EOSDIS DOI Use Case Document

Use Case 1: Registering DOIs for digital objects that are produced by Principal Investigator (PI) or Science Investigator Processing System (SIPS).

Example: The Precipitation Processing System (PPS) group at Goddard Space Flight Center (GSFC) would like to register DOIs for Global Precipitation Measurement (GPM) Digital Objects. These digital objects are produced by PPS and to be distributed by the Goddard Earth Sciences Data and Information Services Center (GES DISC), a NASA's Earth Observing System Data and Information System (EOSDIS) Distributed Active Archive Center (DAAC).

Goal: To register DOIs to all GPM digital objects that are produced by PPS.

Precondition: All digital objects must qualify for a DOI assignment based on the ESDIS DOI Assignment Policy. PPS has an agreement in place with GES DISC for archiving and distributing these digital objects.

Digital Object Producer: PPS group at GSFC

Digital Object Archive and Distribution DAAC: GES DISC

Unique Feature: PPS, a NASA group, produces the digital object on a daily basis and transfers it to NASA EOSDIS DAAC, GES DISC for archive and distribution. The PPS may also distribute these digital objects.

Assumptions: None

Responsibility Assignments:

The PPS group is responsible for:

a) Providing all the metadata required for DOI processing,
b) Including the assigned DOI in the digital object metadata, and
c) Referencing the assigned DOI on all appropriate digital object web pages with a link to the digital object landing page.

GES DISC is responsible for:

a) Assigning and maintaining DOIs for all the digital objects,
b) Developing and maintaining the landing page for all digital objects, and
c) Submitting the required information to the ESDIS DOI Registration System.

Description: GES DISC, in consultation with PPS staff, will determine the following key points:

A) The type of DOI assignment— structured or opaque?
B) Whether to reserve or register the DOIs. If the products are in the development or testing stages, then the DOIs should be reserved. If the data products are readily available for distribution, then the DOIs must be registered.
C) A procedure for assigning a new DOI for a later version and which version number should get a new DOI.

ESDIS DOI Registration system shall process the metadata as submitted and also maintain a record of all the processing as per established policy and procedures described on the wiki website. Once DOI requests have been processed by the ESDIS DOI Registration System, GES DISC will provide such information to the PPS group.

Use Case 2: Registering DOIs for digital objects that are produced by a NASA Agency other than EOSDIS.

Example: Earth Science Project Office (ESPO) at Ames Research Center (ARC) would like to register DOIs for Atmospheric Tomography (ATom) aircraft digital objects. These digital objects are produced by ESPO and initially to be distributed by the Atmospheric Science Data Center (ASDC) at Langley, an EOSDIS DAAC. Later on, these digital objects were reassigned to Oak Ridge National Laboratory (ORNL) another EOSDIS DAAC.

Goal: To register DOIs to all ATom digital objects that are produced by ESPO.

Precondition: All digital objects must qualify for a DOI assignment based on the ESDIS DOI Assignment Policy. ESPO has an agreement in place with ASDC and now with ORNL for archiving and distributing these digital objects.

Digital Object Producer: Earth Science Project Office at Ames

Digital Object Archive and Distribution DAAC: ORNL DAAC

Unique Feature: ESPO, a NASA group, produces the digital objects. Initially, the DOIs were assigned by the ASDC DAAC, but the digital objects are now transferred to ORNL. ESPO may also distribute these digital objects.

Assumptions: ORNL directly registers the DOIs with DataCite.

Responsibility Assignments:

EPSO group responsible for:

a) Providing all the metadata required for DOI processing,
b) Including the assigned DOI in the digital object metadata, and
c) Referencing the assigned DOI on all appropriate digital object web pages with a link to the digital object landing page.

ORNL will be responsible for:

a) Assigning and maintaining DOIs for all the digital objects,
b) Developing and maintaining the landing page for all digital objects
c) Register DOIs using ORNL's DOI processing system, and
c) Providing ESDIS with the registered DOI(s) information.

Description: ASDC may have assigned the DOI, but maintenance of the DOI and its landing page is the responsibility of ORNL and ESPO. ORNL will implement the DOI registration process, and once the DOI(s) have been processed, ORNL will provide the required information to the ESDIS DOI team and ESPO.

Use Case 3: Registering DOIs for digital objects that were distributed by a non-DAAC that lost funding for continued distribution; and is now funded by ESDIS to distribute through an EOSDIS DAAC.

Example: National Snow and Ice Data Center (NSIDC) have digital objects for which they lost funding, and as such, cannot distribute. These digital objects already have DOIs registered by NSIDC using their NSIDC account. ESDIS agreed to provide required resources to continue distributing these digital objects through the EOSDIS NSIDC DAAC.

Goal: To allow data access via DOIs and landing pages for recently funded non-NASA digital objects by the EOSDIS NSIDC DAAC.

Precondition: None

Digital Object Producer: NSIDC

Digital Object Archive and Distribution DAAC: NSIDC DAAC

Unique Feature: These digital objects already have non-ESDIS DOIs registered by NSIDC.

Assumptions: None

Responsibility Assignments:

NSIDC DAAC responsible for:

a) Providing all the metadata required for DOI processing,
b) Assigning new DOIs to these digital objects and maintaining the newly registered DOIs.
c) Developing and maintaining the landing page for all DOIs,
d) Submitting Information to the ESDIS DOI Registration System, and
e) Referencing previously registered DOIs by NSIDC on all appropriate landing pages.

Description: NSIDC DAAC shall undertake all the required processing for registering new DOIs. The ESDIS DOI Registration system shall process the metadata as submitted and also maintain a record of all the processing as per established policy and procedures described on the wiki website.

Use Case 4: Registering DOIs for non-US digital object owners that allow NASA to use their digital objects.

NASA agrees to give them full credit for their data and promises to encourage all users to cite the non-US party when using their data.

Example: The European Space Agency (ESA), a non-US agency, provides Sentinel 1A and 1B data to NASA, a US agency, for distribution to the NASA data user community.

Goal: To have DOIs and landing pages for data access to the Sentinel 1A and 1B data

Precondition: ESA must have registered DOIs for data that is provided to NASA

Digital Object Producer: ESA and Alaska Satellite Facility (ASF) DAAC

Digital Object Archive and Distribution DAAC: ASF DAAC

Unique Feature: Only Sentinel 1A and 1B level 1 data is provided by the ESA, while ASF DAAC archives and distributes this data. In addition, ASF DAAC also generates additional digital objects from this data.

Assumptions: None

Responsibility Assignments:

a) ESA is responsible for providing registered DOIs for the digital objects provided to ASF DAAC.
b) ASF DAAC shall not assign any new DOIs to these digital objects and will give ESA full credit for their data. In addition, ASF DAAC shall encourage all data users to cite the ESA DOI when using their data.
c) In cases where the ASF DAAC uses the data to produce new digital objects, the ASF DAAC can assign new DOIs to these digital objects. ASF DAAC shall be responsible for the registration, maintenance, and the development of the landing pages for new DOIs.

Description: ASF DAAC shall undertake all the required processing for registering new DOIs. The ESDIS DOI Registration system shall process the metadata as submitted and also maintain a record of all the processing as per established policy and procedures described on the wiki website.