ADMG Inventory Decision Trees

The Airborne Data Management Group (ADMG) has created decision trees used to classify various items within the Catalog of Archived Suborbital Earth science Investigations (CASEI) in a manner consistent with ADMG's definitions. These objective decision tools are intended for use by both ADMG (e.g., when curating historical campaigns in the inventory) and DAACs (e.g., when publishing new campaign data collections). By using consistent definitions and decision trees, more harmonious campaign archival and publication will result in clearer communication with users across the NASA Earth Science enterprise.

Program/Project vs. Campaign

The purpose of this decision tree is to determine if an identified activity fits best within the ADMG definition of a campaign OR whether it is a higher-level program/project/mission or any other term used to represent a higher entity in charge of the campaign (and therefore is not included in CASEI).

Table 1: Program/Project/Mission or Campaign Decision Tree

Is the activity under consideration a higher level effort (such as a program, project, or mission) or is it a field campaign?		
Decision Question	**Answer is YES**	**Answer is NO or unclear**
1. Is the activity referred to as a NASA campaign, and if so, does the description of the activity fit the ADMG campaign definition?	This is a **campaign**	Go to (2)
2. Does the description of the effort of inquiry suggest that it occurred over a specified period of time in the field (whether via airborne, shipborne or ground/water measurements)?	This is a **campaign**	Go to (3)
3. Does the description of the activity indicate that there was a unique and specific scientific purpose to the effort and all measurements are related to a small set of scientific or technical objectives?	This is a **campaign**	Go to (4)
4. Are there many different types of separate somewhat unrelated activities associated with the larger activity, such as multiple field activities, funded modeling efforts, or other research and do all activities last for many years?	This is likely a **program/project**, go to (5)	This is a **campaign**
5. Are there multiple acronyms used in reference to this activity that are not aliases for one activity?	This is likely a **program/projec**t, go to (6)	This is a **campaign**
6. Does the acronym encompassing the activity contain other acronyms that individually are referred to as campaigns and meet the ADMG campaign definition?	This is likely a **program/project**, go to (7)	This is a **campaign**
7. Are there one or more generalized research questions related to this activity (i.e., is there one cumulative, overarching end-goal that could be broken up into smaller, targeted research questions)?	This is likely a **program/project,** go to (8)	This is a **campaign**
8. Are the smaller, related activities within the activity funded by the overarching effort)?	This is likely a **program/project**, go to (9)	This is a **campaign**
9. Is the duration of the activity longer than a continuous period greater than 6 years, on average?	If yes, this is a **program/project**	Consult with ADMG

NASA's Level of Involvement - "Significant Participant"

Campaign vs. Deployment

ADMG needs to use a consistent approach for campaign assessment and incorporation into CASEI. The act of determining when complex, related campaigns or multiple deployments should be considered as single or separate field campaigns has traditionally been completed by NASA DAACs with input from science teams. The Campaign vs. Deployment Decision Tree below is structured to provide objective delineations of campaigns and their component deployments, consistent with the definitions used in CASEI. If a campaign alias or acronym is repeated for a field activity, the field activity is *typically* considered part of the same campaign. However, it *is possible* for such field efforts to be classified as separate campaigns, based on decision tree results.

Table 2: Campaign vs. Deployment Decision Tree

Is the field activity a separate campaign or an additional deployment for an existing or previous campaign?		
Decision Question	**Answer is YES**	**Answer is NO or unclear**
1. Is the field activity principally focused on the operation (including calibration and/or validation) of a single instrument or instrument package?	Field activity is considered part of an instrument **CAL/VA**L campaign, or refers to flights of a **Facility Instrument**, or **Major Airborne Instrument**	Continue to (2)
2. Are the primary goals and/or science objectives reasonably different?	Field activity is a **separate campaign**	Continue to (3)
3. Does the field activity occur more than 5 years apart from a possible previous/subsequent deployment **AND** rely on a different primary funding - either a separate grant from the same agency or a different agency?	Field activity is a **separate campaign**	Continue to (4)
4. Do PI, program manager, and/or science team members consider the field activity a separate campaign when provided the ADMG "field campaign" and "deployment" definitions?	Field activity is a **separate campaign**	Field activity is an **additional deployment** of an existing campaign

Existing vs. New Platform Decision Tree

ADMG has chosen to identify platforms but not specify individual platforms in the inventory. For example, we note, but do not necessarily distinguish, if an ER-2 jet had a tail number of 806 or 809. There are exceptions, such as when two ER-2 jets fly in the same campaign.

