
What is the NASA Airborne Data Management Group?

— Deborah Smith (ADMG Lead) —



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



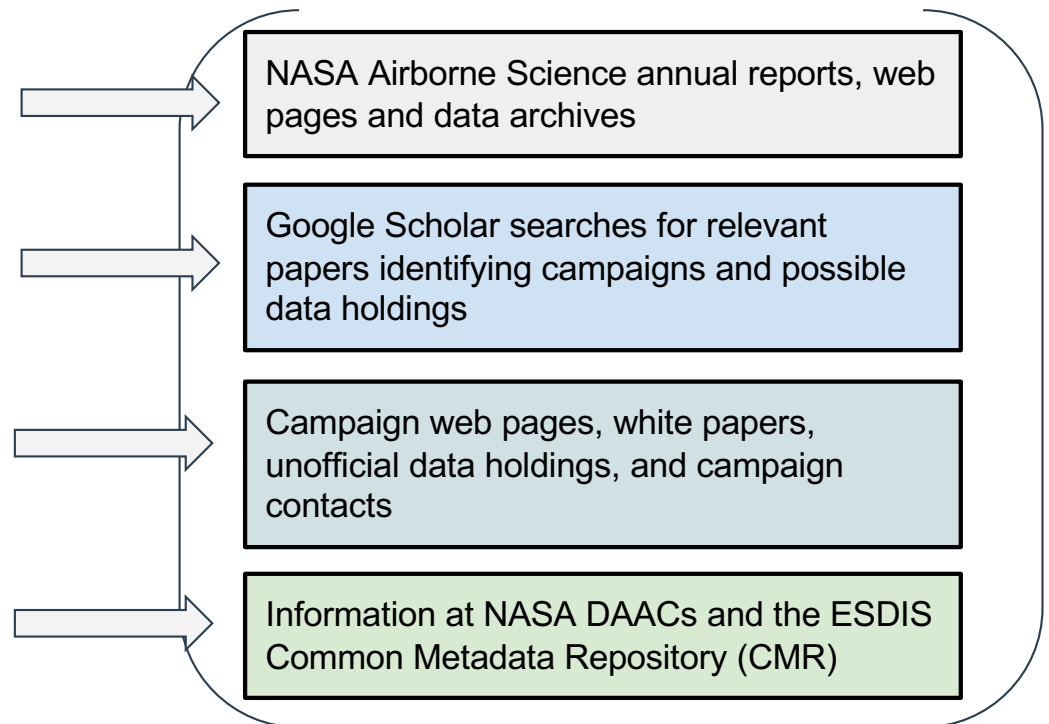
Image source: [Azurtri](#)

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



Earthdata Search Suborbital Portal

EARTHDATA Find a DAAC -

SUB-ORBITAL CATALOG Search

Search for collections or topics

Features

- Map Imagery
- Near Real Time
- Customizable

Keywords

Platforms

Instruments

Organizations

Projects

Processing Levels

Data Format

Sort by: Relevance

Tip: Add **+** collections to your project to compare and download their data.

Showing 12 of 38 matching collections

- BOREAS Daedalus TMS Level-0 Imagery: Digital Counts in BIL Format**
228 Granules • 1994-09-16 to 1994-09-17 • The level-0 Daedalus TMS imagery, along with the other remotely sensed images, was co...
CUSTOMIZABLE
- CLAMS ER-2 Moderate Resolution Imaging Spectrometer (MODIS) Airborne Simulator (MAS)**
163 Granules • 2001-06-29 to 2001-08-03 • CLAMS_ER2_MAS data were collected during the Chesapeake Lighthouse and Aircraft Me...
CUSTOMIZABLE
- BOREAS ER2 Aircraft Flight Logs**
2 Granules • 1994-04-19 to 1996-08-14 • During 1994 and 1996, di gital and analog imaging instruments mounted on the NASA ER2 ...
CUSTOMIZABLE
- GPM GROUND VALIDATION ADVANCED MICROWAVE PRECIPITATION RADIOMETER (AMPR) IPHEX V2**
18 Granules • 2014-05-01 to 2014-06-14 • The GPM Ground Valida tion Advanced Microwave Precipitation Radiometer (AMPR) IPHEX...

