

# DISCOVERY CENTER'S DATA VISUALIZATION FOR RESERVOIR CONCENTRATION

DSCI B310 DATA IN ACTION  
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THE DISCOVERY CENTER  
Discover yourself in nature



CAREER & CIVIC  
ENGAGEMENT  
CENTER  
BRYN MAWR COLLEGE

## Objectives and Goals

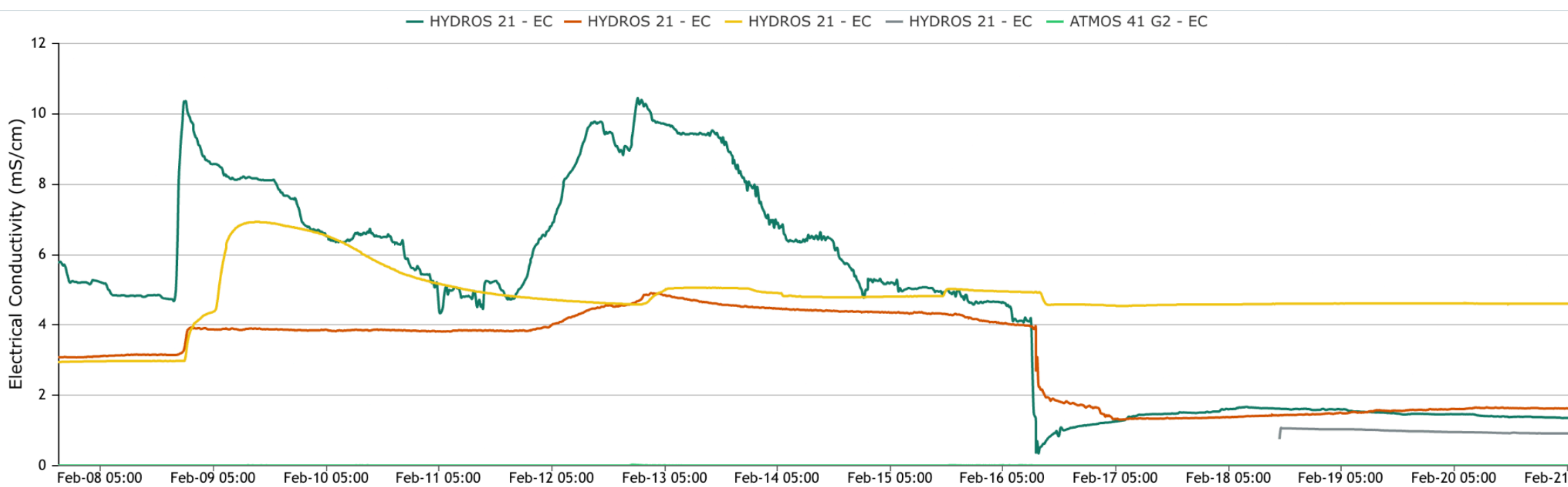
*Aim* - Provide the Discovery Center with a model of a visualization demonstrating the evolution of abiotic factors over time, using data collected from the Lake Vickers on Bryn Mawr campus.

*Purpose* - By collecting and publishing data on the water chemistry of the reservoir, the community can learn more about the biodiversity and in turn improve the environmental conditions of the center. This will also make Professor Mozdzer's data available for the college to further research on the sustainability of the campus.

*Technical Skills* - Reproduce the graphs from Zentra Cloud in R, and create a StoryMap using KnightLab to make the data accessible and informational to the public.

## Graphing Water Chemistry

- Created a summary snapshot of data from Lake Vickers using R from the data provided by Zentra Cloud, a platform that facilitates the management and visualization of real-time data.
- *Challenges* - Adapting the csv file imported from ZentraCloud, by using functions in R to create an adequate graph of the data.
- *Relevance to Discovery Center* - This model will help with the process of communicating water quality information to the rest of the community once the sensors are set up in the reservoir



Evolution of Electrical Conductivity over Time in Lake Vickers, taken from ZentraCloud Platform

## Background Information

### How big is the reservoir?

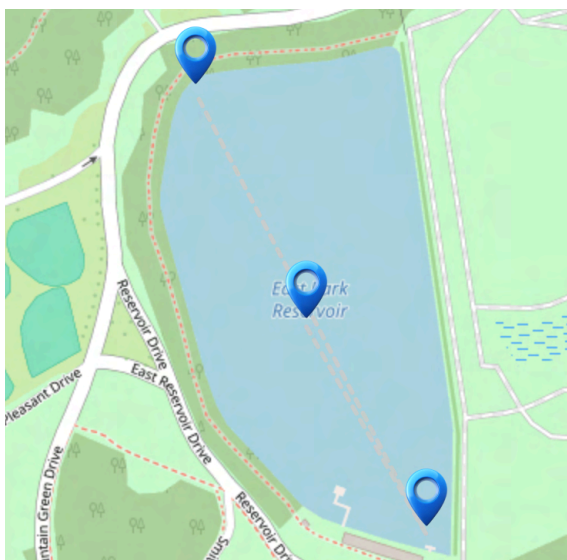
- 38 acres in size and just under 8ft deep
- Built like a bathtub, with steep walls leading down to the flat bottom
- Both made of concrete and brick
- It is the largest freshwater lake in Philadelphia

### Where did the water come from?

- Originally pumped up from the Schuylkill River
- Now by precipitation.

## StoryMap

- Created a StoryMap, a free tool from KnightLab that allows users to present information on various locations as a proof of concept
- The Discovery Center has the option to use StoryLine, another tool that helps create graphs or create more advanced graphs with R



Snapshot of StoryMap



## Partners

- Bria Wimberly - Senior Coordinator for Audobon Mid-Atlantic
- Tom Mozdzer - Bryn Mawr College Professor and Chair of Biology



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## Next Steps

- Present the code to the Discovery Center staff
- Embed the StoryMap on the website
- Write code that updates regularly the visualizations with real time data
- Apply model to reservoir data



Taken at the Discovery Center