CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)

Kachia Vang

Project Number

31183

Project Title

Using a Digital Camera to Measure Skyglow

Abstract

Objectives/Goals

My overall objective is to determine the effects and compare photos that were taken at night. Different locations affected by light may produce a different number of pixels from within a photo.

Methods/Materials

The materials I used are simple home found objects. My personal digital camera, a tripod, a computer, and ImageJ, a computer software.

The method I will undertake is also a simple process. On the first night, I went to the park and took 10 photos. Then on next night using the same materials, I took pictures in my neighborhood. On the final night, I went to the mountains and performed my usual routine. After gathering all the photos together in prep for the final step, I used an image software called ImageJ to analyze the amount of pixels there were in each photo taken in the different locations I had chosen.

Results

The results proved that the photos taken from areas with more light were significantly different and lower in pixel level than those taken within areas that held less light.

Conclusions/Discussion

I conclude that photos taken in areas where there are more light had a lower amount of pixel level, whereas photos taken from areas with less light were more visible and had a higher amount of pixel level.

Summary Statement

My project is about taking pictures of the night sky at different locations and weather using ImageJ to analyze the photos to determine how many pixels there are.

Help Received

Mother helped proofread and dice cut the letters; Ms. Romero helped take some pictures of the night sky; Maixialia helped with the precision of words.

Preliminary