

South Carolina Water Resources Monthly Summary

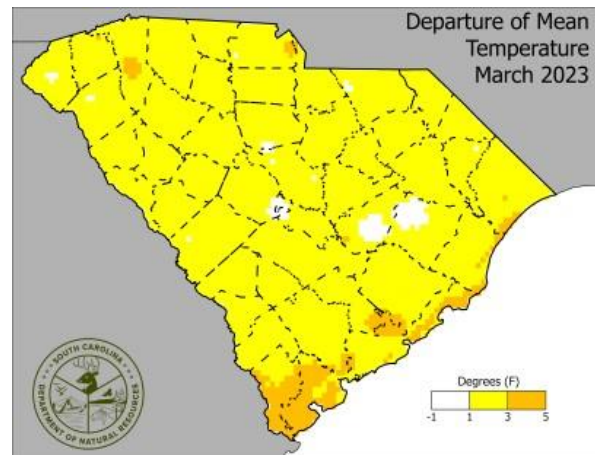
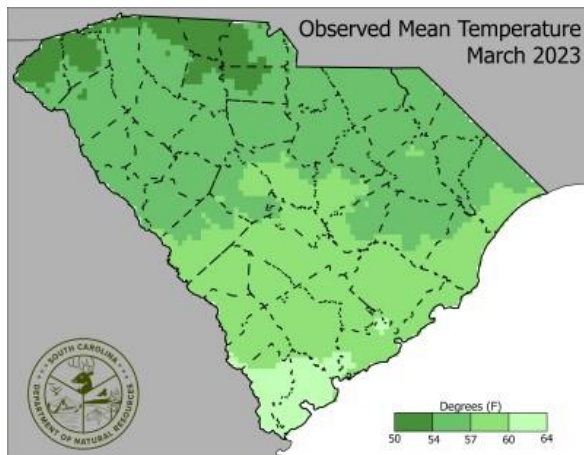
For March 2023

Provided by

The South Carolina Department of Natural Resources

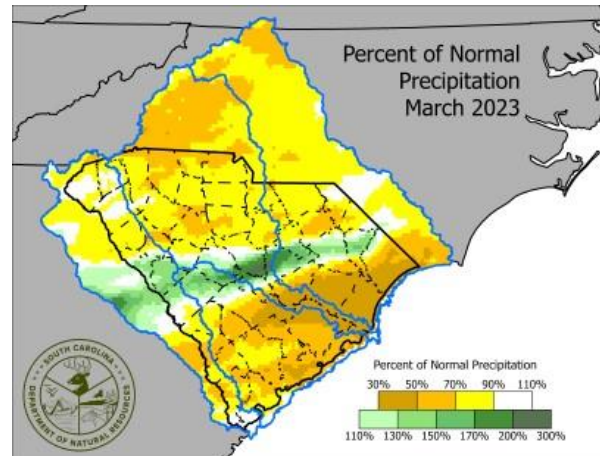
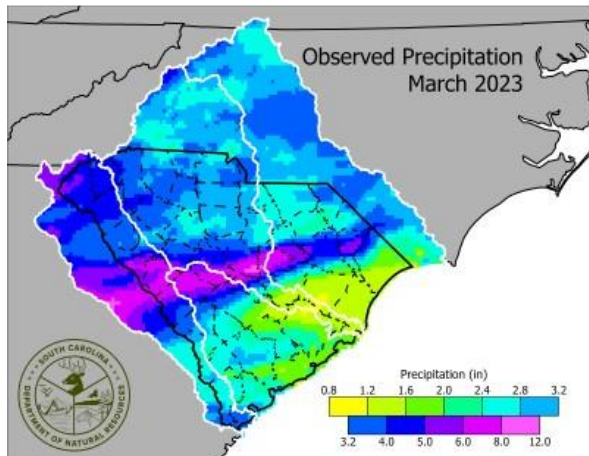
Temperature

Statewide, South Carolina had an average temperature of 57.2 degrees 3.1 degrees above the long-term average (1895-2022) of 54.1 degrees for March. Most of the state experienced average temperatures of 1 to 3 degrees above normal. Portions of the Coast, as well as portions of Greenville and York Counties experienced average temperatures 3 to 5 degrees above normal. The highest daily maximum temperature recorded in March was 88 degrees at the NWS Yemassee Station. This is the same maximum temperature recorded at this station for February 2023. The lowest daily minimum temperature recorded in March was 19 degrees at the NWS Caesars Head Station. This is the same minimum temperature recorded at this station for February 2023.



