

South Carolina Water Resources Monthly Summary

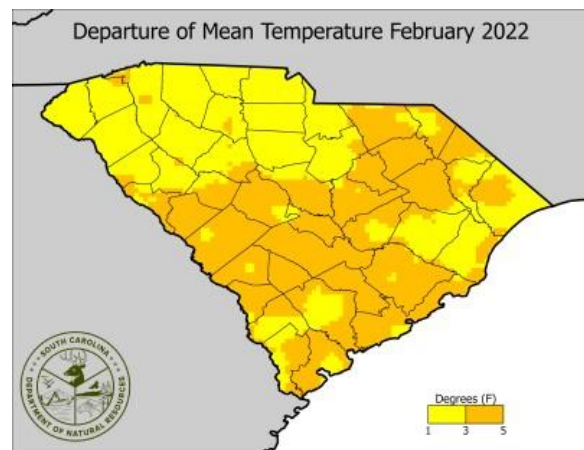
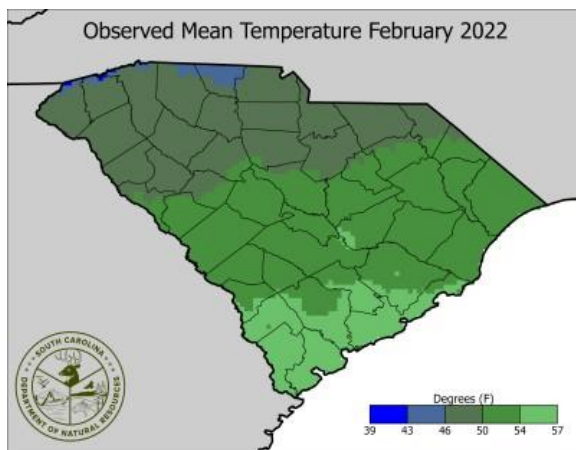
For February 2022

Provided by

The South Carolina Department of Natural Resources

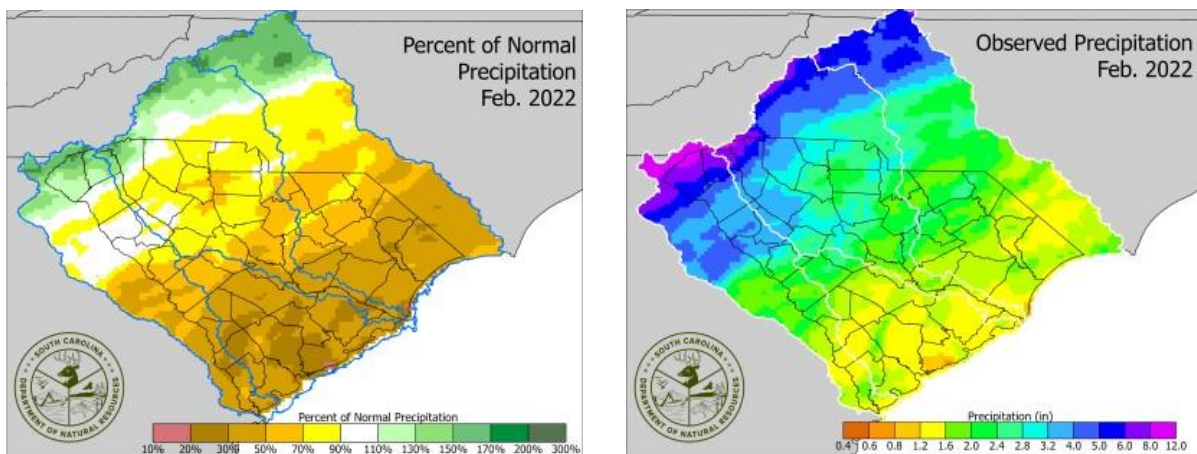
Temperature

Statewide, South Carolina had an average temperature of 52.2 degrees, 5.4 degrees above the long-term average (1895-2021) of 46.9 degrees for February. This resulted in the 11th warmest February on record. There were record high temperatures at the end of the month, including a maximum of 89 degrees observed on February 25 at the National Weather Service (NWS) station on the University of South Carolina campus in Richland County. The lowest temperature observed during the month was 19 degrees at the NWS station in Caesars Head in Greenville County on February 7 and February 14 at the station near Union in Union County. The coldest temperatures were observed in the middle of the month, with NWS stations reporting lows in the upper teens to the mid-20s.



