

# Monitoring the pH and Conductivity of Dillard's Creek on the Water Quality in the Chowan River

Chowan Middle School Students

## Introduction

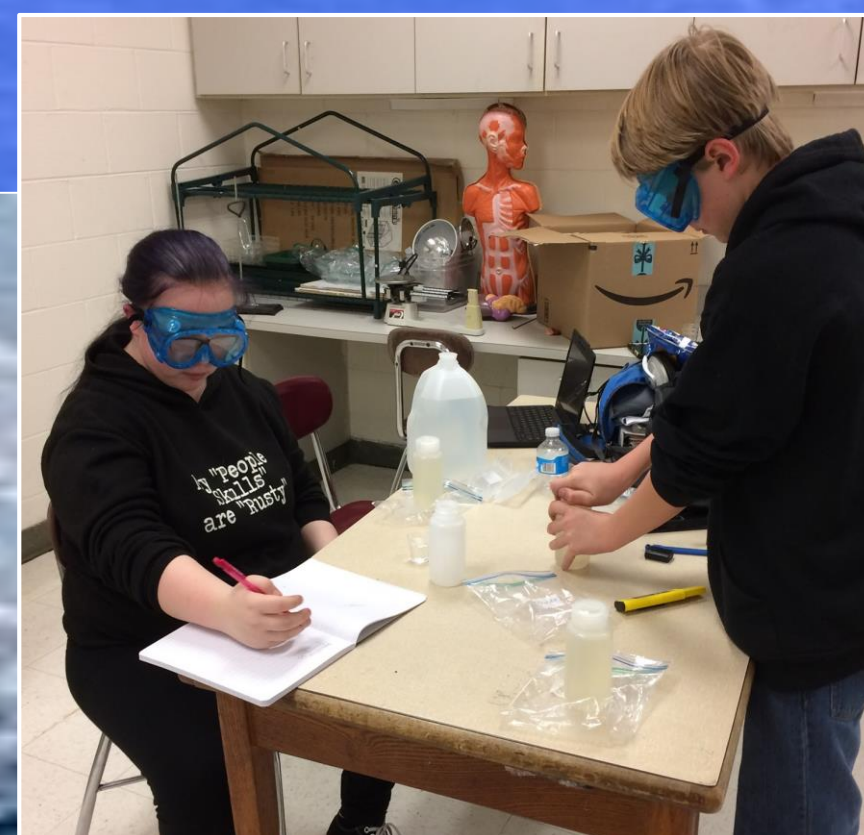
The purpose of our project is to show how rainwater from nearby rain gauges can affect some of the water measurements in nearby Dillard's Creek and also how the Chowan River may be affected by the quality of the water coming into the river from Dillard's Creek. We are interested in studying the water quality because we know the river has had some recent problems.

## Research problem

Does the conductivity and pH of rain water near Dillard's Creek affect the water quality of this creek? Most of the water to Dillard's Creek comes from rainwater running off the land into this creek.