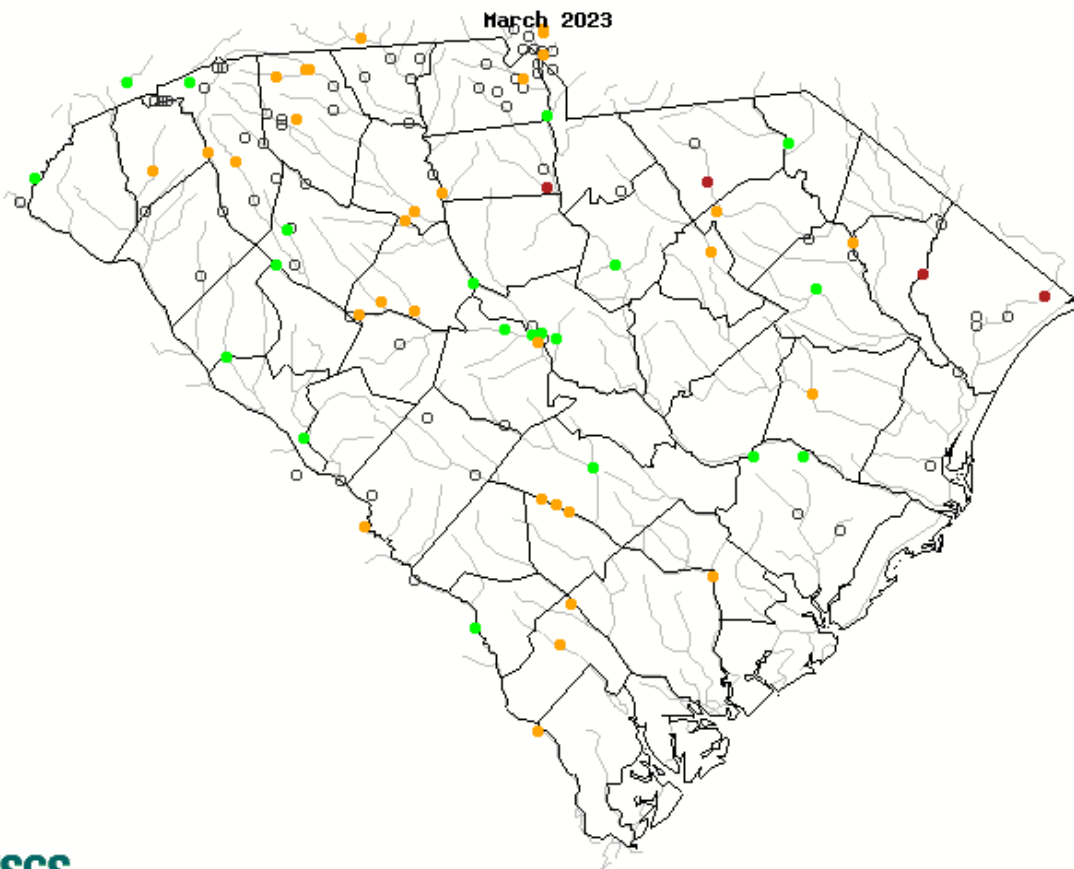
Precipitation

The statewide average precipitation for March 2023 was 3.13 inches, 1.03 inches below the long-term average for the month (1895-2022) of 4.16 inches. Precipitation totals were mixed across the state, ranging from some areas receiving between 30% - 50% of normal, while others received between 200% - 300% of normal precipitation. Between March 1st and 25th, much of the state had received below normal precipitation. On March 26th, a front moved through the state, producing rain totals of 2 to 8 inches across the I-20 corridor. This event is evident in the percent of normal precipitation map below, showing the portion of the state that received 2 or more inches. Areas that received less than 2 inches during this event generally received below normal precipitation for the month of March. The Dalzell 2.3 W CoCoRaHS reporter recorded 7.68 inches for March 2023, the highest recorded total for the month. The Myrtle Beach 4.8 NNW CoCoRaHS reporter recorded only 0.44 inches for March, the lowest recorded total for the month.



