

Interagency Data ID (IAD) Service

Additions/changes to version 3.0

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Version 3.0 includes these changes to IAD metadata or functionality:

- **Adds new metadata tag:** <product_type> Three values are now allowed: Dataset, Collection, or Text. Read the business rules for the Product Type field; they are explained in the table of required metadata, section 3.1 of this document. Note that <product_type_specific> remains and is a free text field for better description of the basic product.
- **Adds new XML "tag block to the metadata schema:"** a block of XML tags for Related Identifiers and the relationship between them. Read the business rules for Related Identifiers; they are explained in the table of optional metadata, section 3.2 of this document and Appendix 5.1.
- **Describes enhancement to IAD's GET functionality:** See section 2.2 of this document.
- **Adds appendix containing the controlled vocabulary terms for Related Identifiers**
- **Adds appendix to show mapping from IAD tags to DataCite tags:**

1.0 About the IAD

OSTI's Interagency Data ID Service (IAD) allows U.S. federal agencies to obtain persistent identifiers known as Digital Object Identifiers (DOIs) for datasets and ensures that the DOIs are properly registered with [DataCite](#). The [Office of Scientific and Technical Information \(OSTI\)](#) became a member and an allocating agency for DataCite in 2011. OSTI can assign DOIs to the Department of Energy through its DOE Data ID Service and to other U.S. agencies through a similar service, the IAD.

IAD provides an easy-to-use web service/API mechanism to submit, edit, or retrieve registration records. Users can manipulate records by performing HTTP operations on the web service URL and providing XML metadata to create/update records (POST) or to retrieve records for review (GET). Submitting agencies agree to ensure data persistence, which includes storing and managing their registered datasets such that access and usability are provided indefinitely. The URL associated with each DOI should point to an HTML "landing page" that provides additional needed information, such as a list of contents if multiple data files are included in the registered dataset. Submitters with consistently low volume or low frequency may prefer to use a manual upload for their metadata records; this feature is available on an IAD web page and will be provided to you if you are interested.

Please note that datasets themselves are not uploaded, submitted, or stored at OSTI.

1.1 General Requirements

These general requirements have been established for data registration. The submitter must:

- Provide, at minimum, the required metadata to enable basic, bibliographic citation
- Have authority (though not necessarily ownership) to make public the assets for which they wish to assign the DOIs.
- Guarantee the persistence of registered data
 - By ensuring that data will be stored and managed such that access and usability are provided indefinitely.
 - By maintaining and updating as necessary all URLs associated with the DOI
- Establish and maintain appropriate landing pages for registered DOIs

1.2 Understanding Key Components

Defining Datasets: Content and Granularity

Determining how DOIs should be applied to your data, i.e. at what level of granularity, is an important step in planning data registration. Some datasets are similar to collections in that they include multiple data files. The DOI can be assigned at the collection level, with the included data files listed individually on the dataset's landing page. Another option is to break the collection down in some logical way by topic, by geographic location, by time period, etc. and assign a DOI to each of

these smaller “sets” of multiple files. On the other extreme, a dataset may also be as simple as a spreadsheet.

Datasets are not always numeric in nature. A computer model and sets of “canned” input could be a dataset, while each of the simulations or output files could be assigned their own DOIs. A collection of photographs or a graphic of a workflow can be registered as a dataset. Interactive resources or audiovisual items may be assigned DOIs. Data “studies” can be registered also; these may include a variety of materials associated together as a “package.”

Subject expertise and knowledge of how your audiences normally look for your data will help you determine the appropriate content and boundaries of the datasets that you intend to register. OSTI can provide advice and share examples of best practices, but granularity decisions are ultimately the responsibility of the people who know the data best, i.e. the creators, the analysts, or the data center experts at your submitting organization.

IAD’s Digital Object Identifier (DOI)

Each time a new submitting entity becomes an IAD “data client,” OSTI requests from DataCite a numeric prefix which will belong only to that one, specific entity. A data client may be an entire agency or a center or office within the agency, an observatory or other facility, or even one specific project. DataCite and IAD ensure that no two data clients will ever have the same DOI prefix.

A typical DOI consists of the number 10, followed by a period, followed by the data client’s prefix, a forward slash, and a numeric suffix. The suffix assigned by IAD is the OSTI ID, a unique identifier that every record processing through any of OSTI’s systems, including IAD, must receive. IAD also allows a submitter to have a “customized” DOI, one that has intelligence specific to the submitter’s organization included in the DOI. See [Creating an “Intelligent” DOI](#) in this document for more information.

