



# **Impacts of Stormwater Runoff on Trash Accumulation along the Jordan Lake Shoreline**

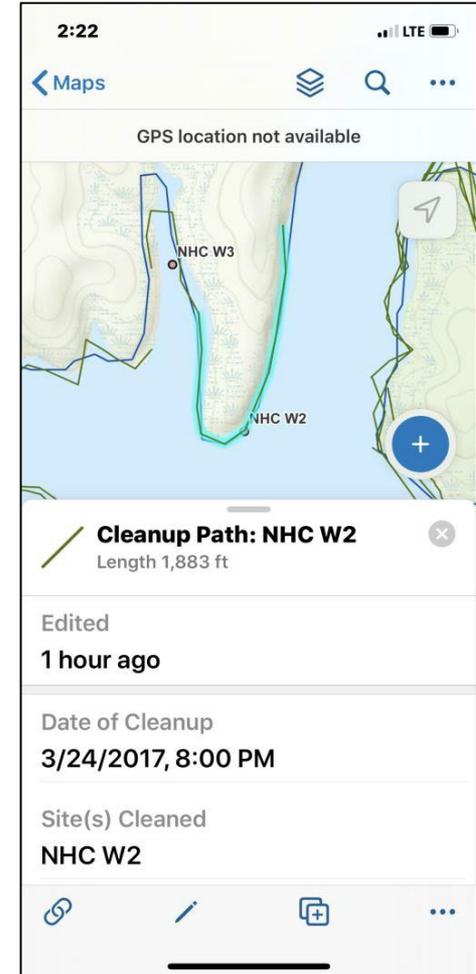
## **NCSU MGIST Capstone Project**

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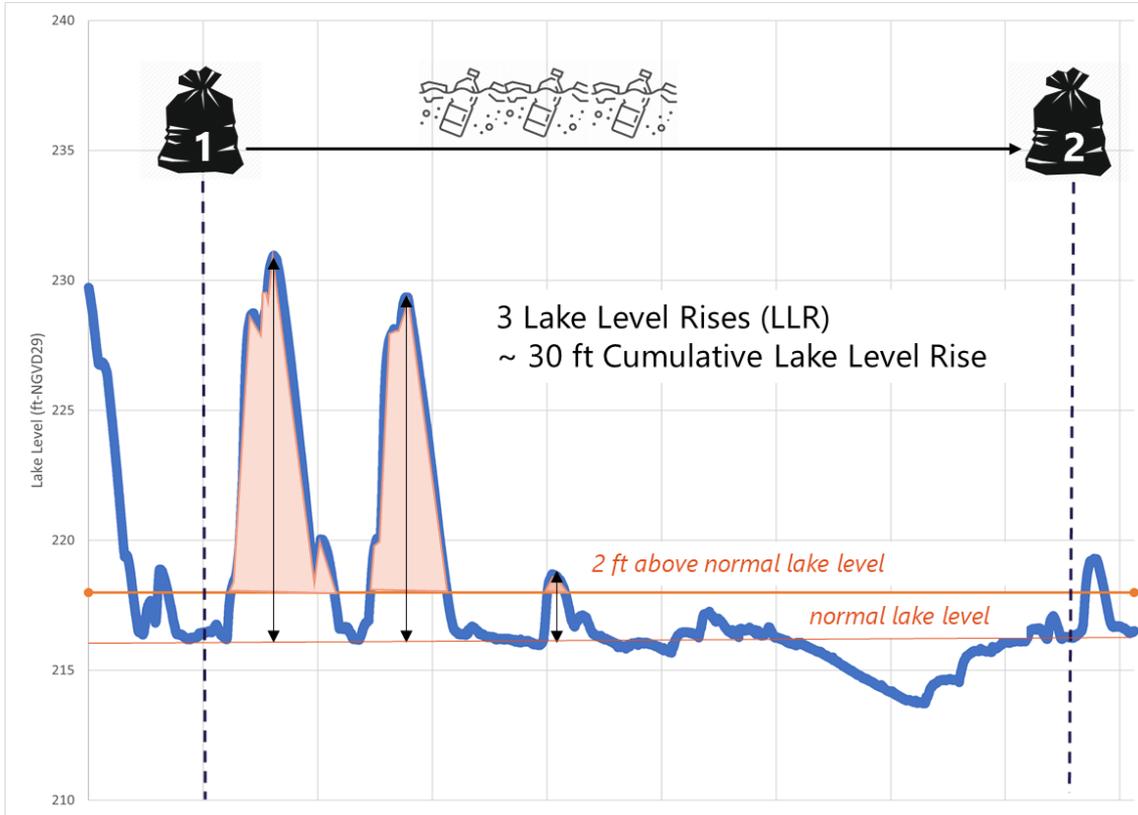
May 18, 2022

