

South Carolina Water Resources Monthly Summary

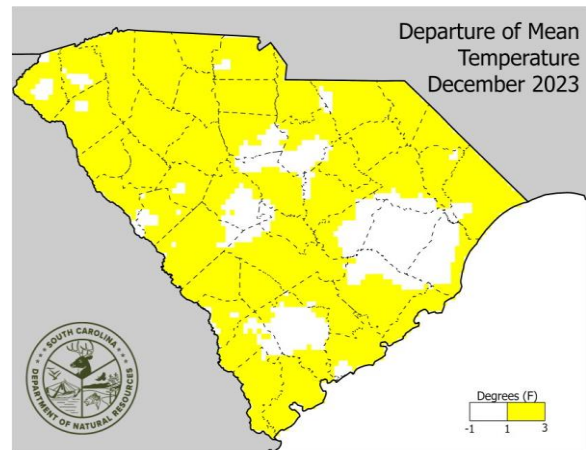
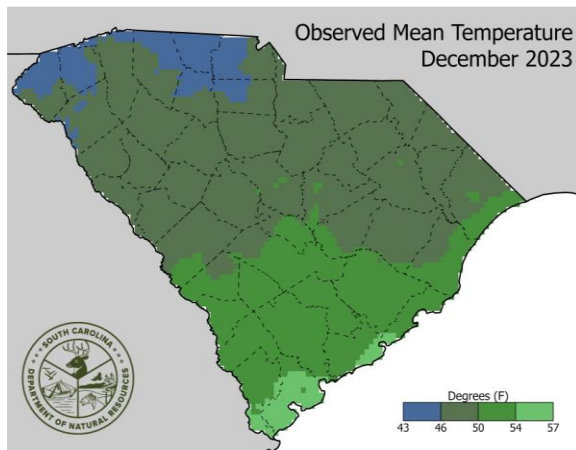
For December 2023

Provided by

The South Carolina Department of Natural Resources

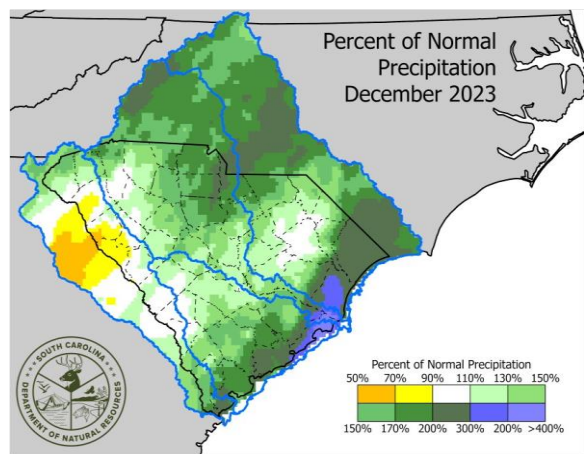
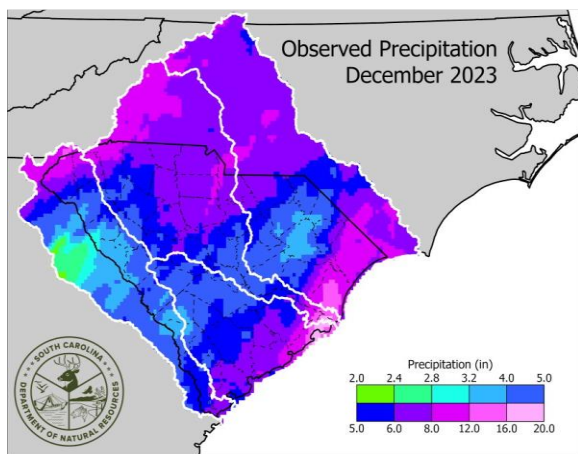
Temperature

Statewide, South Carolina had an average temperature of 49.6 degrees, 3.5 degrees above the long-term average (1895-2022) of 46.1 degrees for December. Most of the State experienced average temperatures 1 to 3 degrees above normal, while some areas saw more normal temperatures. The highest daily maximum temperature recorded in December was 80 degrees at both the Barnwell 5 ENE NWS station in Barnwell County and Orangeburg Municipal Airport Station in Orangeburg County. The lowest daily minimum temperature recorded in December was 17 degrees at three different stations: The Jocassee 8 WNW NWS station in Oconee County, Union 8 S station in Union County, and Caesars Head in Greenville County.



