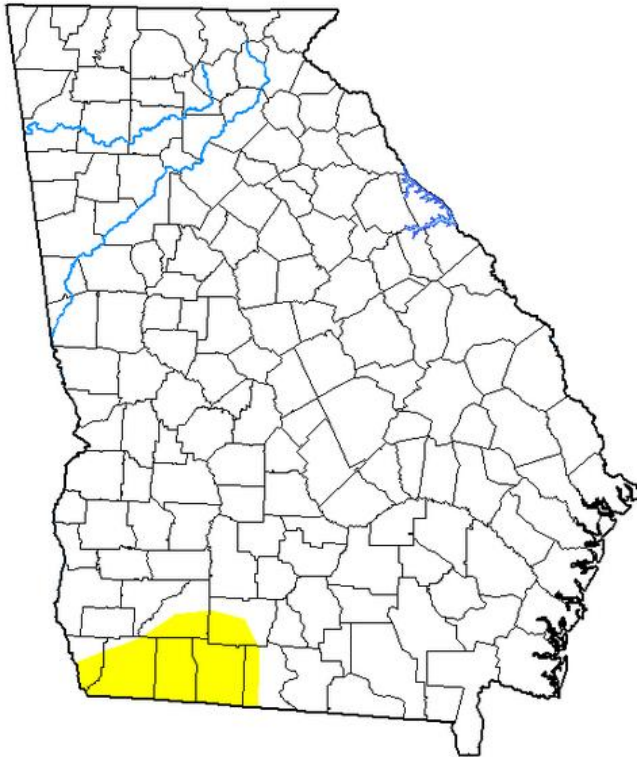
Author:

Brad Pugh
CPC/NOAA



droughtmonitor.unl.edu

U.S. Drought Monitor Georgia



December 31, 2019
(Released Thursday, Jan. 2, 2020)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	96.00	4.00	0.00	0.00	0.00	0.00
Last Week 12-24-2019	96.00	4.00	0.00	0.00	0.00	0.00
3 Months Ago 10-01-2019	0.00	100.00	61.58	28.35	4.49	0.00
Start of Calendar Year 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 10-01-2019	0.00	100.00	61.58	28.35	4.49	0.00
One Year Ago 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

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

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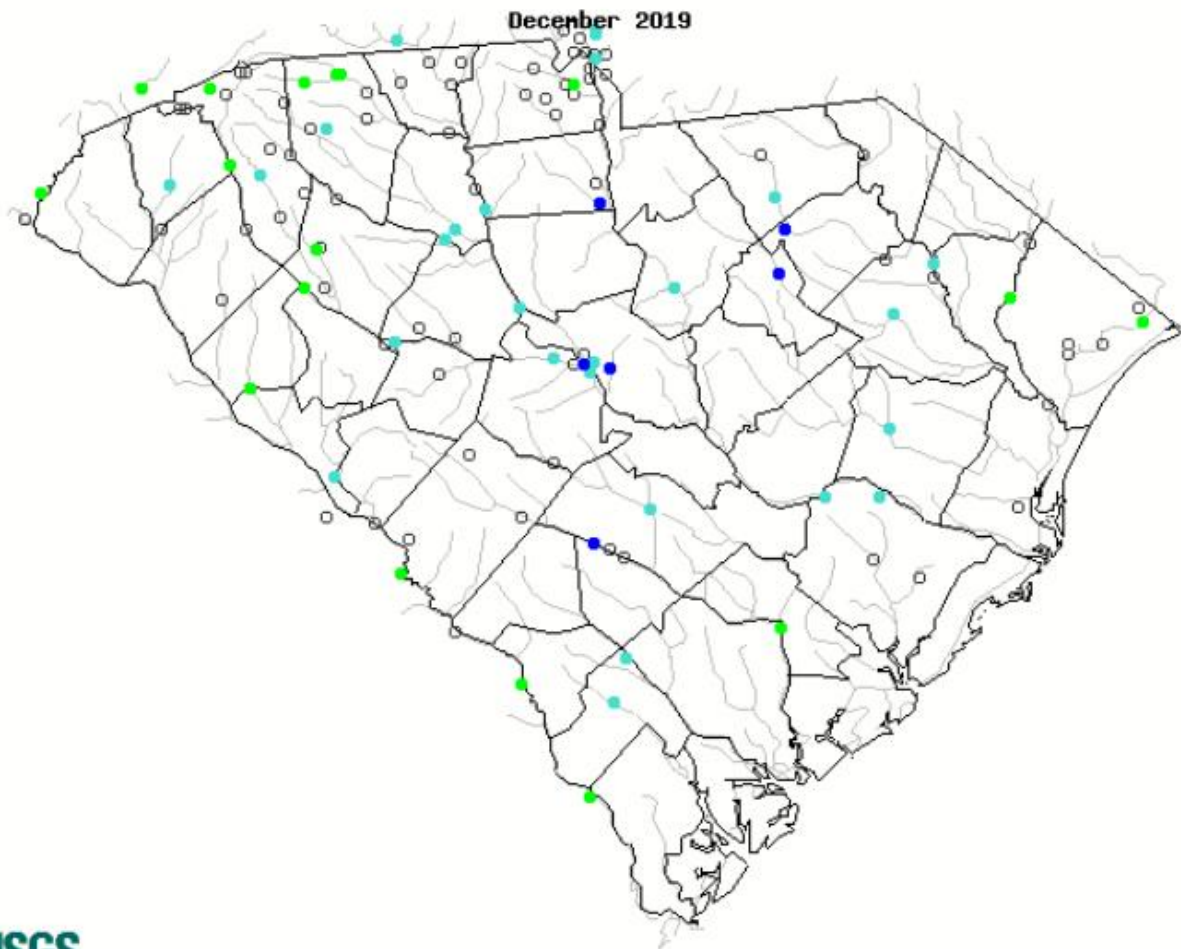