Precipitation

The statewide average precipitation for February 2022 was 2.12 inches, which is 1.78 inches below the long-term average for the month (1895-2021) of 3.90 inches. This resulted in the 25th driest February on record. Outside of the mountain locations in the Upstate, most of the state reported below normal rainfall totals during the month. CoCoRaHS observers in northern portions of Oconee and Pickens counties recorded between five and eight inches of rain. Areas south and east of the Interstate 20 corridor measured between half an inch and an inch, or less than 50% of their normal rainfall for February. The NWS station at the Charleston International Airport reported 0.92 inches for the month, 2.13 inches below average, making February 2022 the eighth driest February at the location since 1938.

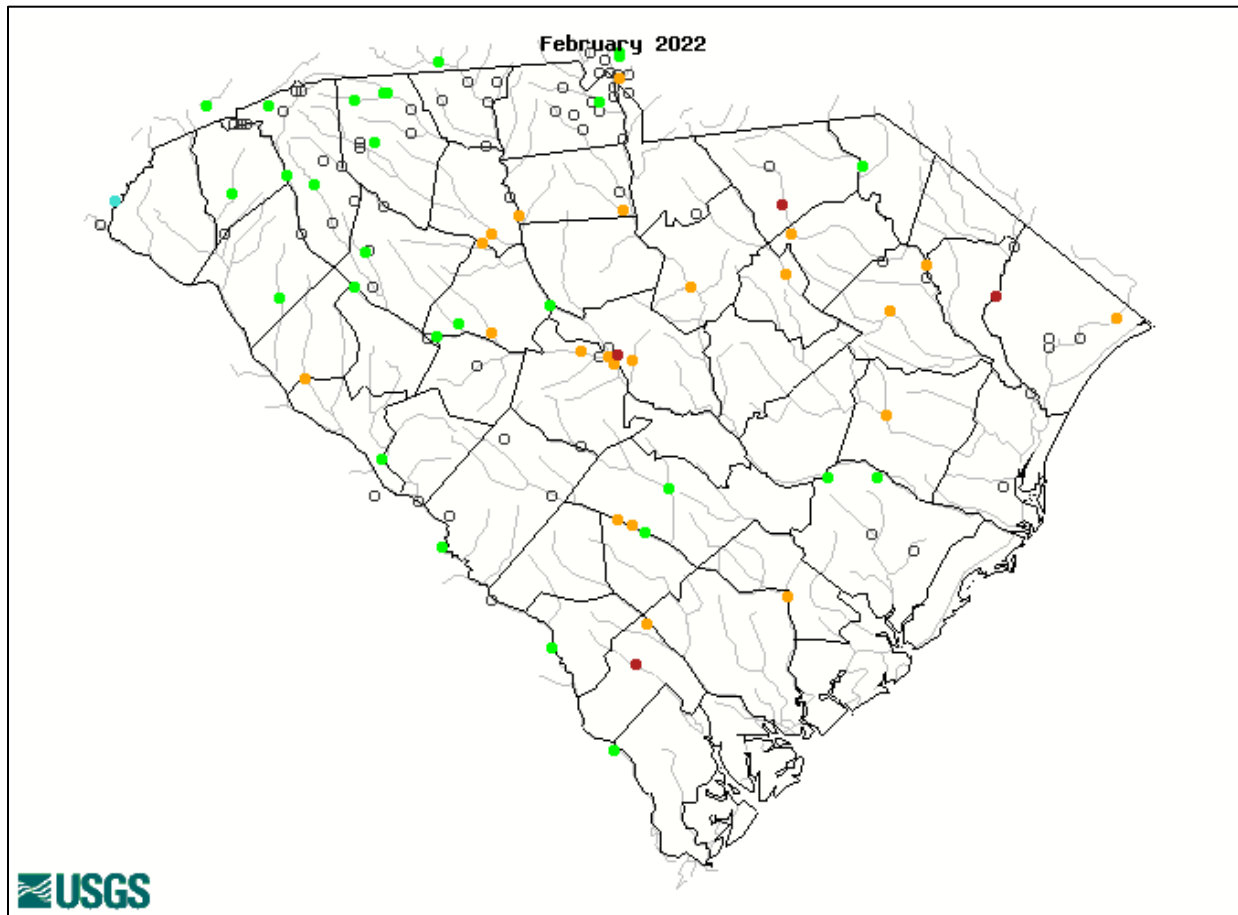


*Precipitation images show observed and percent of normal precipitation for the Water Basins that either flow into or are shared with South Carolina.



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 streamflow for the same month over the gage's period of record. As observed from the map, the average streamflow at several gages in the Pee Dee, Catawba, Broad, and Edisto basin and a couple of gages in the Santee, Saluda, Salkehatchie, and Savannah basins are below normal status in February. Although the map shows several gages in the upstate at normal status, the dryness experienced in the past month has lowered the streamflow. Overall, streamflow conditions across the State have observed a gradual decline from the past month.

