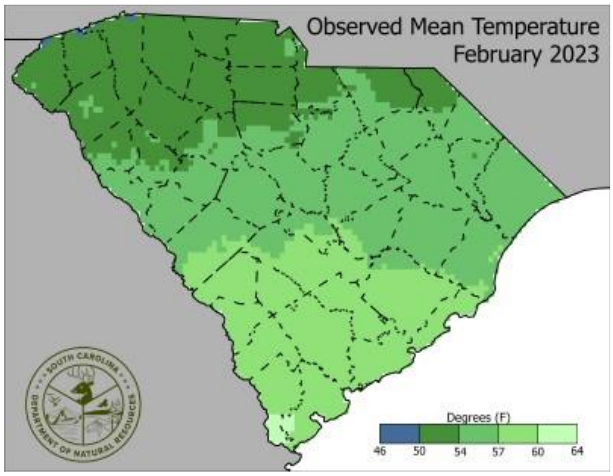
South Carolina Water Resources Monthly Summary For February 2023

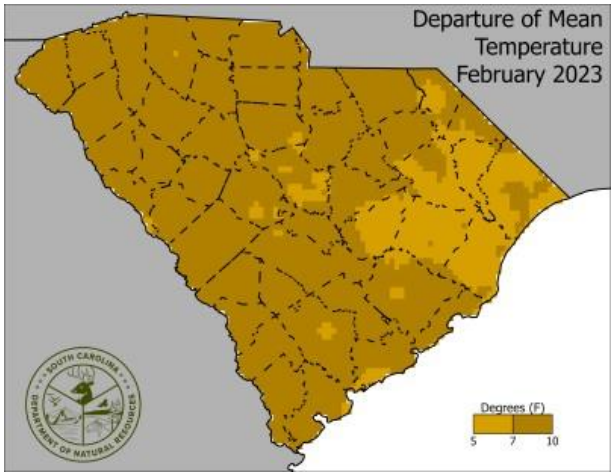
Provided by

The South Carolina Department of Natural Resources

Temperature

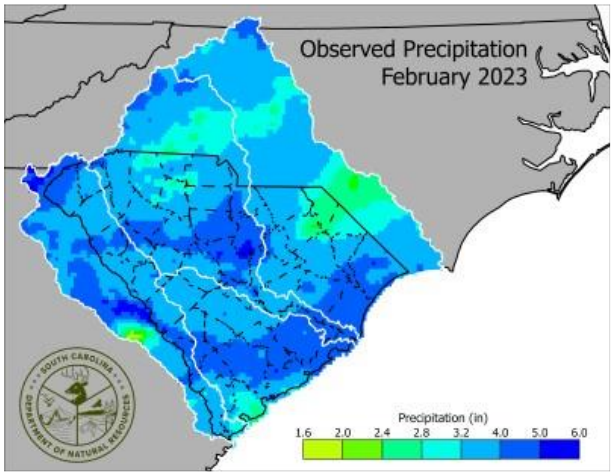
Statewide, South Carolina had an average temperature of 56.2 degrees 9.20 degrees above the long-term average (1895-2022) of 47.0 degrees for February. This was the 2nd warmest February on record (1895-2022) for South Carolina and was at ranked in the top five warmest for all 46 counties, with many counties experiencing this February as the 2nd or 3rd warmest on record. This was the warmest February on record for both Cherokee and York Counties, experiencing average temperatures of 9.4 and 10.2 degrees above normal, respectively. The highest daily maximum temperature recorded in February was 88 degrees at the NWS Yemassee Station. The lowest daily minimum temperature recorded in February was 19 degrees at the NWS Caesars Head Station.