What makes the DOI not only a unique identifier, but a “persistent” identifier is the commitment behind it. Data clients commit to update the URLs for their DOIs whenever a posted landing page and its associated dataset must be moved to a new online address. The DOI will never change, but the URL, which is invisibly “bonded” to a DOI in the DataCite Registry, *can* change. Changing the URL in DataCite’s Registry is accomplished via IAD through a simple POST operation to update the affected record.

DataCite recommends that DOIs in a citation or database be displayed as live links, i.e. with <http://dx.doi.org/> preceding the beginning of the actual DOI numbers or characters. This is not a requirement, but it is a “best practice.” Example: <http://dx.doi.org/10.5439/1021460>

The Landing Page

A “landing page” or introductory page is recommended by DataCite for all registered data and actually required in two cases (See next paragraph). The DOI points to the landing page, which in turn, links out to the dataset itself. The landing page, which must always be publicly accessible, provides context for the dataset. The landing page may contain one or more of the following:

- Information on how a full, formal citation of the data should appear,

- Access information, including a notice of temporary restriction, if necessary,
- Links to software or toolkits needed to open, download, or analyze the data,
- A listing of the individual data files that may be included in the registered dataset (with links to them),
- Update and version information,
- Contact information.

DataCite notes two cases when a landing page is mandatory rather than recommended. A landing page is mandatory for any data that cannot be viewed using standard desktop software. A landing page is also mandatory when the data has restricted access. Because DOIs are not deleted from the DataCite Registry, a landing page can also serve as a “tombstone page” when a dataset must become unavailable. The tombstone page should tell a user who has followed the original DOI to that point what has happened to the data, why, and provide a contact for further questions.

1.3 Getting Started

Access to the IAD requires the submitter to have an active, approved account. To request your account, send email to IAD@osti.gov. Once an account is established, the account holder then submits records to a test environment and does a coordinated review of the results with OSTI before POSTing the first “live” file in production mode. The test URL for automated submission via a web service/API is <https://www.osti.gov/iadtest/dataapi>. The URL for production use of the Interagency Data Web Service is provided when the TEST activities have been completed.

2.0 Using the IAD

2.1 Authentication

Each POST or GET request requires authentication through an approved web service account. The IAD Web Service supports HTTP Basic authentication over Secure Socket Layer (SSL). With this method, the client server connects to the IAD server using HTTPS URLs (<https://www.osti.gov/iadtest/dataapi> for testing). The POST and GET verb commands will pass along the standard Authentication HTTP header (base64 encoding).

2.2 POST (Submit/Update) and GET (Retrieve)

If authentication is successful, the input body of the request is read as an XML document, parsed, and submitted appropriately. The HTML status code for successful connection and an XML response, which includes certain metadata fields, are returned at the end of processing each request.

The POST request is used to submit metadata for a new record that will receive a new DOI. It is also used to edit or update an existing record that has previously been submitted. When requesting an existing record in order to update it, the OSTI ID must be included in the XML record. The updated record will then overwrite the specified record.

Metadata can be retrieved for any record(s) previously submitted by your organization by using a GET request and supplying the osti_id argument on the command line. Authentication is required and is handled in the same fashion as a Create/Modify command. To GET one specific record, provide the correct OSTI ID or the unique accession number assigned by your site to the record, or the unique report/product number.

However, you may retrieve multiple records if you wish to search by author names or title words. You may also GET the status of your record. If the return message tells you the status "Complete," that tells you that the DOI assigned to your dataset and its metadata record successfully traveled to DataCite and was minted. You will want to wait several minutes before sending the GET request to check the status of a newly submitted record several hours before checking the status of an update, as those take longer to process at DataCite. If your status message is anything else but "Complete," please check with IAD staff at OSTI to determine the issue and appropriate correction.

Note that supplying no GET parameters will return the first page of ALL available records for your site.

2.3 Response and Notifications from IAD

The IAD server makes an immediate response when the client-side server sends a POST or a GET request. The primary goal of the response is two-fold: let the client server "know" if it connected successfully and provide a status message about the record that was POSTed or retrieved. The status says SUCCESS if the record correctly transmitted and the metadata loaded into the processing system. The status says FAILURE if the record was unable to load into the processing system for any reason. The FAILURE response includes a status message indicating the error or problem that kept the record from loading. Errors leading to a FAILURE response occur when a required metadata field is missing, when a site URL cannot be validated as correct by the automated validation process, when a value is too long for the field it must load into, etc.

