CAC Control Payload

Ayden Caballero, Cortney Fisher, Itxclari Garcia, Ervin Thomas
Mentors: Alexander Aguilar, Dr. Armineh Noravian, Dr. Kimberly Baldwin
Central Arizona College ASCEND Team

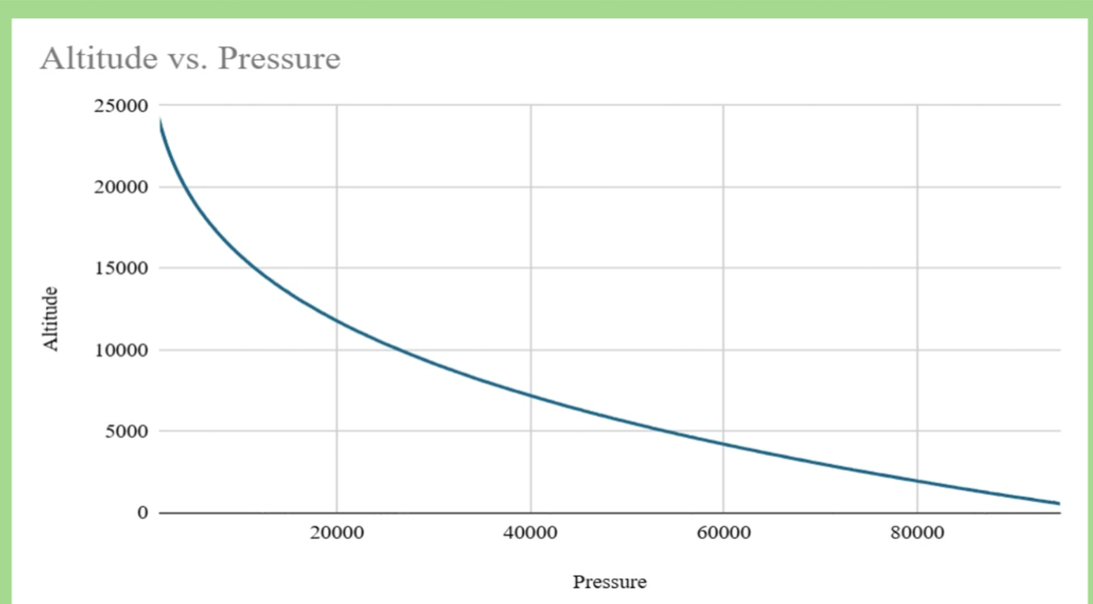
Overview: Continue to collect atmospheric data for a five-year database which includes temperature, pressure, altitude, and humidity, while improving on the overall mechanical design.

Project Description:

Collect data about the atmosphere in the Pinal County area to maintain our five-year database and improve mechanical design.

Design:

The design is a 3D printed box from ASA filament, with the BME-680 chip secured and exposed to the atmosphere for readings. A Feather32u4 processor is used to log the data. A carbon fiber rod goes through the payload and is secured in place with compression couplings.

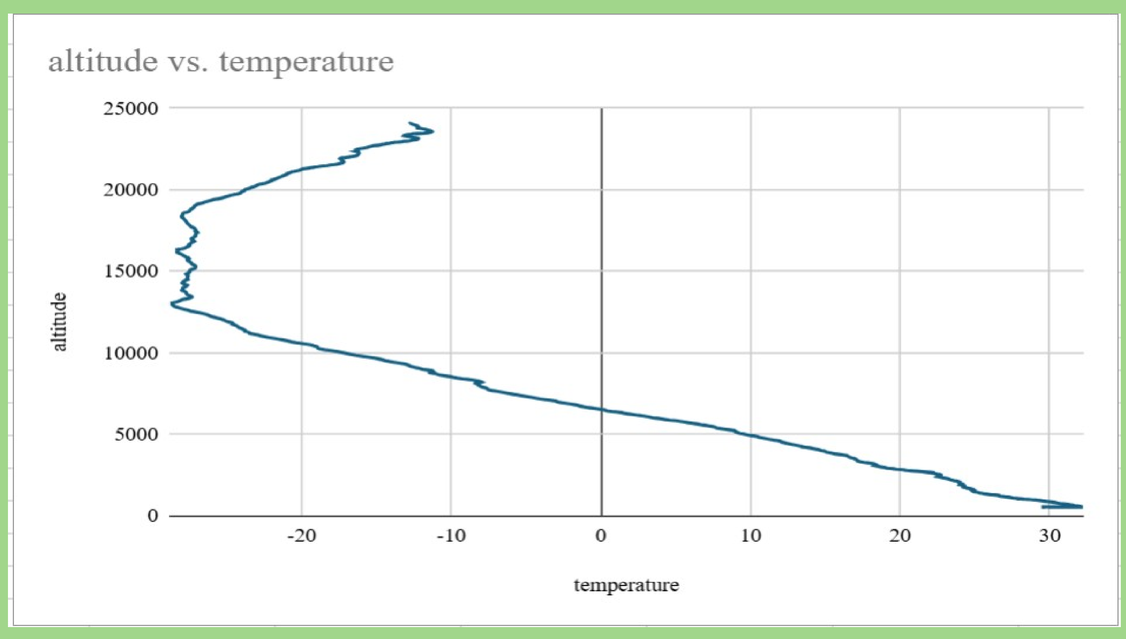


Results:

We collected, altitude, pressure, humidity, and temperature during our flight. We also tested the effectiveness of our mechanical design.

Conclusion:

The data collected on the flight was consistent and correlated with previous data. The mechanical design significantly improved the weight of the payload.



Future Projects: Continue to collect further information to add to our database and share with future students in ASCEND.

2025 Arizona Space Grant Consortium
Statewide Student Research Symposium

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