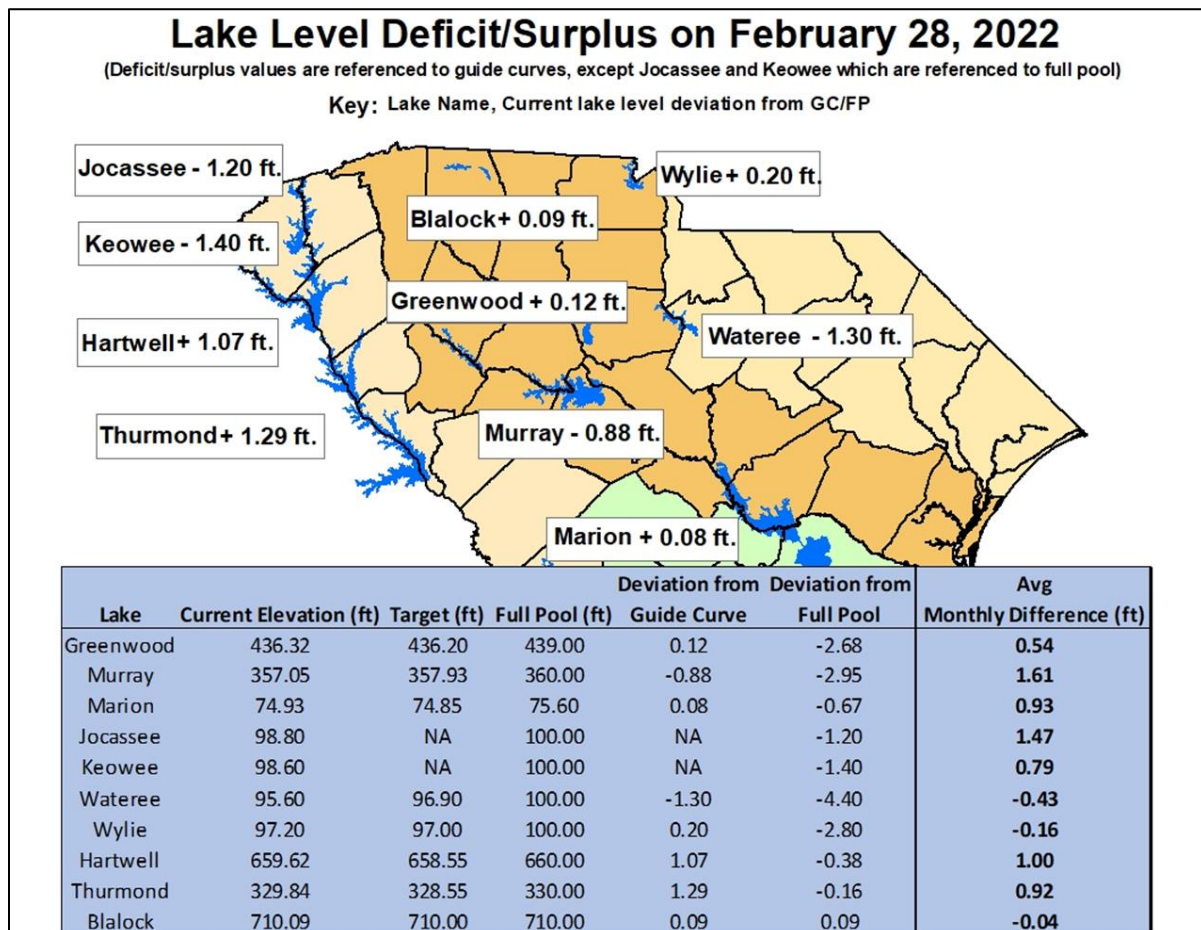


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		



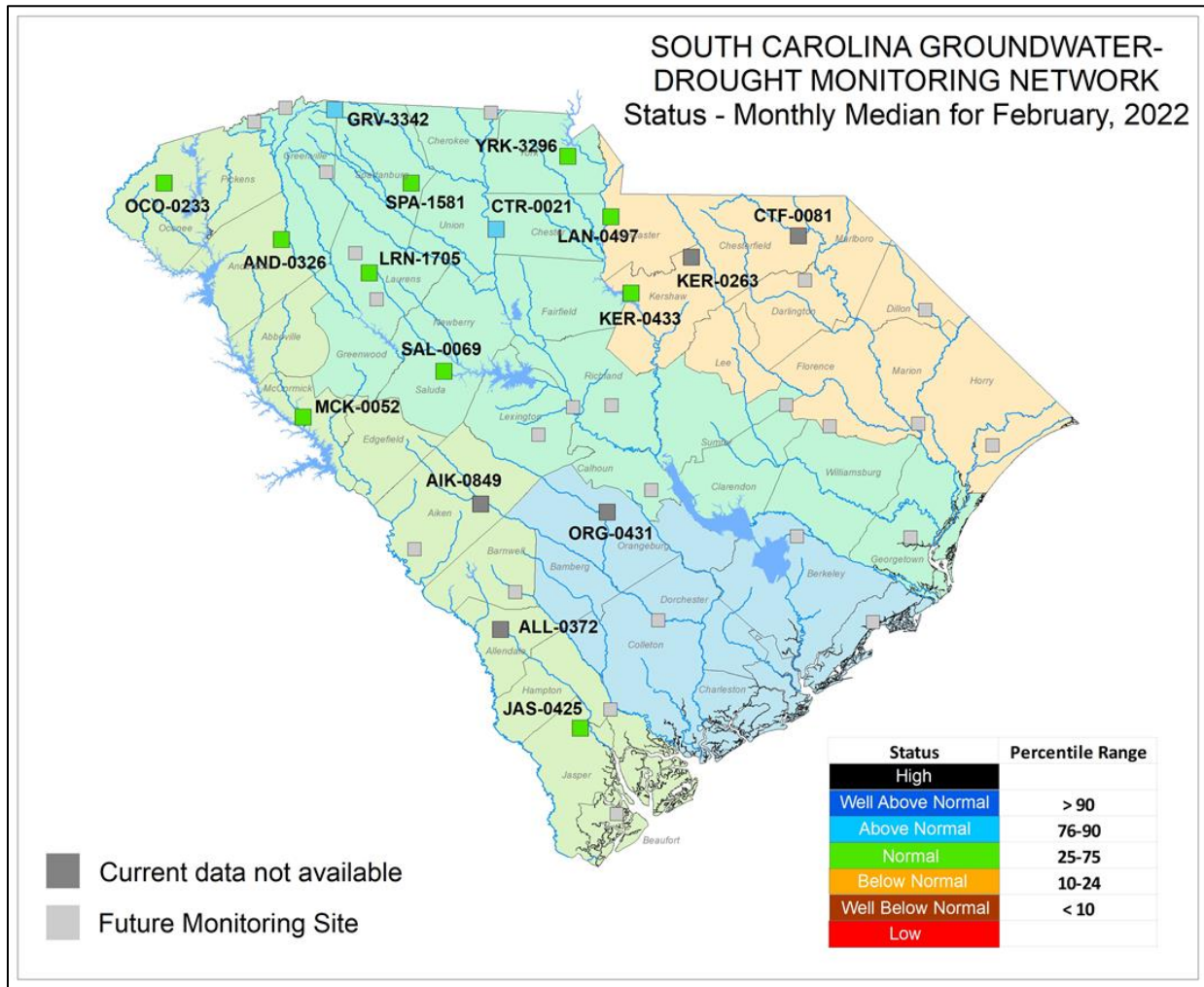
Reservoirs

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 February 28th. Four out of the ten reservoirs are below their target or full-pool level. In January, Duke Energy declared Stage 0 of the Low Inflow Protocol (LIP) for all its lakes in the Catawba-Wataree basin. Due to the warmer and drier than normal weather conditions in the past month, the LIP status continues to be