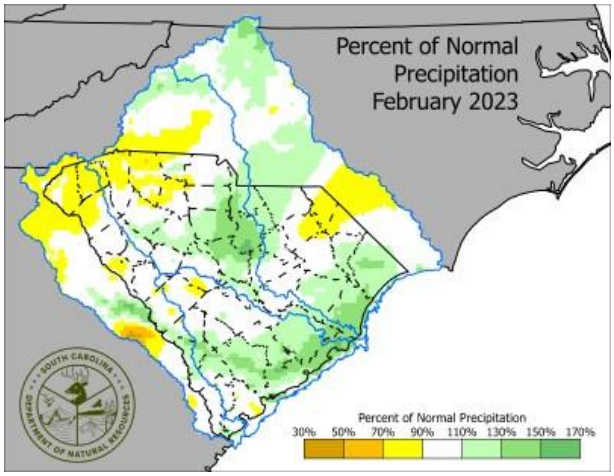




Precipitation

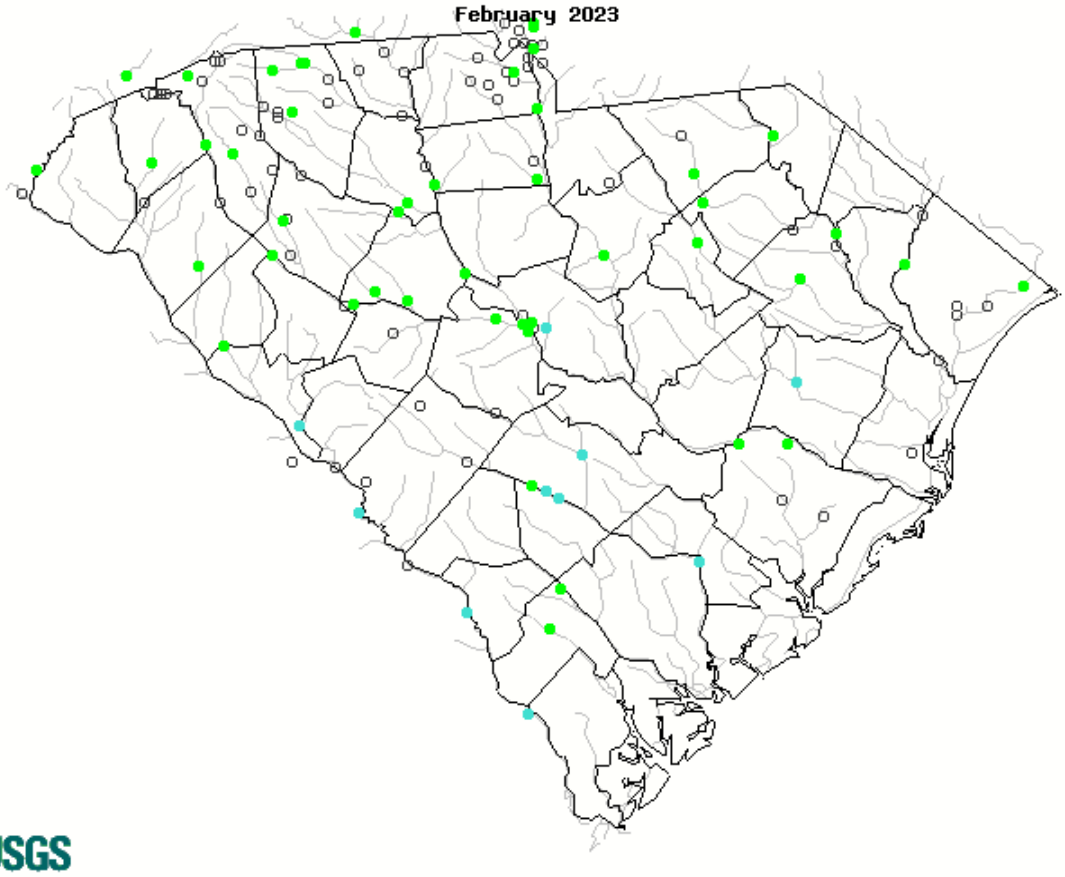
The statewide average precipitation for February 2023 was 3.65 inches, o.25 inches below the long-term average for the month (1895-2022) of 3.90 inches. Precipitation totals were mixed across the state, ranging from some areas receiving between 70% - 90% of normal, while others received between 150% - 170% of normal precipitation. The Mountains and portions of the Upstate generally saw below normal precipitation while the Coast received above normal precipitation. In February, the highest precipitation total was 6.19 inches, reported by the Columbia 2.1 NNW CoCoRaHS reporter. The lowest precipitation total was 2.36 inches, reported by the Darlington 0.3 ENE CoCoRaHS reporter.





