

Report to White Lake Town Board April 2023

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LIMNOSCIENCES

1. Rainfall and Lake Levels

In the first quarter of 2023, total rainfall was 10.4”, which was 93% of the long-term average for the region; according to the NC State Climate Office, the area around White Lake is again categorized as abnormally dry, and temperatures have been above normal.

Monthly rainfall measured at the Town of White Lake wastewater treatment plant, with the long-term monthly average for Elizabethtown (right column).

Monthly Rainfall (inches) for White Lake 2012-2023

Month	2023	2022	2021	2020	2019	2018	2017	2016	2015	2013	2012	Monthly Average for Region
January	4.3	5.75	8.25	4.5	2.75	4.20	7.0	3.0	2.5	1.75	2.75	3.81
February	3.6	1.0	9.2	6.7	2.25	2.00	1.5	10.7	5.5	2.5	4.0	3.44
March	2.5	2.45	2.7	3.7	3.25	3.95	3.7	1.55	4.15	1.0	7.0	3.91
April		3.75	1.75	5.1	7.25	6.75	6.75	6.75	4.55	1.75	2.25	3.12
May		2.2	3.0	12.25	1.20	7.70	2.7	4.5	4.20	2.25	9.25	3.67
June		6.2	7.9	7.15	5.25	10.00	4.5	3.65	8.70	17.0	2.0	4.70
July		10.5	7.5	6.85	6.00	4.75	6.75	3.75	3.0	11.25	8.6	5.75
August		5.5	6.5	7.55	5.35	6.25	5.6	4.12	9.4	8.25	9.75	5.95
September		6.5	3.2	5.95	5.00	29.45	5.2	15.0	4.7	1.0	5.0	5.29
October		0.6	0.6	3.35	3.60	2.25	2.95	14.25	9.75	1.75	2.25	3.38
November		1.55	0.4	7.5	4.90	4.25	1.0	0.50	7.25	0	2.25	3.16
December		1.2	3.4	4.25	6.00	7.5	5.45	5.1	6.5	5.75	4.25	3.14
Total		47.2	54.4	74.85	52.80	89.05	53.1	72.87	70.20	54.25	59.35	49.32
% of Lake Volume		61.8	71	97	69	116	69	95	91	70	77	64



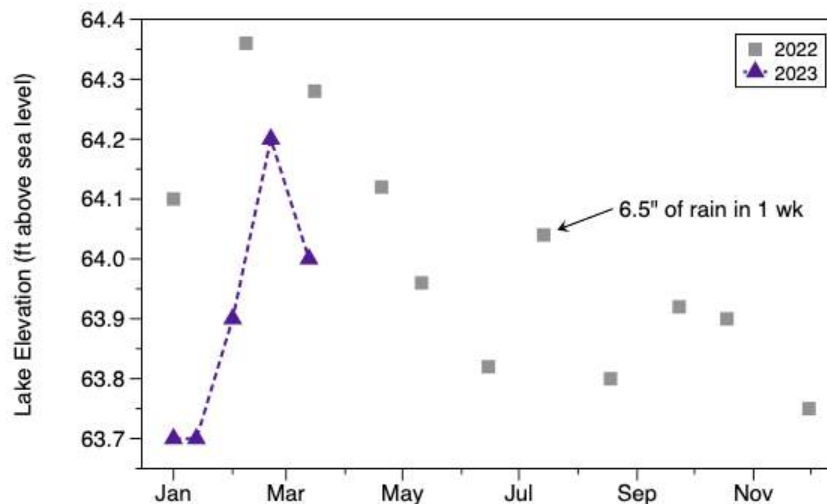
**U.S. Drought Monitor
North Carolina**

Intensity
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

USDA
National Drought Mitigation Center
<http://droughtmonitor.unl.edu/>

US Drought Monitor maps from December 6, 2022, (left) and March 21, 2023, (right) for North Carolina.

The lake elevation has varied 6” high to low over this 3-month period and the end of March level is one inch below what it was at the same time in 2022.



A comparison of lake levels for 2022 and 2023. Note that the scale of the y-axis (tenths of a foot) on the graph exaggerates the appearance of difference between the two years.

It is imperative to inform lake users in advance of the likelihood of continuing low lake levels through the summer of 2023. **Lake users can minimize the impacts of boating activity on lake aesthetics, but it will take a concerted, consistent, and continued effort by *EVERYONE*.**

2. White Lake Monitoring Report for 2022

This report summarizes and synthesizes the data that was collected over 2022: rainfall, lake levels, clarity, phytoplankton abundance, submerged aquatic vegetation abundance, pH, and nutrient levels. Nearby Singletary Lake, which has an undeveloped lakeshore, has also been sampled to provide a frame of reference to White Lake data. This report is a separate attachment and will be uploaded to the White Lake Watch web site, where previous reports are also available.