Creating a Gridded dataset for ACTIVATE Airborne Data

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- There is a high barrier of entry for airborne and field campaign data which makes it difficult for users not already familiar with airborne data to work with.
 - "Participants stated that they find it difficult to locate airborne data relevant to a particular location and time, as well as to align airborne data (in space and time) with the related and concurrent ground and satellite measurement" pg. 11 - NASA Airborne and Field Data Workshop (2022) Workshop Report and Recommendations
 - File formats that are common for airborne users may by an impediment to other users that are not as familiar with airborne data (*NASA Airborne and Field Data Workshop (2022) Workshop Report and Recommendations*, pg. 12)
 - Workshop attendees specifically suggested tools that would allow for data format conversion (i.e. ICARTT to NetCDF)

First Idea

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Process data files from instruments into a uniform file format (netcdf)

Co-Locate data between King Air and Falcon

Grid the co-located data and save in netcdf format



Figure of co-location algorithm, from Rodrigo

Co-location algorithm is very complicated

Schlosser et al., Geographical and temporal collocation of suborbital, orbital, ground, or shipbased data from two different platforms, *Atmospheric and Ocean Technology* (In Review)

Second Idea



Process data files from instruments into a uniform file format (netcdf)



Grid each individual aircraft or instrument and save as netcdf



Proposed final products

Dataset 1:

- 1° spatial resolution
- 15 min temporal resolution

Dataset 2:

- 0.1° spatial resolution
- 1 min temporal resolution

Dataset 3:

- 0.01° spatial resolution
- 30s temporal resolution

Produced for HSRL-2, Falcon, and RSP data



