

Describe, Manage and Discover Research Software

Sue Cook (CSIRO)
Jens Klump (CSIRO)
Paola Petrelli (CLEX)
Margie Smith (GA)
Geoff Squire (CSIRO)
Lesley Wyborn (NCI)
Mingfang Wu (ARDC)

Outline

- Introduction, landscape of software citation and publish, changes in Research Data Australia (RDA) for promoting software (Mingfang Wu, ARDC)
- New requirement from publishers and funders for software citation (Lesley Wyborn, NCI)
- Lightning talks:
 - Software Citation and GA: Motivations, outcomes and future direction (Margie Smith, GA)
 - Software in the CSIRO DAP: Description (Sue Cook, CSIRO)
 - CLEX software publishing workflow (Paola Petrelli, CLEX)
 - Describing software for Virtual Laboratories (Geoff Squire, CSIRO)
- Q/A, group discussion and feedback (Jens Klump, CSIRO)

Why do we care

- Software is pervasive in research
 - >90% of researchers acknowledge software is important for their own research
 - ~70% say their research would not be possible without it.
 - Of 40 papers examined in Nature Jan-March 2016, 32 contain 211 mentions of distinct pieces of software, for an average of 6.5 mentions per paper

Hettrick. S. J., et al. (2014). UK Research Software Survey 2014 [Data set]. doi:10.5281/zenodo.14809

Nangia 2017b] Nangia, Udit; Katz, Daniel S. (2017): Understanding Software in Research: Initial Results from Examining Nature and a Call for Collaboration. <https://arxiv.org/abs/1706.06527>

12 scientific software challenges

Open Research and Scholarly Communication

- Intellectual property
- Publication and peer review
- Software dissemination, catalogues, search, and review

Sustainable Software

- Training and education
- Software engineering
- Portability
- Multidisciplinary science
- Reproducibility
- *Reusability*

Sustainable community

- Incentives, citation/credit models, and metrics
- Career paths
- Software communities and sociology
- Sustainability and funding models

Daniel S. Katz: [Software in Research: Underappreciated and underrewarded](#). Keynote speech from 2017 eRA.

The FAIR Data Principles

Findable, Accessible, Interoperable, Reusable

The FORCE11 Software Citation Principles

Importance, Credit and attribution, Unique identification,
Persistence, Accessibility, Specificity

The OSS Recommendations

Make source code publicly accessible from day one

Make software easy to discover by providing software
metadata via a popular community registry

Adopt a license and comply with the license of third-party dependencies

Define clear and transparent contribution, governance and
communication processes

Open research
& Scholarly
communication

Sustainable
software

Sustainable
community

Jiménez RC, Kuzak M, Alhamdoosh M *et al.* Four simple recommendations to encourage best practices in research software [version 1; referees: 3 approved]. *F1000Research* 2017, 6:876 (doi: [10.12688/f1000research.11407.1](https://doi.org/10.12688/f1000research.11407.1))

Who and What (Internationally)

Open Research and Scholarly Communication

- [FORCE11 Software Citation Implementation WG](#)
- [RDA Research Software Source Code IG](#)
- [Nature software submission guidelines \(2018\)](#)
- [Journal of Open Source Software](#)
- Elsevier – [Why publish a software](#)
SoftwareX, Science of Computer Program, Neurocomputing

Sustainable software

- US Research Software Sustainability Institute ([URSSI](#))
- [UK Software Sustainability Institute](#)
- Working Towards Sustainable Software For Science ([WSSSPE](#))

Sustainable community

- Research Software Engineer Association

Support from disciplines and organisations

- ESIP: [Software Guidelines](#)
- AGU: [Enabling FAIR Data Project](#)
- Astrophysics: [AAS Journals](#),
[Astrophysics Source Code Library](#)
- ...

Australian activities supporting research software

Research
Data
Australia
(catalogue)

Australian
Research
Software IG

RSE
Association –
Australian
Chapter

ARDC Skills
and Training
Program

Uni., Gov.agencies,
NCRIS facilities, etc.
are treating software
as research output



Force11 software
citation implementation
group

RD-A software source
code interest group

DataCite

AGU (Enabling FAIR Data
Project)

ESIP Software and Services
Citations cluster

Working Towards
Sustainable Software For
Science (WSSSPE)

Research Software Engineer
Association

Supporting catalogue/repository

General repository

- [DataCite](#)
- [Zenodo](#)
- [Code Ocean](#)
- [Code.gov](#)
- [Figshare](#)

...

Software code archive:

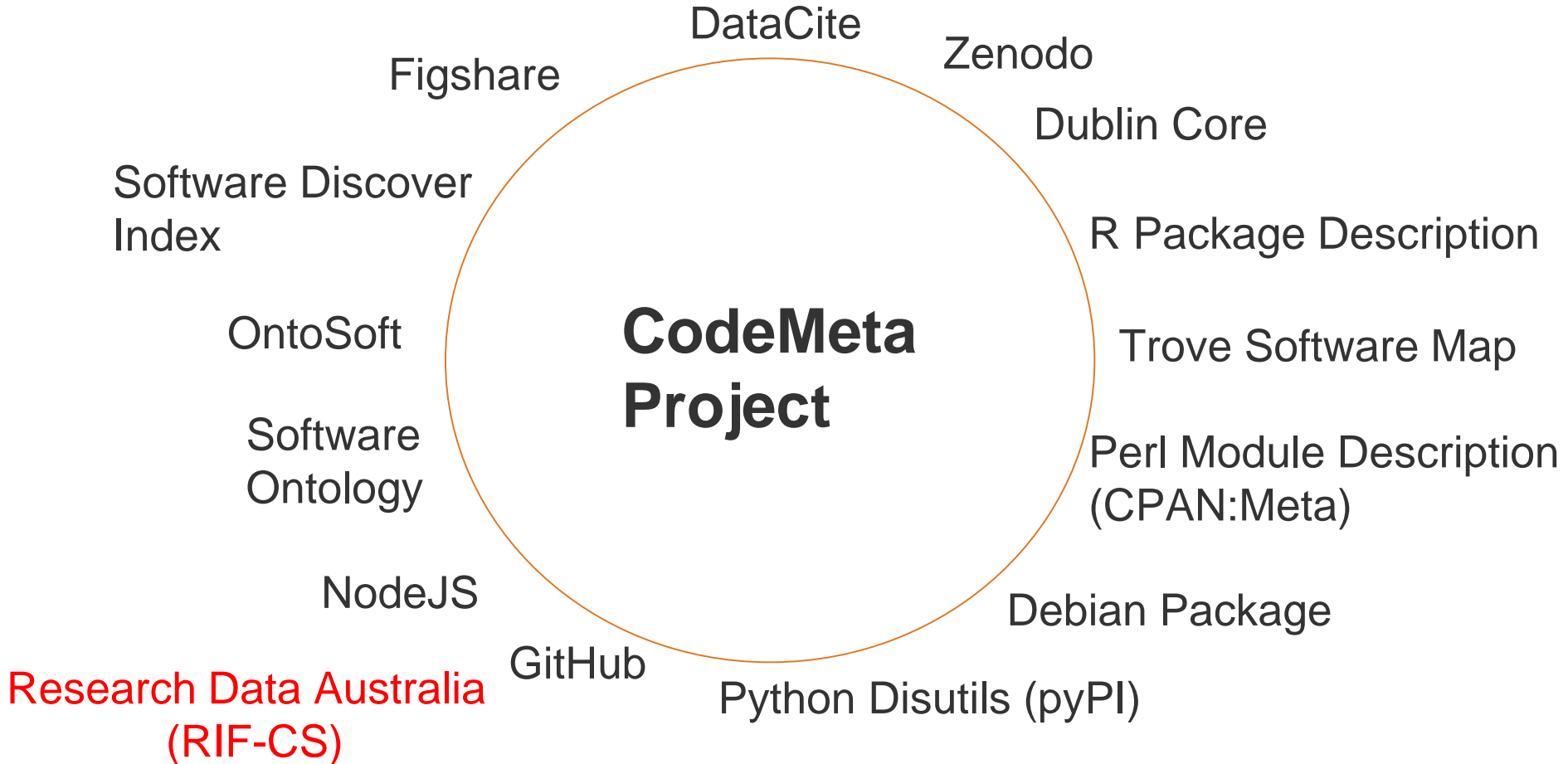
[Software Heritage](#)

Domain specific software repository

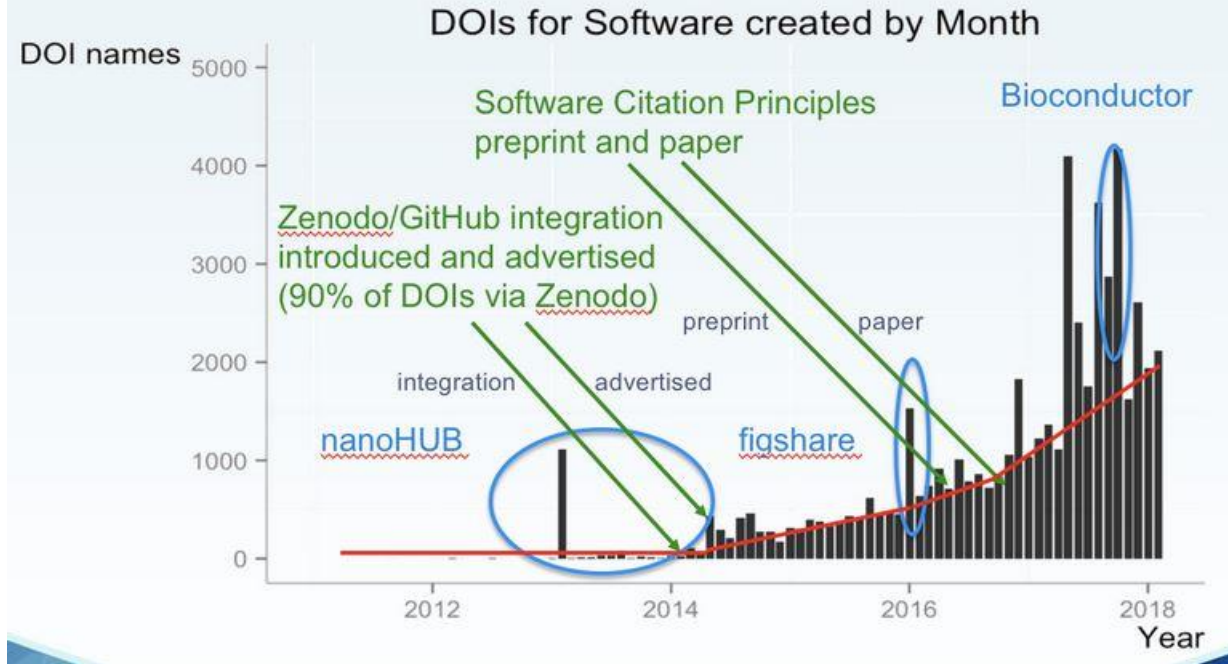
- Astrophysics Source Code Library
(<http://ascl.net/>)
- OMICStools (<https://omictools.com/>)
- Bio.tools (<https://bio.tools/>)
- Bioconductor
(<https://www.bioconductor.org/>)

...

