

Australian Research Data Commons

Research Data Australia Contributing Metadata

Melanie Barlow and Catherine Brady



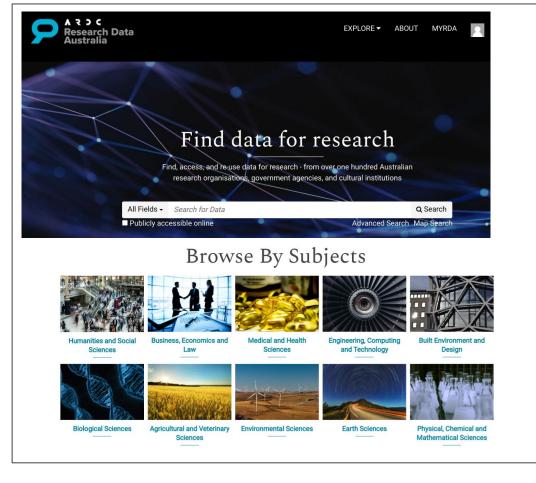
This session covers

- 1. What is Research Data Australia?
- 2. How to find data in Research Data Australia
- 3. How to add metadata records to Research Data Australia
- 4. What makes a good metadata description
- 5. Why adding records to Research Data Australia is important



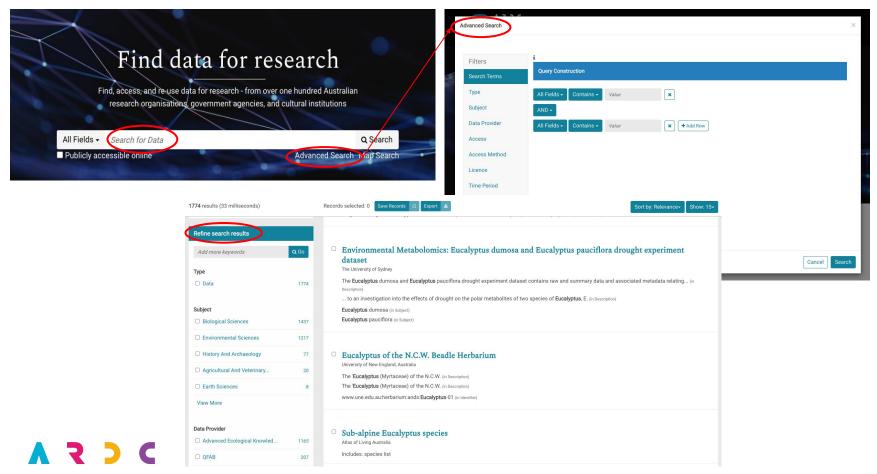
Research Data Australia

- Discovery portal for data (and services)
- Multidisciplinary
- Metadata only
- 177+K datasets
- 100 contributors

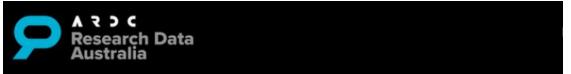


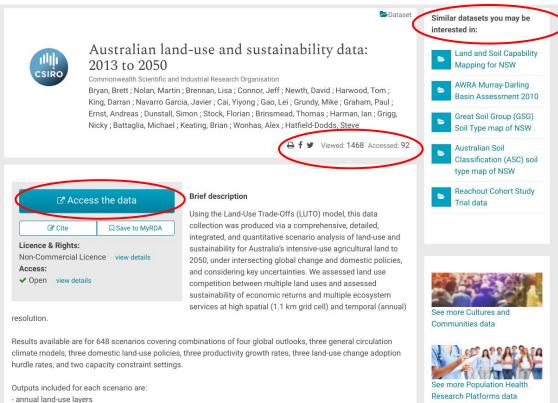


Search for data in Research Data Australia



Collection Record in Research Data Australia







- summary data table

Collection links

Collection NSW and ACT Regional Climate Model (NARCliM) project dataset

Related Data

- Derives Dynamically downscaled climate data for NSW health data
- Derives Dynamically downscaled climate data for NSW fire weather
- Derives Northern Rivers CMA Climate change impacts on wetlands
- Derives Dynamically downscaled climate data for the New South Wales wheat belt
- Derives Dynamically downscaled climate monthly data for New South Wales

