



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Anna Dabney; Kirstin Pianalto; Ashley Yao</b>	<b>Project Number</b> <b>J0806</b>
<b>Project Title</b> <b>Let It Snow!</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our project is about how global warming is affecting snowfall in the Sierra Nevada Mountains in past 80 years.</p> <p><b>Methods/Materials</b> We did our project in 3 parts Part 1 Records of monthly total snowfall in the Sierra Nevada Mountain Range and records of the monthly average Sierra Nevada temperature were are materials. We took the records and using excel created graphs showing the correlation coefficient between the two variables. Part 2 The same tempetature records and records of total precipitation were used. This part was testing if all precipitation as well as snowfall was decreasing as temperatures rose. Part 3 The materials for this part were plastic bottles, matches, and differtent temperatures of water. We were trying to find out if the strong correlation found in part 1 was really a causality rather than just a coinsidence by doing a cloud in a bottle experiment.</p> <p><b>Results</b> Part 1: Approximentally 28% correlation Part 2: Only about 2% correlation Part 3: Colder temperatures create bigger and more noticeable clouds.</p> <p><b>Conclusions/Discussion</b> Our hypothesis is incorrect. It can be concluded that snowfall has decreased as the temperature in the Sierras has increased (Part 1). Through further research (Part 2), it was proven that total precipitation (rain and snow) decreased as well. In order to determine if this was correlation or causality, an experiment was conducted (Part 3)involving the creation of clouds in a bottle with various temperatures of water. The results show there is a causality between the increased temperature and reduced snowfall. There are a number of issues both economic and environmental that are created by the reduced snowfall. Environmentally, many animals will be affected. Additionally, economically the melted snow in the Sierras supplies irrigation water to the Central Valley and West Nevada, which is where one- fourth of the crops Americans eat is grown. The debate between whether global warming is a natural or man made cause is irrelevant; we do know that it is causing changes in the amount of snowfall in the Sierra Nevada</p>	
<b>Summary Statement</b> Our project is about the effect of global warming on precipitation, especially snow, in the Sierra Nevada Mountains.	
<b>Help Received</b> UCR Grad student, Anne Jacobs, helped us gather and organize our data from the NOAA website; my dad helped us word the abstract and conclusion and make the graphs; teachers, Mr. Rozzi and Mrs. Brown helped us prepare to be interviewed and gave us tips on how to improve our project.	