Software metadata/ontology/vocabulary



Software DOIs registered at DataCite



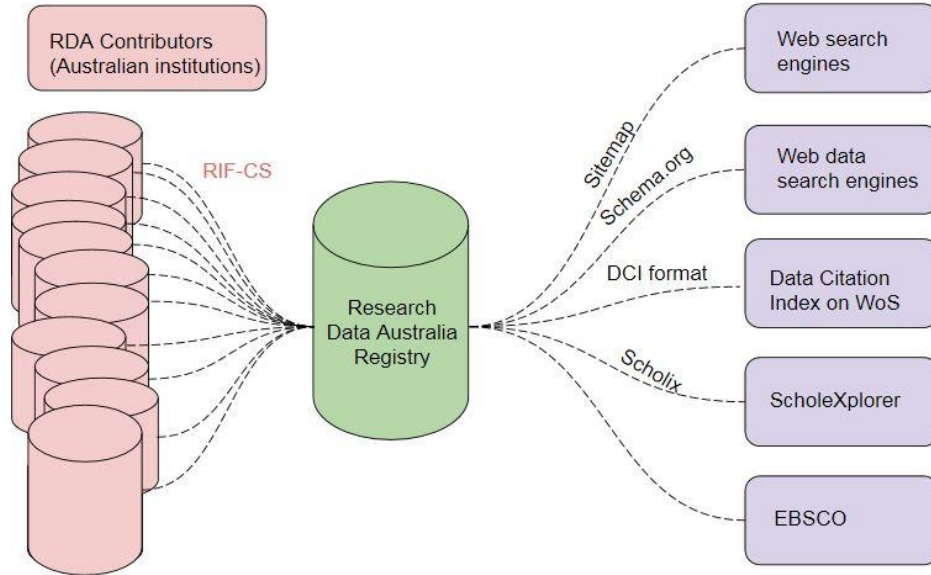
What do we (ARDC) do

- Software citation guide:
<https://www.ands.org.au/working-with-data/citation-and-identifiers/software-citation>
- Recommended software citation format

*Creator (PublicationYear): Title. Version No. Publisher.
[resourceTypeGeneral]. Identifier.*

What do we (ARDC) do

- Amended Research Data Australia (RDA) registry schema (RIF-CS) for describing software as a distinct resource type



ands ANDS Online Services

GeoSyntax Software

Home > GeoSyntax Software

Class:	Collection								
Type:	software								
Key:	102.100.100/16087								
Source:	CSIRO Data Access Portal								
Originating Source:	https://data.csiro.au/dap/								
Group:	Commonwealth Scientific and Industrial Research Organisation								
Date Accessed:	2016-06-30T14:04:49+10:00								
Names:	<table><tr><td>type:</td><td>primary</td></tr><tr><td>Name Part:</td><td>Value: GeoSyntax Software</td></tr></table>	type:	primary	Name Part:	Value: GeoSyntax Software				
type:	primary								
Name Part:	Value: GeoSyntax Software								
Identifiers:	<table><tr><td>identifier:</td><td>type: local</td></tr><tr><td></td><td>Value: 102.100.100/16087</td></tr><tr><td>identifier:</td><td>type: doi</td></tr><tr><td></td><td>Value: 10.4225/08/543C9519616FB</td></tr></table>	identifier:	type: local		Value: 102.100.100/16087	identifier:	type: doi		Value: 10.4225/08/543C9519616FB
identifier:	type: local								
	Value: 102.100.100/16087								
identifier:	type: doi								
	Value: 10.4225/08/543C9519616FB								

What do we (ARDC) do

- 212 registered software records from RDA (was 173 in Nov. 2017)
 - Commonwealth Scientific and Industrial Research Organisation 87
 - Geoscience Australia 70
 - Australian Ocean Data Network 34
 - Monash University 15
 - The University of Adelaide 4
 - ARC Centre of Excellence for Climate System Science 1
 - National Archives of Australia 1

108 of them have minted DOI

Enhance software discoverability in RDA

This screenshot shows a record on the Research Data Australia (RDA) platform. The record is for 'Ecoacoustics Audio Analysis Software'. A purple circle highlights the 'Related Software' section, which contains a link to the software. Another purple circle highlights the 'Related Data' section, which lists several associated datasets. The 'Related Organisations' section lists 'Output of, Managed by QUT Ecoacoustics' and 'Queensland University of Technology'. The 'Related People' section lists several individuals, including 'Principal investigator Professor Paul Roe' and 'Principal investigator Michael Towsey'. The 'Related Grants and Projects' section lists 'Associated with Adaptive sensor networks for observing and assessing environment and ecological systems: Monitoring the Samford Valley Environment'. The 'Related Services' section lists 'Associated with MQUTeR Environmental Workbench'. The 'Related Websites' section lists 'Associated with Ecosounds' and the URL 'https://www.ecosounds.org/'.

Related Data

- Associated with Cornubia Wetlands acoustic sensor raw audio data
- Associated with St Bees acoustic sensor data annotations
- Associated with Acoustic Indices: thirteen months at two sites (Gympie and Woondum National Park)
- Associated with eScience Acoustic Study raw audio data
- Associated with eScience Acoustic Study data annotations

View all 10 related data

Related Software

- Associated with Ecoacoustics Audio Analysis Software

Related Organisations

- Output of, Managed by QUT Ecoacoustics
- Queensland University of Technology

Related People

- Managed by, Principal investigator Professor Paul Roe
- Managed by Jason Wimmer
- Managed by Jie Xie
- Managed by Mark Vandenberg
- Managed by Michael Towsey

View all 13 related people

Related Grants and Projects

- Associated with Adaptive sensor networks for observing and assessing environment and ecological systems: Monitoring the Samford Valley Environment

Related Services

- Associated with MQUTeR Environmental Workbench

Related Websites

- Associated with Ecosounds
- <https://www.ecosounds.org/>

Clearly label software object

This screenshot shows the 'Ecoacoustics Audio Analysis Software' record on the Research Data Australia (RDA) platform. The record is for 'Ecoacoustics Audio Analysis Software' by Michael Towsey (Principal Investigator). A purple circle highlights the 'Access the software' button. Another purple circle highlights the 'Software' icon in the top right corner. The 'Full description' section states that the software is a package for performing analyses on audio recordings of the environment. The 'Licence & Rights' section lists 'Other' and 'Access: Other'. The 'Contact Information' section lists 'Dr Anthony Truskinger' and 'a.truskinger@qut.edu.au'. The 'Related Data' section lists 'Associated with Ecosounds'. The 'Related Organisations' section lists 'Associated with QUT Ecoacoustics' and 'Queensland University of Technology'. The 'Related People' section lists 'Principal investigator Michael Towsey'. The 'Subjects' section lists '050000 | 080100 | 080600 | Artificial Intelligence and Image Processing | Biological Sciences | Bioacoustics | Biogeoscience | Computer science | Ecology | Ecoacoustics | Environmental analysis | Information and Computing Sciences | Pattern Recognition and Data Mining'. The 'User Contributed Tags' section lists 'Login to tag this record with meaningful keywords to make it easier to discover'. The 'Identifiers' section lists '10.25914/5D92516122-272222'.

Research Data Australia
Find data for research

Explore ▾ About MyRDA Login

← Return to search All Fields ▾ software Publicly accessible online Q Search Advanced Search Map Search

QUT Ecoacoustics Audio Analysis Software
Queensland University of Technology
Michael Towsey (Principal investigator)

Access the software

Full description

QUT Ecoacoustics Analysis Programs is a software package that can perform a suite of analyses on audio recordings of the environment. Although the analyses are intended for long-duration recordings (1 – 24 hours), in fact they can be performed on any audio file in a format supported by the software. Analysis Programs can:

- calculate of summary and spectral acoustic indices at variable resolutions
- produce long-duration, false-colour, multi-index spectrograms
- calculate critical statistics of annotations downloaded from an Acoustic Workbench
- run various acoustic event recognizers

All the analyses are performed by a single executable file, AnalysisPrograms.exe.

Related Data

- Associated with Ecosounds

Related Organisations

- Associated with QUT Ecoacoustics
- Queensland University of Technology

Related People

- Principal investigator Michael Towsey

Subjects

050000 | 080100 | 080600 | Artificial Intelligence and Image Processing | Biological Sciences | Bioacoustics | Biogeoscience | Computer science | Ecology | Ecoacoustics | Environmental analysis | Information and Computing Sciences | Pattern Recognition and Data Mining |


User Contributed Tags

Login to tag this record with meaningful keywords to make it easier to discover

Identifiers

10.25914/5D92516122-272222

Enhance software discoverability in RDA



Commonwealth Scientific and Industrial Research Organisation

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and one of the largest and most diverse research agencies in the world.

Data Profile

Commonwealth Scientific and Industrial Research Organisation has 2674 data records in Research Data Australia, which cover 3051 subjects areas including PHYSICAL SCIENCES, ASTRONOMICAL AND SPACE SCIENCES and Astronomical and Space Sciences not elsewhere classified and involve 1 group(s). All of the information provided by Commonwealth Scientific and Industrial Research Organisation can be accessed from the box on the right hand side of this page.

Subjects Covered

Physical Sciences (1651)

Astronomical And Space Sciences (1631)

Astronomical And Space Sciences Not Elsewhere Classified (1625)

Environmental Sciences (581)

Environmental Science And Management (365)

Earth Sciences (338)

Ecological Applications (266)

Australia (256)

Agricultural And Veterinary Sciences (249)

Biological Sciences (222)

Pulsars, Neutron Stars (184)

Pulsars, Neutron Stars, Compact Binaries And/or Black-holes, Interstellar Medium In And Around The Milky Way, Magnetic Fields, Bpsr, Hipsr (181)

Environmental Monitoring (174)

Pulsar (165)

Pulsars, Neutron Stars, Compact Binaries And/or Black-holes, Interstellar Medium In And Around The Milky Way (140)

Crop And Pasture Production (134)

Atmospheric Sciences (132)

Oceanography (130)

Ecology (125)

Climate Change (120)

Climate Change Processes (119)

Invasive Species Ecology (119)

Crop And Pasture Protection (pests, Diseases And Weeds) (118)

Conservation And Biodiversity (112)

Adaptation (109)

Climex (108)

Alien Plant (108)

Climate Extreme (108)

Ecoclimatic Index (108)

Invasive Plant (108)

Contact

<http://www.csiro.au>
enquiries@csiro.au

Datasets	(2674)
Software	(87)
People and Organisations	(834)
Grants and Projects	(984)
Tools and Services	(98)

Organisations & Groups

CSIRO

Last 5 Data Records Added

Privacy Preserving Linkage

A new software link
from this
Contributor page

Enhance software discoverability in RDA

The image shows a screenshot of the RDA website interface. On the left, there is a sidebar with a search bar and filters. The main content area displays search results with a list of subjects and a table of data providers. A purple box highlights the 'Type' filter, which includes 'Data' and 'Software'. A purple circle highlights the 'Software' option in the 'Explore' dropdown menu. A purple arrow points to the 'Software' option in the 'Explore' dropdown menu.

