



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Garrett E. Sons	Project Number J0229
Project Title Determining the Damage of a Tsunami Wave Based on the Building's Shape, Angle, and Location	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my science fair project is to determine whether the buildings shape, angle, and location has an effect on the Tsunamis damage.</p> <p>Methods/Materials The first thing I have to do to conduct my testing is to buy an aquarium measuring 1' by 2' by 1' long. The reservoir will be 1 foot wide by 9 inches. The sand beach will be 1 3/4 inches high by 1 foot wide by 11 inches long. I will use wood buildings and put them in different locations and angles. The buildings shapes will be a circle, triangle, and square. To make a tsunami I will partition one end of the aquarium. That area will contain the water. To start the tsunami, the partition will be raised to let the water out towards the building located at the other end of the aquarium. Measuring the lean of the buildings allows me to observe which building will withstand the force of the tsunami best. The variables I used are: The buildings will be, 2 triangle pieces of wood 3" high by 2" by 2". 2 circle peices of wood 3" high by 2" diameter. 2 square pieces of wood 3" high by 2" by 2". 810 pounds of water. 59 pounds of sand.</p> <p>Results After comleting all 60 testings of switching buildings angles and locations. I found out what building got knocked over the least and what building got knoced over the most. Also every thing in between. The building that got knocked over the least was the square when its line e,f was facing the tsunami and the square was on the left side of the aquarium it got knocked to 88.3 degrees. The building that got knocked over the most was the triangle when its angle a was facing the tsunami and it was on the right side of the aquarium it got knocked to 57.9 degrees.</p> <p>Conclusions/Discussion Overall I learned many things doing my project. I learned what buildings stand up the best and worst. I learned that a buildings density maters on the damage and much more from my research and testings. Lastly I learned what I could next year.</p>	
Summary Statement Determining if the shape, angle, and location of a building will minimize the damage of a Tsunami wave.	
Help Received Grandpa helped build test ocean; Cousin helped with some typing.	