Airborne Campaign Preservation Checklist - ACTIVATE

Relevant Link: https://science-data.larc.nasa.gov/naames-data/data2015.html

According to the Preservation Content Implementation Guidance, ESDS-RFC-042 Version 1, the following are **required** for airborne preservation:

Required Item	Justification for Preservation	Status (Not yet started, in progress, complete)
Data Management Plan (DMP)	Describes data handling in detail from instrument or human observation to data product delivery to DAAC. Follows the DMP Template for Data Producers	**COMPLETE** https://asdc.larc.nasa.gov /wagdocuments/559 /ACTIVATE_Data_Managemen t_Plan.pdf
Investigation Implementation Plan (IIP)	Describes the investigation details required for approval to carry out the investigation. The IIP may not necessarily be public, but contains valuable content that the DAAC may need to extract and preserve.	Data Management Plan has been added (see above row) Science Goals added to the page: https://asdc.larc.nasa.gov /wagdocuments/563 /ACTIVATE_Science_Goals.pdf
Investigation Reports	Allows a user to determine what events happened during a flight (flight report) or what important science of the day occurred (science report) or the weather forecast for the day (weather report). May include other relevant reports produced during investigation operation.	**COMPLETE** ACTIVATE campaign published flight reports (listed under Flight Report): https://asd c.larc.nasa.gov/project /ACTIVATE/pdocuments Airborne Science Program Reports (listed under Product Documentation): https://asdc. larc.nasa.gov/project /ACTIVATE/documentation
Investigation Catalog	Such a catalog contains all flights/trips conducted by a mission, along with fundamental metadata of the flights/trips (e.g., date, location, weather condition, purpose of the flight/trip, notes, etc.) and links to both brief and detailed flight/scientific reports associated with each flight/trip. Such a catalog provides a high-level overview and useful contextual information for understanding the airborne/field mission in the future.	**COMPLETE** https://asdc.larc.nasa.gov /wagdocuments/557 /ACTIVATE_Investigation_Cata log.pdf Created in a Word doc and added to preservation page (as a PDF)
Field station names and locations	Many investigations have multiple field locations. A table, list or document containing the site reference name, latitude/longitude location, and instruments at that location should be obtained from the team if the information exists. This table can also link to relevant data products when presented by the DAAC to users.	N/A - no ground stations during ACTIVATE
Individual instrument operations log or timeline	Often, an investigation has some type of summary table or timeline for field instrument operation. Projects are highly encouraged to create this for preservation. The table may contain instrument, site names and locations, date placed and removed, operation status by date, and notes on operation issues	**COMPLETE** Info in flight reports
Aircraft Videos	NASA aircraft often have a forward, mid, and/or rear-facing video cameras used to record images of the atmospheric environment during flight. Future examination of these movies can help scientists understand the conditions the aircraft flew in at the time instrument measurements were obtained.	**COMPLETE** Linked on SOOT documentation page: https://as dc.larc.nasa.gov/project /ACTIVATE/pdocuments

According to the Preservation Content Implementation Guidance, ESDS-RFC-042 Version 1, the following are **potentially applicable** for airborne preservation:

Recommended Item	Justification for Preservation	Status (Not yet started, in progress, complete)

