CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
S0605

Project Title
The Effect of Latitude on Ocean Salinity in the Antarctic Waters

Abstract

Objectives/Goals
The objective in this project was to determine if the level of salinity changes in the ocean as the latitude decreases, approaching the Antarctic polar ice caps.

Methods/Materials
Samples of ocean water were taken at 14 different latitudes south of Ushuaia, Argentina all the way to the Antarctic Peninsula, with a small bucket and kite string, off the side of a ship. The salinity of a predetermined amount of the sample water was tested and recorded, along with the corresponding longitude, latitude and temperature of each sample.

Results
The data shows a slight decline in salinity as one approach the Antarctic Convergence, which is an area in the region between 50 and 60 degrees south latitude and encircles the continent of Antarctic. At this point, cold surface water moving north away from the continent meets the warmer, southerly moving surface water of the Subantarctic zone. There is an abrupt change in salinity at the Antarctic Convergence. There is also a drastic drop when one is close enough to actually see large ice blocks. This suggests that melting ice can severely affect ocean salinity.

Conclusions/Discussion
The hypothesis was proven to be correct. From this project I conclude that ocean salinity levels can affect many different aspect of our environment, including weather, ocean currents, climate change and therefore the future of all biological organisms.

Summary Statement
My project shows how decreasing salinity levels in our ocean can affect many aspects in our environment, including weather, ocean currents, climate change and therefore the future of all biological organisms.

Help Received
Mother helped find and buy a salinity testing kit; Parents, Uncle, and grandparents provided the trip to Antarctica.