An example of each response type appears below. Note that the successful record returns its newly assigned OSTI ID and its newly assigned DOI. The response for the failed record has neither, since OSTI IDs and DOIs cannot be given to records that never actually make it into the processing system.

POST SUCCESSFUL – SAMPLE RESPONSE FROM IAD SERVER

```
<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
<osti_id>1035366</osti_id>
<product_nos>none</product_nos>
<title>ARM Climate Modeling Best Estimate Lamont, OK (ARMBE-CLDRAD SGPC1)</title>
<contract_nos>AC05-00OR22725</contract_nos>
<doi>http://dx.doi.org/10.5439/1035366</doi>
<status>SUCCESS</status>
```

```

<status_message></status_message>
</record>
</records>

```

POST FAILURE – SAMPLE RESPONSE FROM IAD SERVER

```

<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
<osti_id>0</osti_id>
<product_nos>none</product_nos>
<title>ARM Climate Modeling Best Estimate Lamont, OK (ARMBE-CLDRAD SGPC1)</title>
<contract_nos>AC05-00OR22725</contract_nos>
<doi></doi>
<status>FAILURE</status>
<status_message>Data too long, maximum number of characters for dataset type is 2</status_message>
</record>
</records>

```

IAD also sends an automated email to those at the submitting site that wish to be on the distribution list. The email reports the same information as the server response message but can reach a wider audience, if necessary. It is the submitting organization’s responsibility to review the returned messages, correct any errors, and resubmit the failed records.

3.0 IAD’s Metadata Fields

The following two tables list the required and optional metadata fields, their XML tags, and the related business rules governing submission to the Interagency Data (IAD) Web Service. Records without required fields will fail to load into IAD and will not receive DOIs. Only a few metadata and/or administrative fields are required. The other fields available for use are optional, though several, such as the Abstract/Description, are highly encouraged. Third party indexing services often integrate with the DataCite Registry (where the IAD sends your metadata) to reflect the DOIs and associated information in their own products. The more metadata these services can pick up from DataCite, the more retrievable your datasets will be.

Please note that there are two ways to submit Creator/PI/Author names. These two methods cannot be combined in one record. A record must use either the single tag <creators> and combine all names into one character string **OR** if any of the names have an accompanying ORCID, a record must use the <creatorsblock> which includes several tags for each creator name.

3.1 Required/Mandatory Tags and Values

Field	XML Tag	Definitions, Comments/Business Rules
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OSTI ID+	<osti_id>	The OSTI ID is required in all requests intended to edit or update records. When POSTing new records to OSTI, no <osti_id> tag is needed in the XML. The IAD automatically assigns an OSTI ID to each record successfully submitted; you will receive it in the XML response returned automatically to your site.
Title	<title/>	Full title of the product being registered. Include version numbers and specific date ranges when applicable.
Creator(s) / Principle Investigator(s)/ Authors	<creators/>	You may use this field if you are NOT submitting ORCID IDs with any of the creator/PI (or author) names in the record. Format for names is last name, first name, middle initial. Multiple creator names, separated with a semi-colon and a space are allowed.
Creator(s) / Principle Investigator(s)	<creatorsblock> <creators_detail> <first_name></first_name> <middle_name></middle_name> <last_name></last_name> <affiliation></affiliation> <private_email></private_email> <orcid_id></orcid_id> </creators_detail> </creatorsblock>	Use the <creatorsblock> tags if you ARE including ORCID number with any of the creators/Pis (authors) in the submitted record. When the submitted record has the <creatorsblock> tags, ALL creator/PI/author names MUST be broken out into this block format (even if only one of the names has an accompanying ORCID).
Originating Research Org or Submitting Org	<publisher/>	The entity that originated, holds, issues, or produces the dataset/information product.
Publication Date	<publication_date/>	The date when the dataset or information product was published or issued. Required format is mm/dd/yyyy (example: 04/17/2011).
URL of landing page/dataset	<site_url/>	The unique URL where the dataset's landing page is posted for access. The landing page must contain the direct link to the dataset itself. A text product, such as a report, does not require a landing page. The DOI should take the user directly to the PDF document.
Product Type	<product_type>	This field indicates whether the overall product for which you are obtaining a DOI is a Dataset , Text , or a Collection . Please use one of these three controlled vocabulary terms when submitting an XML metadata record. If the <product_type> tag is not included in the XML or if it has no value, IAD will automatically default to Dataset. Note that a Collection product may refer to an aggregation of resources and research objects. A Collection probably has items in it which have or

