

A diver in a black wetsuit and mask is underwater, holding a yellow plastic crate. The background shows a coral reef and blue water. The text is overlaid on the image.

Suggested Practices for Recording the CARE Principles for Place-based Research Samples and Data: for the Future and for the Past

Erin Robinson¹, Lesley Wyborn^{2,3}, Rebecca Farrington³

(1) Metadata Game Changers, LLC, (2) National Computational Infrastructure Australia, (3) AuScope, Ltd



We acknowledge and celebrate the First Australians on whose traditional lands we meet and pay our respect to our Elders past, present and future



Artist: Lynnice Letty Church – Tribes: Ngunnawal, Wiradjuri & Kamilaroi (ACT and NSW)
Gadi - "to search for" in Ngunnawal language - January 2020 for NCI Gadi Supercomputer

Abstract

Indigenous Data Sovereignty is the right of Indigenous Peoples to govern the collection, ownership, and application of data about Indigenous communities, peoples, lands, and resources (AIATSIS, 2019). This sovereignty extends beyond cultural heritage objects, to include Earth and environmental samples and data collected for place-based research. Historically, the initial collection of samples did not always include standard ways to document if consent was received from the local Indigenous communities or other Indigenous interests in the sample metadata, including permissions for reuse. Further, even if such metadata existed, there is little guarantee that these properties will be carried through to downstream subsamples and any derived analytical data. Without persistent connections of such metadata, including Local Context Notices and Labels, it is difficult to determine provenance, or that the primary samples were collected ethically.

The CARE Principles for Indigenous Data Governance (Carroll et al. 2020) provide a high-level framework for the governance and management of Indigenous data. However, they do not specify how and where these principles should be expressed in a standardised, machine-actionable way for physical research samples, subsamples, data and data products.

This paper will highlight how CARE can be operationalised before collection and retroactively. An example from the University of California Berkeley Gump South Pacific Research Station, will describe how a field station is incorporating a cultural review process and Local Contexts Notices and Labels before granting research access. For the past, this paper considers retrospectively applying CARE metadata and Local Context Notices and Labels to legacy sample collections.

Context of this Paper

- Indigenous Data Sovereignty is the right of Indigenous Peoples to govern the collection, ownership, and application of data about Indigenous communities, peoples, lands, and resources (AIATSIS, 2019).
 - This sovereignty extends beyond specific data on Indigenous peoples (medical, social) and cultural heritage objects, to include Earth and environmental samples and data collected for place-based research about land, waters, sea and sky.
 - In this presentation we are not debating where Indigenous data sovereignty and Indigenous Data Governance should apply.
 - What we want to explore is if a sample/dataset is deemed to have Indigenous Peoples rights and interests, how do we record this in the metadata so that it:
 - Persists with the sample/digital object and any derivatives; and
 - Can accommodate and record changes as the wishes of the Indigenous Peoples change.
-