Related Organisations

Associated with University of New South Wales Climate Change Research Centre

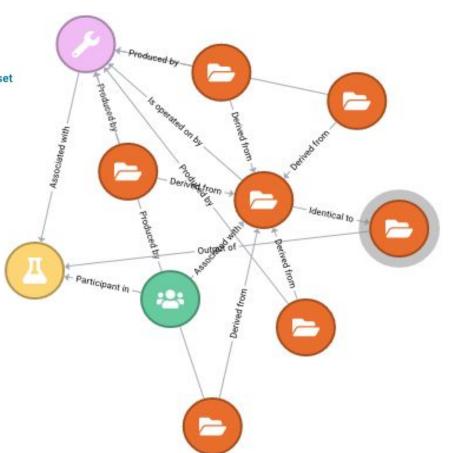
Related Grants and Projects

△ Output of NSW and ACT Regional Climate Model (NARCliM) project

Related Services

Operated on Climate Model Downscaling Data for Impacts Research





Service record in Research Data Australia





Alveo - A Virtual Lab for Human Communication Science

Western Sydney University

Associate Professor Steve Cassidy (Associated with) Doctor Dominique Estival (Associated with, Participant) Professor Denis Burnham (Associated with)





Licence & Rights

CONDITIONAL View details

Contact Information

D.Estival@westernsydney.edu.au

Full description

The Alveo Virtual Laboratory was developed through a NeCTAR-funded project led by Western Sydney University.

Alveo provides on-line infrastructure for accessing human communication data sets (speech, texts, music, video, etc.) and for using specialised tools for searching, analysing and annotating that data.

There are two methods of getting access to the Alveo Web

Service; Direct Login or via the AAF (The Australian Access Federation) authorisation system.

Data Discovery Interface

Browse and search collections, view documents and create lists of items for further analysis. The Data Discovery Interface provides the jumping-off point for further analysis using the Galaxy Workflow Engine, the NeCTAR Research Cloud, the R statistical package or any other preferred tool or platform. A fully featured API underpins the Data Discovery Interface, providing opportunities to extend the functionality of the Virtual Laboratory.

Galaxy Workflow Engine

Initially targeted at genomics researchers, Galaxy is a scientific workflow system which is largely domain agnostic.



Service links

F Transform Alveo - A Virtual Lab for Human Communication Science

Related Data

- Associated with International Corpus of English (Australia contribution is ICE-AUS)
- Associated with The Audio-Video Australian-English Speech Data Corpus
- Associated with PARADISEC collection
- Associated with Australian National Corpus
- Associated with Australian Corpus of English

View all 7 related data

Related Organisations

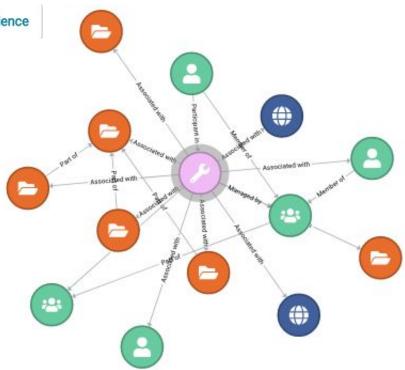
- Managed by The MARCS Institute
- Managed by Western Sydney University

Related People

- Associated with Associate Professor Steve Cassidy
- Associated with, Participant Doctor Dominique Estival
- Associated with Professor Denis Burnham

Related Websites

- Associated with Alveo A Virtual Lab for Human Communication Science http://alveo.edu.au/
- Associated with Introducing Alveo: The Human Communication Science Virtual Laboratory https://youtu.be/g4zK69BoP6w





Guide to contributing metadata content

Research Data Australia Content Providers Guide

Documentation Home

This guide provides advice on how to encode RIF-CS metadata records to describe datasets (collections), researchers and research groups (parties), projects (activities) and tools (services) for display in Research Data Australia.



Getting Started With Metadata

What is Metadata?

About RIF-CS

Research Data Australia Collection Policies

Get access to the RDA Registry

Provide metadata to the Registry



Best Practice RIF-CS Metadata

All RIF-CS Elements

Describe a Collection

Describe a Party

Describe an Activity

Describe a Service

The RDA Content Providers Guide:

- For Contributors
- Non-technical guide
- Describes encoding requirements to submit records to the RDA Registry
- Describes best practice for metadata description for discovery



What makes a good (data) collection metadata record?