Looking for more collections? [Leave Sub Orbital Catalog's Suborbital Portal](#)

The Sub-orbital (Airborne) Earthdata Search 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

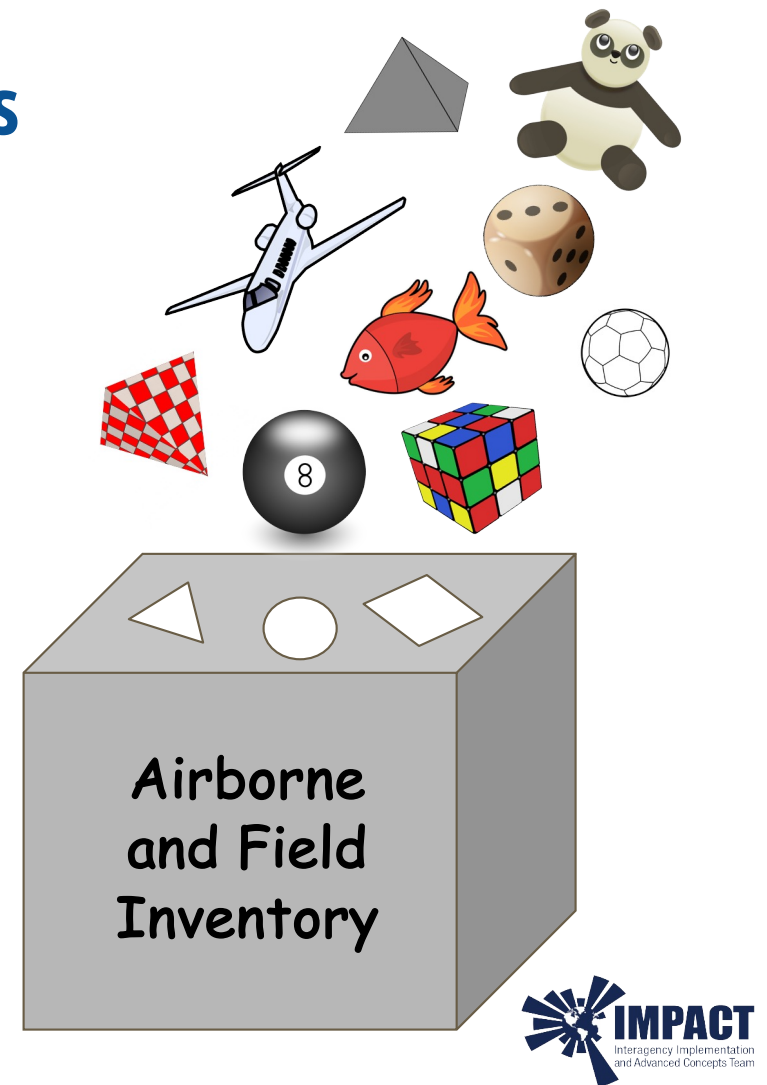
v1.125.7 • Search Time: 0.6s • NASA Official: Stephen Berrick • FOIA • NASA Privacy Policy • USA.gov

