

Abstract Submitted  
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**LaACES Ballooning Research** AYANA SMITH, Loyola University New Orleans — The use of an Arduino Mega controller in order to measure temperature and pressure of a specific environment is seen to be very efficient. A code was written for the Arduino to gather information that can be applied to read the atmospheric pressure and temperature. The first part of this study was to investigate the relationship between frequency and temperature by constructing and calibrating a Skeetersat with a temperature sensor attached that outputs an audible beeping sound. Each beep had a correlating frequency that could be read to further determine their relationship. The application of this information was to use that same calibration method while incorporating the programming aspect of the Arduino. A series of calibrations were done in order to show how the Arduino with a GPS attachment could be used to produce data of a larger scale to satisfy the goal of developing a payload. The payload will read the pressure, temperature, carbon dioxide and humidity once it is sent into the atmosphere via a balloon launch. The data configured so far will be applied to the payload as the same type of temperature and pressure sensor will be used.

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