Finding the Optimal Way to Detect Rapid Ohia Death Utilizing Aerial Photography

Bell, Alexander (School: Kealakehe High School)
White, Nicholas (School: Kealakehe High School)
Curry, Evan (School: Kealakehe High School)

In the place that we live, an extremely rare and beautiful plant is on the verge of extinction. It is being threatened by the fungus known as Rapid Ohia Death (R.O.D). Rapid Ohia Death can be spread through spores of fungus in the soil, and in some cases, the wind. This disease cuts off the trees water supply, causing it to turn brown and die. To run our experiments, we used a drone, an infrared camera, and GPS targets that allowed us to take accurate geotagged images. With processing, we were able to find the infected trees by referencing both the RGB and IR images. Other people are using technology's like this one, but they are far more expensive and difficult to obtain. Our solution is both more cost effective and accurate. With our findings, we hope to help conservationists give the Ohia trees a fighting chance. In further research, we would like to look into the potential applications of this technology into agriculture.

Awards Won:
Third Award of $1,000