Streamflow

The USGS's monthly streamflow map compares the current monthly average streamflow at each gage for a given month to each gage's historical monthly average streamflow for the same month over the gage's period of record. In March the State lacked beneficial rain, especially in the coastal counties and for counties within the Broad, Catawba, and Edisto River basin. The Waccamaw and Little Pee Dee gages also observed Much-Below Normal conditions. Overall, except for areas in the Upper Savannah basin and parts of Santee and Saluda basin, most of the State observed below normal streamflow conditions on an average in March.



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		



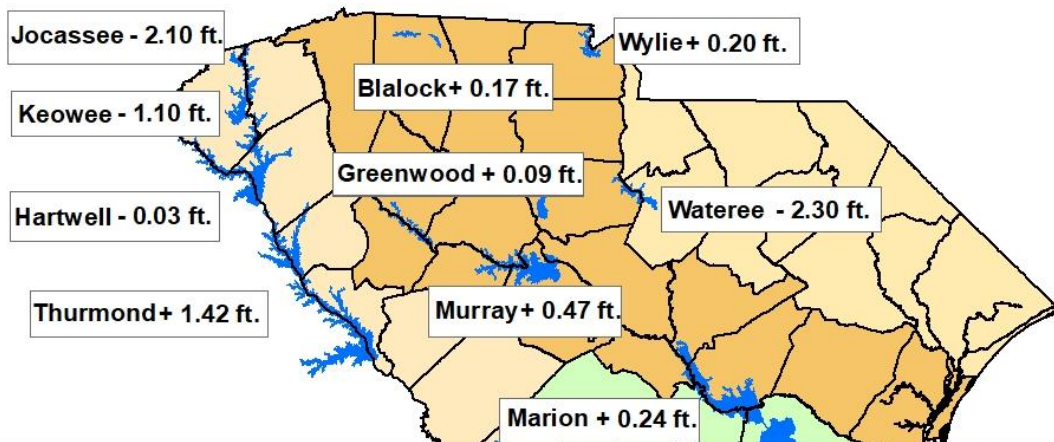
Reservoirs

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 March 31st. Four out of ten reservoirs were below their target or full-pool elevations. As of the end of March, the monthly average lake elevations of three out of the ten lakes dropped from the last month. Lake Murray had scheduled drawdown in the fall of 2022 to limit the growth of certain aquatic vegetation for maintaining a healthy lake. While the lake levels were lowered to about 350 ft in December, the levels gradually increased from January onwards.

Lake Level Deficit/Surplus on March 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