Refine search results

Add more keywords

Subject

Subject	Count
Engineering	1628
Biological Sciences	930
Earth Sciences	725
Environmental Sciences	193
Information And Computing S...	133

View More

Data Provider

Data Provider	Count
Geoscience Australia	4926
James Cook University	802
Australian Ocean Data Network	446
Commonwealth Scientific and...	301

Type

Type	Count
Data	105328
Software	2138

Explore

- Browse By Subjects
- Themed collections
- Services and Tools
- Grants and Projects
- Open data
- Software**
- Program Highlights

A new "Explore" page for software

A new filter

ENABLING FAIR DATA COMMITMENT STATEMENT IN THE EARTH, SPACE, AND ENVIRONMENTAL SCIENCES

[HOME](#) / [ENABLING FAIR DATA PROJECT](#) / ENABLING FAIR DATA COMMITMENT STATEMENT IN THE EARTH, SPACE, AND ENVIRONMENTAL SCIENCES

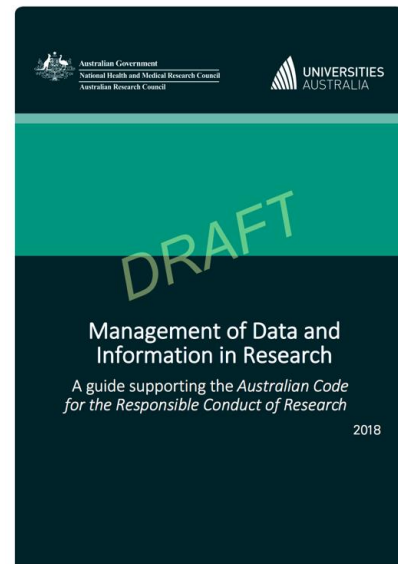
[SIGN ON](#)[SIGNATORIES](#)[FAQS](#)

Imagine a world where the preponderance of Earth, space, and environmental science data, software, and models are routinely shared in ways that allow easy discovery, recombination, reuse, and to test reliability, and where information about samples, methods, and tools are standardized, available, and linked across publications.

https://docs.google.com/presentation/d/1jBxFowB03p9hmkx1Cq08m5ObABvwIDVIVkiM3c3y0dk/edit#slide=id.g433aff2eb8_0_75

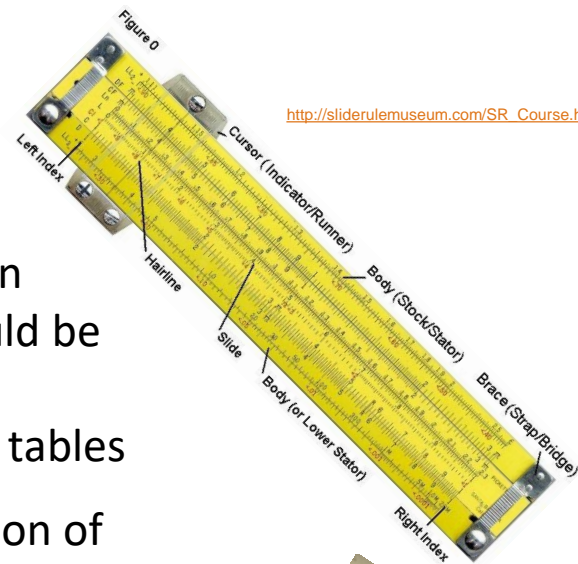
New requirements from Publishers (and the ARC/NHMRC/Universities Australia)

Lesley Wyborn
National Computational Infrastructure



The Drivers for Change

- Fifty years ago, most data that underpinned a publication could be represented in typeset tables and methods could be described in text.
 - Most calculations were done using slide rules and log tables
- With the advent of the digital age and the computerisation of instruments, volumes of data collected became too large to process manually and publish as tables: computer code became integral to modern scientific research.
- Increasingly data and software became included as a supplement in the research paper, accessible by contacting the journal, or else 'by contacting the author'.



http://sliderulemuseum.com/SR_Course.htm



<https://ia800803.us.archive.org/zipview.php?zip=/22/items/olcovers571/olcovers571-L.zip&file=5712066-L.jpg>

The Problem



- The inability to access primary data, samples, and software limits the ability to test the veracity and reproducibility of any publication
- They do not guarantee accessibility and persistence of input research artefacts (data, software and samples in particular)

How do we fix it?

1. In 2017, a grant from the Laura and Arnold Foundation was awarded to the American Geophysical Union (AGU) and other partners to significantly improve the interconnection of data, software and samples in the literature in the Earth and environmental sciences, based around the [FAIR](#) guiding principles.
2. A coalition of Earth and environmental science publishers, disciplinary data repositories, and supporting organizations joined forces to work together to a commitment statement on FAIR publishing.
3. AuScope, ARDC and the NCI were all partners in the project and various members participated in stakeholder meetings and made contributions to final outcomes.

The Commitment Statement

This states that publication of scholarly articles in the Earth environmental science communities is conditional upon the concurrent availability of underpinning data and **software**.

These should, to the greatest extent possible, be shared, open, and stored in community-approved FAIR-aligned repositories.

This has been signed by publishers, repositories, professional societies, institutions, research data infrastructures and individuals (including AuScope, NCI, ARDC)

Available on: <http://www.copdess.org/enabling-fair-data-project/>

What does this mean for the Earth and environmental sciences?

For The Publishers?

Publishers are now working towards following consistent policies for sharing and citing data, samples and **software** and will move from having these as supplements to using trusted repositories for publishing supporting research artefacts

For Repositories?

Repositories will need to move towards be able to provide persistent identifiers, rich metadata, and related services for the data, **software** and samples they hold.

For Researchers?

Researchers will need to know how to consistently share, document, and reference data, samples and **software** and use globally persistent identifiers to uniquely identify their research outputs

Citation and identifiers

Identifying researchers

Data citation

Persistent Identifiers webinar series

International Geo Sample Number

Software citation

ANDS | Working with data | Citation and identifiers

Software citation

+

SHARE

What is research software

Software, in source code or compiled form, supports scholarly research. Software may be downloaded, compiled, executed and instantiated.

Why cite research software

Software is pervasive in research. A UK Research Software [Survey](#) of 1,000 randomly chosen researchers shows: more than 90% of researchers acknowledge software as being important for their own research, about 70% say their research would not be possible without it. In a [separate study](#) looking at 40 papers published in Nature from January to March 2016, 32 of them explicitly mentioned software. These surveys provide evidence that software plays an important role in research, and hence, software should be treated in the same way as other research inputs and outputs that are part of the record of research such as research data and paper publications.

Proper citation of software has the following benefits:

How can Australians Comply?

ARDC has developed guidelines for citing software based on international recommendations of FORCE 11 software citation principals, DataCite, CodeMeta, and others.

<https://www.ands.org.au/working-with-data/citation-and-identifiers/software-citation>.



Australian Government

Geoscience Australia



Software Citation and Geoscience Australia

Motivations, outcomes and future direction

Margie Smith

Data Policy and Informatics

Main motivations

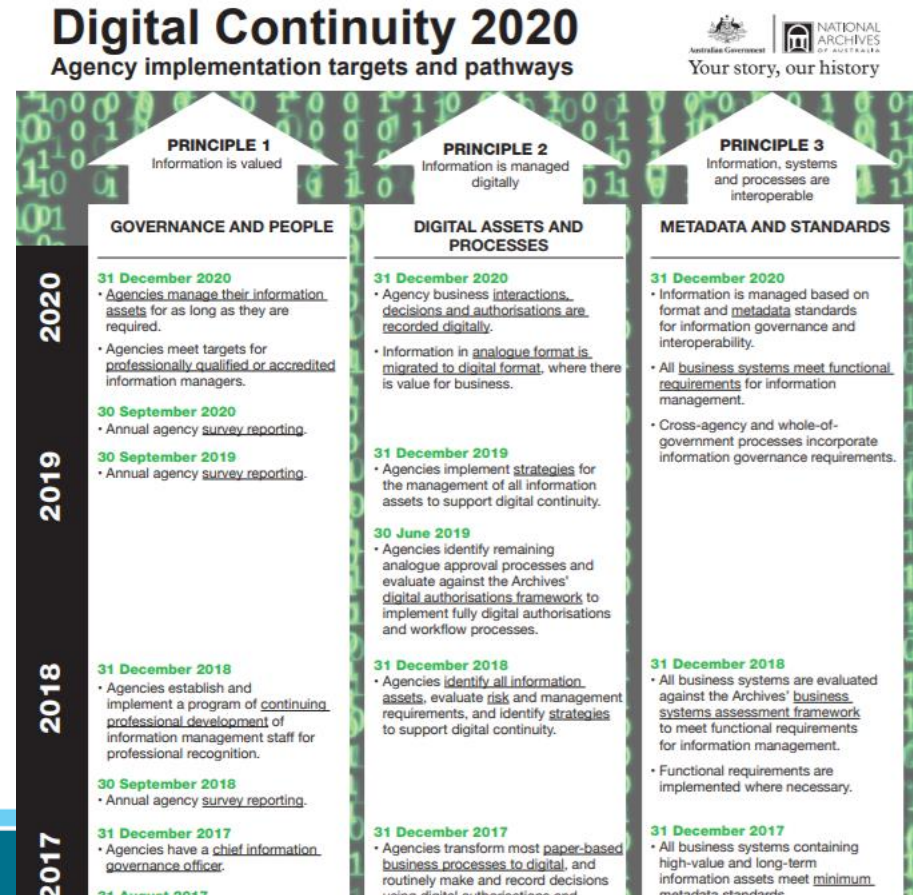
1. Government Policy and Legislation
 - a) Digital Continuity 2020
 - b) The Archives Act 1983
2. Geoscience Australia Data Strategy
3. Geoscience Australia's Science Principles
4. Geoscience Australia's Strategic Priorities
5. ...