		<p>will receive their own DOIs and thus be retrievable independently. Therefore the Collection record is a high-level description of the overall group of items.</p> <p>A Dataset product may have many data files in it, but these data files will not receive their own DOIs; they will be retrievable under the one Dataset DOI.</p>
Specific Product Type	<product_type_specific>	<p>Use the <product_type_specific> tag to indicate the main or most important part of the product's actual content. This is a free text field and serves almost as a description of the Dataset, Text, or Collection being registered. Examples:</p> <ul style="list-style-type: none"> • A Product Type might be Dataset and the Specific Product Type in terms of main content could be <i>Numeric Data</i>. • A Product Type might be Text and the Specific Product Type could be <i>Budget Report</i> • A Product Type might be Collection and might give as Specific Product Type <i>2015 National Employment Numbers</i>. There could potentially be month by month projection documents, month by month actuals, and an overall end-of-year analysis document. The analysis document could get its own DOI and would be a Text product but is organizationally and logically part of this collection. The month by month projections and actuals could also have their own DOIs.
Contact Name and Position	<contact_name/>	The name and position of the main point of contact for the dataset being registered.
Contact Organization	<contact_org/>	The organization of the main point of contact for the dataset being registered.
Contact Email	<contact_email/>	The email address of the main point of contact for the dataset being registered.
Contact Phone	<contact_phone/>	The phone number of the main point of contact for the dataset being registered.

+ Only required when a POST is intended to update or modify a previously submitted record OR when a GET command is intended to retrieve a previously submitted record for review.

3.2 Optional Metadata Fields

Field	XML Tag	Definitions, Comments/Business
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		Rules
Product Number(s) or Report Numbers	<product_nos/>	A unique identifying number that has been assigned to the product by originating, hosting, or submitting organization. Multiple IDs may be in this field. Separate the multiples with a semi-colon and a space.
Description/ Abstract	<description/>	A clear, concise summary of the content of the product, as well as specialized information that may be needed. Parameters to include for a dataset may include a date range during which information was taken (such as May, 01 2002 - December 31, 2002), geographic information (such as a specific state, region, country, latitude and longitude, etc.), information such as temperature ranges, etc. The abstract length should be no more than 5,000 characters. Note: The ampersand (&) character is not XML compliant. All ampersands should be sent as &
Keywords, Subject Terms or Topics, etc.	<keywords>	Terms that could be important for subject indexing or particularly helpful for search and retrieval. Keywords may be terms or phrases. Separate multiples with a semi-colon and a slash.
Related Resource	<related_resource/>	Brief citation information (title, author, identifier) for a key publication or report that the dataset being registered directly supports. An author who has written a journal article may have supplementary data for which he is now obtaining a separate DOI. He/she plans to submit both the article and the dataset for publication. Related Resource is the field where the article information (title, author, etc.) can be fully spelled out to show that the dataset (currently being submitted to obtain its own DOI) is a direct, supporting object for the article.
Related Identifier(s)	<relidentifiersblock> <relidentifer_detail> <related_identifier> </related_identifier> <related_identifier_type> </related_identifier_type> <relation_type> </relation_type> </relidentifer_detail> </relidentifiersblock> (Note that the top level tags have been shortened by leaving off part of the word "related." Be sure to correctly spell those tags and the interior tags where the words are completely spelled out)	Identifiers of related resources. These resources must have DOIs already, since these identifiers can only be DOIs. Each DOI included as a related identifier must be part of the overall <relatedidentifiersblock> in the XML record. Multiple related identifiers may be provided and each one appears in a nested <relatedidentifiers_detail> set of tags. The DOI itself is then placed in the <related_identifier> tag, and the value for the required <related_identifier_type> is simply the word DOI. If a related_identifier is used, the <relation_type> tag is also placed in the overall block. The <relation_type> tag indicates, with controlled vocabulary, the relationship of the resource being registered (A) and the related resource (B). The related resource may be another dataset, a journal article or other publication, an image or video file, etc.