While there is no 'one size fits all' for collection descriptions, a 'good' collection record might:

- have a globally unique persistent <u>identifier</u> such as a DOI
- provide access to, or information about how to access, the data being described
- include <u>citation information</u> that clearly indicates how the data should be cited when reused
- include <u>licence</u> information that specifies how the data may be reused by others
- be connected via an identifier to <u>related outputs</u> such as publications and software that give context to the data
- be connected via an identifier or link to <u>people</u> and <u>projects</u> associated with the data to improve discovery
- be connected to <u>services</u> that can be used to access or manipulate the data
- include a <u>description</u> of how the data were created and how to interpret the data, to enable determination of the value of data, and reuse
- contain <u>subject</u> information to enhance discovery
- provide <u>spatial and temporal coverage</u> information that positions the data in space and time, and helps researchers find data that relates to a geographical area or time period of interest



What makes a good Service metadata record?

While there is no 'one size fits all' for service descriptions, a 'good' service record might:

- include <u>name</u> variations where appropriate
- include <u>contact details</u> for a person or organisation
- include <u>access</u> information such as a URL
- include <u>rights</u> information including who may <u>access</u> and under what conditions
- include a <u>description</u> of the service for potential users including version, configuration or implementation information
- include a persistent <u>identifier</u> such as a handle
- include additional protocol information as <u>related information</u>
- include subject terms that describe the research focus of the service
- be <u>connected</u> to <u>collections</u> that can be accessed through, or acted upon, by the service
- include links to <u>related information</u> which provides research context around the service, e.g. a web page URL for the service



Services: additional Metadata Guidance

home / content providers guide

Beyond RIF-CS: Metadata for Services and related Collections: Good Practice Guide

home / content providers guide

Beyond RIF-CS: Metadata for Services and related Collections: Good Practice Guide

Created by Catherine Brady, last modified on 15 Jan, 2020

Introduction

Data services in the research domain support the use of research collections and datasets by providing automated functions for the creation, access, processing and analysis of data. More and more data providers are publishing their data through services. In Australia, for example, research organisations, science agencies, government departments and a number of national research infrastructure facilities are all moving to more formal publishing of data through services. Also, data consumers are increasingly accessing data services and connecting them with other services or tools (e.g. virtual laboratories) for data analysis, processing and visualisation.

Concepts, for data-services and related data	Requirement
service URL	Essential *
service identifier (if different from the URL)	
service type: protocol and version - e.g. 'wms 1.3'	Essential*
service-use documentation (if protocol is non-standard - e.g. URL to service description)	
service type: function (if protocol is non-standard - e.g. 'download')	
service type: resource type (e.g. 'service')	Essential
data subject (e.g. 'observedProperty', 'variableMeasured')	Essential
service title	Essential
data spatial coverage	Essential if available
data geographic/projected CRS	Essential if available
data temporal coverage	Essential if available
service description/ abstract	Recommended
data format	Recommended
service date (modified)	Recommended
service rights	Recommended
data rights	Recommended
data contributor/owner/publisher	Recommended
data language	Recommended
service language	Recommended
data identifying information - its text name, or an identifier such as a uuid or doi to a landing page	Recommended
service contributor/owner/publisher	Recommended



Contributors

- Australian organisations that provide metadata records to Research Data Australia (via the RDA Registry)
- 100 organisations currently
- Check if your organisation is already a contributor => https://researchdata.edu.au/contributors

Who Contributes to Research Data Australia

- · Advanced Ecological Knowledge and Observation System
- Agricultural Research Federation (AgReFed)
- Analysis and Policy Observatory
- · ARC Centre of Excellence for Climate System Science
- AsianLII
- · Atlas of Living Australia
- AuScope Performing Arts
- · AusStage: Gateway to the Australian
- AustHII
- · Australian Antarctic Data Centre
- · Australian Catholic University
- · Australian Coastal Ecosystems Facility
- · Australian Data Archive
- · Australian Institute of Health and Welfare
- Australian Institute of Marine Science
- Australian National Corpus
- Australian Nuclear Science and Technology Organisation
- · Australian Ocean Data Network
- Australian Synchrotron
- · Australian Urban Research Infrastructure Network (AURIN)
- Australian Water Research and Development Coalition
- · BioGrid Australia Ltd
- · Bioplatforms Australia
- BOM
- BOND University
- Breast Cancer Tissue Bank
- Bureau of Meteorology
- Central Queensland University
- · Centre for Magnetic Resonance
- Charles Darwin University