droughtmonitor.unl.edu

Streamflow Conditions

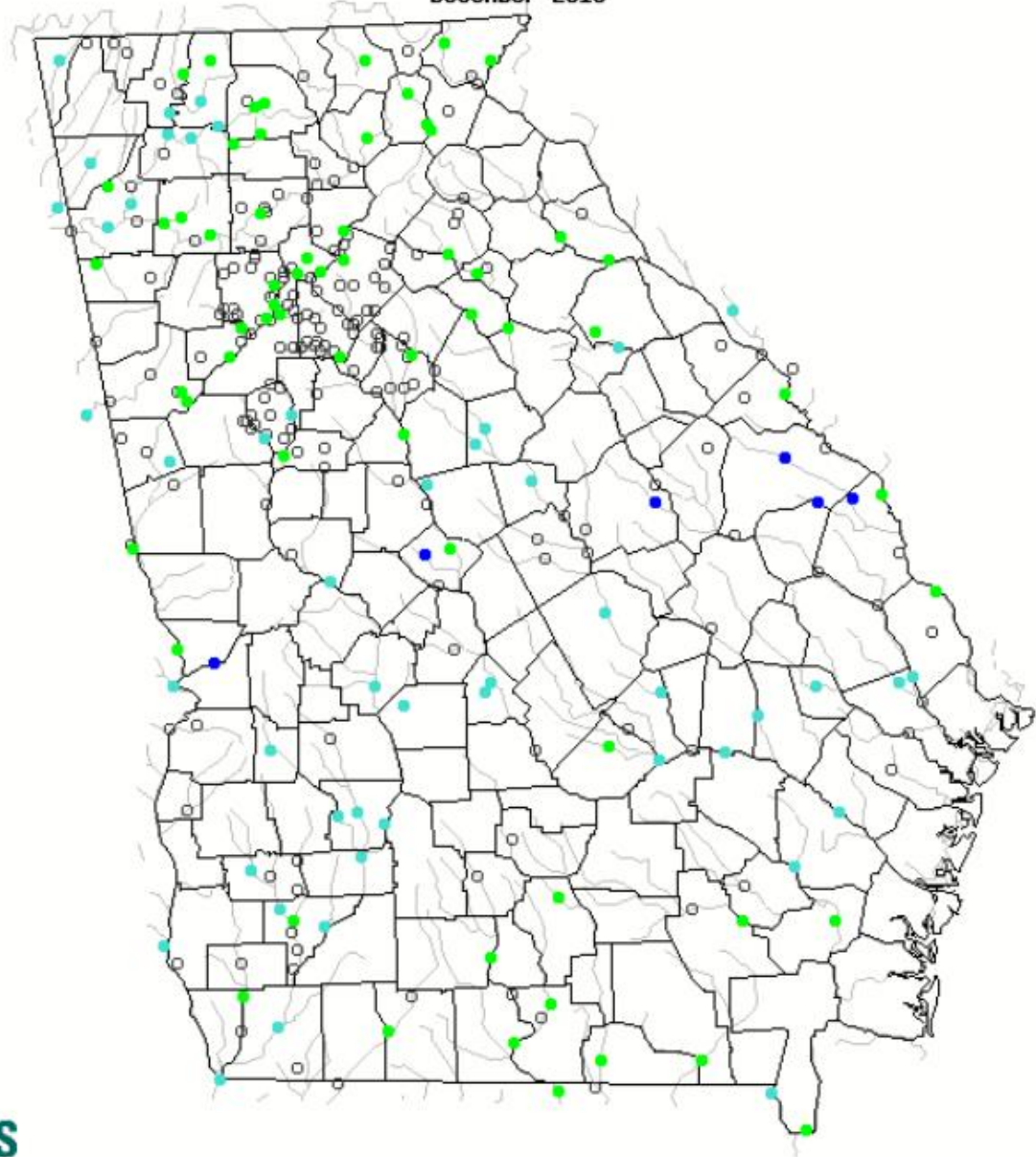
Monthly average stream flows for December across the Midlands and Central Savannah River Area show improved flow conditions across South Carolina and Georgia. Much Above Normal flows were noted along the S. Fork of the Edisto River, Congaree River and Lynches River. Above Normal flows were noted along the N. Fork of the Edisto River, Wateree River, Broad River, Saluda River, Santee River and Stevens Creek. Normal flows were noted along the Savannah River.









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		

December 2019



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

Temperatures

December 2019 temperatures were above normal for the month.

The monthly average temperature at Columbia (CAE) was 50.5 degrees. This value was 3.8 degrees above the normal of 46.7 degrees. The highest temperature during the month was 80 degrees reached on the 10th. The lowest temperature was 22 degrees that occurred on the 20th.

The average temperature for the month at Augusta (AGS) was 52.1 degrees. This value was 4.9 degrees above the normal of 47.2 degrees. The highest temperature during the month was 81 degrees reached on the 10th. The lowest temperature was 25 degrees that occurred on the 20th.

The average temperature for the month at Orangeburg (OGB) was 52.1 degrees. This value was 4.2 degrees above the normal of 47.9 degrees. The highest temperature during the month was 79 degrees reached on the 10th. The lowest temperature was 27 degrees that occurred on the 20th.

Hydrological Products

The following products were issued during December 2019.

DGT	Drought Statements	2
ESF	Hydrologic Outlooks	0
FFA	Flash Flood Watches	13
FFS	Flash Flood Statements	1
FFW	Flash Flood Warnings	1
FLS	Flood Statements	65
FLW	Flood Warnings	7
FLS	Areal Flood Advisories	0