Streamflow

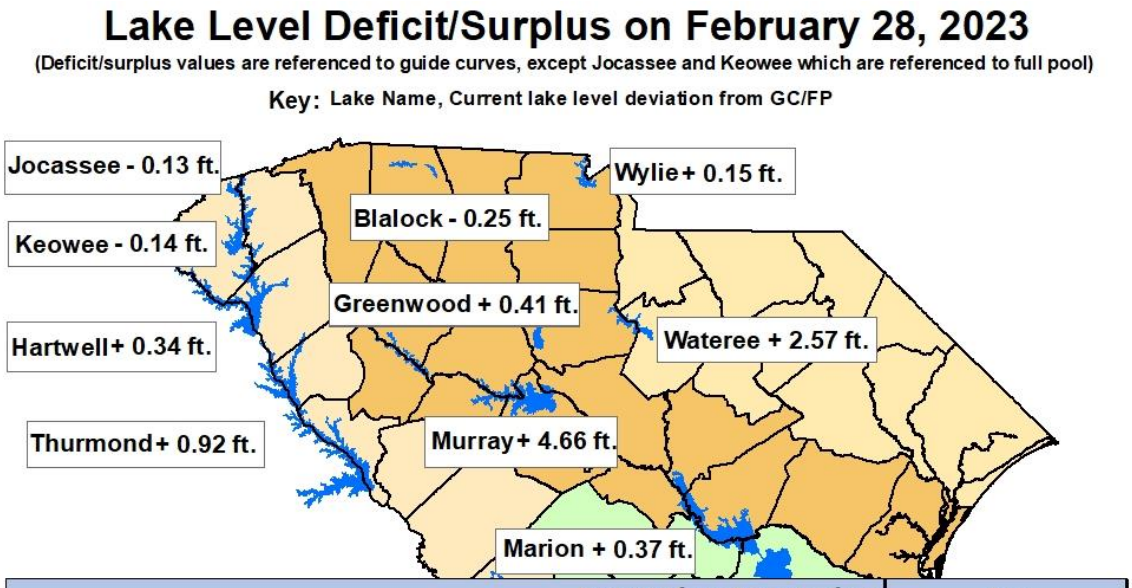
The USGS's monthly streamflow map compares the current monthly average streamflow at each gage for a given month to each gage's historical monthly average streamflow for the same month over the gage's period of record. The cooler temperatures and rainfall received throughout January and parts of February have continued to maintain streamflow within normal conditions in most parts of the State. The Lower Savannah basin and parts of the Edisto, Salkehatchie, and Pee Dee basin have gages recording above normal conditions. The Waccamaw gage has also recovered to normal conditions in February from its below-normal conditions since December.



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

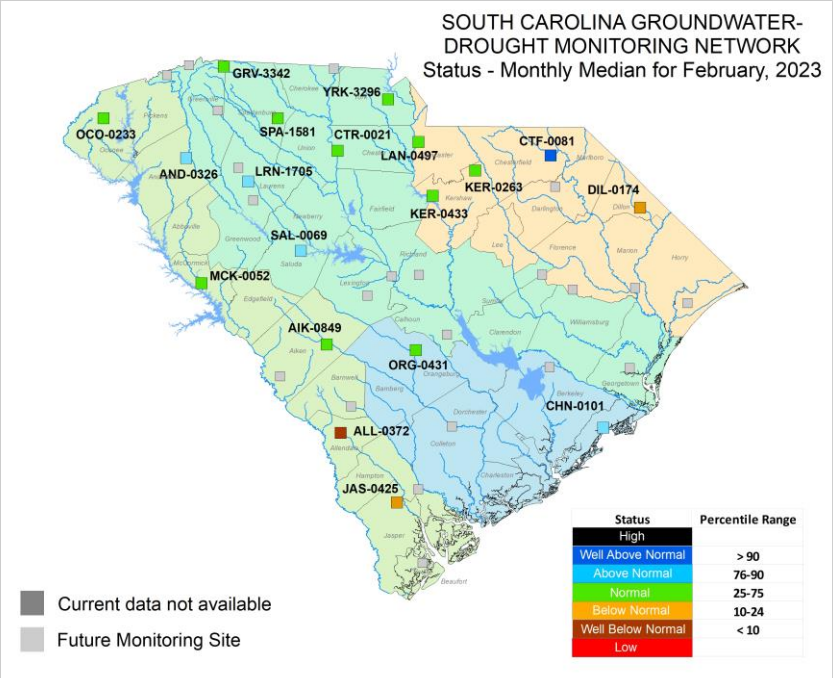
The map below shows a surplus or deficit from the guide curves or full-pool elevations for the major reservoirs in the State, based on conditions for February 28th. Four out of ten reservoirs were below their target or full-pool elevations. Lake Murray has an average difference of 4.6 ft from the last month. Dominion Energy scheduled the 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, therefore, owing the increase in levels by 4.6 ft. As of the end of February, the monthly average lake elevations of three out of the ten lakes dropped from the last month.