		<p>The controlled vocabulary terms are listed below:</p> <p>IsCitedBy Cites IsSupplementTo IsSupplementedBy IsContinuedBy Continues HasMetadata IsMetadataFor IsNewVersionOf IsPreviousVersionOf IsPartOf HasPart IsReferencedBy References IsDocumentedBy Documents IsCompiledBy Compiles IsVariantFormOf IsOriginalFormOf IsIdenticalTo IsReviewedBy Reviews IsDerivedFrom IsSourceOf</p> <p>See Appendix 5.1 for brief definitions of these controlled vocabulary terms.</p>
Contributor Organizations	<contributor_organizations/>	The names of any organizations that have significantly contributed to the gathering, formatting, analysis, etc. of the dataset. These are organizations that would not otherwise be credited because they will not be listed in the Publisher field, or in the Sponsoring Organization field. Names of Collaborations should also be given here.
Sponsoring Organizations	<sponsor_org/>	The name(s) of the organization(s) that funded the work which produced the dataset or information products. Separate multiple organizations with a semi-colon and a space.
Contract or Grant Number(s)	<contract_nos/>	The contract number or grant/award number under which the work that produced the dataset or information product was funded. If the dataset is the result of a joint effort between two or more funding entities, additional contract numbers may be entered. When more than one is entered, the first one given is considered the primary funding contract. Separate multiples with a semi-colon and a slash.
Other Identifying Numbers	<other_identifying_nos/>	Any other identifying number(s)

Dataset File Extension	<file_extension/>	The file extension of the dataset. Knowing the type of file posted will be important to users as they decide whether they can easily open the dataset. Some common file extensions are .txt, .csv, .ps, etc.
Availability	<availability/>	The name of any office or organization that can offer additional help in obtaining or utilizing the dataset.
DOI (if one has already been assigned)	<doi>	A previously assigned DOI may be used, if desired, in POST requests intended to edit or update records. This cannot take the place of the <osti_id> tag required when editing or updating. When POSTing new records to OSTI, no <osti_id> tag or <doi> tag is needed in the XML. The IAD assigns both to each record successfully submitted; you will receive it in the XML response returned to your site.
DOI "name" with "intelligence"	<doi_infix>	Include this tag in your metadata when you wish to provide a character string created by you and your users to provide office-specific or project-specific intelligence to the DOI "name." You may use alpha characters and numeric characters and periods, but do not use a slash (/) in the value placed in your <doi_infix> tag.
To reserve a DOI for future registration	<set_reserved/>	No value is needed in this tag. The presence of the tag in your metadata indicates that you wish the particular record and its DOI to be automatically SAVED until you are ready to release the landing page/dataset for public access. Removing the tag and providing a URL to the landing page in the <site_url> tag triggers the reserved record to leave its SAVED status and travel to DataCite, where the DOI will be registered and become a live link.

4.0 Special Functionalities and Use Cases

4.1: Creating an Intelligent DOI

If you need to have project-specific or dataset-specific intelligence added to the DOI that OSTI assigns your dataset and then sends to DataCite for registration, these are the steps to do so:

- Provide all metadata in your submitted record as usual, including the link to the dataset's landing page, PLUS include this tag: <doi_infix>. The value can be anything you want it to be – letters, numbers, or a combination. Please, however, do not make it ridiculously long.
- OSTI takes the infix value you have provided and inserts it between the unique prefix that you, as a submitter, have been given and the unique OSTI ID that forms the suffix for each DOI.

Example: DOI prefix/DOI infix/OSTI ID
10.19597/myprojectname/1105143

The important thing to remember is that DataCite gives OSTI the unique number for your organization that OSTI will automatically place at the beginning of your DOIs (*prefix*), **you** create and provide in your metadata the intelligent string of numbers and/or characters that will form the middle of your DOIs, (*infix*) and OSTI adds the OSTI ID number assigned to the record at the end of your DOIs (*suffix*).

4.2: Reserving a DOI for Future Registration

Sometimes a researcher needs to know what his DOI for his data will be even before he knows where he will post the landing page that his DOI will link to. He may wish to share the DOI with members of his collaboration. Reserving a DOI in OSTI's system supports this need. It ensures that a researcher knows what his DOI is for a particular dataset but also ensures that the assigned DOI does not travel to DataCite before the researcher is ready for it to do so. If the DOI "travels" to DataCite before there is a valid URL that forms the basis of the DOI, DataCite will reject that DOI, which means it is not registered and cannot function as a live link. If you need to reserve a DOI when neither landing page nor dataset are yet available, these are the steps:

- Provide metadata in your submitted record, but DO NOT include a value in the <site_url> tag.
- DO put the tag <set_reserved/> in the record. No value needed, just the tag.
- The record will be automatically put into SAVED but it will have the OSTI ID and the DOI we assign it. Those values will be returned to you by the OSTI server and via email as normal. The email will note that your DOI is reserved rather than registered. Nothing goes to DataCite from OSTI.
- When you are ready to have the DOI go live and link to a landing page, take the <set_reserved> tag out and put the URL to the landing page in the record and send it again in a POST operation. REMEMBER, HOWEVER, THAT A POST OPERATION THAT IS INTENDED TO UPDATE A RECORD MUST ALSO INCLUDE the <osti_id> TAG AND THE CORRECT OSTI ID.

