What is the NASA Airborne Data Management Group?

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Airborne Data Management Group (ADMG)

The Airborne Data Management Group (ADMG) was established by the NASA Earth Science Data System management in Sep 2018 as part of IMPACT located at NASA MSFC in Huntsville, AL.

ADMG Primary Tasks:

- Take a **full assessment** of NASA Airborne and Field Earth Science data
- Construct a public, centralized, **metadata-rich inventory** of airborne and field investigations, platforms, instruments, and data product access
- Develop systematic **approaches and best practices** that bring **consistency and expediency** to airborne and field data stewardship
- Maintain a **knowledge center** containing important information and document access, and simplified access to **airborne tools** and **use cases**
- **Improve communication** between the DAACs, airborne campaign investigators, ADMG, and other stakeholders
Creating Organization Isn’t Easy

NASA airborne and field data have historically suffered from less attention than NASA satellite data

Our goals are to:

- **Bring more consistency** to how scientists find and obtain airborne and field data from NASA
- **Provide important contextual details** of the data collection environment
- Ensure the **availability and discovery** of and access to these valuable NASA data

Image source: Azurtri
Assessment of NASA Airborne and Field Data

Assessment Goals:

- To identify and locate all NASA airborne Earth science activities and data
- To assign needed metadata
- To identify issues in airborne data archival, discovery and access

To date, ADMG has found more than 160 airborne and field activities that belong in the inventory

- NASA Airborne Science annual reports, web pages and data archives
- Google Scholar searches for relevant papers identifying campaigns and possible data holdings
- Campaign web pages, white papers, unofficial data holdings, and campaign contacts
- Information at NASA DAACs and the ESDIS Common Metadata Repository (CMR)
Earthdata Search Suborbital Portal

- Searches across all NASA DAACs
- Locates data products using search terms and filters
- Campaigns are listed under the projects filter
- Includes field data products

https://search.earthdata.nasa.gov/portal/suborbital/search
The Importance of Terms and Decisions

To successfully build an inventory, we need to:

- Develop and understand specific inventory term definitions
- Use consistent terminology during the process of adding activities to the inventory
- Translate from existing terms to inventory terms and retain the existing terms
- Perform repeatable decisions across the ADMG team
ADMG Terms and Decision Trees

ADMG Definitions for Inventory Construction

ADMG Decision Trees (available in May)
Team Curation

Information Curation Process includes 3 important steps:

- Compile additional metadata
- Review for accuracy
- Admin review to ensure consistency

Every bit of information is checked with authoritative sources
CASEI: The Catalog of Archived Suborbital Earth Science Investigations

- CASEI contains **detailed information** of airborne and field campaigns and accesses data products using DOIs
- Additional contextual details provide users with **flexible discovery** and a greater understanding of campaigns, platforms, and instruments
- Users can explore and discover the inventory via the **highly-linked web-based user interface** to find information across all campaigns, data centers, people, topics, etc.
- Filters provide users with **many different ways to search** through the linked information
ADMG Inventory Progress

- Current list contains 160 named campaigns or NASA airborne activities
- CASEI will ultimately contain detailed metadata for all known campaigns regardless of data publication status

The above numbers include campaigns that have DAAC data as well as those known campaigns for which data is not yet at a DAAC for various reasons.
Data Archeology

ADMG aids in providing open access to all NASA airborne and field data.

We locate historical data and drive the historical data publication workflow:

- Identify and summarize historical campaigns
- Locate data and personnel with data knowledge
- Recommend data center assignments
- Work with data centers to ensure effective data transfer and management
- Function as science team proxy if needed
- Ensure detailed information added to CASEI
Data Archeology

Placing all the historical airborne and field data at NASA DAACs make the data discoverable for all users.

Total Known Campaigns as of March 2022: 160

- 40 Not in DAAC
- 120 In a DAAC
Improved Policies and Practices

The key to improving future airborne and field data is to change in how data are managed.

ADMG is building a comprehensive set of best practice documents that encourages:

- consistent term usage
- consistent organization and archival decisions
- good communication
- defined responsibilities and requirements

ADMG feeds recommendations to CMR and GCMD to improve keywords and metadata for airborne and field data.

Image source: Ross Findon, Unsplash
Explore CASEI:  [https://impact.earthdata.nasa.gov/casei/](https://impact.earthdata.nasa.gov/casei/)

Thank you!
For questions, contact deborah.smith@uah.edu

UL to LR: Camille Woods, Dr. Stephanie Wingo, Dr. Ge Peng, Shelby Bagwell, Ashlyn Shirey, Emily Foshee, Jillian Ethridge, Lucia Alonso Guzman, Deborah Smith. Not pictured: Dr. Danielle Groenen

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