Government policy considerations

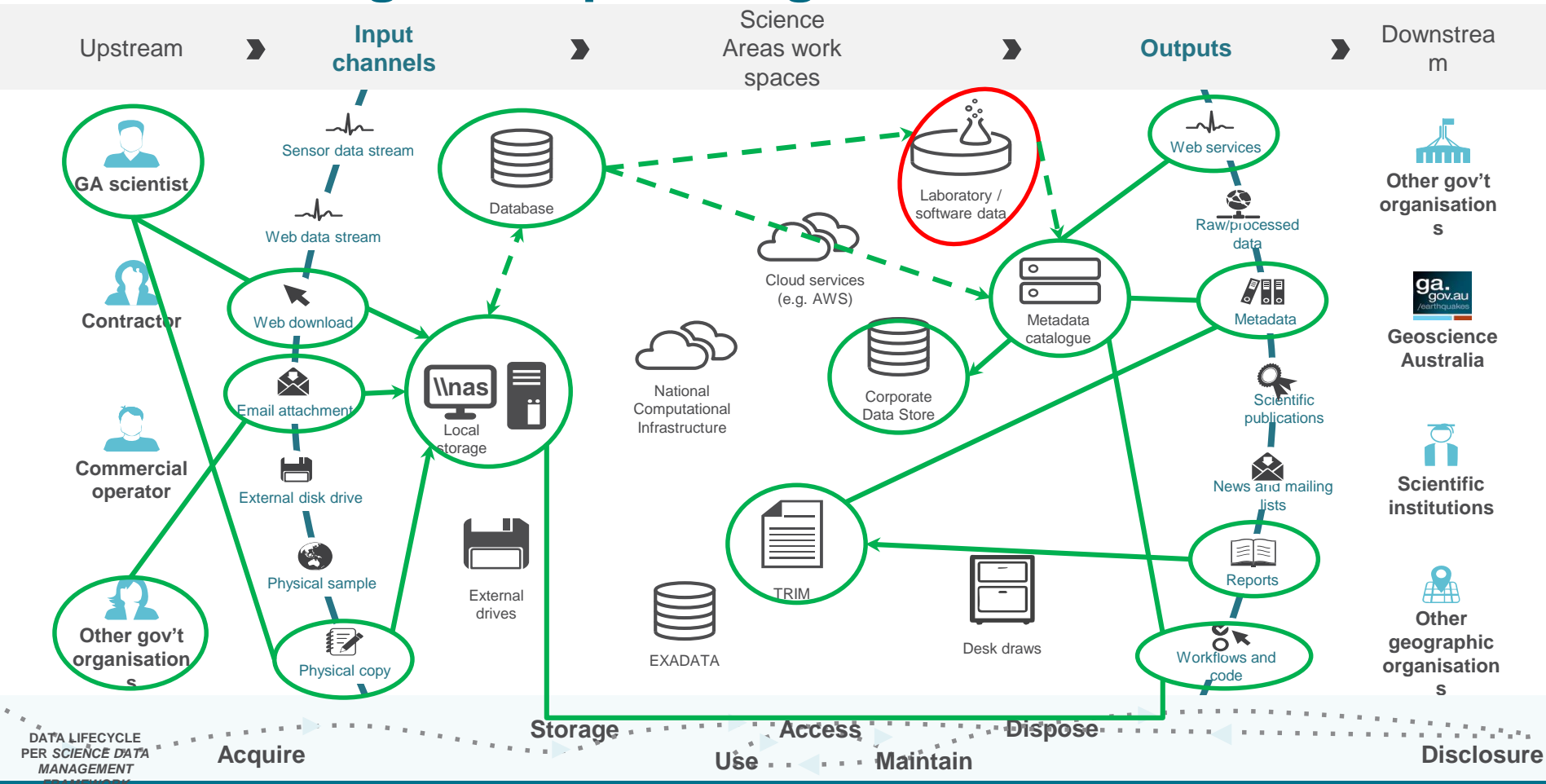
Government Data /
digital transformation agenda
through the DC2020

<http://www.naa.gov.au/information-management/digital-transition-and-digital-continuity/index.aspx>

and the Archives Act 1983 requiring
provenance of method as described
in the Records Disposal Authority.



Data management planning considerations



GA Data Strategy



Data Strategy 2018–21
PLANTING SEEDS TO MAXIMISE DATA POTENTIAL

Embed best practice data management

Persistently identify all objects to enable provenance and cataloguing

Vision

Maximise Data Potential

- Leverage our vast data holdings to solve geoscience challenges
- Accelerate engagement with high performance computing
- Provide transparent, repeatable results with quantified uncertainty
- Deliver quality data to a broader cross-section of the society through modernised data platforms

Principles

Accessible

Discoverable

Reusable

Managed across the lifecycle

Trusted with quality well described

Qualitative

- ✓ Staff have knowledge and skills to manage and curate data easily
- ✓ Staff are accountable to their data management roles
- ✓ Metadata of data are accessible and transparent (documented)
- ✓ Data is open, available when required and in accessible formats
- ✓ Data is catalogued and managed
- ✓ With metadata accompanies data
- ✓ Measures of quality accompany data
- ✓ Geoscience Australia values and supports best practice data management

Measures of success

Quantitative

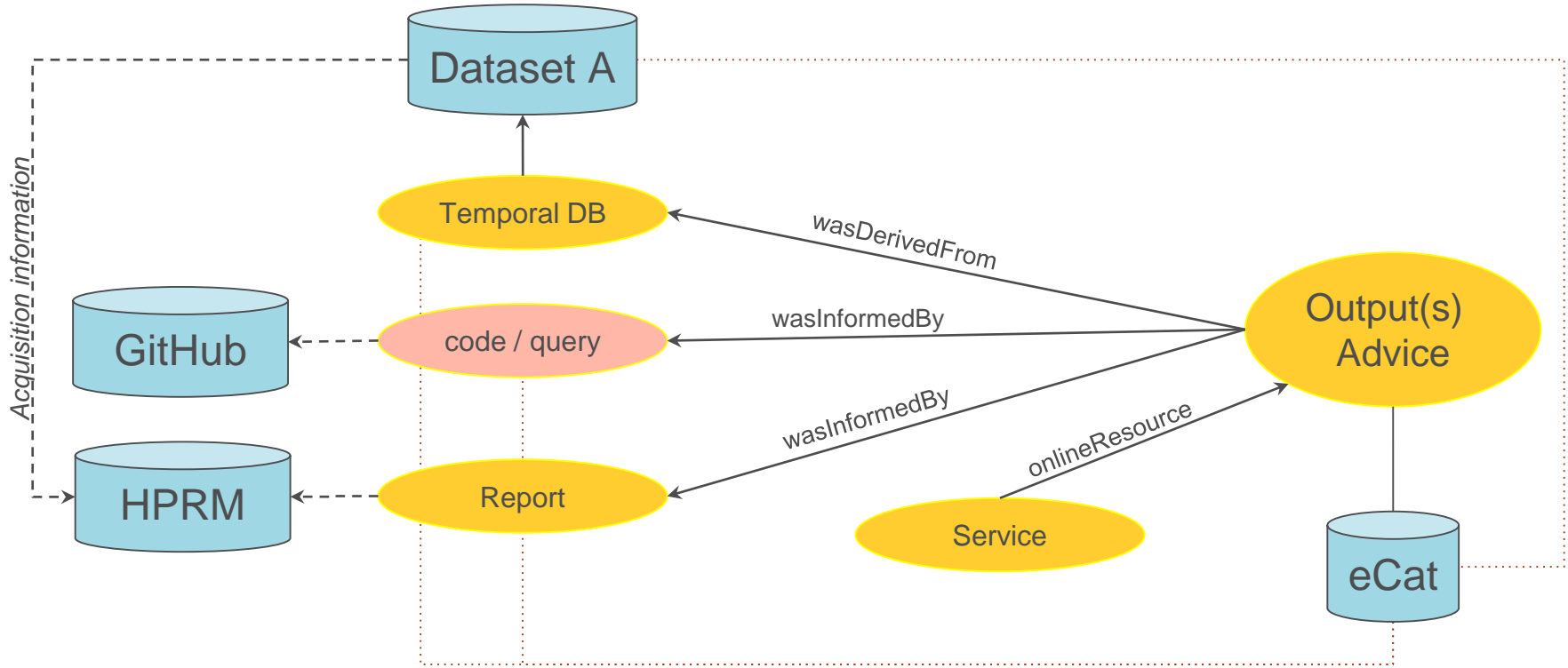
Metrics can be gathered on the following:

- ✓ Data citation through publications
- ✓ Data downloads and usage – internal and external
- ✓ Catalogue usage
- ✓ Data impact
- ✓ Complaints (including metadata and environment) of data releases
- ✓ User advisory of Geoscience Australia data
- ✓ Geoscience Australia spend (\$) on data
- ✓ Yearly benchmarking of Geoscience Australia's data on the ADU measuring model
- ✓ Targeted questions relating to data in the Geoscience Australia Stakeholder Survey and
- ✓ Targeted questions relating to data in the State of the Service Survey
- ✓ Internal surveys of staff regarding progress of the Data Strategy

Key Initiatives

Area	Initiative Critical Objectives	Time Frame
S Strategic and systems architecture	Inventory all data holdings and from the archive data for retention	2018-2021
	Review and develop a method of capturing and reusing metadata across the data lifecycle	2018-2021
	Develop a method for capturing and reusing metadata across the data lifecycle	2018-2021
	Understand and create (use) data definitions and assess the conditions, information and its available services	2018-2021
	Store data and automate workflows	2018-2021
E Enabling and enabling data management	Develop and publish standards and methodologies	2018-2021
	Develop a business strategy for data	2018-2021
	Develop data management lifecycle alignment and enable data management support for data lifecycle	2018-2021
	Develop an end-to-end approach for the end-to-end lifecycle data	2018-2021
	Develop a method for capturing and reusing metadata across the data lifecycle	2018-2021
E Enabling and enabling data management	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
D Data management and data management	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
S Strategic and systems architecture	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021
	Develop a business strategy for data	2018-2021

Outcomes – tracking provenance through the standard



Current eCat search is not granular

Search ...



Advanced Search

Clear X

Sorted by Modified (Latest) 1 - 20 on 52531 < >



TYPE OF RESOURCES

- Dataset (16009)
- Document (303)
- Non geographic dataset (35668)
- Service (345)
- Software (132)**

5 more

TOPICS

- Boundaries (627)
- Elevation (880)
- Geoscientific information (40610)
- Imagery base maps earth cover (9718)
- Oceans (164)

13 more

KEYWORDS

- Earth Sciences (20259)
- GA Publication (10748)
- Geophysics (14470)
- Published_External (29841)
- Published_Internal (22690)

10 more

CONTACT FOR THE RESOURCE

- Commonwealth of Australia... (52061)
- Corp (10103)
- EGD (13071)
- MNHD (18133)
- RD (7359)

20 more



Categories

Schema: iso19115-3

Landsat-8 Barest Earth mosaic

A 'weighted geometric median' approach has been used to estimate the median surface reflectance of the barest state (i.e., least vegetation) observed through Landsat-8 OLI observations from 2013 to September 2018 to generate a six-band Landsat-8 Barest Earth pixel composite mosaic over the Australian continent. The bands include BLUE (0.452 - 0.512), GREEN (0.533 - 0.590), RED, (0.636 - 0.673) NIR (0.851 - 0.879), SWIR1 (1.566 - 1.651) and SWIR2 (2.107 - 2.294) wavelength regions. The weighted median approach is robust to outliers (such as cloud, shadows, saturation, corrupted pixels) and also maintains the relationship between all the spectral wavelengths in the spectra observed through time. The product reduces the influence of vegetation

eCat ID: 122573

Geoscience Australia - Client Services
Last update: 2018-10-14



Categories

Schema: iso19115-3

L210 South Nicholson Deep Crustal Seismic Reflection Survey, NT and QLD, 2017

The L210 South Nicholson 1096 km-long deep seismic reflection lines were acquired from 6 June to 14 August, 2017. The survey involved the acquisition of seismic reflection and gravity data along five traverses, 17GA-SN1 (375 km), 17GA-SN2 (213 km), 17GA-SN3 (58 km), 17GA-SN3 (96 km), and 17GA-SN5 (352 km). The South Nicholson seismic survey was undertaken in collaboration with and funded by: The energy theme in Geoscience Australia - Exploring for the Future; Northern Territory Geological Survey (NTGS); Department of Natural Resources and Mines - through the Geological Survey of Queensland (GSQ); and AuScope. Raw data for this survey are available on request from clientservices@ga.gov.au - Quote eCat# 116881

eCat ID: 116881

Last update: 2018-10-11



Categories

Schema: iso19115-3

The 2018 National Seismic Hazard Assessment for Australia: Earthquake Epicentre...

