



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Stephen W. Wolfe	Project Number J1041
Project Title Converting Tidal Energy into Electricity	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The goal of this project is to prove that energy can be made through the tides that are all around us. A tidal energy converter will be made and tested in several areas around San Diego in hope to find the prime location if one were to be Installed. The first goal is to construct a successful tidal energy converter prototype that can be used to test. The second goal is to test and recover accurate results.</p> <p>Methods/Materials Stepper motors, wood, sprockets, silicon cement glue, pipe, LED lights, a volt meter, acrylic paint, rope, Styrofoam, and a weight are the primary pieces to construct a successful tidal energy converter. Countless tools were used in the process to piece everything together into a finished product. When the wake of the water meets the tidal energy converter it causes the arm to move up and down on the axle of a stepper motor creating surges of electricity.</p> <p>Results Coronado island produced 3.498 volts on average. Mission bay produced 2.822 volts on average. Miramar lake gave off 1.508 volts on average. Finally the Scripps Ranch pond only produced .0408 volts on average. Coronado island produced the most because an ocean has the most gravitational pull between the moon and the sun creating stronger tides. Scripps Ranch pond produced the least amount of volts because its gravitational pull was very weak and only ripples formed.</p> <p>Conclusions/Discussion The hypothesis proved to be near perfect because the average of each locations trials were in the same range as the hypothesis. If a small tidal energy converter prototype a 14 year old boy made can produce electricity imagine what large investment and many high quality prototypes could create. The future Is at today#s youth#s fingertips it is their decision what happens to it.</p>	
Summary Statement The project is about taking a tidal energy converter and placing it in different bodies of water to compare the amounts of electricity each place creates creates.	
Help Received Recieved help from handyman with tools, Grandpa helped with construction, parents helped with support.	