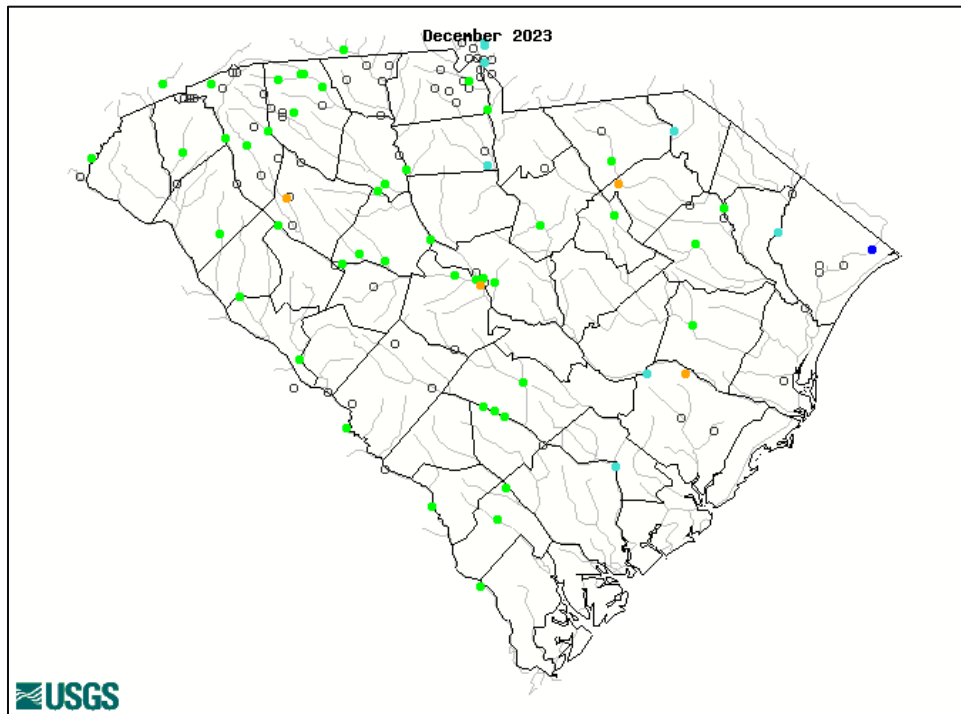
Precipitation

The statewide average precipitation for December 2023 was 5.52 inches, 1.83 inches above the long-term average for the month (1895-2022) of 3.69 inches. Most of the state received above normal rainfall, while portions of the Upper Savannah River received between 50% and 90% of normal rainfall. The Calhoun Falls station in Abbeville County recorded 3.37 inches of rain, which was the lowest recorded total at a station in the state for December. The Georgetown County Airport in Georgetown County recorded 14.06 inches of rain, which was the highest recorded total at a station in the state for December. Of this 14.06 inches for the month, 12.45 inches fell over a 48-hour period (December 17th-18th) from a coastal storm.



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. In December, several rain events brought some relief to the low streamflow conditions observed in the past couple of months. Most of the Upstate gages that remained dry in the past couple of months, went back to normal in December. Gages in the coastal plain also stayed at normal or above normal status. Although, majority of the gages observed improvements in their streamflow conditions, there are still a couple of gages in the Pee Dee and Saluda river basins that are at below-normal status.

