



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Sonia Singhal	Project Number S1917
Project Title A Study of the Sea Anemone <i>Anthopleura sola</i> as an Indicator of Global Warming in Northern California Rocky Intertidal	
Abstract Objectives/Goals The goal of this research is to understand ecological change due to global warming in the Northern California intertidal by establishing baselines for intertidal temperature and populations of <i>Anthopleura sola</i> , a southern species of sea anemone that is being used as an indicator of species. Methods/Materials Abundance, distribution, and sizes of <i>A. sola</i> were measured along randomized transects within 30m x 30m plots at three sites in Northern California. Temperature data were recorded at 1-hour intervals to obtain detailed temperature profiles of the sites. Results Measurements show that the sizes of <i>A. sola</i> are correlated with site topography and abundance. Large individuals are found in low-lying areas where there are few other <i>A. sola</i> , but tend not to exceed 7.5 cm in size as density increases. As expected, <i>A. sola</i> is less abundant at the more northern sites. Intertidal temperatures show variations that exceed ranges of both ocean and atmospheric temperatures, and, surprisingly, do not follow trends observed in either the ocean or the atmosphere. Conclusions/Discussion This baseline provides the first record of simultaneous measurements of intertidal temperature and abundance of <i>A. sola</i> , and will be used as a comparative foundation for future research on ecological change in the intertidal.	
Summary Statement This project surveys populations of a newly-identified species of sea anemone, along with temperatures in their environment, to see if they are being affected by climate change.	
Help Received I would like to acknowledge the on-going help and guidance of my mentor, Dr. John Pearse, in this project.	