Lake	Current Elevation (ft)	Target (ft)	Full Pool (ft)	Deviation from Guide Curve	Deviation from Full Pool	Avg Monthly Difference (ft)
Greenwood	436.23	436.20	439.00	0.03	0.33	**0.41**
Murray	357.37	357.93	360.00	-0.56	-2.43	**4.66**
Marion	75.23	74.85	75.60	0.38	0.13	**0.37**
Jocassee	97.70	NA	100.00	NA	-2.30	**-0.13**
Keowee	98.60	NA	100.00	NA	-1.40	**-0.14**
Wateree	98.10	96.90	100.00	1.20	-3.00	**2.57**
Wylie	97.20	97.00	100.00	0.20	-2.40	**0.15**
Hartwell	658.75	658.53	660.00	0.22	1.84	**0.34**
Thurmond	328.54	328.53	330.00	0.01	0.42	**0.92**
Blalock	707.19	710.00	710.00	-2.81	-0.15	**-0.25**

Groundwater

The groundwater condition map for February 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. Only three of the seventeen wells observed a drop in the monthly medians from January to February. Parts of Dillon and Allendale counties did not observe much improvement in their dry conditions from the rainfall received through December, January, and parts of February. Some of these wells are slower to recover and respond to rainfall events, once they are dry. The Dillon well has data only going back to 2014 and is therefore missing some of the record droughts of the past and therefore its percentile values is not exactly comparable to other wells with longer 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. However, the median value is still Below Normal. Similarly, water levels at the Allendale well dropped below normal conditions in May and continued to drop gradually, currently in well below normal conditions. As of the end of February, while most of the wells have groundwater levels at or above Normal, some of the dry wells will take longer to recover.