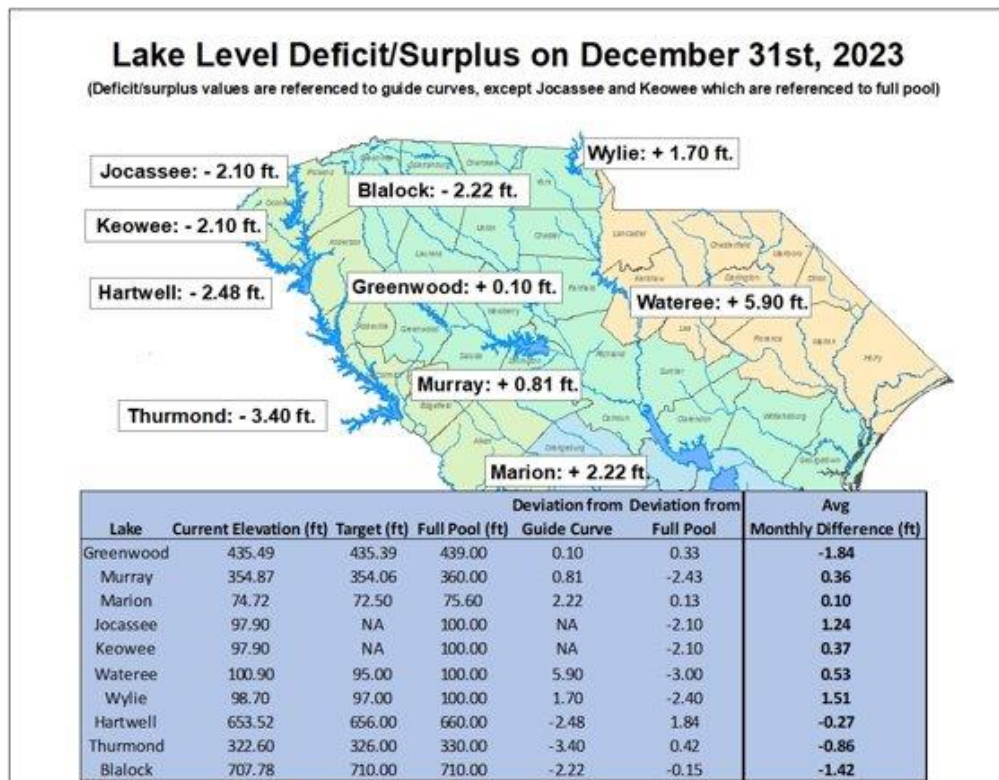


Explanation - Percentile classes								
Low	<10	10-24	25-75	76-90	>90	High	No Data	
	Much below normal	Below normal	Normal	Above normal	Much above normal			



