CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
J0313

Project Title
Tsunami: Reducing the Impact

Abstract

Objectives/Goals
The objective was to find out which of four barrier designs would be most effective in reducing the impact of a tsunami wave on land.

Methods/Materials
Testing was done by constructing a wave tank and placing the different barriers into the tank. To keep them from floating away, they were screwed into the tank. A tsunami was then created by dumping a 5 gallon bucket of water from the opposite shore and measuring the distance the wave traveled inland. I also tested the distance the wave traveled without a barrier. Each barrier was tested two ways: underwater and at sealevel. Each barrier was tested three times each, except Barrier #4 broke beyond repair after the first test. After each tsunami wave, the distance was recorded in inches with a ruler that was taped to the base of the waterline, measuring upshore.

Results
The results showed that Barrier #2 was the best for both the sea level and underwater tests. Barrier #4 was the worst, having broken during the first test.

Conclusions/Discussion
My hypothesis was incorrect. I thought that Barrier #3 would be the best for reducing the impact of the tsunami. Barrier #2 was the best.
Although Barrier #2 was the best in reduing the impact of the tsunami on the land, I would like to see Barrier #1 used in the real world because it would allow sea life to return to the sea as well as diminishing the impact on the shoreline.

Summary Statement
Reducing the impact of tsunamis on land through the use of sea level and underwater barriers.

Help Received
My dad helped me construct my wave tank. My mom took photos and helped me with the project board.