- · Charles Sturt University
- · City Futures Research Centre, UNSW Sydney
- · Commonwealth Scientific and Industrial
- Research Organisation Curtin University
- data.gov.au
- data.nsw.gov.au
- · data.gld.gov.au
- data.vic.gov.au
- Deakin University
- Desert Ecology Research Group
- eAtlas
- · Edith Cowan University
- · Federation University Australia
- Flinders University
- · Geoscience Australia
- · Global Proteome Machine Organization
- · Griffith University
- Human Protein Atlas Consortium · Hydrology and Catchment Management
- · Integrated Marine Observing System
- · James Cook University
- La Trobe University · Long Term Ecological Research Network
- Macquarie University
- med.data.edu.au
- Monash University · Murdoch University
- Museum Metadata Exchange
- N20 Network
- · National Archives of Australia
- National Computational Infrastructure
- National Environmental Information
- Infrastructure
- . OzFlux: Australian and New Zealand Flux Research and Monitoring

- OzTrack
- PARADISEC
- · Polar Information Commons
- · Public Record Office Victoria
- Publish My Data
- QFAB
- · Queensland Department of Agriculture,

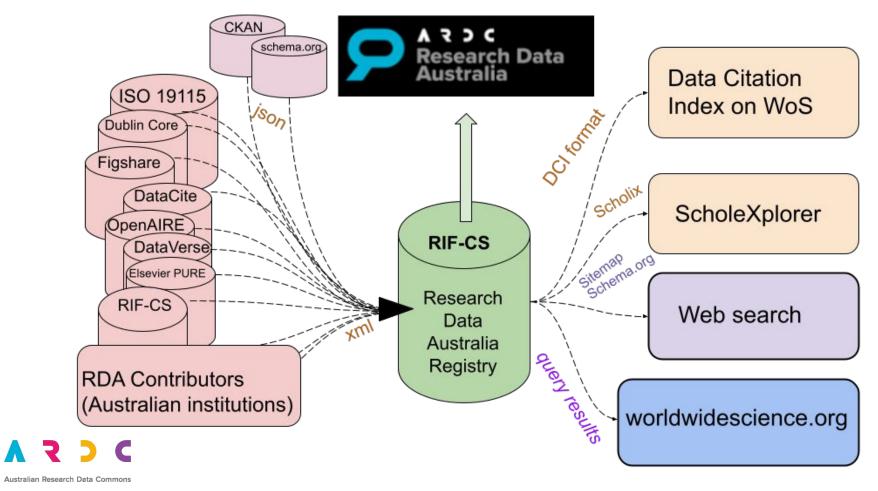
Fisheries and Forestry

- Queensland University of Technology
- · RMIT University, Australia
- Seattle Proteome Center (SPC)
- SIB Swiss Institute of Bioinformatics
- · Southern Cross University
- · State Records Authority of New South Wales
- · Swinburne University of Technology
- Tasmanian Partnership for Advanced Computing
- · TERN Australian SuperSite Network
- Terrestrial Ecosystem Research Network
- · The Australian National University
- · The University of Adelaide
- · The University of Melbourne
- · The University of Newcastle, Australia
- · The University of Queensland
- · The University of Sydney
- The University of Western Australia
- University of Canberra
- · University of New England, Australia
- · University of New South Wales
- · University of South Australia
- · University of Southern Queensland
- · University of Tasmania, Australia
- University of Technology Sydney
- · University of the Sunshine Coast
- · University of Wollongong
- Victoria University
- Western Sydney University

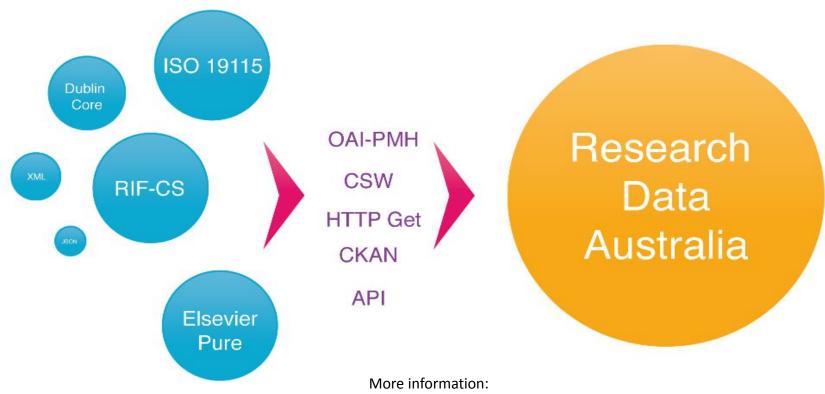


https://researchdata.edu.au/contributors

Metadata Flows to and from Research Data Australia



Metadata Flows and Protocols to Research Data Australia





https://documentation.ardc.edu.au/display/DOC/Providing+metadata +records+to+Research+Data+Australia

Why would I do this?