The important thing to remember, when you are ready to make your assigned DOI go "live" and display in the DataCite Registry, is YOU HAVE ONE TAG TO TAKE OUT (<set_reserved/>) AND TWO TAGS WITH VALUES TO PUT IN: <osti_id> with the correct ID and <site_url> with the URL to the landing page.

5.0 Appendices

5.1: Controlled Vocabulary/Relationship Values for Related Identifiers

If related identifiers are used, use of the "relationType" controlled vocabulary is mandatory.
Controlled List/Relationship Values for Related Identifiers:

Note: These allowed vocabulary/relationship terms and their definitions are derived from the DataCite 4.0 Metadata Schema

Option	Definition
IsCitedBy	Indicates that B includes A in a citation

Cites	Indicates that A includes B in a citation
IsSupplementTo	Indicates that A is a supplement to B
IsSupplementedBy	Indicates that B is a supplement to A
IsContinuedBy	Indicates A is continued by the work B
Continues	Indicates A is a continuation of the work B
HasMetadata	Indicates that resource A has additional metadata B
IsMetadataFor	Indicates additional metadata A for a resource B
IsNewVersionOf	Indicates that A is a new edition of B, where the new edition has been modified or updated
IsPreviousVersionOf	Indicates that A is a previous edition of B
IsPartOf	Indicates A is a portion of B, may be used for elements of a series
HasPart	Indicates A includes the part B
IsReferencedBy	Indicates A is used as a source of information by B
References	Indicates B is used as a source of information for A
IsDocumentedBy	Indicates B is a documentation about/explaining A
Documents	Indicates A is a documentation about B
IsCompiledBy	Indicates B is used to compile or create A
Compiles	Indicates B is the result of a compile or creation event using A
IsVariantFormOf	Indicates A is a variant or different form of B, e.g. calculated or calibrated form or different packaging
IsOriginalFormOf	Indicates A is the original form of B
IsIdenticalTo	Indicates that A is identical to B, for use when there is a need to register two separate instances of the same resource
IsReviewedBy	Indicates that A is reviewed by B
Reviews	Indicates that A is a review of B
IsDerivedFrom	Indicates B is a source upon which A is based
IsSourceOf	Indicates A is a source upon which B is based

5.2: Sample XML Records

Sample of a new XML record to be POSTED: Record uses the single field, character string entry for the <creators> field because none of the creators show accompanying ORCIDs.

```
<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
<title>LBA Regional Global Historical Climatology Network, V.1, 1832-1990</title>
<creators>Vose, R.S.; Schmoyer, R.L.; Steurer, P.M.; Peterson, T.C.; Hein, R.; Karl, T.R.; Eischeid,
J.K.</creators>
<creators_emails></creators_emails>
<publisher>ORNL Distributed Active Archive Center (DAAC) for Biogeochemical Dynamics, National
Aeronautics and Space Administration</publisher>
<publication_date>12/31/2002</publication_date>
<site_url> http://daac.ornl.gov/cgi-bin/dsvviewer.pl?ds_id=702</site_url>
<product_type_specific>Numeric Data</product_type_specific>
<product_nos></product_nos>
<description> This dataset consists of a subset of the Global Historical Climatology Network (GHCN)
Version 1 database for the study area of the Large Scale Biosphere-Atmosphere Experiment in Amazonia
(LBA) in South America (i.e., longitude 85 to 30 degrees W, latitude 25 degrees S to 10 degrees N). There
are three files available, one each for precipitation, temperature, and pressure data. Within this subset
the oldest data date from 1832 and the most recent from 1990. All data taken at Latitude: 10.00N To
25.00S, Longitude: 30.00W to 85.00W. More information about LBA and links to other LBA project sites
can be found at http://www.daac.ornl.gov/LBA/misc_amazon.html. </description>
<keywords>Rainforest; FIFE; BOREAS; Remote-Sensing Techniques; Selective Logging; Carbon Storage;
Nutrient Dynamics; Trace Gas Fluxes</keywords>
<related_resource></related_resource>
<contributor_organizations></contributor_organizations>
<sponsor_org>National Aeronautics and Space Administration (NASA), U.S.; Centro de Previsao de
Tempo e Estudos Climaticos, Brazil; Instituto Nacional De Pesquisas Espaciais, Brazil); Instituto Nacional
de Pesquisas da Amazonia, Brazil</sponsor_org>
<contract_nos></contract_nos>
<other_identifying_nos></other_identifying_nos>
<file_extension>.dat</file_extension>
<availability>ORNL DAAC</availability>
<contact_name>J. Smith</contact_name>
<contact_org>ORNL DAAC</contact_org>
<contact_email>smith@daac.ornl.gov</contact_email>
<contact_phone>865-497-3155</contact_phone>
</record>
</records>
```