<https://search.earthdata.nasa.gov/portal/suborbital/search>

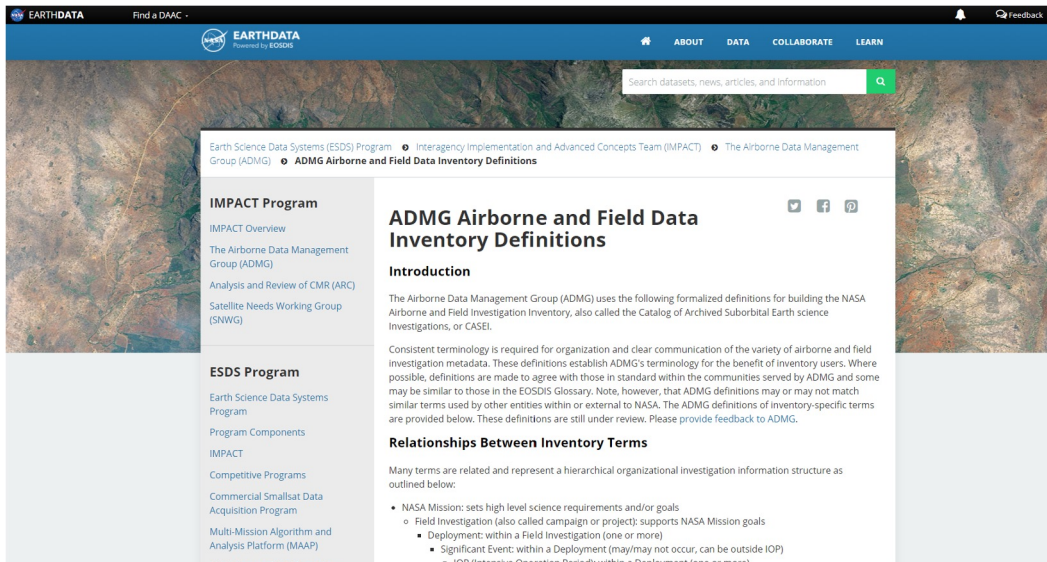
The Importance of Terms and Decisions

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

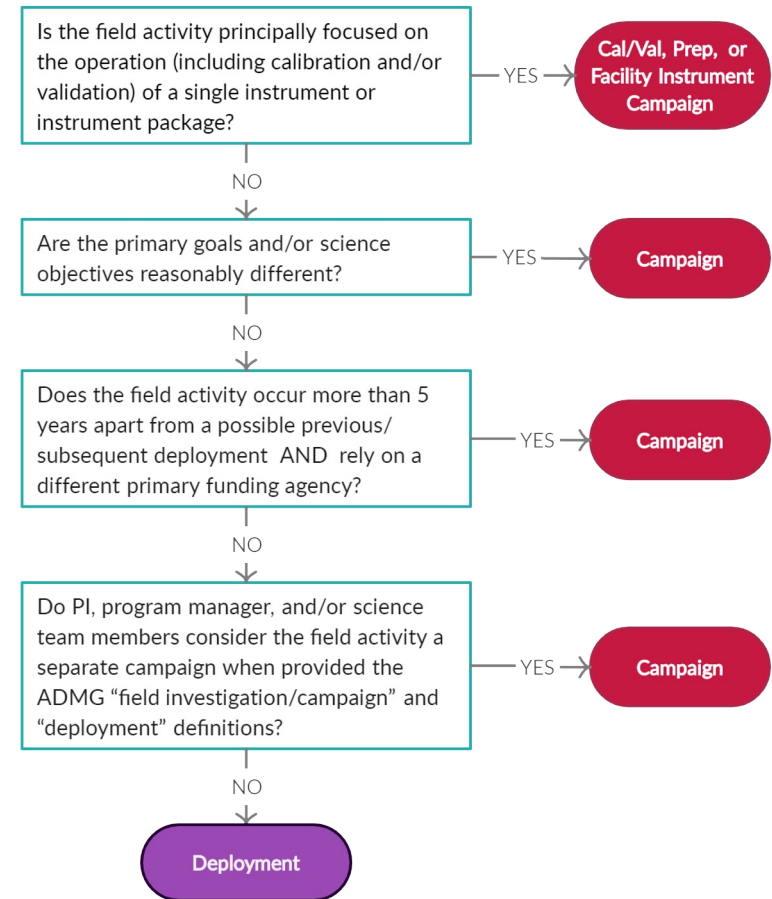


ADMG Terms and Decision Trees



ADMG Definitions for Inventory Construction

ADMG Decision Trees (available in May)



