



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY**

Name(s) Samantha C. Gaiera	Project Number 38471
Project Title Ocean Acidification Simulation Investigating Copepod Survivorship	
Abstract Objectives/Goals The objective of this study was to determine how ocean acidification affects copepod survivorship. Methods/Materials Copepod culture, microscope, digital pH meter, CO2 tank, regulator, mason jars. Monitored copepod survivorship with a microscope after controlled exposure to CO2 gas. pH was monitored with a digital pH meter. Results 20 copepods were put into the ocean acidification model for 24 hours to test the effects of acidity change on mortality. Trials were repeated four times to validate results. It was found that as acidity levels decrease, copepod survivorship decreases as well. Survivorship in the control samples was 100% compared to a mean of 63% survivorship in the test samples. Conclusions/Discussion The major findings were that there was an increase in copepod mortality as pH decreased between the control, level 1 and level 2. Copepods in level 2 (more CO2) consistently showed higher mortality rates than level 1 (less CO2). The implications of this work show that as human-created carbon emissions increase, ocean acidification will increase and negatively impact copepod populations.	
Summary Statement I created a model simulating ocean acidification to test its effects on copepod mortality confirming the hypothesis that as pH decreases, copepod survivorship also decreases.	
Help Received I received my copepods and information on how to raise them from the HSU telonicher marine lab.	