# Proposal

Objective/Goals

Using API calls from the Open Sky API (<https://openskynetwork.github.io/opensky-api/rest.html>) along with weather conditions from Open Weather (https://openweathermap.org/api/statistics-api), we can start to track the different types of aircrafts in Minnesota airspace in real time and under varying weather conditions during the summer. This could lead to better understanding the use of air space for our area.

Methodology

By using our understanding of API calls, we will gather information about weather and flight patterns and then use MongoDB to clean and organize key data elements into separate tables. Once the data is cleaned, we can combine the two in order to look for patterns and connections that can be used by travelers, businesses, or the government. Over time, this could create a strong database regarding flight patterns, military practices, and viability of air space.

Potential difficulties

Accessing APIs can be limited by the amount of calls at one time or having data that is missing and therefore creates an incomplete picture. Furthermore, this approach requires a new skill of setting up scheduled pulls for data gathering in real-time. Also, this project is time specific and shares data at the present with limited patterns. However, if data was added over time, it could be helpful for future planning.

Result potential

We predict that most air space usage is by high-vortex large aircrafts like a B-757, but with military personnel at Minneapolis International (MSP), St. Paul Downtown (STP), and Duluth (DLH), there might be a number of helicopters and lighter aircrafts.

Future plans

Once we have the cleaned data stored in a dataframe, it could be used for individual travelers, travel companies, and airlines.

Screenshots from data sites

Example API Response from Aviationstack API: