South Carolina Water Resources Monthly Summary

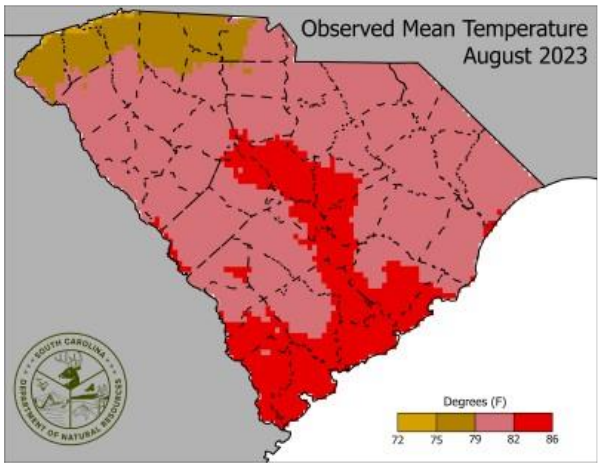
For August 2023

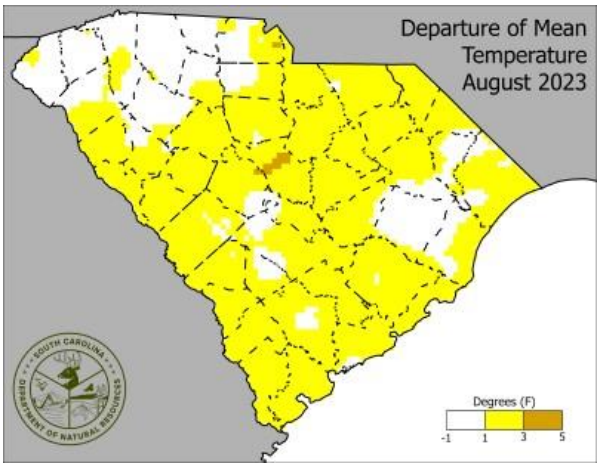
Provided by

The South Carolina Department of Natural Resources

Temperature

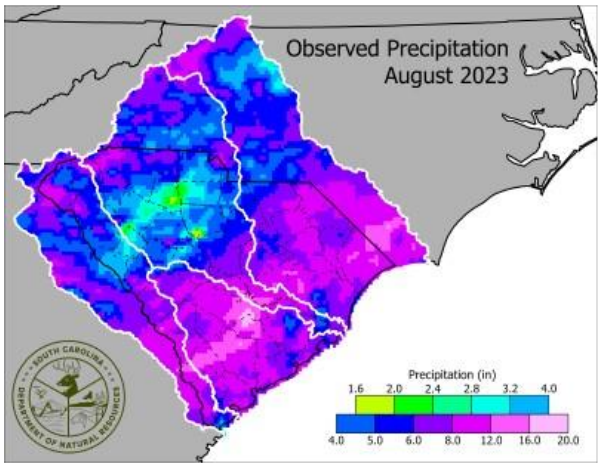
Statewide, South Carolina had an average temperature of 80.8 degrees, 1.8 degrees above the long-term average (1895-2022) of 79.0 degrees for August. This was the 14th warmest August on record for South Carolina. Most of the State had average temperatures 1 to 3 degrees above normal for August, while the Upstate had more normal temperatures. The highest daily maximum temperature recorded in August was 102 degrees at the NWS Barnwell 5 ENE station in Barnwell County. The lowest daily minimum temperature recorded in August was 51 degrees at the NWS Jocassee 8 WNW station in Oconee County.

