



Erosion of Tangier Island

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College Park Scholars Academic Showcase, April 16, 2021



Introduction

In my project I was studying global climate change and its effects on erosion to answer the question: How has humanity adapted infrastructure in the Chesapeake bay to combat this issue and how will civil engineers have to adapt to climate change while building infrastructure in the future?



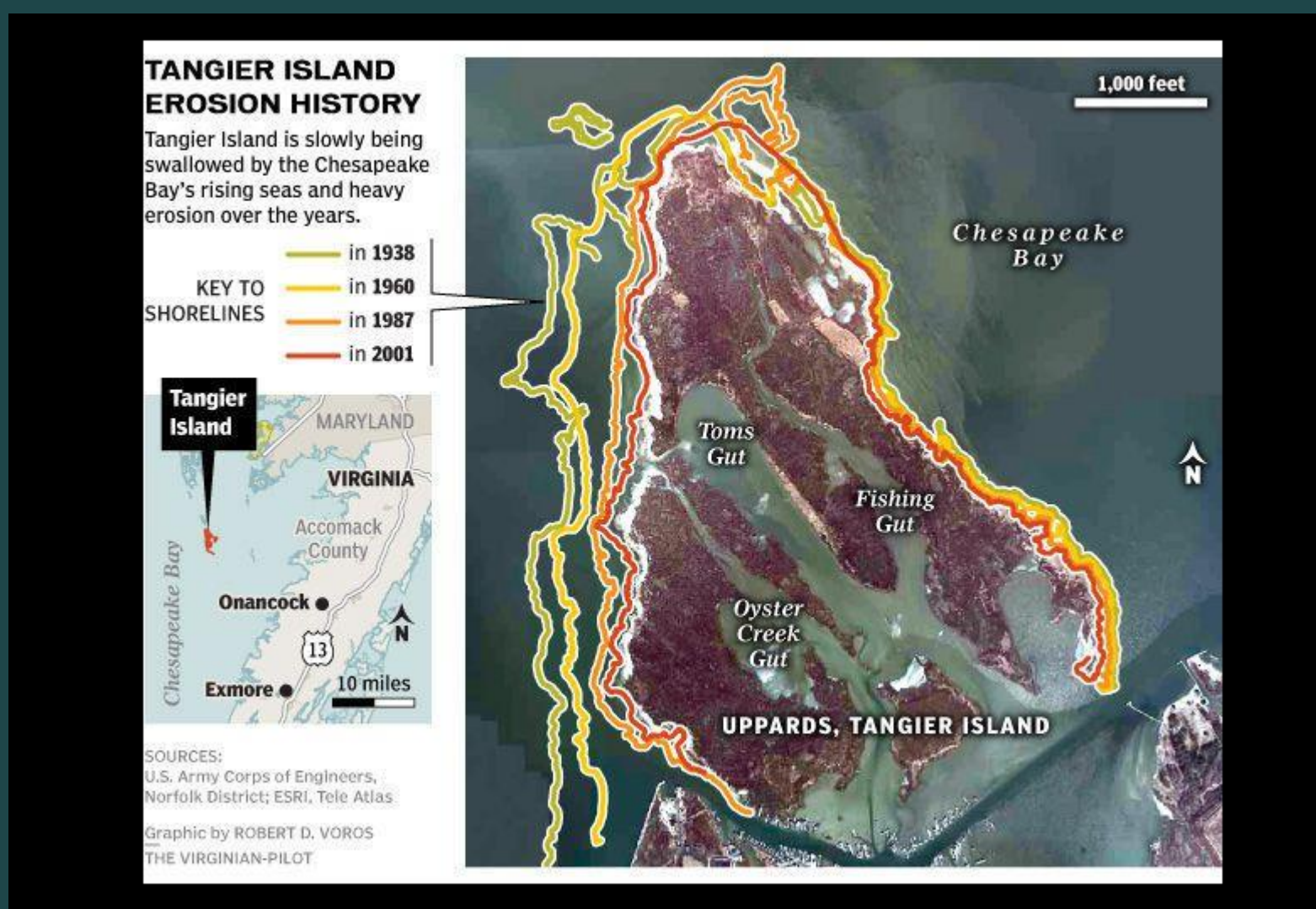
House on Tangier Island: This is a house on Tangier Island in the South Chesapeake Bay that has had its foundation eroded away causing it to collapse. This type of erosion has been increasing the past few decades due to climate change. <https://www.enr.com/articles/42492-erosion-trumps-sea-level-rise-on-a-small-settlement-in-the-chesapeake-bay>

Activities:

In this class I have created a research project in several parts. There is a research paper and prospectus draft defining the root causes of climate change, how climate change speeds up erosion, what erosion does to infrastructure, and methods civil engineers use to combat this problem. In addition, I completed a research presentation done on my topic to the general class audience.

Impact:

Thousands of people lose their homes to erosion every year. Erosion also causes millions of dollars of damage in agricultural damage and other businesses. On Tangier Island erosion is killing the fishing and crabbing industry.



Erosion of Tangier Island by Year. Image from https://www.pilotonline.com/news/environment/article_c157412e-88f6-5e03-9150-9a8f3372595c.html

Site Information:

Name of Site: Class CPSP359-S

Address: College Park, MD

Your supervisor: Dr. Jessica Krenek

The site mission: Research Project

The particular goals of the site you were at:

Develop a presentation and paper based on a particular area of research.

Issues Confronting Site:

The residents of Tangier Island are having their homes and business slowly eroding away. Both resistance and preventative measure are in place but cannot stop the advancement of the ocean. Tangier Island is primarily a fishing village and had a long history of conservative voters who see climate change as a factor in the collapse of their homes.

Discussion:

Erosion the removal of soil from an are by natural causes. There are 2 general ways to combat erosion, resistance measure and preventative measure. Resistance measures are building new infrastructure to try and stop the divers of erosion from eating away more soil like water retaining walls and planting vegetation. Preventative measures are methods put in place for new infrastructure to make them more erosion resistant, deeper foundations or elevated foundations, altering the soil composition below the foundation. Along with these there are Green technologies, A modern trending infrastructure construction to try to reduce materials that require the output of greenhouses gases in their use and construction, a solution to try to prevent climate change from getting even worse but does not solve the problem in the now. There is ism much discussion on which of these 3 measures is the optimal one, If I had to choose, I would pick resistance measures, and focus on preventing as much damage to people's lives as possible.



Floating homes on Tangier Island. Image from <https://www.wmra.org/post/vas-tangier-island-facing-major-natural-threat#stream/0>



Acknowledgments:

Drs. Holtz & Merck; Dr. Krenek