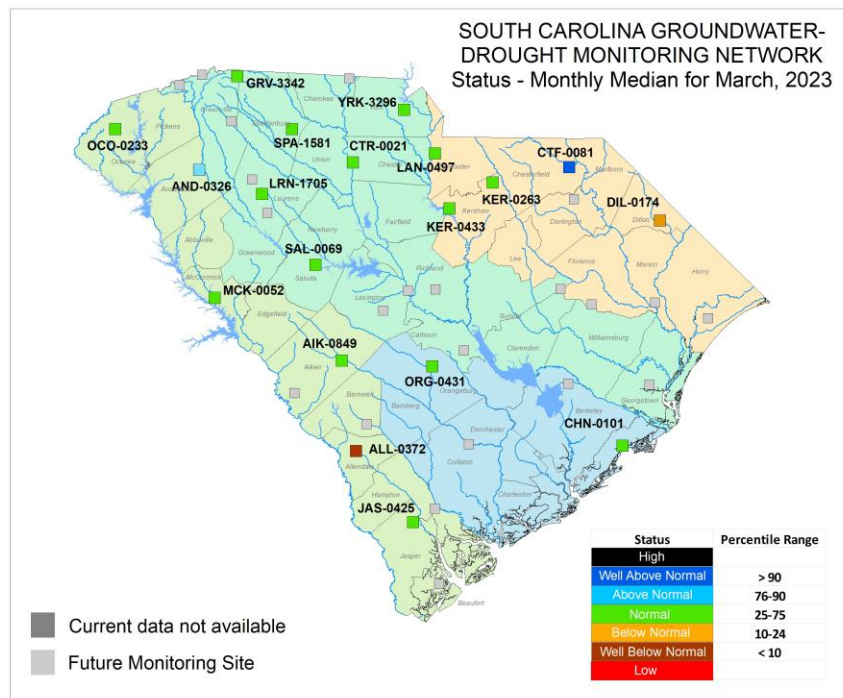


Lake	Current Elevation (ft)	Target (ft)	Full Pool (ft)	Deviation from		Avg Monthly Difference (ft)
				Guide Curve	Full Pool	
Greenwood	438.18	438.09	439.00	0.09	0.33	1.84
Murray	358.47	358.00	360.00	0.47	-2.43	2.11
Marion	75.54	75.30	75.60	0.24	0.13	0.10
Jocassee	97.90	NA	100.00	NA	-2.10	-0.61
Keowee	98.90	NA	100.00	NA	-1.10	0.14
Wateree	94.70	97.00	100.00	-2.30	-3.00	-1.57
Wylie	97.20	97.00	100.00	0.20	-2.40	-0.24
Hartwell	659.88	659.91	660.00	-0.03	1.84	1.87
Thurmond	331.33	329.91	330.00	1.42	0.42	0.74
Blalock	710.17	710.00	710.00	0.17	-0.15	2.55



Groundwater

The groundwater condition map for March is based on the monthly medians for the data collected by the USGS and SCDNR. Most of the groundwater wells have their median levels at or above Normal. Nine of the seventeen wells observed a drop in the monthly medians from February to March. Dillon and Allendale wells continued to stay Below and Much Below Normal in March. Some of these wells are slower to recover and respond to rainfall events, once they are dry. The Dillon well has data going back to only 2014 and is missing some of the record droughts of the past. Therefore, its percentile values are not exactly comparable to other wells with long period of record. Water levels at the Jasper well dropped below historical low values in November but have been improving since the last week of December and is currently at Normal conditions. Similarly, water levels at the Allendale well dropped below normal conditions in May and continued to drop gradually and is still at below normal conditions. As of the end of March, while most of the wells have groundwater levels at or above Normal, the drier wells will take longer to recover.



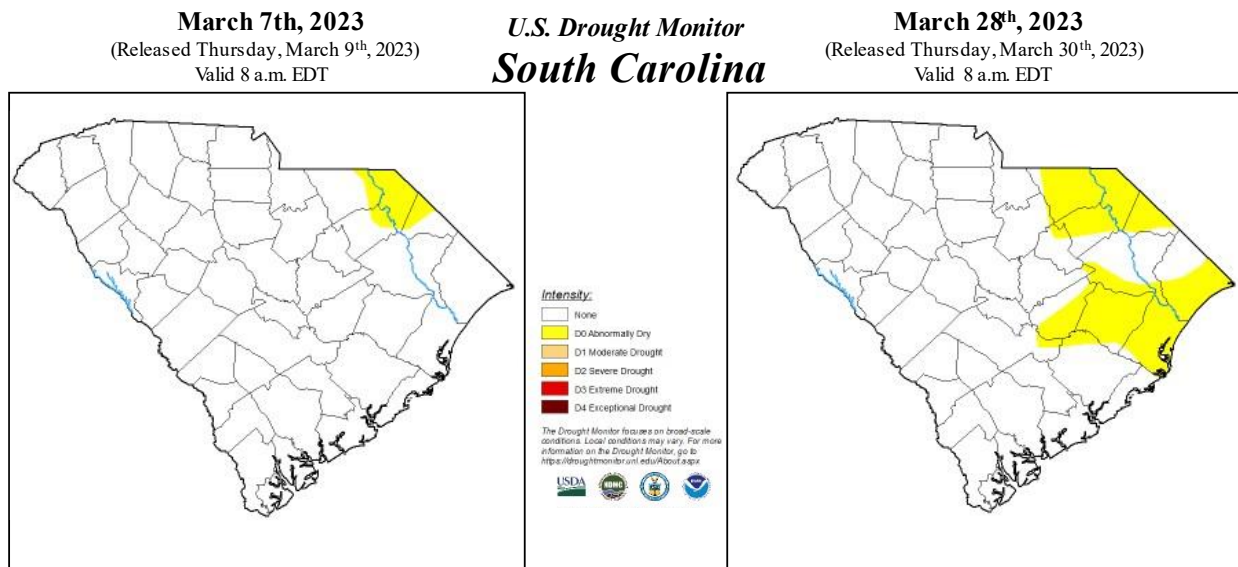
	USGS well sites										DNR Telemetry sites								
	MCK-0052	AND-326	OCO-233	KER-0433	SPA-1581	CTR-0021	YRK-3296	LAN-0497	JAS-0425	CHN-0101	DIL-0174	CTF-0081	GRV-3342	KER-0263	LRN-1705	SAL-0069	ORG-0431	AIK-0849	ALL-0372
February 2023 Monthly median (ft, below land surface)	39.98	2.58	28.43	52.86	43.58	89.93	18.87	27.75	56.88	12.93	4.34	86.41	45.49	35.53	13.30	10.91	26.91	41.78	57.19
March 2023 Monthly median (ft, below land surface)	39.63	2.56	28.36	52.18	43.72	90.17	18.58	27.35	55.34	12.98	4.38	86.41	45.31	34.58	13.51	11.80	29.22	42.14	57.36
Difference in monthly median from past month (ft)	0.34	0.02	0.07	0.67	-0.14	-0.25	0.29	0.40	1.54	-0.05	-0.03	0.00	0.19	0.95	-0.21	-0.90	-2.31	-0.36	-0.17