- Enhances data discovery through search engines and other syndicated services
- Provides context to the data and makes it clear how it can be used and under what circumstances
- Highlights data that is accessible via a service links services to the data that supports it
- Provides links to further information, publications and contacts
- Enhances the potential for collaborative opportunities
- Encourages attribution through citation and disambiguation through the use of identifiers
- Can see page views and access statistics on Research Data Australia records

What we can help you with

- Put you in contact with the right person in your institution
- Help you set up a metadata feed to Research Data Australia (and cross-walk to RIF-CS) if you don't already have one
- Help you with using the manual metadata entry web service (if you can't set up or use an existing metadata harvest)
- Provide you with guidance on optimising your data and service descriptions (metadata content)

Resources & Links

- Search Research Data Australia
- Find <u>organisations</u> that contribute to Research Data Australia
- Provide metadata records to Research Data Australia
 - Create metadata records use <u>Content Providers Guide</u>
 - Describe a data collection in a metadata record for Research Data Australia
 - Describe a (data) service in a metadata record for Research Data Australia
 - Transfer metadata records to the RDA Registry requires <u>Online Services Account</u>
 - Via a <u>harvest</u>
 - Using the <u>manual entry web interface</u> (login required)



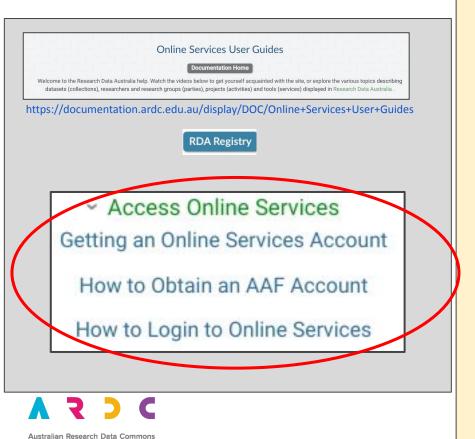


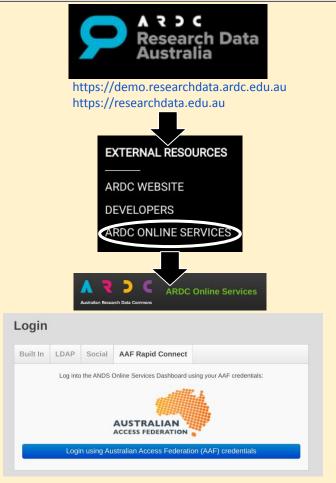
Australian Research Data Commons

CONTACT

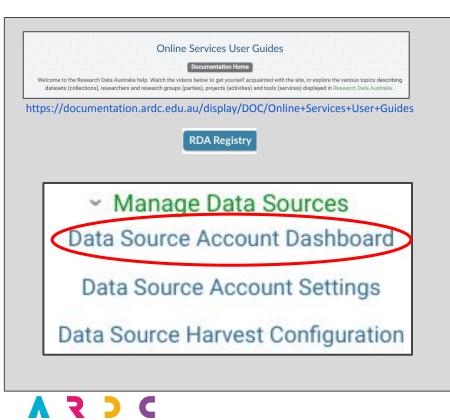
services@ardc.edu.au ardc.edu.au

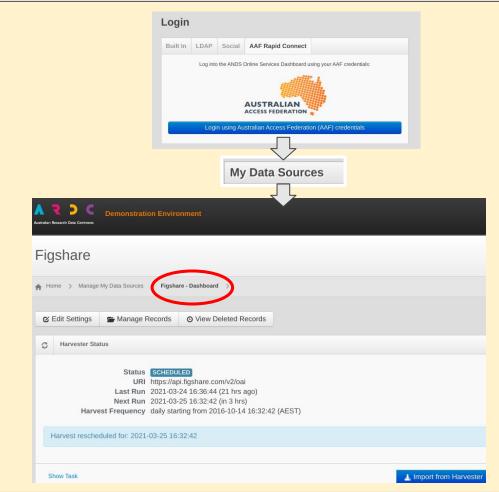
Step 1 - Access Online Services



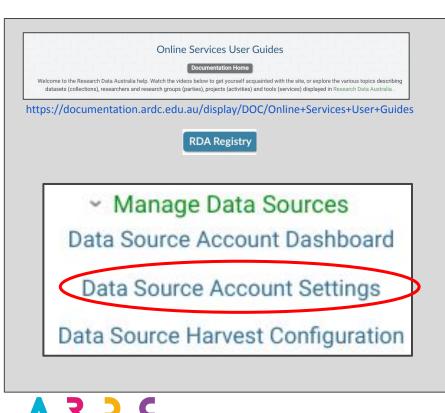


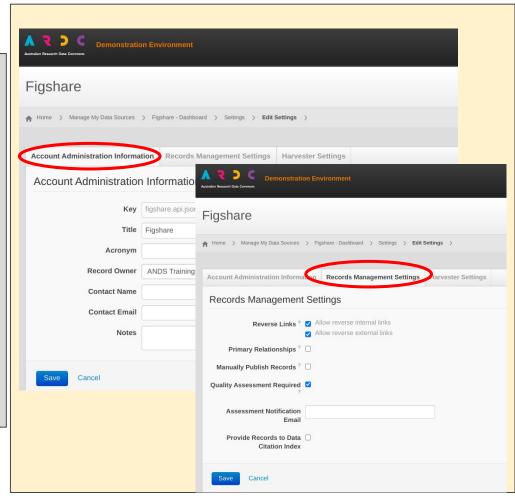
Step 2 - Manage Data Sources



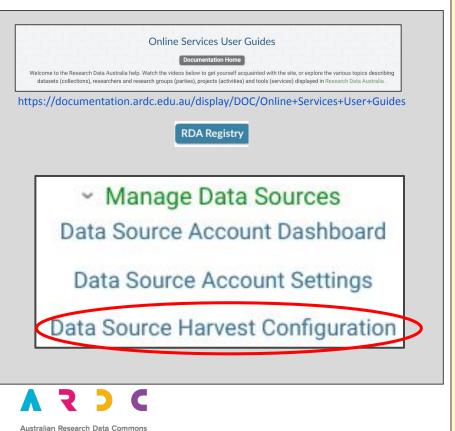


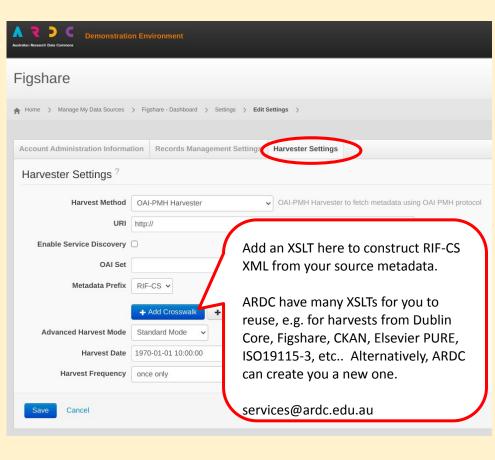
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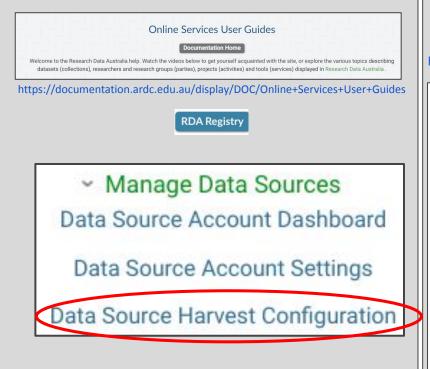


Step 2 - Manage Data Sources





Step 2 - Manage Data Sources



home / registry software

Harvester

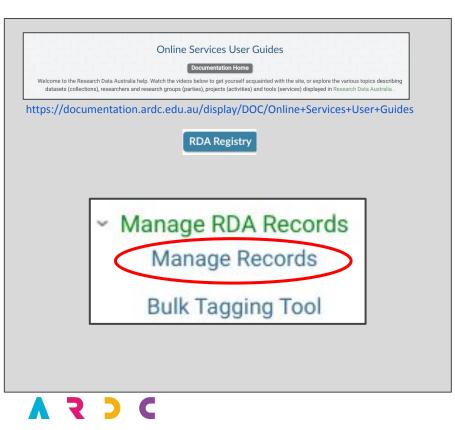
https://documentation.ardc.edu.au/display/DOC/Harvester

