

Sea Level Analysis

1. Introduction

In this report I will describe my attempts at predicting sea levels over the course of the next few years. With climate change increasing its growth rate each year, many territories are in danger of being submerged by the rising sea levels caused by the melting of ice in the southern and northern poles. In some cases, these territories are entire countries, such as the Netherlands who is known for having its territory already under sea level. In order to prevent important lands and countries from suddenly getting flooded, this machine learning model will be important to determine expected sea levels within the future to prepare plans accordingly. In particular, this will give precise information regarding how high of a sea level these plans should take into account, as well as the window of time left for them to prevent excessive damage.

2. Problem Formulation

If we were to formulate this problem in the form of a question, it would be: given an average temperature over a year A , what is the expected rise in sea level B over that same year?

The datapoints of the problem are information regarding a single year. A single year will be characterized by as many relevant factors as possible. These shall include current sea level, average temperature over the year, as well as sea surface temperature. A datapoint hence has a single year as a feature, and its resulting rise in sea level as its label.