

# South Carolina Water Resources Monthly Summary

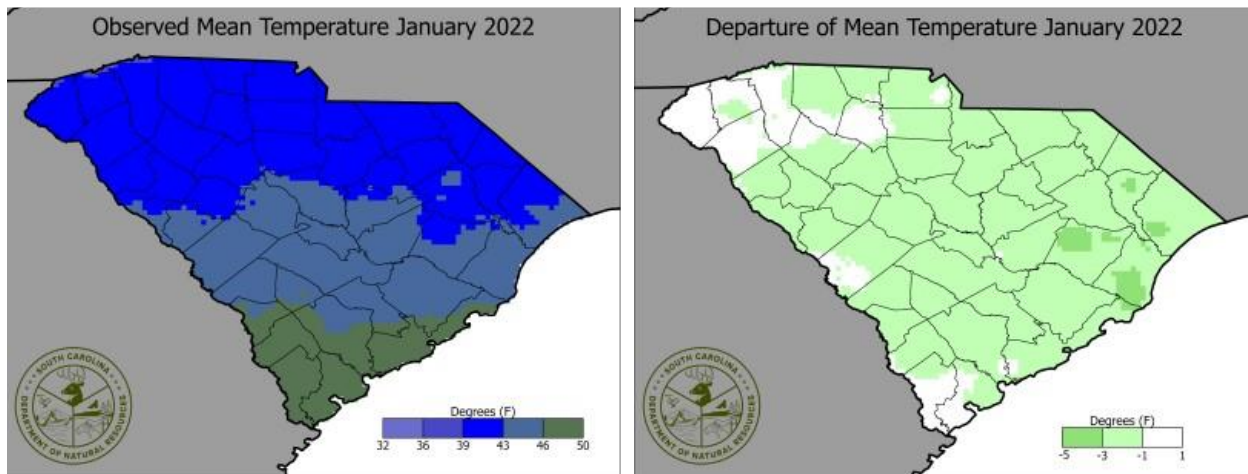
## For January 2022

Provided by

The South Carolina Department of Natural Resources

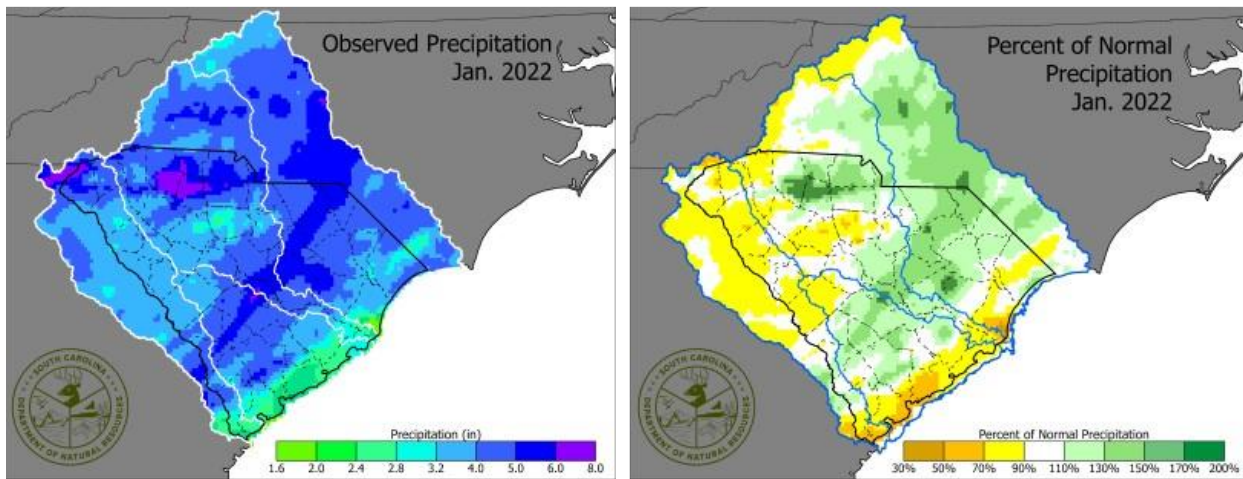
### Temperature

Statewide, South Carolina had an average temperature of 43.9 degrees, which is 0.8 degrees below the average (1895-2020) for January (44.7 degrees). Most of the state experienced average monthly temperatures of 1 to 3 degrees below normal for January, while some portions of the Pee Dee region saw average monthly temperatures 3 to 5 degrees below normal for January. There were record high temperatures at the beginning of the month, including a maximum of 82 degrees observed on January 1 at multiple National Weather Service (NWS) stations across the state. The weather pattern flipped after the first week of the month, and temperatures returned to near to below-average temperatures. The lowest temperature observed during the month was 12 degrees at the NWS station near Jefferson in Chesterfield County on January 24. Cold air produced the coldest temperatures at the end of the month, with many NWS stations reporting minimum temperatures in the upper teens to the lower 20s.



## Precipitation

The preliminary statewide average precipitation for January 2021 was 4.2 inches, which is 0.52 inches above the long-term average for the month (1895-2020) of 3.69 inches. Departure from normal January precipitation varied across the state, with some portions of the state receiving up to 200% of average rainfall and other areas receiving between 50% and 70% of average rainfall for January. Much of the Pee Dee region received above normal rainfall, helping to improve drought conditions. Some coastal portions of Beaufort, Charleston, and Colleton counties received less than 50% of their normal rainfall for January, including one CoCoRaHS observer near Beaufort that only reported 0.93 inches for the month. Also, during the month, three separate winter weather events produced snow accumulations across much of the state. The highest amounts were reported in the Upstate, though areas of the Pee Dee reported between five and seven inches of snow from the multiple events.

