Predicting Changes in Glacier Mass & Sea Level

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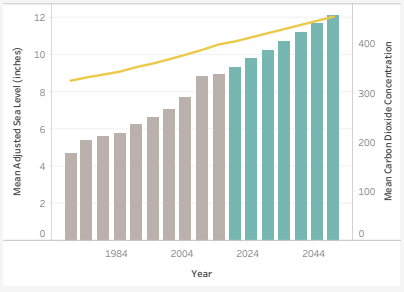
A glacier is a large, perennial accumulation of crystalline ice, snow, rock, sediment, and often liquid water that originates on land and moves down slope under the influence of its own weight and gravity.

Glaciers store nearly 70% of the world's freshwater supply and it is estimated by the National Snow and Ice Data Center that if all the land ice melted the sea would rise about 230 feet. Due to these estimations and our own statistical analysis we have found a positive correlation between sea level change and glacier mass change, therefore we often use the change in sea levels to make assumptions of glacier mass change over time.

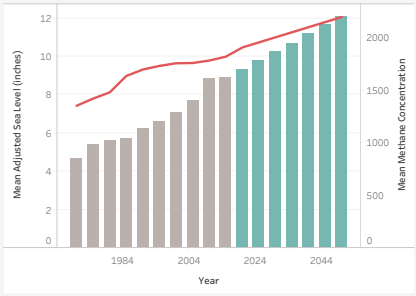
Glacier masses and the sea levels has been changing since the Paleozoic Era and still continue to do so. This dashboards purpose is to observe these changes from 1970 - 2019 and using a linear regression model to make predictions of these..

The *World Glaciers & Ice Caps* depicts glaciers and ice caps observed by the National Snow and Ice Data Center: GLIMS Glacier Database

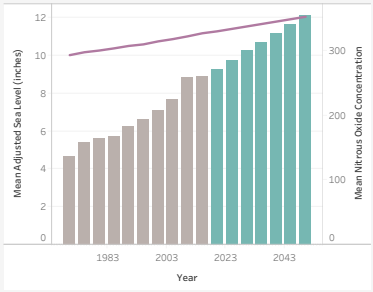
Average Sea Level Change & Carbon Dioxide Concentration

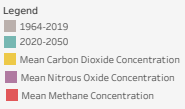


Average Sea Level Change & Methane Concentration



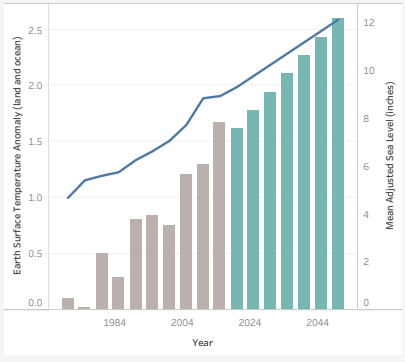
Average Sea Level Change & Nitrous Oxcide Concentration

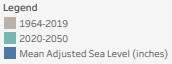




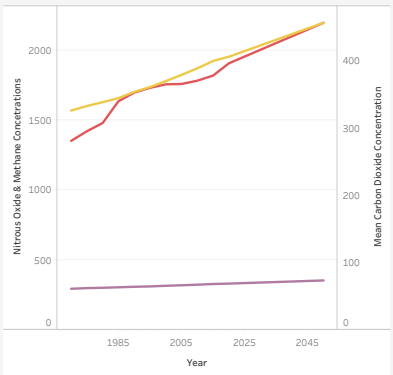
Through statistical analysis we have found greenhouse gas concentrations have had positive correlation with the change in average sea levels. We are observing historical changes in methane, carbon dioxide and nitrous oxcide in order to make predictions of their affects on average sea level changes.

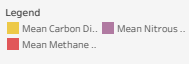
Average Sea Level Change & Global Average Temperature





Greenhouse Gas Concentrations





Average Change in Sea Level & Glacier Mass