The focus of the CASEI platform metadata is to provide users with improved contextual information on data collection. Identifying platforms is not always easy due to multiple names used in campaign descriptions and metadata. ADMG inventory curators need to utilize a consistent approach for designating platforms.

We also denote platform aliases, which are essentially synonymous names for the same platform common among the science/data user communities, and are identified in science literature and field documents. Determining if a platform is considered the same as an existing platform in the inventory or if it should be added as a new platform requires a consistent, objective decision process, as outlined in the decision tree below.

Table 3: Existing vs. New Platform Decision Tree

Is the platform suitable to classify as one already contained in the inventory or does it need to be considered a new platform that should be added to the inventory?		
Decision Question	**Answer is YES**	**Answer is NO**
1) If you take any owner/builder/operator name out of the platform name does it already exist? (For example: platform “NASA ER-2” vs. platform short name “ER-2” already in inventory)	Continue to (1b)	Continue to (2)
1b) Does the platform in question have the same Platform Type as the existing platform entry with a similar name?	Platform is considered the **same as the existing platform**	Continue to (2)
2) Is the platform in question an updated or newer model of the platform already in the CASEI inventory? (e.g., Cessna 208B vs. Cessna 206)	Platform is considered the **same as the existing platform**	Continue to (2b)
2a) Is the platform in question an air platform?	Continue to (2b)	Continue to (3)
2b) Does the platform in question and the platform already listed have similar size, payload limit, range, and weight?	Platform is considered the **same as the existing platform**	Continue to (3)
3) Do documentation or published materials point to similar resources as an existing platform in CASEI?	Platform is considered the **same as the existing platform**	Continue to (4)
4) When provided ADMG's definitions and a list of platforms currently in CASEI, does input from the airborne and field campaign science communities consider the platform in question a separate entity?	**New platform**, add to the inventory	Platform is considered the **same as the existing platform**

Existing vs. New Instrument Decision Tree

Instruments are also noted by specific names in campaign documents, and these names may be community-specific or generic. Determining what instruments were used during a campaign is difficult for all platforms but can be especially field-based instruments. An instrument built by a university research project may be the same type of instrument operated by a private company or another organization, but each might use different names.

To reduce the number of instrument entries in the ADMG inventory, specific instruments analogous to the models of a vehicle - not individual instruments - are tracked. This means slightly more generic names are utilized. Aliases are also included, which can identify individual, specifically-named instrument units, if and when applicable.

This Instrument Decision Tree is structured to support objective distinctions about whether an instrument should be added to CASEI as a new or existing (i.e. alias) instrument item.

Table 4: Existing vs. New Instrument Decision Tree

Can the instrument be classified as one already contained in the inventory or does it need to be considered a new instrument/sensor and added to the inventory?