3.1.1 Instrument and Platform Description	Instrument and platform information is most often summarized in the investigation DMP. The Platforms can be covered first with information about what instruments were contained onboard. Each instrument should then be covered with sufficient detail to meet the specification and compliance level. Other documents with additional information include: Permanent land station histories and detailed field station documents containing station location (latitude/longitude), station common name, instruments installed, photos of the station location if available, and operation status. In the case of human data collection, documents identifying collection protocols are also important to retain. Instrument-specific publications may contain additional information that meets the requirement. Information about the platform an instrument is operated on is required for airborne data. Should an instrument operate on multiple platforms during the investigation, the information as to when the switch from one platform to another occurred should be noted and retained as required information.	**COMPLETE** DMP provided on preservation page
3.1.2 Pre-flight/ Pre-operational Instrument Calibration Data	N/A. Most often there is no pre-deployment calibration data such as that for satellite instruments. If a particular airborne or field instrument does require pre- and post-flight or pre- and post-deployment calibration, the DAAC should gather the information from the instrument team and preserve it.	N/A
3.2.1 Raw Data and Derived Products	All investigation data products are to be delivered to the assigned DAAC and preserved, including Level 0 and Level 1 data that may not be often requested by users. There is also the need to preserve platform information and data products. Examples of platform data include navigation, air temperature, atmospheric pressure, video camera data. Platform information includes details of the aircraft, ship, automobile, or field site and can include still images of a field site, the tail number of the aircraft, or images of the flight tracks plotted in the deployment region. Derived data products may, on occasion, be auto-generated on demand by the user via a DAAC investigation-specific tool. In this case, the tool description and software should be preserved.	MetNav data is archived and distributed by the ASDC; raw data is in the archive
3.2.2 Metadata	Data products from airborne and field investigations are often produced by separate instrument PIs participating in the investigation. The data product metadata is often contained within the data files. However, if the data are stored in plain text or binary files, the DAAC should work with the PIs or the investigation data manager to develop an additional metadata document to be stored with the data or to translate the data product to a self-describing file format. It is required for data discovery that the investigation short name be added to the collection and file metadata. Though not listed in the PCS, the field station instrument operation status, which may be provided as a figure or table showing instrument operation during each deployment, is an important item to preserve. The operation status can allow future users to distinguish between missing data due to instrument performance or missing data due to failure to capture and retain the needed files.	Instrument descriptions are available in the DMP; ReadMe Files have also been posted Open Data Workshop information is published on the ASDC website:
3.3.1 Product Team	The investigation team is identified, with roles, in the Investigation DMP and the IIP. Since the DMP is a living document, any changes in the investigation team should be noted.	**COMPLETE**
3.3.2 Product Requirements and Designs	It is uncommon to have design requirements for individual instruments in an investigation. If available, the information will be located in the DMP and the IIP. Preservation of these documents should meet the specification.	Some info in DMP
3.3.3 Processing and Algorithm Version History	For each instrument in which raw data are processed to create data products, the algorithm information and processing methodology description must be retained. This may be presented in the DMP and references therein, or can be found in individual instrument ATBDs or journal publications.	Some info in DMP
3.3.4 Data Product Generation Algorithms	For each instrument in which data are processed to create data products, the algorithm information (ATBDs) and processing methodology description must be retained. This is commonly presented in the DMP and references therein, or in specific journal articles describing the instrument.	Some info in DMP
3.3.5 Product Quality	The DMP should contain data quality information for each instrument. Publication citations for the instruments flown in an investigation should be included in the DMP as many instruments used have participated in previous investigations. The DAAC must add post-investigation publication references when available at a later time that address instrument and data product quality for that specific investigation.	DMP is posted
3.3.6 Product Application	The DAAC should collect publications made during the project or in the post-investigation years that address the use and application of the investigation data products. Also, user feedback about the data products that would be valuable to share with others should also be gathered and included.	Publications are linked on the ASDC website and are checked quarterly by Ingrid.
3.4.1 Calibration Method	The Investigation DMP will contain a description of the methodology or the instrument PI should provide a publication reference that contains the calibration methodology information, as appropriate.	DMP is posted
3.4.2 Calibration Data	If an airborne instrument does require calibration, the DAAC should gather the data from the team and preserve it. Data logging aircraft operation is vital to onboard instrument data use. Therefore, flight logs, forward-looking camera images and videos, aircraft instrument operation logs, science logs, and aircraft data (flight speed, altitude, pressure, external temperature, etc) should be preserved and included in the PCS checklist.	Flight reports are available
3.5 Science Algorithm Software	Any software utilized to create investigation data products must be provided to the DAAC under open data and open source policies. (https://earthdata.nasa.gov/collaborate/open-data-services-and-software)	Gao is working with the systems team on this transfer

3.6 Science Data Product Algorithm Inputs	Ancillary data used in creating a data product should be stored with the data product unless it is available from another permanent archive facility.	N/A
3.7 Science Data Product Validation	DAACs should collect references of individual instrument or data product publications and the primary investigation overview publication, if there is one. Publications such as these may discuss intercomparisons of values from multiple instruments made during the investigation.	Publications are linked on the ASDC website and are checked quarterly by Ingrid.
3.8 Science Data Access and Analysis Tools	If the data products are in a self-describing format, no special tools or software are needed. It is highly important that if the data product is not in a standard, self-describing format the needed software or tool for accessing and using the data must be preserved with any relevant documentation. Also, if any special software is developed for utilizing or visualizing investigation data, that should be preserved as well if it is not located at the DAAC.	N/A
3.9 Deliverables Checklist	A checklist must be publicly available at the assigned DAAC for the entire investigation, but may be organized as separate checklists for individual instruments or platforms, as needed.	COMPLETE