The 2018 National Seismic Hazard Assessment (NSHA18) is a flagship Geoscience Australia product, used to support the decisions of the Australian Building Codes Board and Standards Australia to ensure buildings and infrastructure are built to withstand seismic events in Australia. It is also important for the insurance sector and provides a baseline for setting national reinsurance premiums. The National Seismic Hazard Assessment Earthquake Epicentre Catalogue (NSHA18-Cat) of historical earthquakes is the authoritative catalogue underpinning the NSHA18. The NSHA18-Cat is compiled from Australian and international sources and combines the highest quality epicentres and magnitudes for the

eCat ID: 123041

Last update: 2018-10-12



Categories

Schema: iso19115-3

The 2018 National Seismic Hazard Assessment for Australia - Data

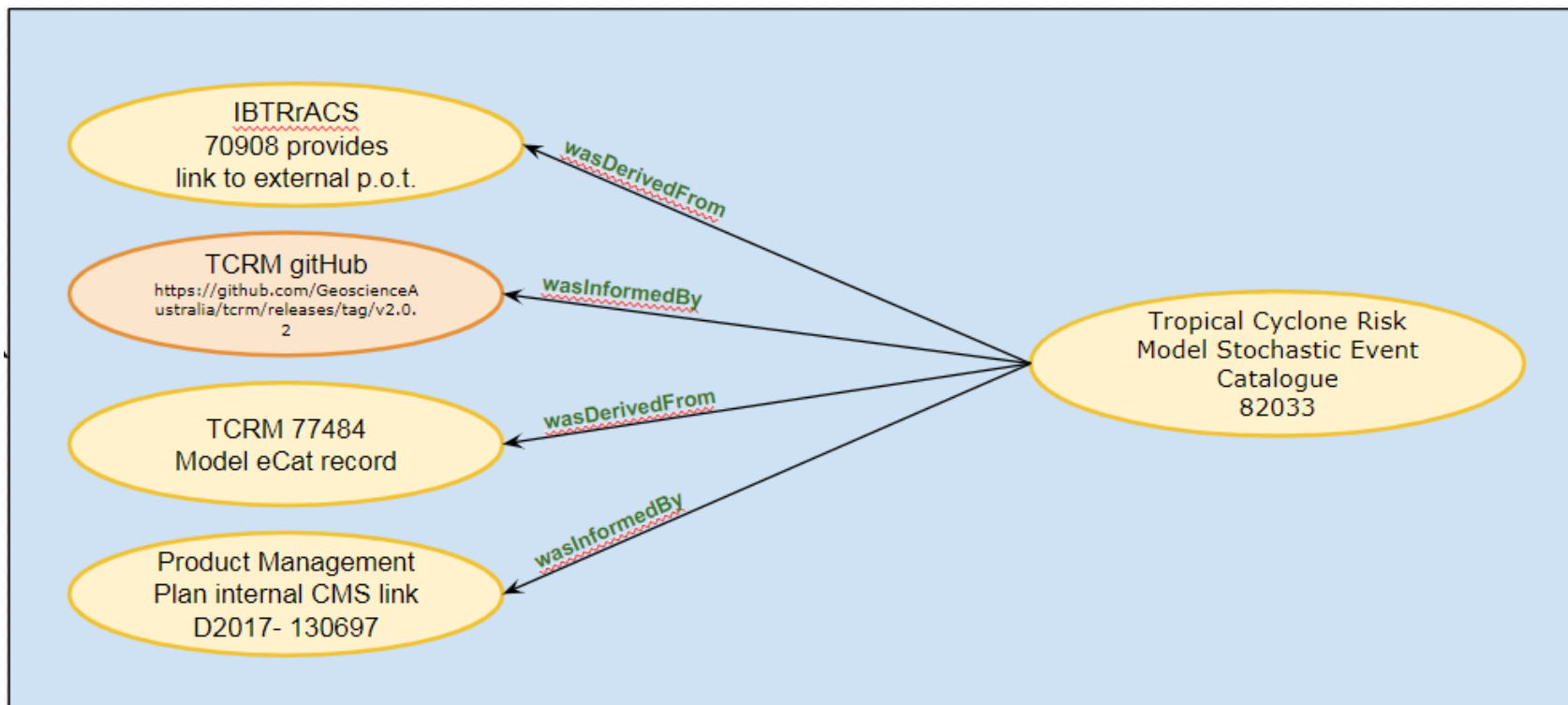
This data is the output from the model assessment for the 2018 National Seismic Hazard Assessment for Australia (NSHA18) product (refer eCat 123020 for overview of product). This data is provided in multiple formats and is supported by accompanying maps to illustrate the seismic hazard (refer description of the model output at eCat 123028). The data is the output from the modelling process described in eCat 123049 which is in turn informed by GA Records relating to the expert elicitation workshop (eCat 123027), ground motion model selection (eCat 123034), earthquake epicentre catalogue (eCat 123041) and earthquake sources (eCat 123048).

eCat ID: 123050

Last update: 2018-10-11



Outcomes – tracking provenance through the standard



Machine discoverable (?) but not people friendly

```
▼<mri:associatedResource>
  ▼<mri:MD_AssociatedResource>
    ▼<mri:associationType>
      <mri:DS_AssociationTypeCode codeList="codeListLocation#DS_AssociationTypeCode" codeListValue="wasDerivedFrom"/>
    </mri:associationType>
    ▼<mri:metadataReference>
      ▼<cit:CI_Citation>
        ▼<cit:title>
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        </cit:title>
        ▼<cit:identifier>
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            </mcc:MD_Identifier>
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            ▼<cit:CI_OnlineResource>
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                </gco:CharacterString>
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              </cit:protocol>
              ▼<cit:description>
                <gco:CharacterString>Link to to source code in Github</gco:CharacterString>
              </cit:description>
            </cit:CI_OnlineResource>
          </cit:onlineResource>
        </cit:CI_Citation>
      </mri:metadataReference>
    </mri:MD_AssociatedResource>
  </mri:associatedResource>
▼</mri:associatedResource>
```


Moving towards correct citation for advice

Citation cases 1. (proposed workflow tool N. Car 2017-05-11)

•{AUTHORS} ({YEAR}) {TITLE}. {TOOL_TYPE {REPO_BRANCH}[0,1]}.
{PUBLISHER}. {DOI | URI}. {ACCESSED_DATE}[0,1]

What we hope to have in eCat for provenance against advice generated:

•Arthur, W.C. (2014) *tcrm*. Git code repository, Branch: v2.0.2. Geoscience Australia. accessed 2018-09-28. <http://pid.geoscience.gov.au/dataset/ga/77484>




Future direction – discovery and linkage improvement

Q Back to search < Previous page Next >

Tropical Cyclone Risk Model Stochastic Event Catalogue

The TCRM Stochastic Event Catalogue contains artificially generated tropical cyclone tracks and wind fields representing 10000 years of tropical cyclone activity. The catalogue is stored by year, with a track file and wind field file. The wind field file contains the maximum wind speed from all events occurring in the corresponding track file (i.e. it represents annual maximum wind speeds).

About this resource

Scope Code	dataset
Categories	 Climatology, meteorology, atmosphere
other	<ul style="list-style-type: none">Data PackageDC2020Published_Internal
Australian and New Zealand Standard Research Classification (ANZSRC)	<ul style="list-style-type: none">Natural Hazards
Legal constraints	Creative Commons Attribution 4.0 International Licence
Author	Arthur, W.C.
Contact for the resource	 Custodian CSEMD  Owner Commonwealth of Australia (Geoscience Australia)



Q Back to search < Previous page Next >

Tropical Cyclone Risk Model Stochastic Event Catalogue




The TCRM Stochastic Event Catalogue contains artificially generated tropical cyclone tracks and wind fields representing 10000 years of tropical cyclone activity. The catalogue is stored by year, with a track file and wind field file. The wind field file contains the maximum wind speed from all events occurring in the corresponding track file (i.e. it represents annual maximum wind speeds).

Citation

If you wish to cite this record as you would a publication, please use the following format:

Arthur, W.C. (2014) *tcrm*. Git code repository, Branch: v2.0.2. Geoscience Australia. accessed 2018-09-28.
<http://pid.geoscience.gov.au/dataset/ga/77484>

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Legal constraints	Creative Commons Attribution 4.0 International Licence
Author	Arthur, W.C.
Contact for the resource	 Custodian CSEMD  Owner

Future direction – discovery and linkage improvement

Slowly improving compliance

Status of GA's GitHub Repo's metadata

Totals

- Total: 195
- Passed: 36
- Failed: 159

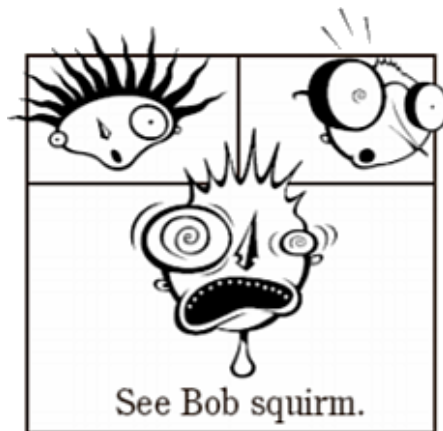
Previously

- Total: 155
- Passed: 2
- Failed: 153

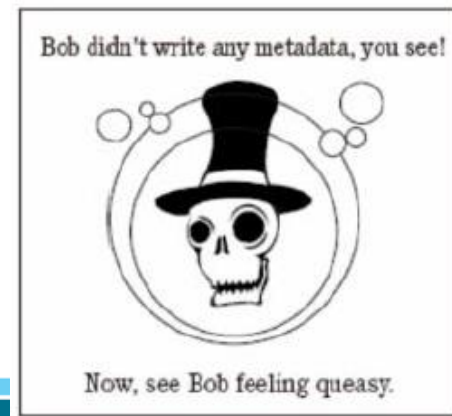
Repos failing tests

DefinitelyTyped	repo_must_contain_readme	passed
	readme_must_start_with_title	passed
	repo_must_have_license_file	passed
	readme_must_contain_license_section	passed
	readme_must_contain_contacts_section	README does not contain a subsection titled 'Contacts' README does not contain any GA email addresses for contact people
GeodePy	repo_must_contain_readme	passed
	readme_must_start_with_title	passed
	repo_must_have_license_file	passed
	readme_must_contain_license_section	passed
	readme_must_contain_contacts_section	README does not contain a subsection titled 'Contacts' README does not contain any GA email addresses for contact people

Thank you



data@ga.gov.au



Software in the CSIRO DAP: Description

Sue Cook | Data Librarian

17 October 2018



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The portal is maintained by CSIRO Information Management & Technology to facilitate sharing and reuse.