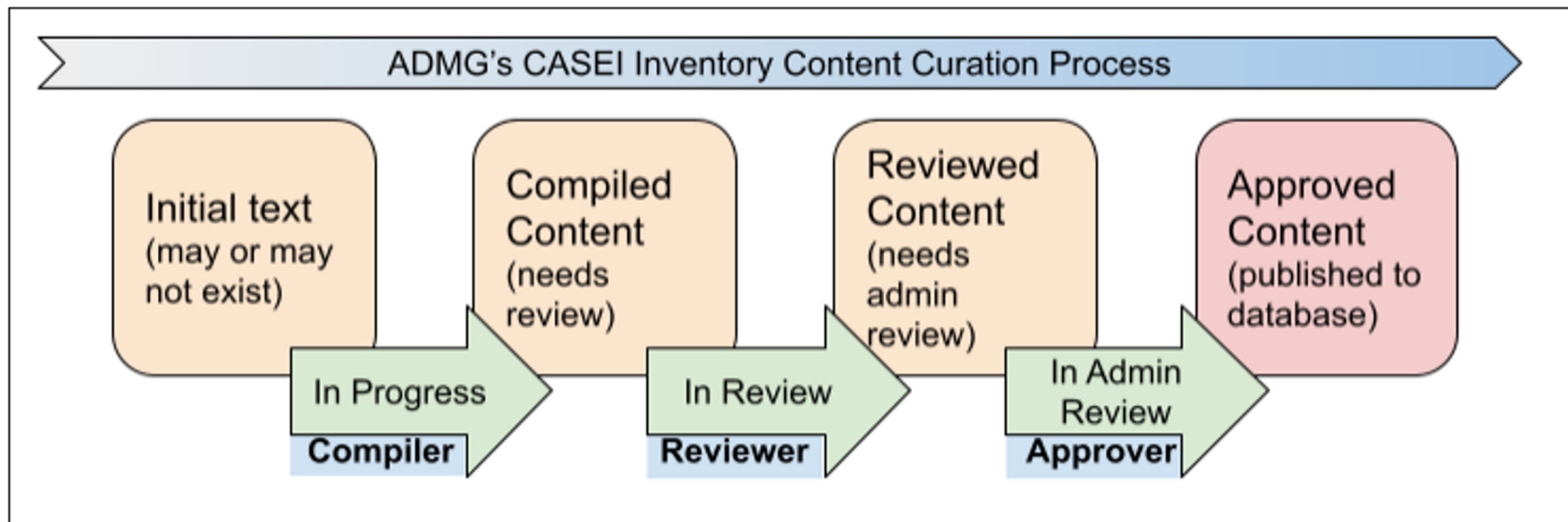
Team Curation



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



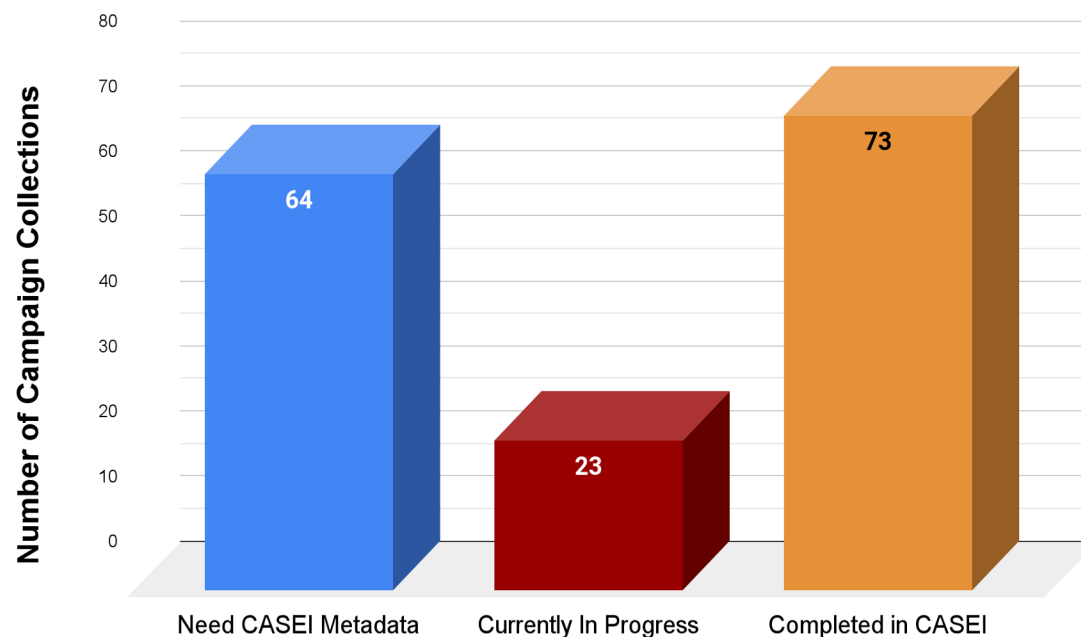
CASEI was developed by the ADMG with help from Development Seed team and other IMPACT team members



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

Total Known Campaigns as of March 2022: 160



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

Contains 45%
of known NASA
campaigns

Includes 50%
more contextual
metadata than CMR

Roughly 500
instrument
descriptions

3 sets of eyes
on every bit of
added metadata

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:

