

HASP Monthly Status Report - September 2014

Balloons over Volcanoes Team

September 29, 2014

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1 Synopsis

- Flight data reduction complete
- Thermal/vacuum test data reduction nearly finished
- Acoustic spectra analysis started
- Video analysis ongoing

2 Activity Summary

Daniel Bowman has completed the conversion of flight data to physical units and begun investigating the frequency content of pressure signals recorded during flight. Daniel is nearly finished converting thermal/vacuum test data to physical units in order to examine the effects of temperature and pressure on microphone and data logger performance. Our team has been in contact with Eliot Young of the Southwest Research Institute regarding his project to fly microphones on stratospheric balloons, and this discussion has motivated a careful look at our thermal/vacuum test data. Team member Patrick Gauge has begun analyzing video data recorded during flight to determine if there are any connections between signals on our sensors and events on the gondola.

3 Issues Encountered

Video resolution is relatively low, but this should not unduly hinder image analysis.

4 Milestones Achieved

We believe we have found the ocean microbarom spectral peak on flight data. If this is confirmed, it shows that we were able to record long range infrasound during the experiment.

5 Team

The student team consists of Daniel C. Bowman and Patrick Gouge (University of North Carolina at Chapel Hill), Jacob F. Anderson (Boise State University), and Tierney Larson (Yale University). Jonathan M. Lees (UNC Chapel Hill) serves as Faculty Advisor. Paul Norman and Kyle Jones are outside advisors.