Search CSIRO collections

SEARCH

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Featured Collections



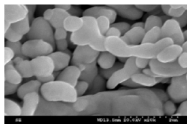
[Data from the ASKAP latitude 50 Fast Radio Burst \(FRB\) sample](#)

This collection accompanies the paper "The dispersion-brightness relation for fast radio bursts from a wide-field survey" It contains 3 directories: full_scans/ - ASKAP CRAFT search mode data...



[Detecting Social Roles in Twitter](#)

Social roles are one particular demographic characteristic, which includes work, recreational, community and familial roles. We create a new annotated dataset for the task of detecting social...



[Silver Nanoparticle Data Set](#)

This is a set of silver nanoparticle FINAL CONFIGURATIONS, for use in data driven studies. These structures have been optimized (fully relaxed) using Density Functional Tight Binding. Sizes...

<https://data.csiro.au/dap>

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Published date:

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Collection type:

☐ Data (2523)

☒ Software (90)

☐ Service (7)

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Attribution 4.0

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indicates that access to files within this collection is restricted

[Privacy Preserving Linkage Software](#)

A set of software tools for privacy preserving entity linkage. * anonlink: A library for carrying out the low level hash comparisons required server side * entity-service: Our linkage server implemen... [more](#)

Confidential Computing - - Published 05 Oct 2018

[AusFarm Decision Support Software](#)

AusFarm modelling tool built using the Common Modelling Protocol.

One CSIRO Rural Decision Support - Software development - Published 13 Sep 2018

[PorosityPlus](#)

The PorosityPlus code can be used to calculate the surface area, volume and pore size distribution (PSD) of particle networks. These particles can be multiscale ranging from atoms, to nanoparticles to... [more](#)

MMM Research & Applications - MMM Software - Published 04 Sep 2018

[cuda-fixnum](#)

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Q Search by keyword Search by location Search by domain

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Each record is searched with results returned for one of the records, any combination or all of the words.

Featured collections

Water Quality data base (event mean concentration for TSS, TN and TP) for Australian Rivers 17/04/2018
 24 Dr. David Hargreaves
 This record-based water quality data base was developed as part of a project for the Victorian CRC, Warrup.

National soil attributes bulk density (whole earth) service example 17/04/2018
 24 Dr. David Hargreaves, Kate Mann, Carla Perry, Sue Cook
 National soil attributes bulk density (whole earth) service example

Investigator Voyages IN2015_V01 End of Voyages (EOV) Archive TEST 20180429 17/04/2018
 24 James Dempsey
 This record describes the End of Voyages archive collected on the Marine National Facility (MNF) Investigator...

Recent collections

ALL SOFTWARE DATA SERVICE

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 201800090840 Test Data Collection

GrainScan - Software for analysis of grain images COPY 09 Oct 2018 Software 08 Oct 2018
 201800090835 Test Data Collection

XSS test 3 23 May 2018 Software 23 May 2018
 XSS test 2

DMSTECH-8726 DAP - UI - Change the approver email format (software collection test) 17 Feb 2018 Software 14 Feb 2018
 201803010850 Test Software Collection

View all collections >

Search by domain

The domain search facility lets you search for collections that CSIRO has specific knowledge research areas in specific research areas and particular to that area of scientific research.

AAIS Virus Image Search
 Query microscopy images from Australian Animal Health Laboratory.

ATNSP Pulse Observation Search
 Query pulse observation data in the Parkes radio telescope.

CASDA Observation Search
 Query the CSIRO ASAP Science Data Archive (CASDA) for observation data taken by the ASAP radio telescope.

CASDA Snapshot Search
 Query the CSIRO ASAP Science Data Archive (CASDA) using an image set and image.

https://data.csiro.au/collections/

Recent collections

ALL SOFTWARE DATA SERVICE

GrainScan - Software for analysis of grain images COPY3 09 Oct 2018 Software 09 Oct 2018
 201800090840 Test Data Collection

GrainScan - Software for analysis of grain images COPY 09 Oct 2018 Software 08 Oct 2018
 201800090835 Test Data Collection

XSS test 3 23 May 2018 Software 23 May 2018
 XSS test 2

DMSTECH-8726 DAP - UI - Change the approver email format (software collection test) 01 Mar 2018 Software 14 Feb 2018
 201803010850 Test Software Collection

View all collections >

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- ☐ within last year (475)
- ☐ within last month (27)
- ☐ within last week (20)
- ☐ within last day (9)

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▼ Files I can access

- ☐ Files I can access (1278)

[clear](#)

▼ Collection type

- ☐ Data (1339)
- ☒ Software (140)
- ☐ Service (60)

[clear](#)

▼ Licence type

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Oct 09, 2018

GrainScan - Software for analysis of grain images COPY3

👤 Alex Whan, Matt Bolger, Leanne Bischof

This collection is to accompany the publication of the paper "GrainScan: A low cost, fast method for grain size and colour measurements". It contains the software version that is referred to in that publication.

Software

Oct 09, 2018

20181008090840 Test Data Collection

👤 Suresh Palaniyandi

20181008090835 Test Data Collection

Software

Oct 09, 2018

20181008090835 Test Data Collection

👤 Suresh Palaniyandi

20181008090835 Test Data Collection

GrainScan - Software for analysis of grain images

The screenshot shows a web interface for a software collection. At the top, there are two tabs: 'Description' and 'Files'. The 'Files' tab is selected, and a blue arrow points from the text 'Files- code or executable' to it. Below the tabs, there is a section titled 'Copy this persistent link to share this collection:' with a text box containing the DOI: <http://doi.org/10.4225/08/536302C43FC28>. A blue arrow points from the text 'DOI (for this version)' to this link. Below this, there is a section titled 'About this Collection'. It contains several fields: 'Collection Title: GrainScan - Software for analysis of grain images', 'Collection Description: This collection is to accompany the publication of the paper "GrainScan: A low cost, fast method for grain size and colour measurements". It contains the software version that is referred to in that publication.', 'Field of Research: Plant Biology not elsewhere classified', 'DOI: <http://doi.org/10.4225/08/536302C43FC28>', 'Contact: CSIRO Enquiries, CSIROEnquiries@csiro.au, 1300 363 400', 'Keywords: Grain; cereal; image analysis; seed size; software', 'Related Materials: Collection: [Repository containing maintained versions of GrainScan](#). Publication: [Whan, Alex P., Alison B. Smith, Colin R. Cavanagh, Jean-Philippe F. Raï, Lindsay M. Shaw, Crispin A. Howitt, and Leanne Bischof. "GrainScan: A Low Cost, Fast Method for Grain Size and Colour Measurements," Plant Methods 10, no. 1 \(July 8, 2014\): 23. doi:10.1186/1746-4811-10-23.](#) Collection: [Whan A. Cavanagh C: Scanned wheat grain images. 10.4225/08/52F9AE7262532](#).', 'Supporting Files: [GrainScanSupplience.docx](#)', 'Licence: CSIRO Binary Software Licence', 'Organisations: CSIRO (Australia)', 'Attribution Statement: Whan, Alex; Bolger, Matt; Bischof, Leanne (2014): GrainScan - Software for analysis of grain images. v2. CSIRO. Software Collection. <http://doi.org/10.4225/08/536302C43FC28>', and 'Rights Statement: All Rights (including copyright) CSIRO Australia 2014.'. A blue arrow points from the text 'Link to code repository for updates and development' to the 'Repository containing maintained versions of GrainScan' link. Another blue arrow points from the text 'Link to the related publication' to the publication link. A third blue arrow points from the text 'Link to the data' to the 'Scanned wheat grain images' collection link. A fourth blue arrow points from the text 'Licence and supplement' to the 'GrainScanSupplience.docx' link. A fifth blue arrow points from the text 'Attribution including collection type' to the 'Attribution Statement' field.

Description Files

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Copy this persistent link to share this collection:
<http://doi.org/10.4225/08/536302C43FC28>

About this Collection

Collection Title: GrainScan - Software for analysis of grain images

Collection Description: This collection is to accompany the publication of the paper "GrainScan: A low cost, fast method for grain size and colour measurements". It contains the software version that is referred to in that publication.

Field of Research: Plant Biology not elsewhere classified

DOI: <http://doi.org/10.4225/08/536302C43FC28>

Contact: CSIRO Enquiries
CSIROEnquiries@csiro.au
1300 363 400

Keywords: Grain; cereal; image analysis; seed size; software

Related Materials: Collection: [Repository containing maintained versions of GrainScan](#).
Publication: [Whan, Alex P., Alison B. Smith, Colin R. Cavanagh, Jean-Philippe F. Raï, Lindsay M. Shaw, Crispin A. Howitt, and Leanne Bischof. "GrainScan: A Low Cost, Fast Method for Grain Size and Colour Measurements," Plant Methods 10, no. 1 \(July 8, 2014\): 23. doi:10.1186/1746-4811-10-23.](#)
Collection: [Whan A. Cavanagh C: Scanned wheat grain images. 10.4225/08/52F9AE7262532](#).

Supporting Files: [GrainScanSupplience.docx](#)

Licence: CSIRO Binary Software Licence

Organisations: CSIRO (Australia)

Attribution Statement: Whan, Alex; Bolger, Matt; Bischof, Leanne (2014): GrainScan - Software for analysis of grain images. v2. CSIRO. Software Collection.
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Access: The metadata and files are available to the public.