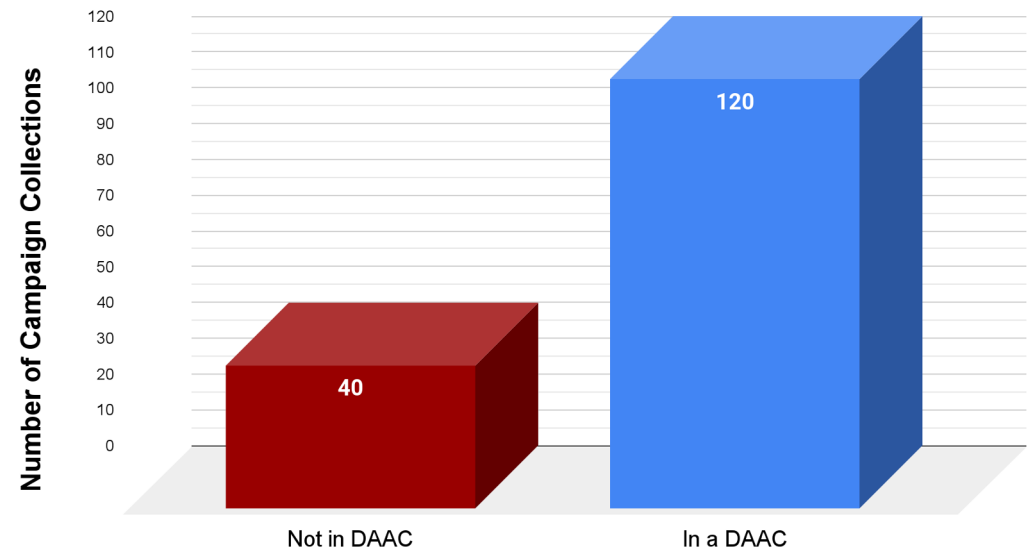
- Identify and summarize historical campaigns
- Locate data and personnel with data knowledge
- Recommend data center assignments
- Work with data centers to ensure effective data transfer and management
- Function as science team proxy if needed
- Ensure detailed information added to CASEI



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



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

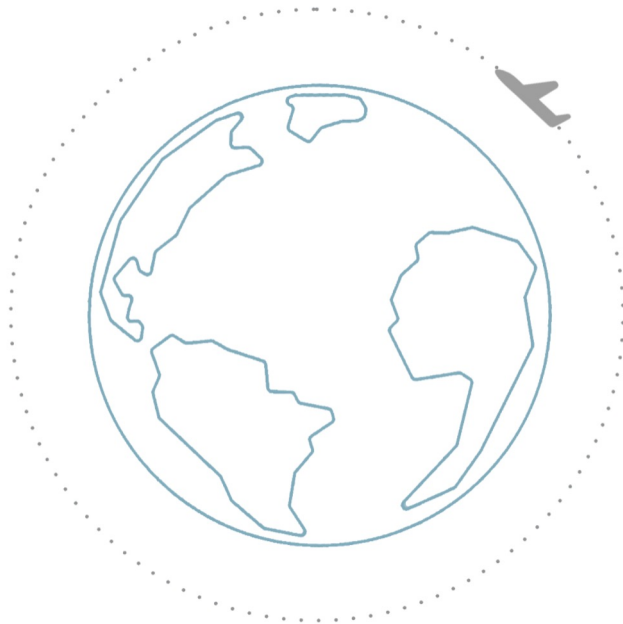


Image source: Ross Findon, Unsplash

Explore CASEI: <https://impact.earthdata.nasa.gov/casei/>



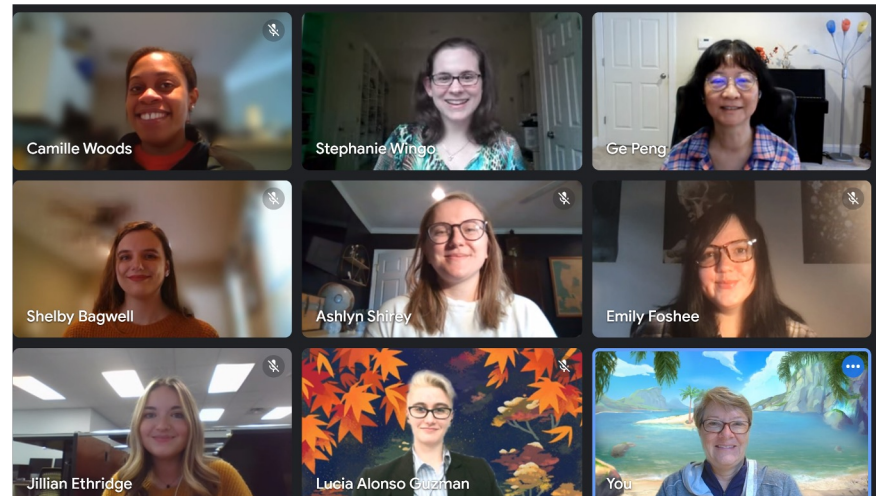
NASA | CASEI



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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