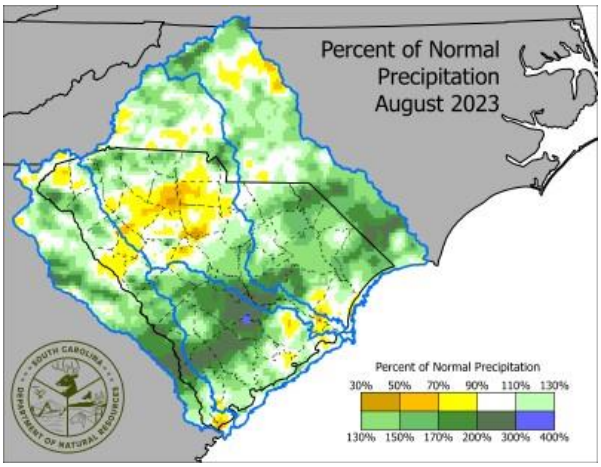




Precipitation

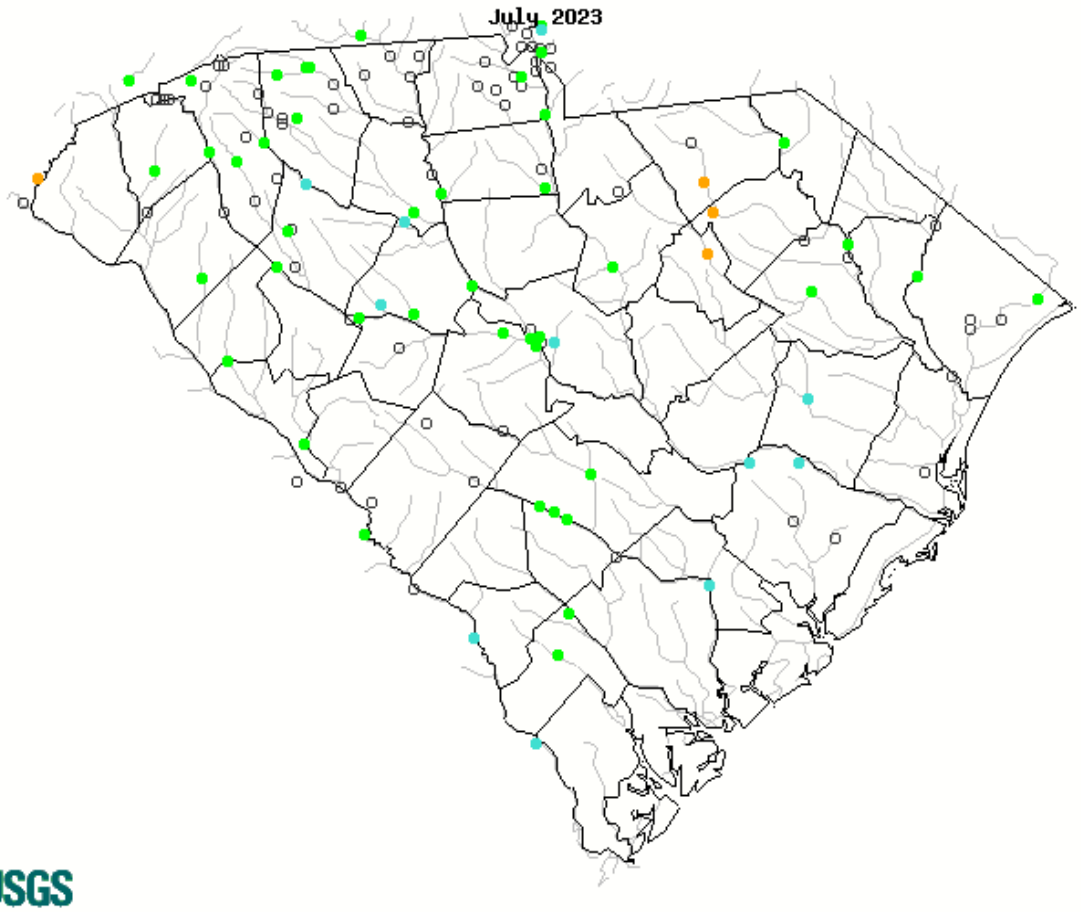
The statewide average precipitation for August 2023 was 6.89 inches, 1.64 inches above the long-term average for the month (1895-2022) of 5.25 inches. Precipitation totals were mixed across the state, with some areas receiving less than 70% of normal rainfall for August and other areas receiving over 200% of normal rainfall. The driest parts of the state were in the southern Upstate and northern Midlands, as well as some isolated spots along the coast. The wettest spots were in the coastal plain, particularly in areas that received heavy rains from Hurricane Idalia. The NWS station Holly Hill 1 SW recorded the highest rainfall totals for August (18.21 inches) and the highest rainfall in the state from Hurricane Idalia (13.55 inches). The Walterboro 7.4 NNE CoCoRaHS reporter in Orangeburg County recorded 17.10 inches for August 2023, the second highest recorded total for the month. Of this total, 8.37 inches were from a stationary thunderstorm (8/17), and 4.40 inches were from Hurricane Idalia. The Greenwood County Airport WBAN station in Greenwood County recorded only 1.94 inches for August, the lowest recorded total for the month.