Files- code or executable
DOI (for this version)

Link to code repository for
updates and development

Link to the related
publication

Link to the data

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Attribution including
collection type

Workspace: Scientific Workflow Platform

Description

Files

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Collection Title: Workspace: Scientific Workflow Platform

Collection Description: Workspace is a powerful software platform designed to address two specific user scenarios: 1) Scientists who want to create and share scientific workflows in one coherent, simple environment where much of the "heavy lifting" has already been developed and proven over a number of years 2) Developers who want to make their software avail... [more](#)

Field of Research: Software Engineering

DOI: <https://doi.org/10.25919/5b3c1dc633cd3>

Contact: CSIRO Enquiries

CSIROEnquiries@csiro.au

1300 363 400

Keywords: scientific workflow platform

Related Links: Publication: [Workspace: A Platform for Delivering Scientific Applications](#)

Publication: [Workspace: scientific workflow platform](#)

Website: [Workspace website at CSIRO](#)

Publication: [Workspace - a Scientific Workflow System for enabling Research Impact](#)

Publication: [Opportunities for workflow tools to improve translation of research into impact](#)

Supporting Files: [workspace.license](#)

Licence: CSIRO Binary Software Licence

Organisations: CSIRO (Australia)

Attribution Statement: CSIRO; Cleary, Paul; Hetherton, Lachlan; Bolger, Matt; Rucinski, Chris; Sankaranarayanan, Nirupama; Thomas, David; Watkins, Damien; Zhang, Zikai; Subramanian, Rajesh; Nguyen, Dang Quan; McNally, Matt (2018): Workspace: Scientific Workflow Platform. v14. CSIRO. Software Collection. <https://doi.org/10.25919/5b3c1dc633cd3>

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 [Signature]
 [Name]
 [Title]
 [Company]
 [Address]
 [City, State, Zip]
 [Phone Number]
 [Email Address]

Access: The metadata and files (if any) are available to the public.

[show all](#)

[More about this Collection](#)

Environment Requirements: Windows/Linux/Mac

Language (Programming): C++

Operating System: Windows/Linux/Mac

Version: 5.4.0

About this Project

Project Title: Industrial Transformation and Situational Awareness

Project Description: Workspace is a powerful software platform designed to address two specific user scenarios: 1) Scientists who want to create and share scientific

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Workspace: Scientific Workflow Platform

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About this collection

Software

Published

17 Jun 2016

Contact


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CSIROEnquiries@csiro.au

1300 363 400

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Permalink

https://doi.org/10.5072/08/576347A27D0C7

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Cite as

CSIRO; Bolger, Matt; Cleary, Paul; Hetherton, Lachlan; Rucinski, Chris; Thomas, David; Watkins, Damien (2014); Workspace: Scientific

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Rights statement

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Category

Software Engineering

Keywords

scientific workflow platform

Related collections:

Project title

CS-TCP - Workspace

Project description

Workspace provides a framework that allows researchers to focus on their science, develop robust and sustainable software and still meet their software implementation timeframe. The requirements of scientific application development such as visualisation, distribution, testing, integration and provenance reporting are all provided. Researchers can easily develop new capabilities or expose existing libraries through C, C++, Python or JavaScript via inbuilt facilities - or "callout" to other software packages such as R. Thus, the Workspace Framework makes it very easy to mix and match existing and new capabilities within an easy to use graphical drag and drop environment, but without the burden of having to design and implement the glue to make all the components work together.

Project leader

Paul Cleary

Organisations

CSIRO (Australia)

Activity title

Workspace version 3.4.0

Activity description

Workspace version 3.4.0

Activity type

Modelling

Software

Environment requirements

Windows/Linux/Mac

Language (programming)

C++

Operating system

Windows/Linux/Mac

Version

3.4.0

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Workspace: Scientific Workflow Platform

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About this collection

CSIRO , Matt Bolger , Paul Cleary , Lachlan Hetherton , Chris Rucinski , David Thomas , Damien Watkins

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Workspace is a powerful software platform designed to address two specific user scenarios: 1) Scientists who want to create and share scientific workflows in one coherent, simple environment where much of the "heavy lifting" has already been developed and proven over a number of years 2) Developers who want to make their software available as commercial products, plugins or components that can be freely mixed with capabilities from collaborators

Access

The metadata and files (if any) are available to the public.

Related links

Publication	Workspace: A Platform for Delivering Scientific Applications	“
Publication	Workspace: scientific workflow platform	“
Website	Workspace website at CSIRO	

Supporting Files
workspace.license

About this project

Software

Published
17 Jun 2016

Contact
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CSIROEnquiries@csiro.au
1300 363 400

Licence

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Permalink
https://doi.org/10.5072/08/576347A27D0C7

Cite as
copy

CSIRO; Cleary, Paul; Hetherton, Lachlan; Bolger, Matt; Rucinski, Chris; Sankaranarayanan, Nirupama; Thomas, David; Watkins, Damien; Zhang, Zikai; Subramanian, Rajesh; Nguyen, Dang Quan; McNally, Matt (2018): Workspace: Scientific Workflow Platform. v14. CSIRO. Software Collection. <https://doi.org/10.25919/5b3c1dc633cd3>

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Workspace: Scientific Workflow Platform

DescriptionFilesImage galleryServices

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About this collection

CSIRO, Matt Bolger, Paul Cleary, Lachlan Hetherton, Chris Rucinski, David Thomas, Damien Watkins

Collection description

Workspace is a powerful software platform designed to address two specific user scenarios: 1) Scientists who want to create and share scientific workflows in one coherent, single environment where much of the "heavy lifting" has already been developed and proven over a number of years 2) Developers who want to make their software available as commercial products, plugins or components that can be freely mixed with capabilities from collaborators

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Related links

Workspace: A Platform for Delivering Scientific Applications

Workspace: scientific workflow platform

Workspace website at CSIRO

Supporting files

workspace.license

About this project

Project title

CSS-TCF - Workspace

Project description

Workspace provides a framework that allows researchers to focus on their science, develop robust and sustainable software and still meet their software implementation timeframe. The requirements of scientific application development such as visualisation, distribution, testing, integration and provenance reporting are all provided. Researchers can easily develop new capabilities or expose existing libraries through C, C++, Python or JavaScript via inbuilt facilities - or "callout" to other software packages such as R. Thus, the Workspace Framework makes it very easy to mix and match existing and new capabilities within an easy to use graphical drag and drop environment, but without the burden of having to design and implement the glue to make all the components work together.

Project leader

Paul Cleary

Organisations

CSIRO (Australia)

Activity title

Workspace version 3.4.0

Activity description

Workspace version 3.4.0

Activity type

Modelling

Software

Environment requirements

Windows/Linux/Mac

Language (programming)

C++

Operating system

Windows/Linux/Mac

Version

3.4.0

Software

Published

17 Jan 2016

Contact

CSIRO Enquiries

CSIROenquiries@csiro.au

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CSIRO, Bolger, Matt; Cleary, Paul; Hetherton, Lachlan; Rucinski, Chris; Thomas, David; Watkins, Damien (2016). Workspace: Scientific Workflow Platform. CSIRO Data Access Portal. doi:10.5072/06f576347a27D0C7

Rights statement

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Category

Software Engineering

Keywords

scientific workflow platform

Related collections:

Software

Environment requirements

Windows/Linux/Mac

Language (programming)

C++

Operating system

Windows/Linux/Mac

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*Collection Title: ?

*Collection Description: ?

Lineage ?

Credit: ?

Start Date: ?

End Date: ?

*Keywords: ?

Contact: ?

☐ For public display

*Field(s) of Research ?

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metadata:
CSMD-CCLRC
Core Scientific
Metadata
Model

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Metadata Schema:

Software



Select your metadata schema

***Environment**

ANZLIC

Requirements:

Darwin Core



***Language**

Marine Community Profile

(Programming):

VO Resource



***Operating System:**

Software



***Version:**

Sensor



***Software Documentation:** *Upload the Software Documentation using Supporting Attachments.*



More about this Collection

If you are entering software or data that requires specific research area fields, select extra descriptors to further search capabilities:

Metadata Schema: ?

*Environment

Requirements:

*Language

(Programming):

*Operating System:

*Version: ?

*Software Documentation: *Upload the Software Documentation using Supporting Attachments.* ?

Environment Requirements

What platform, software or components are required for running this Software Collection (e.g. Workspace, Taverna, ModelBuilder, R, MilXview)? Detailed environment requirements should be included in the Software Documentation; this should be uploaded in the Supporting Attachments field.

Software Schema Usage

Metadata access	Used Software Schema?		Totals
	Yes	No	
Public	64	26	90
CSIRO Only	3	3	6
Specific Users	1	1	2
Totals	68	30	98

Schema.org tags

```
<script type='application/ld+json'>
{
  "@context": "http://schema.org",
  "@type": "Dataset",
  "name": "Workspace: Scientific Workflow Platform",
  "description": "Workspace is a powerful software platform designed to address two specific user scenarios: \n1) Scientists who want to create and share scientific workflows in one coherent, simple environment where much of the \u2018heavy lifting\u2019 has already been developed and proven over a number of years\n2) Developers who want to make their software available as commercial products, plugins or components that can be freely mixed with capabilities from collaborators\n",
  "datePublished": "2018",
  "keywords": "scientific workflow platform ",
  "license": "https://wiki.csiro.au/display/dmsdoc/CSIRO+Binary+Software+Licence+Agreement",
  "citation": "CSIRO; Cleary, Paul; Hetherington, Lachlan; Bolger, Matt; Rucinski, Chris; Sankaranarayanan, Nirupama; Thomas, David; Watkins, Damien; Zhang, Zikai; Subramanian, Rajesh; Nguyen, Dang Quan; McNally, Matt (2018): Workspace: Scientific Workflow Platform. v14. CSIRO. Software Collection. 10.25919/5b3c1dc633cd3",
  "publisher": "CSIRO",
  "temporalCoverage": "",
  "author": [{"@type": "Person", "name": "CSIRO"}, {"@type": "Person", "name": "Paul Cleary"}, {"@type": "Person", "name": "Lachlan Hetherington"}, {"@type": "Person", "name": "Matt Bolger"}, {"@type": "Person", "name": "Chris Rucinski"}, {"@type": "Person", "name": "Nirupama Sankaranarayanan"}, {"@type": "Person", "name": "David Thomas"}, {"@type": "Person", "name": "Damien Watkins"}, {"@type": "Person", "name": "Zikai Zhang"}, {"@type": "Person", "name": "Rajesh Subramanian"}, {"@type": "Person", "name": "Dang Quan Nguyen"}, {"@type": "Person", "name": "Matt McNally"}],
  "funder": [{"@type": "Organization", "name": "CSIRO"}],
  "identifier": "DOI : 10.25919/5b3c1dc633cd3",
  "URL": "https://doi.org/10.25919/5b3c1dc633cd3"
}
</script>
```

Next

Rest of 2018

- Tech debt and consolidation
 - Could address some of our gaps- eg collection types in DataCite and schema.org

2019/20

- New UI for depositor pages
- Greatly enhanced API for deposit

Vision

- Deposit API and CodeMeta could be mapped to pull in software from code repositories.

◀ [More Library Services news](#)

04 October 2018

[Get to know Altmetrics](#) >

03 October 2018

[Learn more about Library Services](#) >

02 October 2018

[New Taylor and Francis eBooks in chemical engineering](#) >

27 September 2018

[Cambridge University Press eBooks in Physics and Astronomy](#) >

25 September 2018

[EndNote Training October](#) >

Make your research software citable

Did you know that you can make your research software citable?