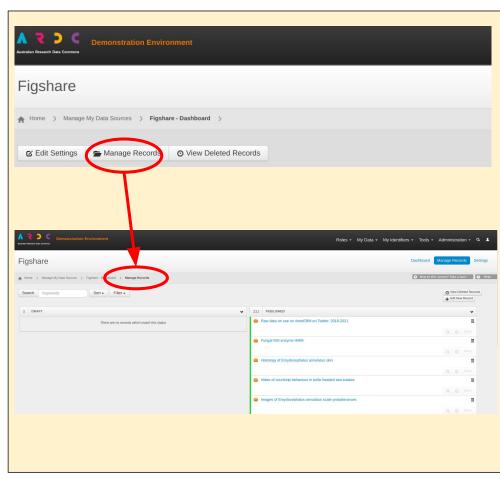
- . GET (aka http get) allows the harvest of individual files from any web resource, in any format (e.g. json or xml)
 - . The GET harvester can be given any url with complete parameter list
- . CKAN (json metatdata over HTTP)
 - the CKAN harvester attempts to get a list of Identifiers and retrieve the json data for each record.
 it converts the entire set as one XML document (ison serialised as XML)
- · CKANQUERY (ison metatdata over HTTP)
 - The CKAN QUERY sends a query string to the CKAN server and retrieves all content using the start and rows params Converts the json response to serialised XML
- OAI-PMH xml
- · retrieves all records in the metadataFormat requested by the datasource owner using the ListRecords endpoint
- . CSW (Catalogue Services for the Web) xml
 - retrieves datasets using the CSW protocol (using the outputSchema, in batches of 100)
- · PURE (a simple dataset harvester using the PURE API)
- requesting pages of 100 datasets until completed.
- · JSONLD (a sitemap crawler and jsonld content extractor)
 - . the sitemap crawler requires a sitemap file, it could be text or xml (either <sitemapindex> or <urlset>)
 - using asynchronous request (max 5)
 - · attempts to extract json-ld from all pages
 - · combine the result into batches of 400
- ARCQUERY (json metatdata over HTTP)
 - retrieves all records from the ARC data portal to construct a list of grant lds

 - queries the portal again by each specific ld to obtain rich json formatted metadata
 - · combines the results into batches of 400
- OPEN DATA API (json metatdata over HTTP)
 - . The OPEN DATA API Harvester retrieves JSON from any service that implements the US Government Project Open Data API (for dataSets)
 - · Combines the results into batches of 400
- . MAGDAOUERY (ison metatdata over HTTP)
 - . The MAGDA QUERY Harvester retrieves JSON from any service that implements MAGDA SOLR API (for dataSets), by limit of 400
 - · Combines the results into batches of 400