Sample of a new XML record to be POSTED: Record names one creator/PI (who happens to have an ORCID ID) and uses the ORCID-related fields.

```
<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
```

```

<title>2010 Survey, Endangered Sea Turtles, Florida Atlantic Coast </title>
<creatorsblock>
<creators_detail>
<first_name>Jesse</first_name>
<middle_name>D.</middle_name>
<last_name>Johnson</last_name>
<affiliation>NOAA</affiliation>
<private_email></private_email>
<orcid_id>0000-0002-8924-3894</orcid_id>
</creators_detail>
</creatorsblock>
<publisher>Southeast Fisheries Science Center, National Marine Fisheries Service, NOAA</publisher>
<publication_date>06/14/2012</publication_date>
<site_url> http://www.sefsc.noaa.gov/species/turtles/</site_url>
<product_type_specific>Survey Data</product_type_specific>
<product_nos>SFSC232012</product_nos>
<description>This survey reports the results of the 2012 effort to log existing tag numbers of endangered
sea turtles and to also assign new IDs to untagged sea turtles. This survey is conducted annual along
Florida's Atlantic Coast between Jacksonville and the southernmost boundary of Dade
County.</description>
<keywords>Protected Species</keywords>
<related_resource>Working the Sea Turtle Survey. Jesse D. Johnson and Arnold Imaged. Resource
Watch, Volume 34, Issue 10, 2013.</related_resource>
<contributor_organizations>Florida Atlantic University</contributor_organizations>
<sponsor_org>National Oceanic and Atmospheric Administration (NOAA)</sponsor_org>
<contract_nos></contract_nos>
<other_identifying_nos></other_identifying_nos>
<file_extension>.txt</file_extension>
<availability></availability>
<contact_name>Sheila Jones</contact_name>
<contact_org>NOAA SFSC</contact_org>
<contact_email>jones@sfsc.noaa.gov</contact_email>
<contact_phone>893-987-5436</contact_phone>
</record>
</records>

```

Sample of a new XML record to be POSTED: Record names three creators/Pis. Only one has an ORCID; the other two do not. However, if *any* creator/PI in a record has an ORCID, the ORCID-related fields (<creatorsblock>, etc) **must** be used in that record.

```

<?xml version="1.0" encoding="UTF-8"?>
<records>
<record>
<title>Repetitive Flu-like Episodes: Data Comparisons from Ten Western States</title>
<creatorsblock>
<creators_detail>
<first_name>Amy</first_name>
<middle_name>J.</middle_name>

```

<last_name>Askins</last_name>
<affiliation>CDC</affiliation>
<private_email>askinsa@cdc.gov</private_email>
<orcid_id><orcid_id>
</creators_detail>
<creators_detail>
<first_name>Horace</first_name>
<middle_name></middle_name.&br/><last_name>Bart</last_name>
<affiliation>Los Angeles Health Department</affiliation>
<private_email></private_email>
<orcid_id>0000-0001-8123-0763<orcid_id>
</creators_detail>
<creators_detail>
<first_name>Marcus</first_name>
<middle_name>D.</middle_name.&br/><last_name>Welby</last_name>
<affiliation>University of Oregon</affiliation>
<private_email></private_email>
<orcid_id><orcid_id>
</creators_detail>
</creatorsblock>
<publisher>Centers for Disease Control and Prevention (CDC)</publisher>
<publication_date>07/14/2010</publication_date>
<site_url>http://www.cdc.gov/ncbddd/flu/western/</site_url>
<product_type_specific>Data Studies<product_type_specific>
<product_nos></product_nos>
<description></description>
<keywords>Virus; Flu Anomalies</keywords>
<related_resource></related_resource>
<contributor_organizations>Lawrence Livermore National Laboratory
(LLNL)</contributor_organizations>
<sponsor_org>Centers for Disease Control and Prevention (CDC); National Institutes of Health
(NIH)</sponsor_org>
<contract_nos>CDC-NIH-40376-2010</contract_nos>
<other_identifying_nos></other_identifying_nos>
<file_extension>.xls</file_extension>
<availability></availability>
<contact_name>Shane Harmon</contact_name>
<contact_org>CDC</contact_org>
<contact_email>harmons@cdc.gov</contact_email>
<contact_phone>204-874-2189</contact_phone>
</record>
</records>

