DOI

A Digital Object Identifier (DOI) is a type of persistent identifier, intended as a unique and permanent digital fingerprint, in the form of an alphanumeric string, **for any physical, digital, or abstract entity.**

Data Product Group DOIs

Examples:

- All data collected in an airborne or field investigation
- All data from one instrument even though published as separate data products
- A data product and the navigation data product needed to use it
- Data products intended to be used together, or that are related in some way such as L1 and L2 data from an instrument

What is needed for a data product group DOI?

- **Landing page**: the DOI must resolve to a location with descriptive information about the group and access information for group data.
- Each Data Product in the group needs the *group DOI* added to its metadata

Currently in Use

- campaign summary page for OLYMPEX campaign with a list of data products and DOIs of group members http://dx.doi.org/10.5067/HS3/DATA101

Why are Data Group DOIs Needed?

- For Airborne and Field Investigations:
    - Scientists have to provide the DOI for the many and varied data they used
    - If all the data used that would be a large number of DOI citations in a manuscript
    - Easier instead to provide 1 DOI for the campaign
    - Easier for team scientists to refer colleagues to investigation data page
    - No searching for investigation data needed - all right there at the single DOI
    - Contextual information about campaign provided

- For Satellite Missions:
    - Gathers data products under 1 DOI that need to be used together but have been published separately
    - Helps users track the provenance of higher level data products as new versions and their lower-lever input data products are published

Suggested Data Product Group Guidelines

- The Group DOI has to resolve to a landing page

- Each Data Product in the group needs the group DOI in metadata

- Minimal landing page contents are needed:
  - Description of group and why it is a group
  - Citation for the group
  - List of individual data product members with individual data product DOIs or data access information (for restricted group members)

- Other recommended landing page items
  - Contextual information pertaining to group
  - Documentation for group, as needed
  - Software for group, as needed
  - Characteristics of and spatial/temporal coverage of group

Potential Issues / Concerns

- What happens to the data product group when 1 or more member changes version; what if all change?
- What happens when more members are added to the group?
- What happens if the DOI is referred to but all members were not used - need for clear guidelines
- Need clear criteria regarding changes and data product groups, group update rules
- If group DOI is created but all members not available yet, how is that communicated? - need for policy around this
- Concerns about science reproducibility. Is this an easy way out of having to cite what is used?
- How can DAACs track impact of data products if group DOI is cited?
- Can it be use to effectively connect input products to a data product??
- How to count citations when product group DOIs are used?
- Services exist for group DOIs - should we do this in a more flexible way like these services?
- Can we identify the many use cases and determine the needs of each ?

CSDAP DOI Plan

CSDAP DOI general policies:

- DOIs created by CSDAP will have opaque structure so they are easily transferred.

- Every data product in the transition phase will have a reserved or registered DOI.

- Every data product in sustained use phase will have a registered DOI and landing page.

- Landing pages must be publicly available at the time of DOI registration.

- Content of landing pages must meet the minimal requirements as stated by ESDIS, but must also contain CSDAP requirements such as references to the Vendor web sites, licensing information, and any pertinent vendor information.

- CSDAP DAT and DMT Points of Contact (POC) will use the ESDIS doi registration tool.

- New DOIs will be obtained when appropriate based on existing ESDIS data versioning guidelines.

CSDAP DOI Plan

CSDAP DOI assignment process:

- If the vendor is in the *evaluation phase*: No DOI is needed for data products.

- If the vendor is in the *transition phase*: Data products may have a DOI reserved through the ESDIS interface by CSDAP DAT POC.

- Should a DOI be needed in the *transition phase*, then the CSDAP DAT is responsible for writing landing page content, constructing, and ensuring the landing page is publicly available.

- Once data products are transferred to the *sustained use phase*, reserved DOIs are registered and landing pages are made public. If a DOI was registered in the *transition phase*, the CSDAP DMT POC is responsible for transferring the DOI resolution URL as needed through DataCite.

- New data products created using data from the CSDAP project purchased data will be assigned ESDIS DOIs once cleared through the typical community data submission process for adding a data product to a DAAC.

CSDAP DOI Plan

CSDAP landing page requirements:

Per the latest ESDIS [landing page policy](), the following are **required metadata items** to be placed on every landing page.

- DOI - The data product DOI registered/reserved by ESDIS. The format: ESDIS prefix and the opaque suffix.
- Data Product Long Name - The descriptive title of the data product represented by the DOI.
- Version Number - Any relevant major version for the data product represented by the DOI.
- Data Product Description - Brief description of product, including changes resulting in a new version designation.
- Data Access - A link to access or instruction to access the data files.
- Data Citation - The official citation for the data product.

*The following items are also **required** for CSDAP*

- Licensing - description in plain language of the data use license terms
- License Link - A link to the relevant EULA document on earthdata CSDAP site
- Vendor DOI (if they have one)

Recommended landing page items include:

- Associated Landing Pages - Links to landing pages for other data product versions (i.e for CSDAP: vendor DOIs)

*The following items are also **recommended** for CSDAP*

- Link to pertinent vendor data product documentation with description of item
- Relevant Web Pages - Links to relevant web pages such as the vendor web site

APT Need for DOIs

- Algorithm Publication Tool (APT)
- Used for ATBD production
- Will need to obtain DOIs for ATBDs in the APT repository
- Issues include:
    - ATBD versioning and DOI policy
    - Are landing pages needed for documents? Or is the document the resolving URL for the DOI?
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