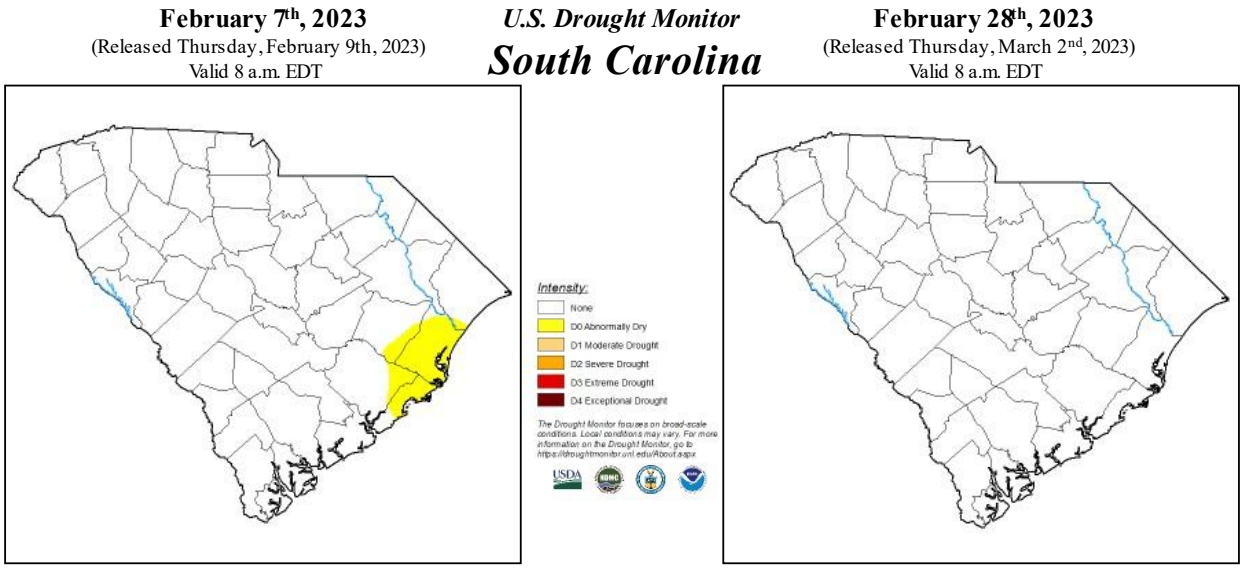


	USGS well sites											DNR Telemetry sites							
	MCK-0052	AND-326	OCO-233	KER-0433	SPA-1581	CTR-0021	YRK-3296	LAN-0497	JAS-0425	CHN-0101	DIL-0174	CTF-0081	GRV-3342	KER-0263	LRN-1705	SAL-0069	ORG-0431	AIK-0849	ALL-0372
January 2023 Monthly median (ft, below land surface)	40.29	2.78	28.95	53.63	43.38	89.64	20.48	30.14	60.86	13.23	5.11	86.70	45.53	36.35	14.21	13.81	28.12	42.25	57.01
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
Difference in monthly median from past month (ft)	0.31	0.21	0.52	0.78	-0.20	-0.28	1.62	2.40	3.99	0.30	0.76	0.28	0.03	0.82	0.92	2.90	1.21	0.46	-0.18

Drought

The first U.S. Drought Monitor (USDM) in February (2/7) had 4.74% of the state in abnormally dry (D0) conditions. This was the first map since July 2022 that there were no drought conditions (moderate drought or worse, D1-D4) in South Carolina. The second map of February (2/14) saw the full removal of all USDM conditions from the state. The last map to have no USDM conditions in South Carolina was August 31st, 2021. The last two USDM maps in February (2/21 and 2/28) continued to be free of any abnormally dry (D0) or drought conditions (D1-D4), with 100% of the state in normal conditions.

The South Carolina Drought Response Committee (DRC) met on February 7th and voted to return the entire state back to normal conditions after improvement in precipitation, soil moisture, streamflows and reduction in fire potential. This was the first time since February 2022 that the DRC voted to have normal conditions throughout the entire state.



Summary

February was very warm for South Carolina, the second warmest on record, with all 46 counties experiencing at least a top five warmest February on record. Precipitation was more of a mixed bag with some areas receiving above normal precipitation and others receiving below normal rainfall. The precipitation at the end of January that continued into mid-February helped to return the state to more normal conditions, pulling all the dry condition from the state, regarding both the U.S. Drought Monitor and the South Carolina Drought Response Committee. Luckily, the above normal temperatures did not negate the benefits of the precipitation earlier in the month.

Looking Forward

To date (2/13) March has been warm and dry. Average temperatures across the state have been 5 to 9 degrees above normal. Most of the state has received less than 90% of normal rainfall, with some areas receiving less than 50% of rain. Luckily there are some areas in the Upstate and in the Lowcountry that have reported above 110% of normal precipitation for the period. Given the warm and dry conditions for the second half of February and the first half of March, many streamflows across the state are reporting below normal flows. Similarly, the soil moisture datasets are indicating below normal soil moisture values at multiple depths, particularly in the Pee Dee Region. Despite the data, field reports from agricultural producers state that conditions are in the more normal range, with no negative impacts from the dry and warm period.

The forecast for the rest of the month of March shows more confidence more below normal temperatures and above normal rainfall. If this forecast holds, it is likely to improve the soil moisture and streamflows across the state (regarding the data) which should keep the probability low for any large changes to the U.S. Drought Monitor or a needed meeting of the South Carolina Drought Response Committee.

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