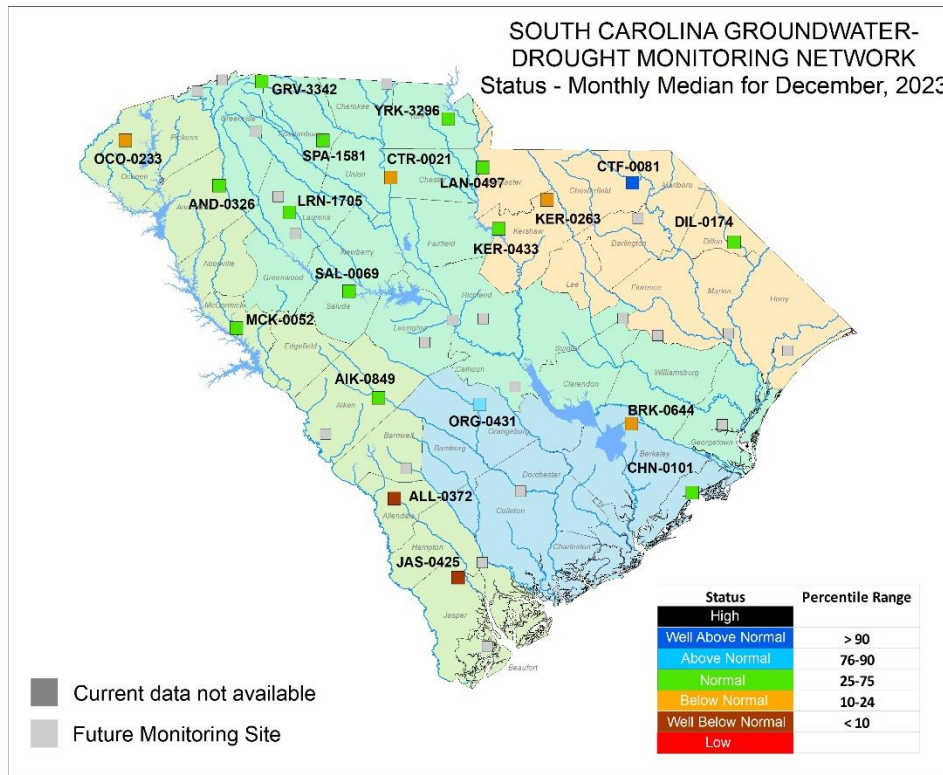
Reservoirs

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 December 31st. Multiple rain events in South Carolina brought some relief for low flow conditions, especially in the upstate counties. The Duke Energy and USACE lakes in the Savannah basin had entered drought level 2. Over December these lakes observed improvement in their low-level conditions. Although Lake Thurmond fluctuated around drought level 2, Lake Hartwell levels improved and stayed above level 2 after the second week of December. In response to the improving streamflow conditions in the Upstate and improving USACE lakes conditions, the Duke Energy lakes in the Savannah basin recovered to drought stage level 1 from level 2 in the first week of January. The reservoir storage index for the Catawba-Wateree lakes improved but the long-term index- streamflow and drought monitor conditions continued to remain in Stage 1 drought status. Overall, most of the major lakes in the state observed improvements in December.



Groundwater

The groundwater condition map for December is based on the monthly medians for the data collected by the USGS and SCDNR. Nineteen of the twenty wells observed a drop in the monthly medians from November to December. Multiple rain events in December improved groundwater levels for most of the wells, however the median water levels for a few wells remained in below normal conditions. Due to dry conditions in the past couple of months, some of these wells will require more recharge to bring their levels back within normal range.