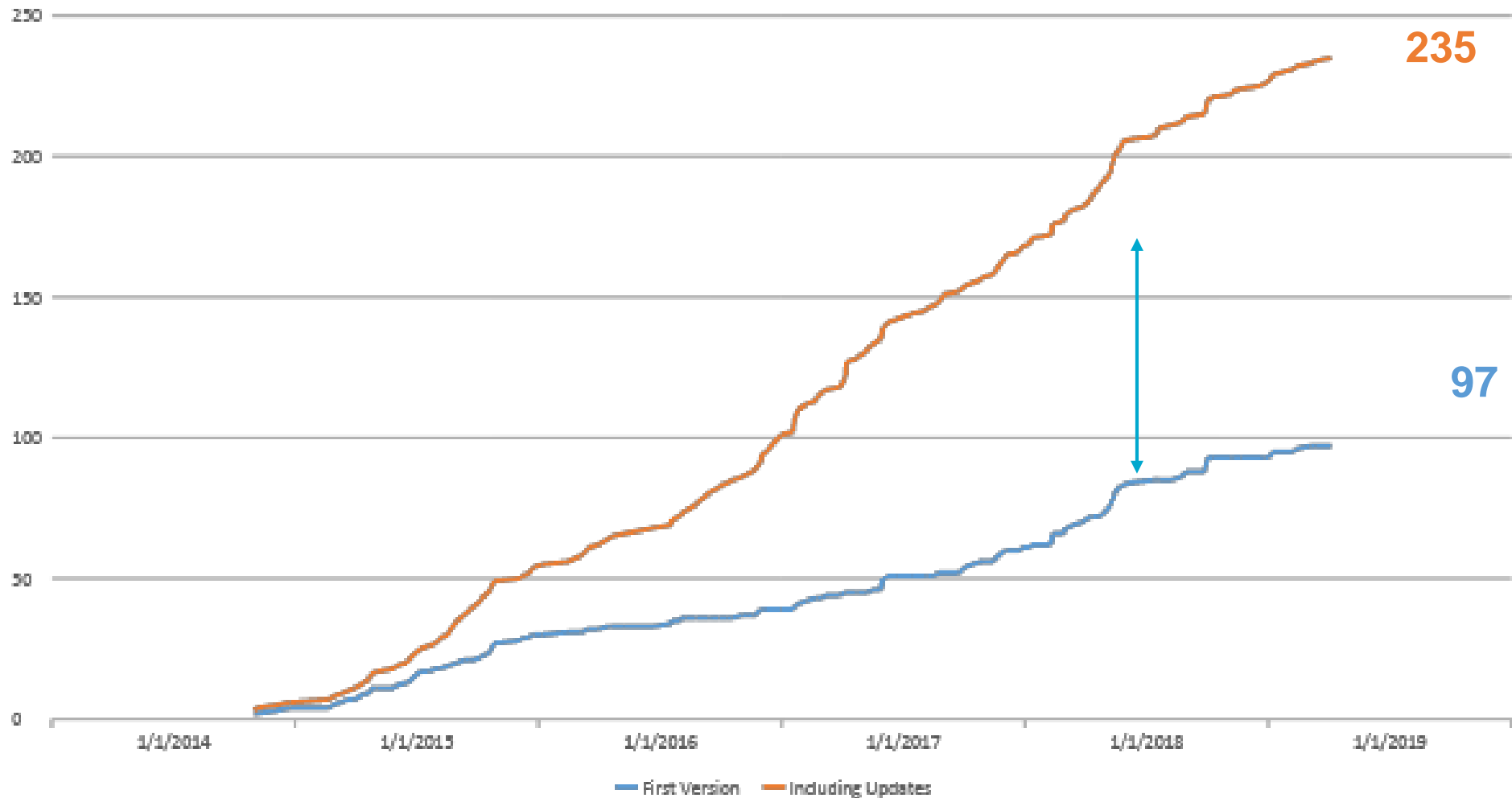
More and more journals are adopting the [FORCE 11 Software Citation principles](#) and encouraging researchers to make the software that was used in their research available. The easiest way for people to find out about the availability of your research software is to cite it in your references.

The way to do this in CSIRO is to publish your software in the [CSIRO Data Access Portal \(DAP\)](#). This will create a snapshot of the version that you used and give you an attribution statement, including a DOI, which can be used as your citation. If you want to update your software later, you can simply update the existing record with the new release and the DAP will give you a new DOI and keep both versions preserved. See how other researchers have already [created software records](#).

There is a [Software Release Process](#) that needs to be completed. This will help you to select the right licence for your software. Putting a record on the DAP will generate an approval process so you know your CSIRO compliance issues are taken care of.

See [Using the DAP for software](#) or contact researchdatasupport@csiro.au for more information.

Software Publication



Thank you

Thanks to:

Dom Hogan for the statistics and
Research Data Support team for feedback

CLEX software publishing workflow

Paola Petrelli - Climate data officer



ARC Centre of excellence for Climate Extremes

The Centre of Excellence for Climate Extremes (CLEX) is a major initiative funded by the [Australian Research Council](#). The Centre is an international research consortium of five Australian universities and a network of outstanding national and international partner organizations.

What we're trying to achieve

Encourage our community to share their codes

Provide a source of relevant and reliable code for our community

Supply a place to publish software in case our researchers want or have to

Starting point

We are not an institution we rely on others for services (mostly)

We need to act quickly: less than 6 yrs left

We have a “data source” with RDA

We work at NCI and so publish data with their services

We manage a github organization: <https://github.com/coecms>

We manage a DMP web tool based on the UK DCC roadmap/dmponline

Which software

From github:

- Code produced by our team: manage data/model and analysis
- Code produced by student and researchers: for analysis, often used by the all research group, occasionally by a wider community

Lost somewhere:

- Model related combination of code and data, as: configurations, alterations of a model scheme, tutorials.

Proposed workflow



Communities created and curated by Zenodo users

Showing 0 to 1 out of 1 communities.

Sort by ▾

**CLEX: Australian
Centre of excellence
for Climate Extremes**

View

Curate

This community aim is to collect the software and software documentation produced by the Centre of Excellence for Climate Extremes. CLEX (<https://climateextremes.org.au/>) is a major initiative funded by the Australian Research Council. The Centre is...

Curated by: paolap

My communities

New

CLEX: Australian Centre of
excellence for Climate Extremes

Identifier: arc-coe-clex

Actions ▾

Zenodo to publish and assign DOI

Publishing also on RDA using existing data source

CleX Roadmap data plan tool to create metadata and/or keep track of records.

Proposed workflow

Version control

Most code already on github or bitbucket.

Model configurations?

Probably provide some form of template to help collecting them

Add metadata

Collect information from repository and save as codemeta.json and zenodo.json files:

- harvest metadata from repository (python)
- template on Clex Roadmap

Upload json files to repository

Publish zenodo & RDA

Admin review records and publish to zenodo Clex community: python code using zenodo api.

Export record to RDA

If metadata harvested directly from repository, then harvest record from zenodo to Clex Roadmap.



Describing software for Virtual Labs

Geoffrey Squire

www.data61.csiro.au

Describing software for use

- Publishing software is easy
 - e.g. via GitHub, PyPI, download
 - Findable
 - Accessible
- But users want to Just Use It!

The goal is to make published software more useable by enabling automation.

Information Model

Applications run **Solutions** that use **Toolboxes** to solve Problems

- Machine-readable descriptions
- Metadata for searching, understanding, citation and provenance
- Sufficient to provision and run software automatically

Toolbox

Describes a software environment that can run published software

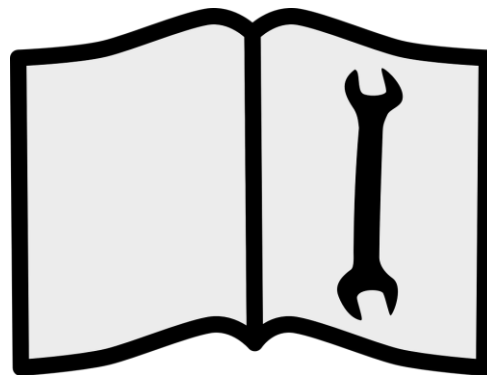
- Links to the published software
- How to instantiate the environment
- Dependencies
 - python
 - puppet
 - toolbox
- Implementation
 - cloud image
 - HPC
 - puppet module
 - execute instructions



Solution

Describes a workflow that uses a Toolbox to solve a specific Problem

- Link to published artifact (e.g. python script)
- Link to the Problem it solves
- Dependencies
 - Toolbox (usually)
- How to implement the Solution
 - Specification of inputs and outputs
 - Name
 - Description
 - Type
 - Constraints



Making it all useful

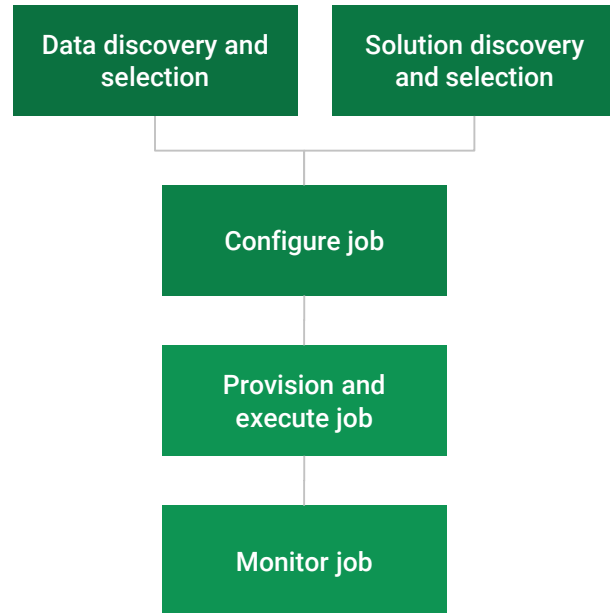
- A Solution Centre is a catalogue of Toolboxes and Solutions
- Developers (or others!) can publish descriptions of their software
- URIs for reference, citation and provenance
- Client apps can discover Solutions plus info to use them
- WIP on CodeMeta, RIF-CS and DOIs

<https://sssc-vgl.geoanalytics.csiro.au>

Making use of it all

- Virtual Laboratories (VLs) are clients
 - Data sets and services from registries
 - Solutions and toolboxes from the Solution Centre
- Users find relevant and **useable** data and solutions
- VL automates the job:
 - Generate UI to configure the Solution (parameters and inputs)
 - Assemble software environment
 - Wrangle input data
 - Execute and monitor the job
 - Store outputs and notify user when complete
 - Provide a provenance record

<https://vgl.auscope.org>





THANK YOU

Data61/Unit Name

Geoffrey Squire
Software Engineer

t +61 2 6216 7064

e geoffrey.squire@data61.csiro.au

www.data61.csiro.au



Q/A, Discussion

Thank you ...

Research software interest group:

<https://www.ands.org.au/partners-and-communities/ands-communities/ascig-software-citation>