Appendix 5.3: Landing Page Examples

CXIDB Coherent X-ray Imaging Data Bank

Home Mission CXI File Format Browse Data **ata** Sponsors Contact Us

CXIDB ID 5

Citation Details

Title:	High-resolution x-ray diffraction microscopy of specifically labeled yeast cells
Authors:	Johanna Nelson et al.
Journal:	PNAS
Year:	2010
DOI:	doi:10.1073/pnas.0910874107

Experimental Conditions

Method:	Single Particle X-ray Diffraction Imaging
Sample:	Gold labeled frozen dried <i>Saccharomyces cerevisiae</i> yeast cells.
Wavelength:	1.653 nm
Lightsource:	ALS
Beamline:	9.0.1

Deposition Summary

Depositor:	Johanna Nelson
Contact:	jjnelson@slac.stanford.edu
Deposition date:	2011-07-22
Last modified:	2011-07-22

Data Files

Diffraction Pattern:	cxidb-5.cxi
-----------------------------	-----------------------------

2014 CXIDB. All rights reserved. Designed by Filipe Maia based on Zenlike.

A typical landing page for a CXIDB dataset

Description

This is the second of five exposures of the same sample at different tilts. This one is at +15 degrees tilt.

Check CXI IDs 4 to 8 for the complete set.

Link to actual dataset

The screenshot shows the ARM website interface for the AOSCPC datastream. The main content area displays the datastream name, instrument details, active dates, and a table of measurements. The sidebar on the right contains sections for 'Documentation', 'Citation', 'Order Data', and 'Comments?'. A green arrow points to the DOI '10.5439/1025152' in the Citation section, with a note: 'Note DOI and a link to text explaining how DOIs are assigned to ARM data'. Another green arrow points to a note in the Measurements section: 'To order specific data files included in this datastream'.

Appendix 5.4: From IAD to DataCite: A View of the Metadata Map

Mapping of IAD Tags to DataCite's Metadata Data Store and Registry (as of October 21, 2016)

These XML Tags in the Interagency Data ID Service:	Map to ----->	These XML tags in DataCite's MDS:	And display to users of the DataCite Registry search results this way:
<title/>	----->	<title>	Large bolded title in color appears in search results "box" and all user-selected citation formats.
<creatorsblock> <creators_detail> <first_name/> <middle_name/> <last_name/> <affiliation/> <private_email/> <orcid_id/> </creators_detail> </creatorsblock>	----->	<creators> <creator> <creatorName> <givenName> <familyName> <nameIdentifier> (attribute)= nameIdentifierScheme </creator>	All creator names appear directly under the title in the search results "box" ORCID's and other author details will appear under "CITE" and are based on citation format selected

			<creators>	by user.
	<publisher/>	----->	<publisher>	Appears in a statement under creator names and as a filter under Data Centers (right side of screen). Also appears in user-selected citation formats.
	<publication_date/>	----->	<publication_year>	Appears in a text statement under creator names and as a filter under Publication Year (right side of screen). Also appears in user-selected citation formats.
	<site_url/>	----->		The DOI is now the link to the landing page and data.
	<product_type/>	----->	(attribute)= resourceTypeGeneral	Appears as a filter under Resource Types (right side of screen)
	<product_type_specific/>	----->	<resourceType>	
	<contact_name/>	----->	Admin field	
	<contact_org/>	----->	Admin field	
	<contact_email/>	----->	Admin field	
	<contact_phone/>	----->	Admin field	
	<product_nos/>	----->	<alternateIdentifier>	
	<description/>	----->	<description>	Description text appears in the search results "box"
	<keywords>	----->	<subject>	Are indexed for search enhancement
	<related_resource>	----->		
	<relidentifiersblock> <relidentifer>	----->	<relatedIdentifiers> <relatedIdentifier> (attribute) = relatedIdentifierType (attribute) = relationType	Indexed for search and functionality enhancements
	<contributor_organizations/>	----->		
	<sponsor_org>	----->		
	<contract_nos>	----->		
	<other_identifying_nos/>	----->	<alternateIdentifier>	
	<file_extension/>	----->	<format>	May appear in certain user-selected citation

				formats
	<availability>	----->		
	<doi>	----->	Assigned by IAD	Appears in search results "box" and all citations
	<doi_infix>	----->	Becomes part of the assigned DOI	Appears in the DOI wherever the DOI is displayed.
	<set_reserved/>	----->	Triggers a functionality, is NOT a field in which values are to be submitted.	