Streamflow

The USGS's monthly streamflow map compares the current monthly average streamflow to its historical monthly average streamflow conditions for the same month over the gage's period of record. Most of the gages in the State recorded normal streamflow conditions in August. The state received a couple of rain events in August. As these events did not benefit the entire state, some dry patches were observed for gages in the Pee Dee basin. A couple of gages in Hampton, Oconee, and Chester counties also observed below-normal streamflow conditions.



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

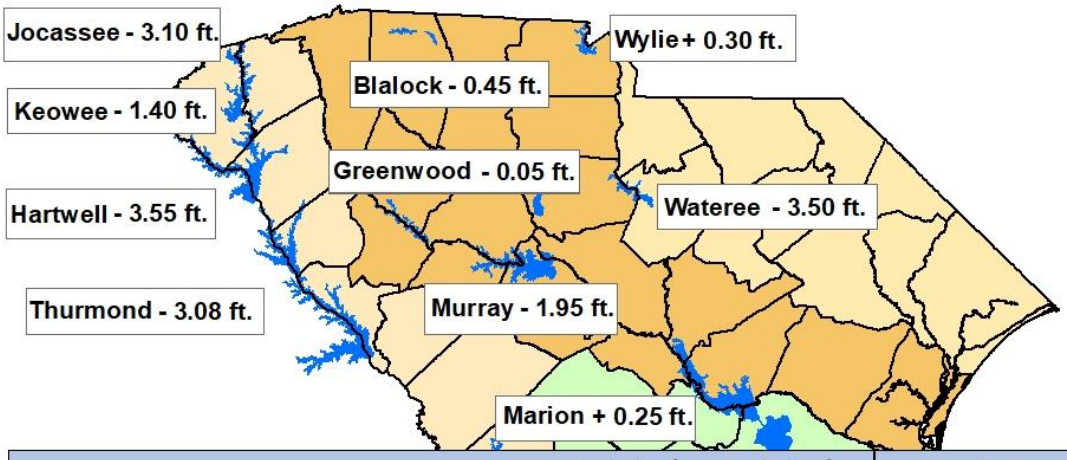
Reservoirs

The map below shows a surplus or deficit from the guide curves or full-pool elevations for the major reservoirs in the State, based on conditions for August 31st. Eight out of ten reservoirs were below their target or full-pool elevations. The lack of beneficial rain in the State has caused some of these lakes to drop. As of the end of August, the monthly average lake elevations of nine out of the ten lakes dropped from last month.

Lake Level Deficit/Surplus on August 31, 2023

(Deficit/surplus values are referenced to guide curves, except Jocassee and Keowee which are referenced to full pool)

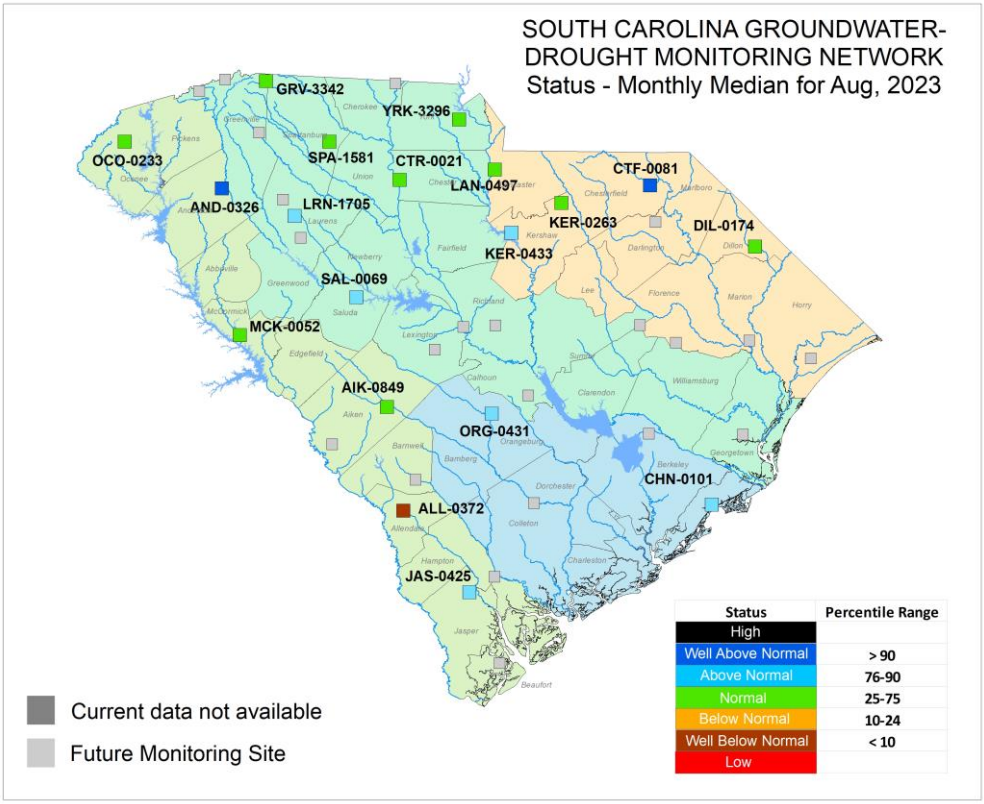
Key: Lake Name, Current lake level deviation from GC/FP