# Project Overview

- Develop GIS to store existing and future cleanup event data
- Develop tool to determine significant rainfall events and compute trash loading metrics for cleanup events at each site
- Develop GIS mapping applications:
  - data collection tool to enter new cleanups
  - public-facing web mapping application to examine cleanups and stormwater impacts



# Trash Loading Metrics



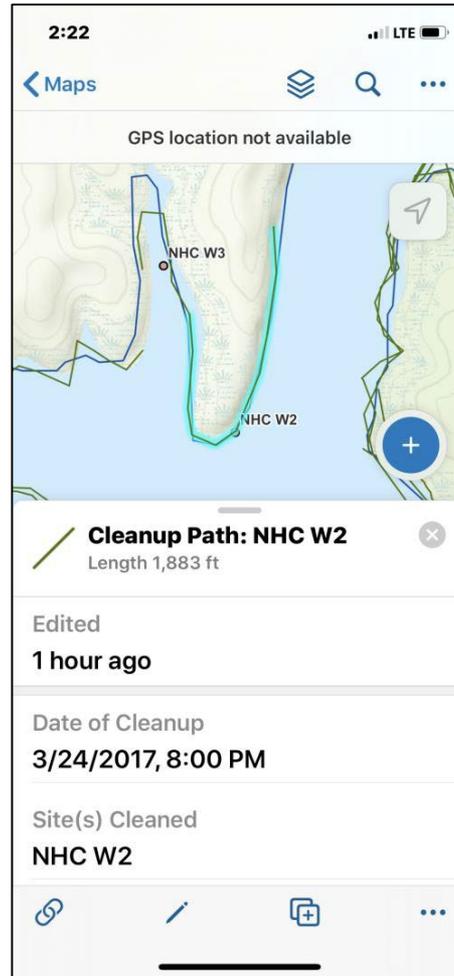
Compute for  
Cleanup 2:

$$\frac{lb\ trash}{\left(\frac{length}{100ft}\right) * LLR}$$

$$\frac{lb\ trash}{\left(\frac{length}{100ft}\right) * ft\ CLLR}$$

# Collector Application

(click to view demo video)



# Web Mapping Application (click to view site)

The screenshot displays the 'Clean Jordan Lake Trash Cleanup Web Mapping Application' interface. The main map area shows an aerial view of Jordan Lake with a blue outline of the lake's perimeter and numerous orange triangles indicating trash cleanup locations. An 'About' pop-up window is open on the left side of the map, featuring the 'Clean Jordan Lake' logo and the following text:

**Clean Jordan Lake Trash Cleanup Web Mapping Application**  
For more information about Clean Jordan Lake, visit their website [here](#).

General information on how to use this application is given below. Please refer to the [user guide](#) for detailed steps and information on features in this application.

Clean Jordan Lake (CJL) organizes volunteering efforts to remove trash from Jordan Lake's shoreline and works to prevent recurrence through public education.

The interface includes a search bar at the top left with the text 'Find address or place', a home button, and a scale bar at the bottom left showing coordinates: -79.071 35.689 Degrees. The bottom right corner features the text 'POWERED BY NC CGIA, Earthstar Geographics' and the 'esri' logo.

# Impact of Work

- Expanded toolset to maintain and analyze trash cleanup data
  - improve data quality
- Many ways to analyze and visualize trash accumulation
- Trash metrics reveal stormwater impacts
  - Target future cleanups
  - Education and awareness

**Thank you!**

**Q & A**