



# CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

<b>Name(s)</b> <b>Heather Galinato</b>	<b>Project Number</b> <b>S0908</b>
<b>Project Title</b> <b>Tsunami Simulation: Slope vs. Inland Travel</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives</b> The objective of this project was to investigate the relationship between the slope of the seafloor and the inland travel of a simulated tsunami.</p> <p><b>Methods</b> Used three identical wooden bins, holding salt and flour dough models with varying slopes. Lifted water-filled bins from one end (bins were slanted) and dropped them from various heights. The inland travel of the water was measured in cm.</p> <p><b>Results</b> During the 10 and 20 cm lift tests, the water traveled further on the steeper sloped model. During the 15 cm lift test, the water traveled further on the more gradually sloped model. Overall, the water on the sloped models traveled noticeably less than the water on the control model.</p> <p><b>Conclusions</b> It was concluded that steeper slopes of the seafloor slightly increase the inland travel of water when compared with gradual slopes. While conducting the experiment, an indentation in the 20° sloped model was noticed. This indentation allowed water to travel further on this model for the 15 cm test. It is speculated that for the 10 cm test, there was not enough force to allow the water to fully benefit from this indentation. For the 20 cm test, it is speculated that the ease for water travel allowed with the indentation was overridden by the energy of the water on the steeper sloped model.</p>	
<b>Summary Statement</b> Through a tsunami simulation, I found that a steeper slope allows for slightly further inland travel.	
<b>Help Received</b> I designed and built the bins and the dough models. My siblings helped me lift the bins during testing. My Biology teacher helped revise my writing.	