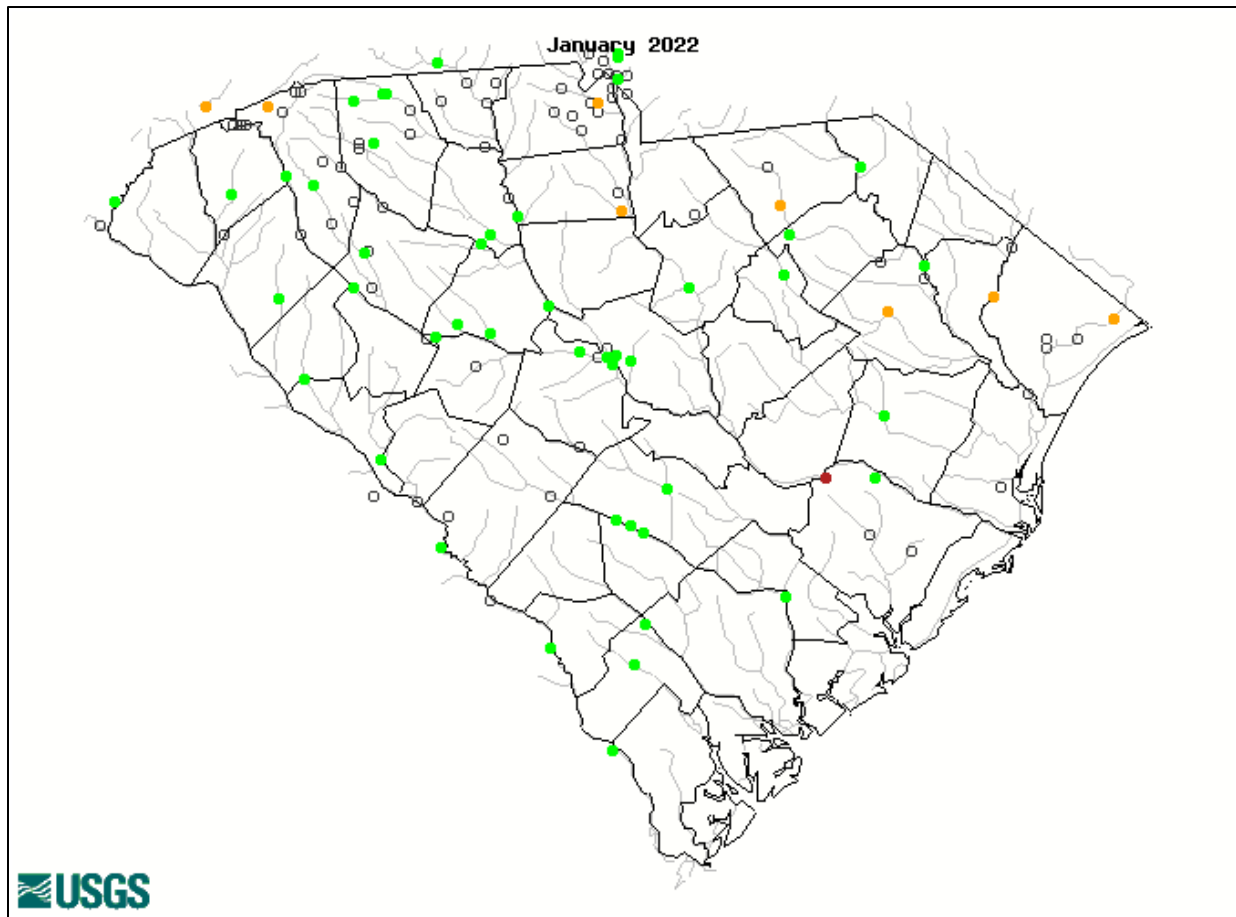


\*Precipitation images show observed and percent of normal precipitation for the Water Basins that either flow into or are shared with South Carolina.



## 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 streamflows for the same month over the gage's period of record. As observed from the map, a couple of gages in the Pee Dee and the Catawba basin, as well as a gage in the Greenville County show below normal conditions. Rainfall and snowfall received in January have improved streamflows in most of the State, except for the dry areas noted above. Overall, streamflow conditions across the State have observed a gradual improvement from the past month.