Lake	Current Elevation (ft)	Target (ft)	Full Pool (ft)	Deviation from Guide Curve	Deviation from Full Pool	Avg Monthly Difference (ft)
Greenwood	438.95	439.00	439.00	-0.05	0.33	**-0.08**
Murray	356.05	358.00	360.00	-1.95	-2.43	**-1.05**
Marion	75.81	75.56	75.60	0.25	0.13	**-0.45**
Jocassee	96.90	NA	100.00	NA	-3.10	**-0.27**
Keowee	98.60	NA	100.00	NA	-1.40	**-0.10**
Wateree	93.50	97.00	100.00	-3.50	-3.00	**0.85**
Wylie	97.30	97.00	100.00	0.30	-2.40	**-0.11**
Hartwell	656.45	660.00	660.00	-3.55	1.84	**-1.93**
Thurmond	326.92	330.00	330.00	-3.08	0.42	**-0.49**
Blalock	709.55	710.00	710.00	-0.45	-0.15	**-0.10**

Groundwater

The groundwater condition map for August is based on the monthly medians for the data collected by the USGS and SCDNR. Twelve of the eighteen wells observed a drop in the monthly medians from July to August. A lack of beneficial rain through the month has resulted in dryness that was also observed in the gradual decline of groundwater levels at most of these wells. Groundwater levels at Allendale well continued to stay at much below normal conditions in August.

