CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY

Name(s)
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Project Number
J0904

Project Title
Does Salinity Affect Ocean Acidification?

Abstract

Objectives/Goals
The purpose of this experiment was to investigate if freshwater or saltwater around the Earth was becoming more acidic due to increased carbon emission produced by humans.

Methods/Materials
A model was made to simulate earth's atmosphere and oceans. Distilled water with different salinity levels was exposed to CO2 gas. The pH of the water was measured every five minutes with a digital pH meter for 30 minutes.

Results
The hypothesis that if the salinity of water increases and the solutions are exposed to CO2 then the difference between initial and final pH of the solution will also increase was supported. The average change in pH was the highest with 36 ppt (1.33) and lowest with plain distilled water (1.0).

Conclusions/Discussion
This experiment is important because it shows that saltwater absorbs more CO2 than freshwater. My research suggests that in places of higher salinity, CO2 will be absorbed in greater amounts resulting in greater impact to those areas. As humans continue to increase carbon emissions, fresh water will be taking in less CO2 than the ocean.

Summary Statement
This experiment shows that as salinity of water increases, the amount of CO2 absorbed also increases.

Help Received
I designed and built the simulator by myself and my mother helped me collect materials.