## Hypothesis

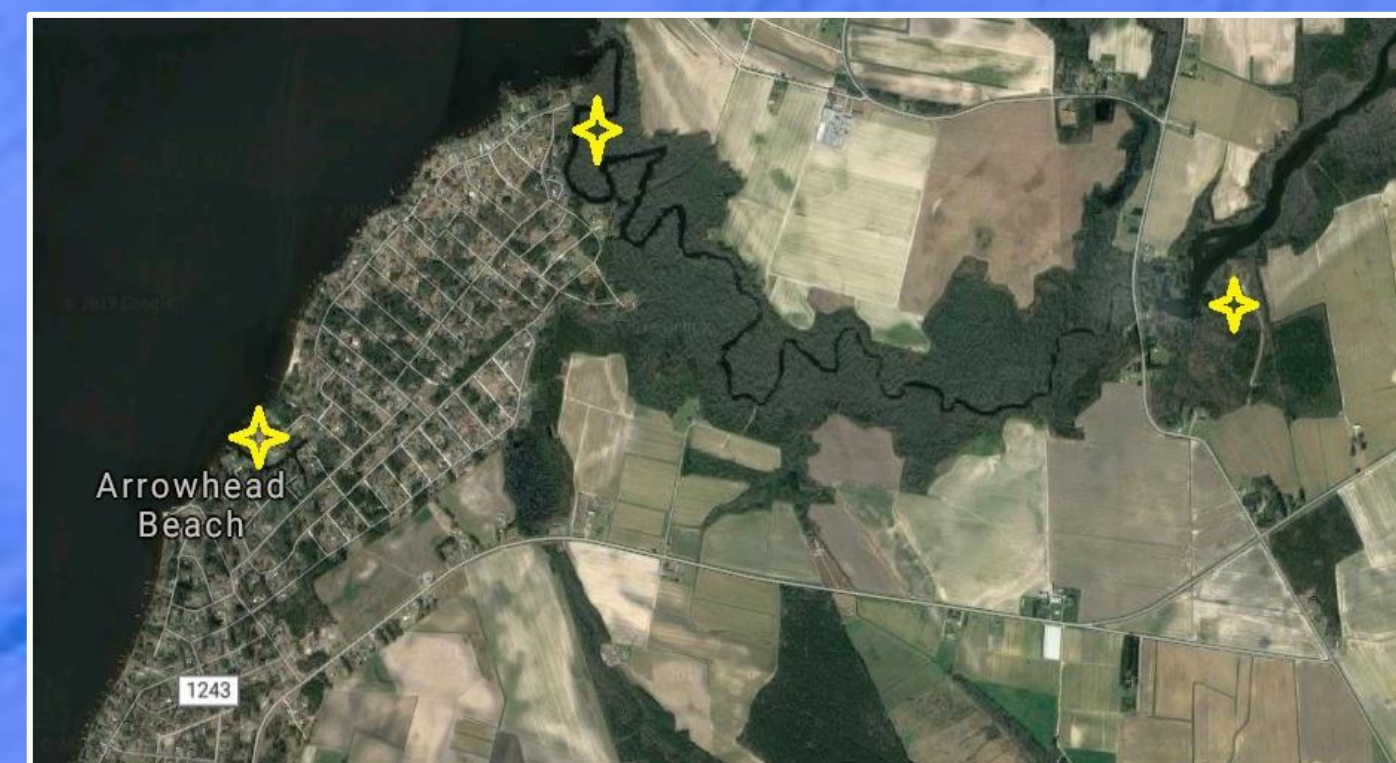
We think the pH of Dillard's Creek will be slightly less after a rainfall in the area and the conductivity will also be lower because the rainwater will wash out some of the pH and the conductivity.



## Methods and materials

**Equipment:**  
 pH paper  
 pH meter  
 Conductivity meter  
 Thermometer  
 Lifevest, Goggles, Gloves  
 Bucket and Rope  
 Nalgene bottles

We started by measuring pH, and conductivity from our rain gauges from CoCoRAHS and then we went out into the Chowan River and Dillard's Creek and measured pH, conductivity, wind speed, and direction and cloud cover. We collected the water samples in special bottles and then tested for pH and conductivity in class.



## Data

Data on Water Quality Project - Dillard's Creek and Chowan River

		Site A - Arrowhead Beach Front Site B - Boat Ramp at Mouth of Dillard's Creek Site C - Dillard's Millpond					
Date	Location	Wind Speed (mph)	Wind Direction	Water Temp F	Cloud Cover %	pH	Conductivity $\mu$ S
3/31/19	Site A	7	W	61	100	7.4	72
3/31/19	Site B	missing data					
3/31/19	Site C	1	E	71	20	7.11	76

State Climate Office of North Carolina

## Discussion of Results

We had a few problems while conducting our experiment. One of the more prominent problems was consistency, we had trouble getting to our sites weekly. This caused some issues in our data collection since we were only able to collect from a few local sources. The data proved accurate compared to local environmental information. We started collecting data in March. Our data was interesting to observe.

## Conclusion

Our hypothesis was undecided because we did not have enough data to look at for any connections between rain water and the pH and conductivity of Dillard's Creek or the Chowan River.

## Acknowledgements

- Chowan-Edenton Environmental Group (CEEG) for local environmental data
- References:  
<https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-quality-data-assessment>

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