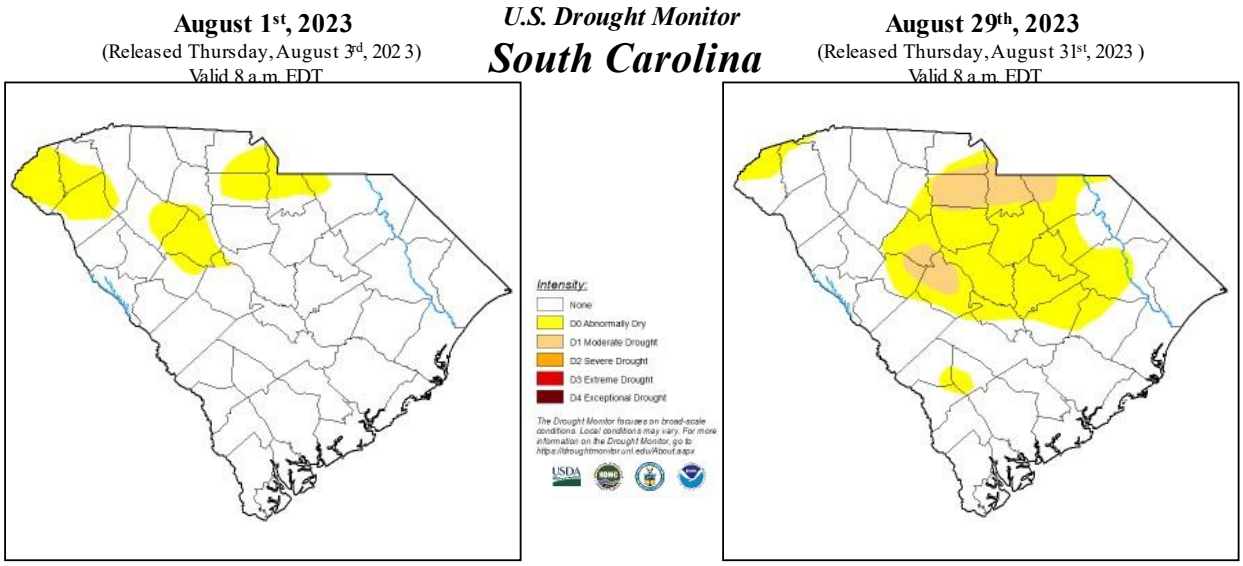


	USGS well sites											DNR Telemetry sites							
	MCK-0052	AND-326	OCO-233	KER-0433	SPA-1581	CTR-0021	YRK-3296	LAN-0497	JAS-0425	CHN-0101	DIL-0174	CTF-0081	GRV-3342	KER-0263	LRN-1705	SAL-0069	ORG-0431	AIK-0849	ALL-0372
July 2023 Monthly median (ft, below land surface)	37.88	2.96	28.98	51.80	43.45	90.70	17.47	28.43	56.29	13.52	4.91	86.58	45.06	34.94		15.69	26.09	43.10	58.02
Aug 2023 Monthly median (ft, below land surface)	37.75	2.84	29.30	52.14	43.29	90.86	21.23	29.89	56.26	13.30	4.88	86.73	45.34	35.48	14.70	18.69	26.45	43.21	58.21
Difference in monthly median from past month (ft)	0.13	0.12	-0.32	-0.34	0.16	-0.16	-3.76	-1.46	0.03	0.22	0.03	-0.15	-0.28	-0.54		-3.00	-0.37	-0.11	-0.19

Drought

At the start of August, 11.97% of the state was classified in abnormally dry (D0) conditions on the U.S. Drought Monitor (USDM). Conditions improved for the second USDM map of the month, with only 5.97% of the state in abnormally dry conditions. From this point on, dry conditions expanded, with 17.07% of the state in abnormally dry conditions for the third USDM map of the month. By fourth map of the month (8/22), 26.37% of the state was in abnormally dry conditions and 5.76% of the state was in moderate drought (D1) conditions. For the last USDM map of the month, 25.80% of the state was in abnormally dry conditions and 6.12% of the state was in moderate drought conditions. The growing dry conditions through August, which turned to drought conditions for some areas, was the result of below normal precipitation over the previous 1- and 2-month periods, which negatively affected soil moisture and streamflow values. Multiple conditions reports came in from Farm Service Agency (FSA) county offices noting a drop in pasture and crop conditions due to the lack of needed rainfall.

The South Carolina Drought Response Committee (DRC) kept an eye on the increasing dry conditions in August but did not convene a meeting. At the end of the month, Hurricane Idalia passed through the state, helping to remove or improve dry conditions heading into September.



Summary

August average temperatures were above normal for most of the state, while precipitation ranged from above normal to below normal for portions of the state. August precipitation totals were below normal for most of the state until Hurricane Idalia passed through on August 31st. Due to the dry conditions in August, precipitation deficits allowed for soil moisture and surface water (streamflows and reservoirs) values to drop. The declining values of these factors allowed U.S. Drought Monitor (USDM) conditions to degrade over the month of August, with 25.80% of the state in abnormally dry (D0) conditions and 6.12% of the state in moderate drought (D1) conditions by the end of the month. Due to the USDM data cutoff period and when Hurricane Idalia passed through the state, these rain totals were not considered in the USDM until the first map of September (9/5).

Looking Forward

To date, (9/17) September daily mean temperatures have been normal to five degrees above normal. Most of the state has had daily mean temperatures that have been one to three degrees above normal, with portion of the Coastal Plain having near normal daily average temperatures and portions of the Upstate having daily average temperatures of three to five degrees above normal. For this period, precipitation totals have been generally below normal across the state. While some areas in the Mountains and Central Savannah River Area (CSRA) have had above normal precipitation (up to 170% of normal), most of the state has received below normal precipitation, ranging from 10% to 70% of normal.

The forecast for the rest of September indicates that temperatures and precipitation are likely to be above normal. Although Hurricane Idalia helped to improve conditions at the beginning of September, dry conditions are increasing north of the Fall Line where precipitation has been less. If this continues, it is likely for abnormally dry (D0) condition to expand.

Contact

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