in Stage 0. The LIP gets initiated when two of the three triggers (Storage Index, U.S. Drought Monitor, and Streamflow) support Stage 0 or higher status. The U.S. Drought Monitor and Streamflow triggers are long-term indicators based on more than one month of data, so 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 February, the monthly average lake elevations for three out of ten lakes have dropped from the last month but are maintained close to their guide curve elevations.



Groundwater

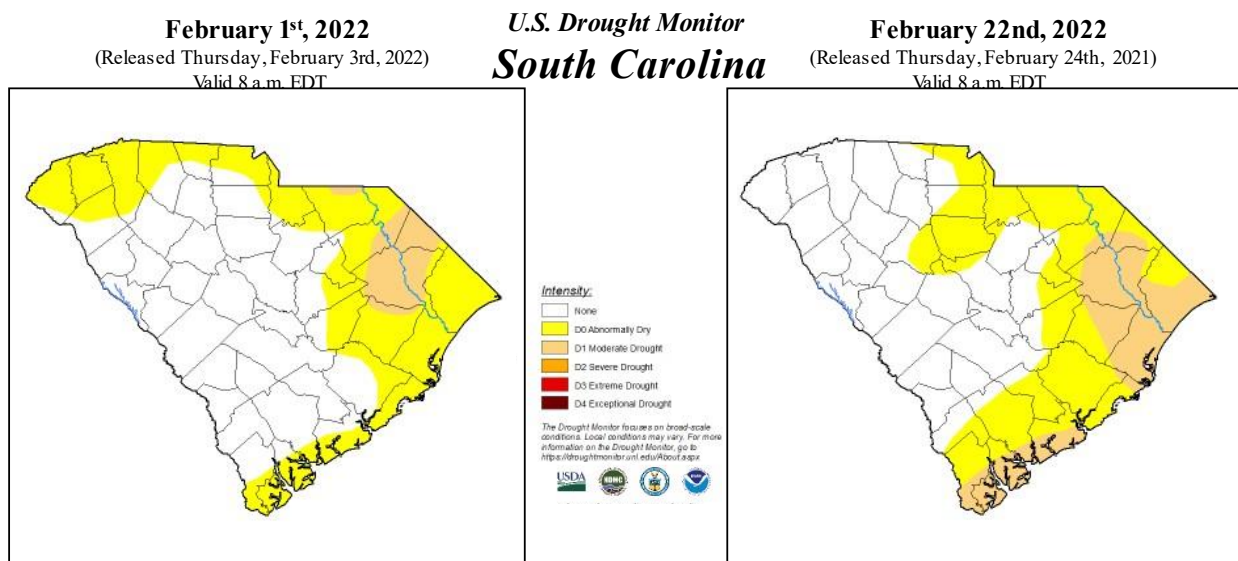
The groundwater condition map for February is based on the monthly medians for the data collected by the USGS and SCDNR. As noted in the table below, four out of the twelve wells show a drop in the monthly median levels from January to February. Due to the lack of data, no drought statuses are assigned to well sites Kershaw-0263 and Chesterfield-0081. The recharge received in the last couple of months and the lower evapotranspiration helped the groundwater levels maintain their normal and above normal status.