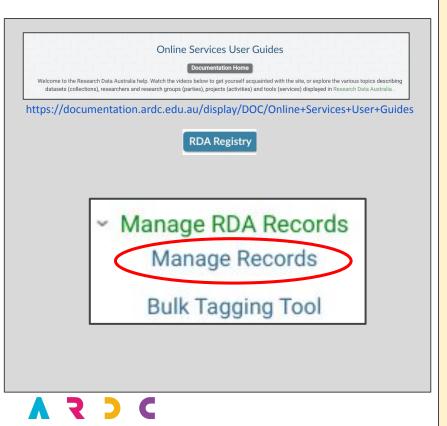


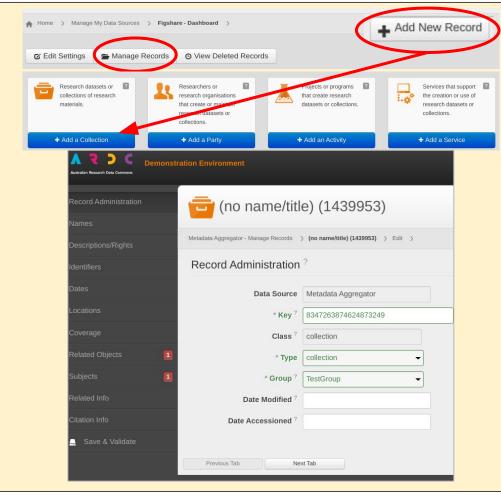
Step 3 - Manage RDA Records





Step 3 - Manage RDA Records

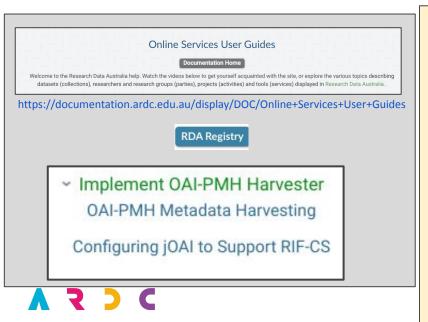


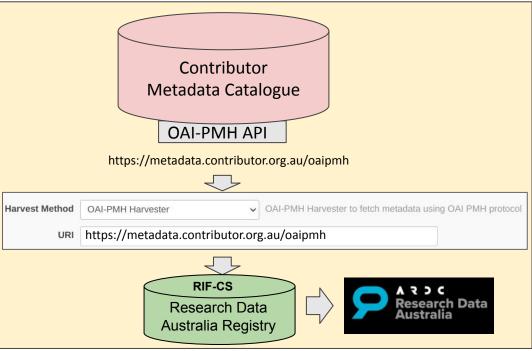


Step 4 - Implement OAI-PMH Harvester

A metadata contributor may decide to set up an OAI-PMH API when their metadata catalogue does not already have an API available for others to harvest contributor metadata from. RDA can harvest from multiple methods, including OAI-PMH.

See https://documentation.ardc.edu.au/display/DOC/Harvester





Research Data Australia Metadata Guidance

Research Data Australia Content Providers Guide

Documentation Home

This guide provides advice on how to encode RIF-CS metadata records to describe datasets (collections), researchers and research groups (parties), projects (activities) and tools (services) for display in Research Data Australia.

https://documentation.ardc.edu.au/display/DOC/Content+Providers+Guide



Getting Started With Metadata

What is Metadata?

About RIF-CS

Research Data Australia Collection Policies

Get access to the RDA Registry

Provide metadata to the Registry



Best Practice RIF-CS Metadata

All RIF-CS Elements

Describe a Collection

Describe a Party

Describe an Activity

Describe a Service

... / rif-cs elements Collection

https://documentation.ardc.edu.au/display/DOC/Collection

| Collections in the RDA Registry | Metadata for Collection records in the RDA Registry | Collection attributes | Collection relationships | What makes a good Collection record? | Software | Exemplar | Change history

Collections in the RDA Registry

In the RDA Registry and Research Data Australia, the concept of a collection means an aggregation of physical and/or digital resources which has meaning in a research context. This context includes the research process itself, any resources which support that process, and the linked scholarly communications cycle with its research outputs of publications, software and data. Objects from these collections provide context and meaning for each other.

A collection in Research Data Australia:

- · must be understood as a single aggregation of resources within its research context;
- is not comprised exclusively of documents as the output of research, although they can
 certainly be documents as the subject matter of research; and
- has Australian relevance, either through involvement of Australian researchers, or Australian subject matter.

Research Data Australia can accommodate collections of research data resources as defined by the Research Data Australia Collection Development Policy. Generally, stand-alone publication outputs, such as theses, journal articles or books, are not within the scope of collections for the RDA Registry (although valuable as related information). However, stand-alone publications would be considered for inclusion where the published material:

- has been integrated into a collection of unpublished items
- is integral to the use and understanding of other collection materials in Research Data Australia
- is part of a collection where significant value has been added to the collection through mark-up and hyperlinks.



Research Data Australia Metadata Guidance

home / content providers guide

Metadata for Impact: make RIF-CS work for you

https://documentation.ardc.edu.au/display/DOC/Metadata+for+Impact%3A+make+RIF-CS+work+for+you

home / content providers guide

Metadata for Impact: make RIF-CS work for you

Created by Kerry Levett, last modified by Catherine Brady on 05 Mar, 2020

Creating metadata descriptions involves some effort, so how should you decide which optional elements to include in your data descriptions? A good way to think about this is to consider what your institution wants to achieve by publishing data descriptions via Research Data Australia and how you expect people will search for and reuse your data. Richer metadata contains detailed and meaningful names, subject keywords, full descriptions, temporal and spatial coverage, citation information, rights information and meaningful relations that add information and context to the metadata document and support discovery and reuse. Contextual information such as information about the research program/project, data collection methods, researcher, or institution, helps a researcher decide if they want to reuse the data. Information about access such as access conditions and terms of use, restrictions on access, or contact information, enables the researcher to get to the data.

Some common institutional goals, with examples of associated RIF-CS encoding, are provided below:

- 1. We want to highlight our open data the transparency of our research is important to our reputation
- 2. We want citation metrics for our data as we have for our publications to demonstrate the impact of our research and how we might identify new collaborators
- 3. We want to link our published data to related publications it may help drive up the citation count for our publications
- 4. We want people to know they can access and use our data via a service
- 5. We want to optimise our data descriptions for display in Google Dataset Search

For more information about maximising the impact of your data:

- Read the Best Practice advice for the RIF-CS elements in the Research Data Australia Content Providers Guide
- Contact your Outreach Officer or email services@ardc.edu.au for assistance or to discuss your requirements.