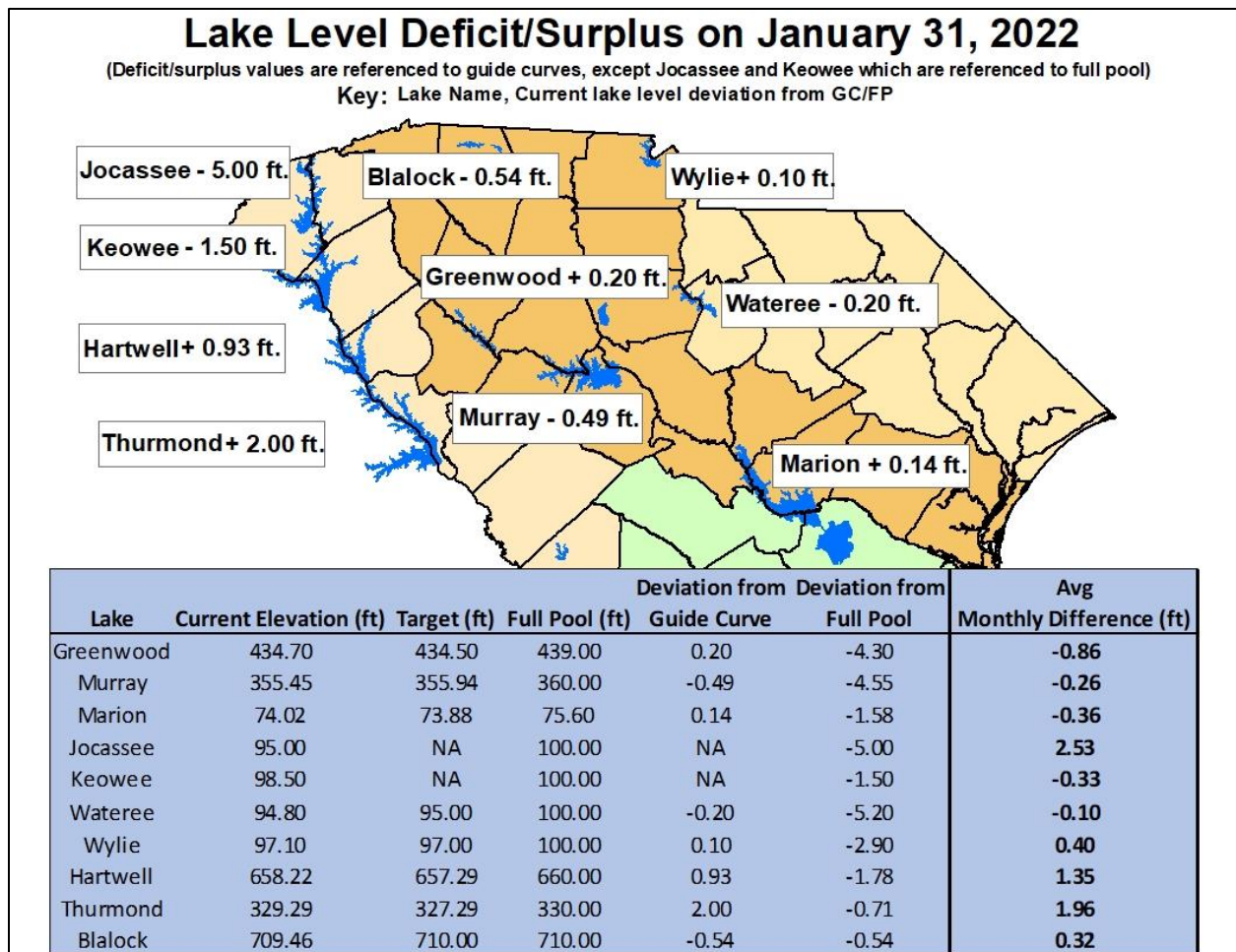


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		



## Reservoirs

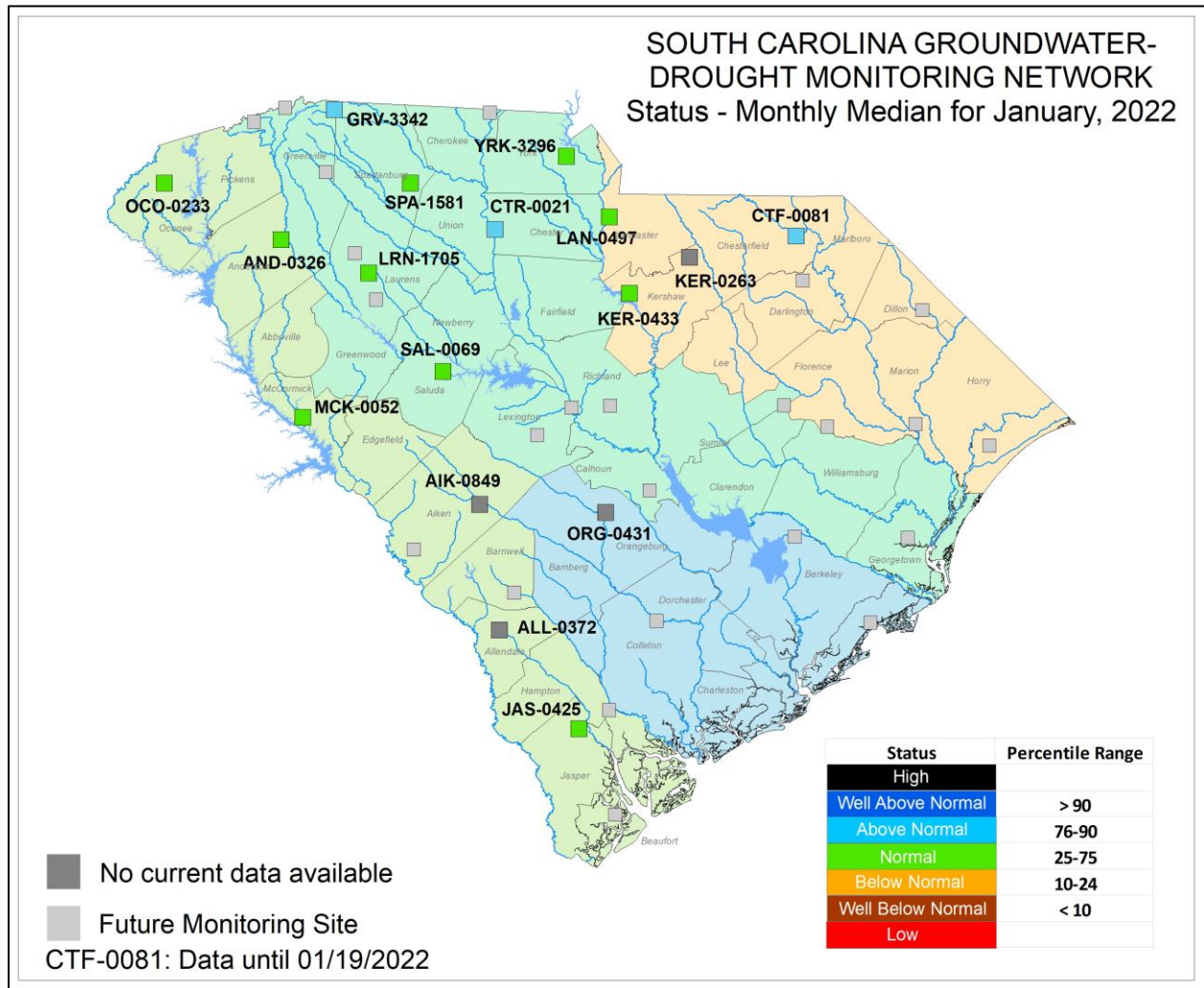
The map below shows a surplus or deficit from the guide curves or full-pool elevations for the major reservoirs in the State, based on conditions for January 31st. Five of the ten reservoirs are below their target or full-pool elevation. The guide curve level is lowered for most reservoirs in the winter months in anticipation of higher inflows that typically occur in late winter and early spring. Duke Energy has declared Stage 0 of the Low Inflow Protocol (LIP) for all its lakes in the Catawba Wateree basin. The LIP gets initiated when two of the three triggers (Storage Index, U.S. Drought Monitor, and Streamflow) support Stage 0 or higher status. Although the State received rain and snow in January, the precipitation was not enough to remove the Stage 0 status for these lakes. The U.S. Drought monitor and Streamflow triggers are long term indicators based on more than one month of data and the basin will need more rain events to remove the Stage 0 status. Duke Energy also manages Lake Jocassee and Keowee. However, these lakes are pump storage systems, and their levels fluctuate based on their power generation requirements. As of the end of January, the monthly average lake elevations for five out of ten lakes have dropped from the last month but have been maintained close to their guide curve elevations.