Drought

The first U.S. Drought Monitor (USDM) in February (2/1) had 37.19% of the state in abnormally dry (D0) conditions and 6.49% of the state in moderate drought (D1) conditions. Through February, the biggest changes to map were the removal of D0 conditions in the Upstate (2/8 map) and the expansion of D1 along most of the Coast (2/22 map). The D0 conditions were removed in the Upstate due to a precipitation event that minimized precipitation and soil moisture deficits. The D1 conditions were added along the coast due to increasing 2- and 3-month precipitation deficits that allowed for decreases in soil moisture and some streamflows. For the last USDM map of February (2/22), 33.57% of the state was in abnormally dry (D0) conditions and 15.65% of the state was in moderate drought (D1) conditions.

The South Carolina Drought Response Committee (DRC) met on the first of February. The precipitation during January helped to diminish much of the dry conditions that enhanced the potential for forest fires in December. Because of these conditions during the last meeting, the DRC classified 34 counties in incipient drought status. With the removal of the higher forest fire threat by the beginning of February, the DRC declared all 46 counties in normal conditions. The next DRC meeting is scheduled for March 22nd.



Summary

February 2022 was dry for most of the state, particularly for areas south of the Fall Line, with this area receiving between 20% and 90% of normal precipitation. The driest region overall was the Lowcountry receiving between 20% and 50% of normal precipitation. Not only was February drier than normal, but it was also warmer than normal. The entire state had an average temperature of 1 to 5 degrees above normal. The warm and dry conditions over the month generally had a negative affect on monthly streamflow values, with multiple streams across the state reporting below normal flows for February. However, some stream gauges held normal conditions for the month. Luckily, the warm and dry conditions did not have much (if any) impact on reservoirs and groundwater levels.

Looking Forward

Through March 10th, precipitation has been limited for most of the state south of the Fall Line. For the first 10 days of the month, the state has received between 0.00 to 3.00 inches of rain, with the higher rain totals mainly falling north of the Fall Line. Most of this rain fell on the 8th and 9th, meaning the first week of the month was generally dry. On top of the dry conditions in the first part of the month, the entire state has seen above normal temperatures, ranging from 8 to 11 degrees.

For the rest of the month, the current climate outlooks suggest that there is a strong probability that temperatures will be above normal and possibility that precipitation will be above normal for South Carolina. If this forecast come holds, there may be a possibility that USDM conditions could improve for the state.

Contact

For questions about:	Person to contact	Email	Phone
Drought, General	Elliot D. Wickham	Wickhame@dnr.sc.gov	(803)-734-8311
Climate Data	Melissa Griffin	Griffinm@dnr.sc.gov	(803)-734-9091
Hydrologic Data	Priyanka More	MoreP@dnr.sc.gov	(803)-734-3945
General Hydrology	Scott Harder	harders@dnr.sc.gov	(864)-986-6254