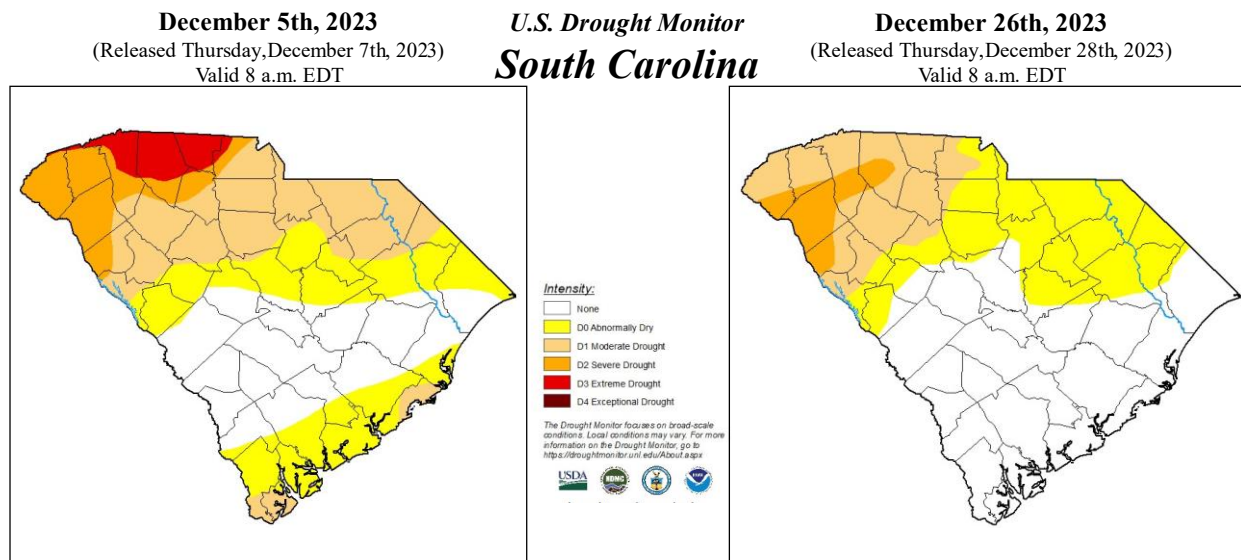
	USGS well sites										DNR Telemetry sites									
	MCK-0052	AND-326	OCO-233	KER-0433	SPA-1581	CTR-0021	YRK-3296	LAN-0497	JAS-0425	CHN-0101	DIL-0174	CTF-0081	GRV-3342	KER-0263	LRN-1705	SAL-0069	ORG-0431	AIK-0849	ALL-0372	BRK-0644
Oct 2023 Monthly median (ft, below land surface)	38.21	3.18	29.91	53.04	43.18	91.12	23.24	31.96	59.65	13.12	4.75	86.80	45.92	36.47	16.05	20.43	27.01	42.88	58.36	13.57
Nov 2023 Monthly median (ft, below land surface)	38.65	3.23	30.15	53.58	43.29	91.45	24.12	32.64	63.03	13.49	4.98	86.90	46.23	37.00	16.08	22.26	27.48	42.87	58.47	13.59
Difference in monthly median from past month (ft)	-0.44	-0.05	-0.24	-0.54	-0.10	-0.32	-0.88	-0.68	-3.38	-0.37	-0.23	-0.10	-0.31	-0.53	-0.03	-1.83	-0.46	0.00	-0.11	-0.02



Drought

While drought conditions expanded and intensified throughout the fall, above normal rainfall throughout December allowed for an improvement in conditions. On the first U.S. Drought Monitor (USDM) map of December (12/5) 27.83% of the state was in abnormally dry (D0) conditions, 26.68% was in moderate drought (D1), 9.90% was in severe drought (D2) and 4.89% were in extreme drought (D3). This was the last USDM map with any D3 conditions in South Carolina. Conditions continued to improve throughout December due to above normal rain totals and by the last USDM map of the month (12/26) 27.42% of the state was in abnormally dry (D0) conditions, 17.15% was in moderate drought (D1), and 5.37% was in severe drought (D2).

The South Carolina Drought Response Committee (DRC) did not meet in December but continued to monitor conditions throughout the month. Luckily, the rain totals through December helped to improve conditions, allowing the committee to reconvene in early 2024.



Summary

Average temperatures and precipitation were above normal for most of the state. The above normal precipitation helped to improve the dry conditions that intensified and expanded over the Fall. Soil moisture, streams, reservoirs, and groundwater levels all improved, which improved agricultural conditions, minimized wildfire potential, and increased water supplies across the state. Throughout the month, conditions on the U.S. Drought Monitor (USDM) improved, with the removal of extreme drought (D3) conditions, as well as the improvement to the severe (D2) and moderate drought (D1) conditions.

Looking Forward

As of January 12th, the entire state has received rain, with totals ranging from 1.00 to 6.00 inches. Totals have been less than 3.00 inches south of the Fall Line, while totals have been above 3.00 north of the Fall Line, with totals ranging from 5.00 to 6.00 inches in the Northwestern Upstate. These rains, combined with totals in December, have helped to bring further improvements to soil moisture, streamflows, reservoirs, and groundwater levels, allowing for further improvements on the U.S. Drought Monitor. On January 11th, the Drought Response Committee returned the entire state to normal conditions, as rain totals since the last meeting (11/30/2023) were double than the rainfall of climatological fall (9/1 – 11/30/2023).

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