Drought

The first U.S. Drought Monitor (USDM) in February (3/7) had 2.88% of the state in abnormally dry (D0) conditions. The D0 was limited to the northern Pee Dee Region where precipitation totals were below normal for the past 60-day period. There were no changes for the second USDM map of March (3/14). On the third map of the month (3/21), D0 conditions were expanded as much of the Pee Dee Region had received below normal rainfall over the past 30-day period, leading to decreases in soil moisture and streamflow values. This map had 16.06% of the state in D0 conditions. On the last map of the month (3/28), there was a mix of improvement and expansion of D0 conditions. D0 conditions were improved in portions of Darlington, Florence, Marion, Dillon, and Horry counties, where intense precipitation fell from an incoming front. Contrastingly, D0 conditions were expanded into the central coastal plain (including portions of Clarendon, Berkely, Orangeburg Counties), where 30-day dry conditions had negatively affected soil moisture values. On the final map of month, 17.38% of the state was classified in D0 conditions.

The South Carolina Drought Response Committee (DRC) did not meet in March of 2023.



Summary

March was warm and dry for most of South Carolina. Until March 25th, the entire state had received below normal precipitation for the month. On the 26th, a front came through, bringing higher rain totals to a strip across the I-20 corridor. This areas received above normal precipitation for March. Ultimately, the dry conditions allowed for streamflow values to drop across the state, with much of the state having below normal flows for March. However, this trend did not negatively affect reservoir or groundwater values. Over the month, abnormally dry (D0) conditions on the U.S. Drought Monitor did expand in the eastern and central portions of the state. These degradations were based on a combination of below normal precipitation, soil moisture values, and streamflow values. Luckily, there were no reports of the dryness having adverse effects on agricultural production or water supplies.

Looking Forward

To date (4/15) April has been warm and wet. Average temperatures across the state have been near normal to 3 degrees above normal. Most of the state has received above normal precipitation, ranging from 125% to 300% of normal for the month to date. These conditions have helped to improve some of the abnormally dry (D0) conditions in the Pee Dee Region on the U.S. Drought Monitor, where rainfall totals have been over 150% of normal for the month. D0 conditions remain along the portions of the Coastal Plain, where precipitation totals have been less impressive, allowing 30- and 60-day precipitation totals to remain below normal.

The forecast for the rest of the month of April indicates cool and wet conditions. Average temperatures are forecast to be below normal, while precipitation is forecast to be above normal. If this forecast holds, there is a chance that U.S. Drought Monitor could improve in the Coastal Plain.

Contact

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