COASTAL EROSION

INTEGRATING GEOSPATIAL TECHNOLOGY TO AID IN THE MANAGEMENT OF COASTLINE EROSION DUE TO RISING SEA LEVELS

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Abstract

Along the coastlines of America, specifically along the Californian Pacific Coast , rising sea levels are causing great levels of coastal erosion, leading to the loss of coastal homes and ecologically valuable land. Climate change affects the rate at which sea levels rise, which in turn determines how quickly coastlines are eroded. The objective is to analyze both coastal maps and sea level projections in California to determine which coastal factors facilitate or hinder the degradation of coastlines. The NOAA predicts a sea level rise of 10-12 inches by 2050 and a total of 2 feet by 2100, so the aim of this study is to determine how much land and which features are at risk if these projections come true.

Background

As the human population continues to grow, more and more greenhouse gasses are being emitted. The excess of green-house gasses has caused the earth to increasingly heat. This excess heat has caused a problem as this heat has caused the polar ice caps to melt at an alarming rate. Every ten years, the ice sheets melt by 10% which has caused other problems. With rising sea levels coastal communities have a threat of being put at risk of being removed, experiencing abnormal weather conditions, and a loss of livelihood. One of the major factors that threaten these communities caused by rising sea levels is the risk of erosion.

Objective

Our objective is to investigate the future spatial expanse of coastal waterways and the ocean using projected sea level increase data. We also aim to measure the proportion of coastal populations effected by rising sea levels.

Data

Method

Result

Conclusion