## Groundwater

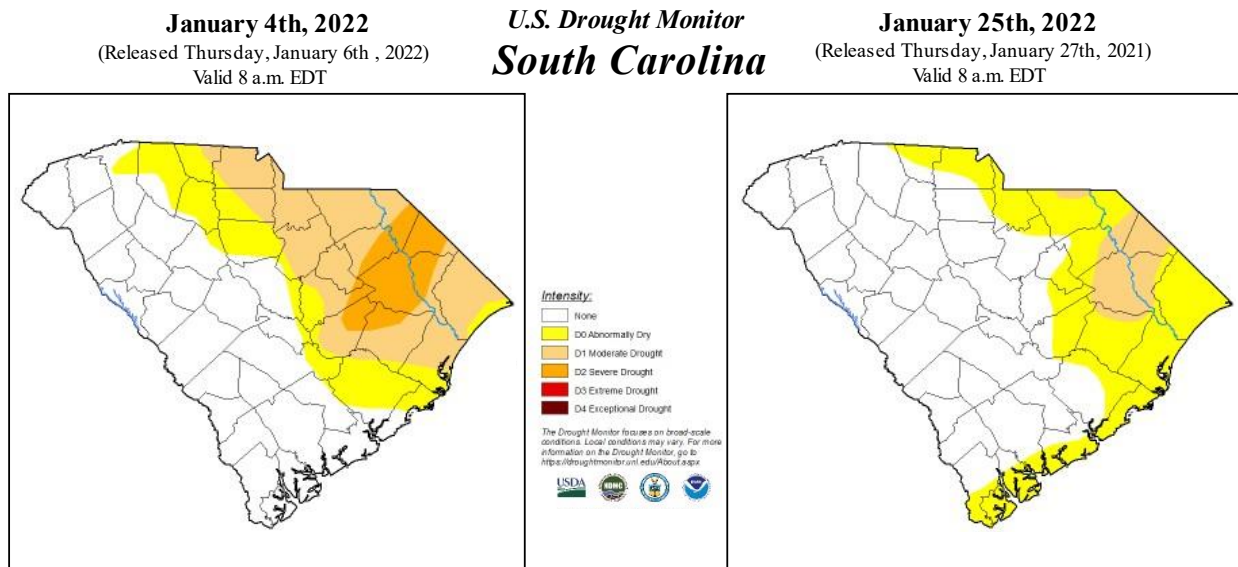
The groundwater conditions map for January is based on the monthly medians for the data collected by the USGS and SCDNR. As noted in the table below, five out of the fourteen wells show a drop in the monthly median levels from December to January. A current drought status for Kershaw-0263 could not be determined, due to a lack of data. Overall, the past winter recharge and the precipitation received in January have helped the groundwater levels maintain their normal and above normal status.



## Drought

The first U.S. Drought Monitor (USDM) in January (1/4) had 16.59% of the state in abnormally dry (D0) conditions, 23.75% of the state in moderate drought (D1) conditions, and 7.87% of the state in severe drought (D2) conditions. This map was an improvement from the last map in December (12/28) due to heavy rains that fell over the weekend of New Years, allowing for a reduction of D2 coverage in the eastern half of the state. Below normal temperatures, precipitation, and snow throughout January helped to improve conditions and reduce USDM severity in South Carolina. The third map of the month (1/18) showed full removal of D2 conditions from the state. However, on this map D0 conditions were added to the Lowcountry coast due to below normal rainfall over January, December, and November. By the end of the January, only 6.49 of the state was in D1 conditions, while 28.56% of the state was in D0 conditions.

The South Carolina Drought Response Committee (DRC) did not meet in January. The county level drought classifications from the December 2021 DRC meeting stayed in place through January, with 34 counties in incipient drought status and 12 counties in normal status. The counties that were normal status: Abbeville, Anderson, Beaufort, Charleston, Greenville, Greenwood, Jasper, Laurens, McCormick, Oconee, Pickens, and Spartanburg.



## Summary

Although precipitation varied across the state in January, temperatures were generally below normal across the state. Most of the Pee Dee region received above normal rainfall that helped to reduce drought conditions depicted on the U.S. Drought Monitor. Unfortunately, most of the northern and central Savannah River Basin, and Lowcountry coast received below normal rainfall. Although these received below normal precipitation, the rain totals did help to improve streamflows across the state compared to the flows at the end of December. Reservoirs and Groundwater levels were in good standing at the end of January.

## Looking Forward

Through February 10<sup>th</sup>, rain totals have ranged from 0.25 inches to 6.0 inches. The coast has generally received less precipitation, ranging from 0.25 inches to 1.5 inches (50% to 90% of normal); while the Northwestern Upstate and mountains have received more precipitation, ranging from 1.5 inches to 6.0 inches (110% to 600% of normal). Average temperature has been near normal for the state, ranging from 35-40 degrees in the mountains to 50-55 degrees along the Lowcountry coast.

The current forecast for the rest of February shows a higher probability of above normal temperatures and above normal rainfall for South Carolina. If this forecast holds, it could alleviate some precipitation and streamflow deficit, which could improve some of the abnormally dry (D0) and moderate drought (D1) conditions on the U.S. Drought Monitor for the state.

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