Decision Question	Answer is YES	Answer is NO	Inconclusive
1. Is the instrument a Facility Instrument?	Go to (1a)	Go to (2)	Go to (2)
1a. Is the Facility Instrument already included in the inventory?	Not new instrument, don't need to add	New instrument, add it	Go to (2)
2. Does the instrument name, or part of the instrument name, or the instrument alias, or part of the instrument alias, exist in some form as an instrument name or instrument alias already in the inventory?	Go to (2a)	Go to (3)	Go to (2a)
2a. Does any of the documentation point to the instrument in question as being an entirely separate instrument vs. instrument(s) with similar names that already exist in the inventory?	New instrument, add it	Existing instrument	Go to (2b)
2b. Are there indications in publications, science plans, flight reports, conference abstracts/presentations, or other credible documents that refer to the instrument in question as a new or separate entity?	New instrument, add it	Existing instrument	Go to (2c)
2c. Are there significant differences in the operating technology, measurement technique(s) employed, or observed parameters provided? (eg: addition of new frequencies/bands)	New instrument, add it	Existing instrument	Go to (2d)
2d. Does input from the primary instrument users/user communities, when provided by ADMG's definitions and the list of instruments currently in the inventory, consider the instrument in question a separate entity?	New instrument, add it	Existing instrument	--
3. The instrument (name or some part of it) does not already exist in the inventory instrument list; this may be a new instrument. Are there any obvious mentions that the instrument in question is an updated version/model of an instrument already in the inventory?	Go to (4)	Go to (5)	Got to (6)
4. Are there significant differences in the operating technology, measurement techniques employed, or observed parameters provided? (e.g., addition of new frequencies/bands)	New instrument, add it	Existing instrument	Go to (5)
5. Does the instrument in question provide the same (or very nearly the same) observation parameters as another instrument already in the inventory?	Go to (5a)	New instrument, add it	Go to (6)
5a. Does the instrument in question provide these same (or nearly so) observation parameters via similar measurement techniques and/or operating methods?	Go to (5b)	New instrument, add it	--
5b. Are the existing inventory entry and the instrument in question both generic "enough" items that the name used by ADMG may require updating?	Reevaluate name for the existing instrument; consider both instruments the same. If in doubt, seek user/SME input/ Go to (6)	New instrument, add it	Go to (6)
6. Does input from the primary instrument users/user communities, when provided the ADMG definitions and the list of instruments currently in the inventory, consider the instrument in question a separate entity?	New instrument, add it	Existing instrument	--

Partner Organization Designation

For many campaigns in the inventory, whether the campaign is a multi-organization type or not, a decision is needed to determine whether a listed non-NASA organization contributed in some important way in either effort or funding to the degree that it can be considered to have a Partner Organization designation. It is very common for campaigns to list all team members with their associated organizations. This does not mean every organization found in the list warrants the Partner Organization designation. Determining the status has more to do with funding than with being the home organization of a funded participant. This decision tree will help to determine whether a listed organization can be justified as a partner organization for the campaign.

Table 5: Partner Organization Decision Tree

What listed organization is considered a partner organization for the field campaign?		
Decision Question	**Answer is YES**	**Answer is NO**
1) Is the organization listed on the logo, if there is one?	The org is a partner. Ensure it is in the partner organization list	Continue to (2)
2) Is the organization listed as a funder of the campaign? Look for a statement such as “this NASA and NOAA funded campaign” or NOAA contributed funding to this NASA led campaign”.	The org is a partner. Ensure it is in the partner organization list	Continue to (3)
3) Did the organization provide aircraft or instrumentation without receiving NASA funding?	The org is a partner. Ensure it is in the partner organization list	Continue to (4)
4) Is the organization listed anywhere else other than the home org for a listed science team member?	Continue to (5)	This is NOT a partner org
5) Is the organization providing information on their web page about the campaign and listing their participation in a manner conveying that they contributed financially?	The org is a partner. Ensure it is in the partner organization list	This is likely NOT a partner org, but is a participant

Supported Mission Designation

One of the campaign-level metadata elements in CASEI is “supported missions or instruments”. These are satellites, instruments, or other named activities that the campaign supports. For example, the GPM Ground Validation Campaigns (IPHEx, OLYMPEX, MC3E, etc.) were conducted to prepare for and validate GPM data making GPM a *supported mission*. In publications or documentation, you may find NASA or missions/instruments from other organizations or countries mentioned, but that does not automatically mean they are “supported” by the campaign in question. The following decision tree will help determine if a mentioned mission or instrument should be entered as metadata for the campaign.

Table 6: Supported Mission or Instrument Decision Tree

What mission or instrument does the field campaign support, if any?		
Decision Question	**Answer is YES**	**Answer is NO or inconclusive**
1) Is a mission/instrument mentioned in the name of the campaign (i.e. GPM GV) or shown on the logo (i.e. the logo for KWAJEX)?	This is a supported mission	Continue to (2)
2) Is the campaign a calibration/validation type, and was carried out to validate or calibrate a satellite mission or instrument?	This is a supported mission	Continue to (3)
3) Does the campaign have coordinated aircraft underflights of satellite mission / instrument overpasses?	This is a supported mission	Continue to (4)
4) Is the campaign funded through the same means as the mission/instrument in question?	Continue to (5)	This is likely NOT a supported mission, but contact ADMG to discuss
5) Is the mission/instrument owned and operated by NASA?	This is a NASA supported mission	This is not a NASA supported mission, but is a supported mission