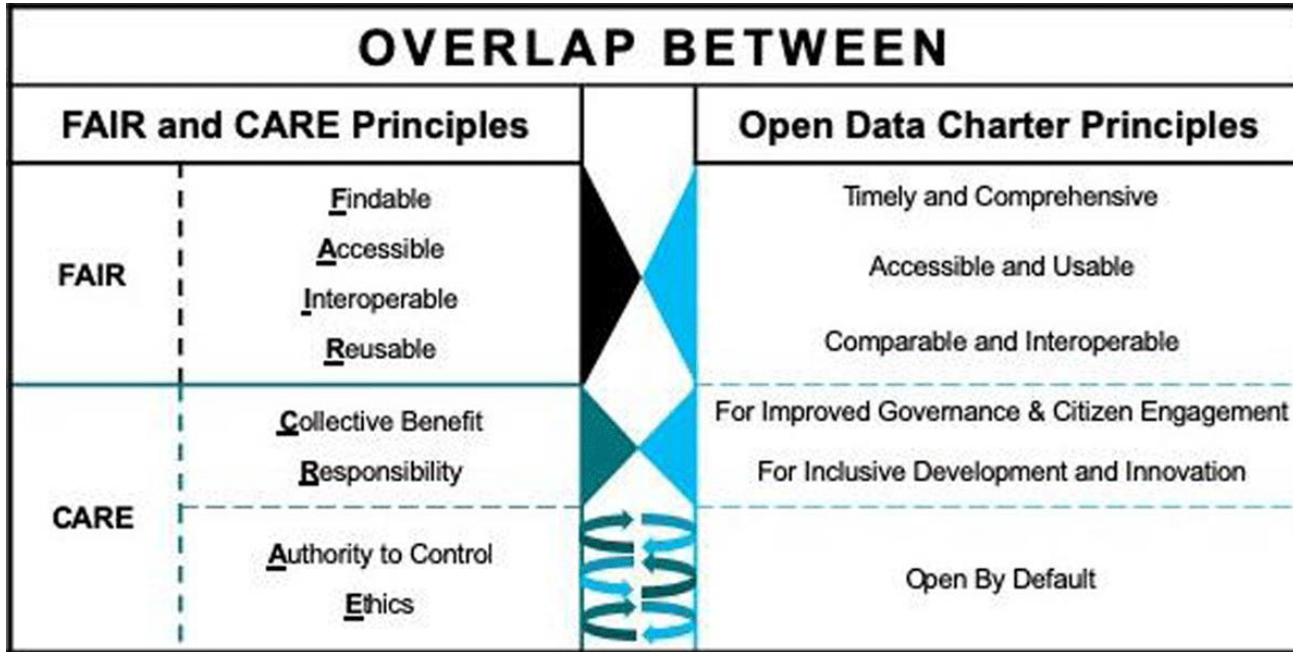
The FAIR and CARE Principles



<https://images.squarespace-cdn.com/content/v1/5d3799de845604000199cd24/1567592451970-2R8XFL670QNMAGDRV7ED/Be+FAIR+and+CARE.png?format=2500w>

- The FAIR principles focus on characteristics of data that will facilitate increased data sharing in machine-to-machine environments
- But the simultaneous move towards Open Data and Open Science does not fully engage with Indigenous Peoples rights and interests.
- This creates a tension for Indigenous Peoples who are asserting greater control over the application and use of Indigenous Data and Indigenous Knowledge for collective benefit.
- Collective benefit includes the right to create value from Indigenous data in ways that are grounded in Indigenous worldviews and realise opportunities within the knowledge economy
- See <https://www.gida-global.org/care>

Another Perspective



Carroll, S.R., Garba, I., Figueroa-Rodríguez, O.L., Holbrook, J., et al. (2020) 'The CARE Principles for Indigenous Data Governance', *Data Science Journal*, 19(1), p. 43. Available at: <https://doi.org/10.5334/dsj-2020-043>.

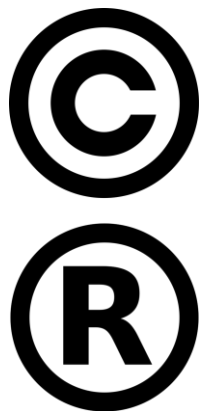


Local
Contexts

Mechanisms to support Indigenous interests in IP

Jane Anderson, Founder

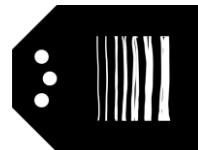
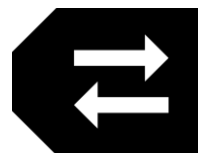
From IP to Licenses to Labels



Traditional IP



Creative Commons



TK & BC Labels and
Notices

From **ownership** to **control** to **establishing Indigenous cultural authority**

Traditional Knowledge (TK) Labels

Provenance Labels



TK Attribution
(TK A)



TK Clan
(TK CL)



TK Family
(TK F)



TK Multiple Communities
(TK MC)



TK Community Voice
(TK CV)



TK Creative
(TK CR)

Protocol Labels



TK Verified
(TK V)



TK Non-Verified
(TK NV)



TK Seasonal
(TK S)



TK Women General
(TK WG)



TK Men General
(TK MG)



TK Men Restricted
(TK MR)



TK Women Restricted
(TK WR)



TK Culturally Sensitive
(TK CS)



TK Secret / Sacred
(TK SS)

Permission Labels



TK Open to Commercialization
(TK OC)



TK Non-Commercial
(TK NC)



TK Community Use Only
(TK CO)



TK Outreach
(TK O)



TK Open to Collaboration
(TK CB)

Biocultural (BC) Labels

Provenance Labels



BC Provenance
(BC P)



BC Multiple Communities
(BC MC)



BC Clan
(BC CL)

Protocol Labels



BC Consent Verified
(BC CV)



BC Consent Non-Verified
(BC CNV)

Permission Labels



BC Research Use Only
(BC R)



BC Open to Collaboration
(BC CB)



BC Open to Commercialization
(BC OC)

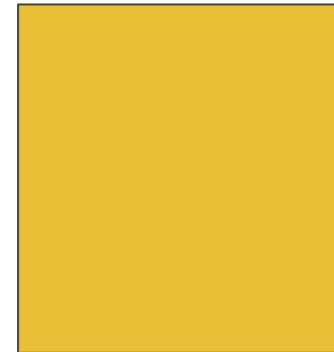


BC Outreach
(BC O)



BC Non-Commercial
(BC NC)

GeoCode (GC) Labels?



Video
is here



E Kore Au E Ngaro | The Connection Remains

5 months ago | More



Local Contexts

+ Follow

More from Local Contexts

Autoplay next video



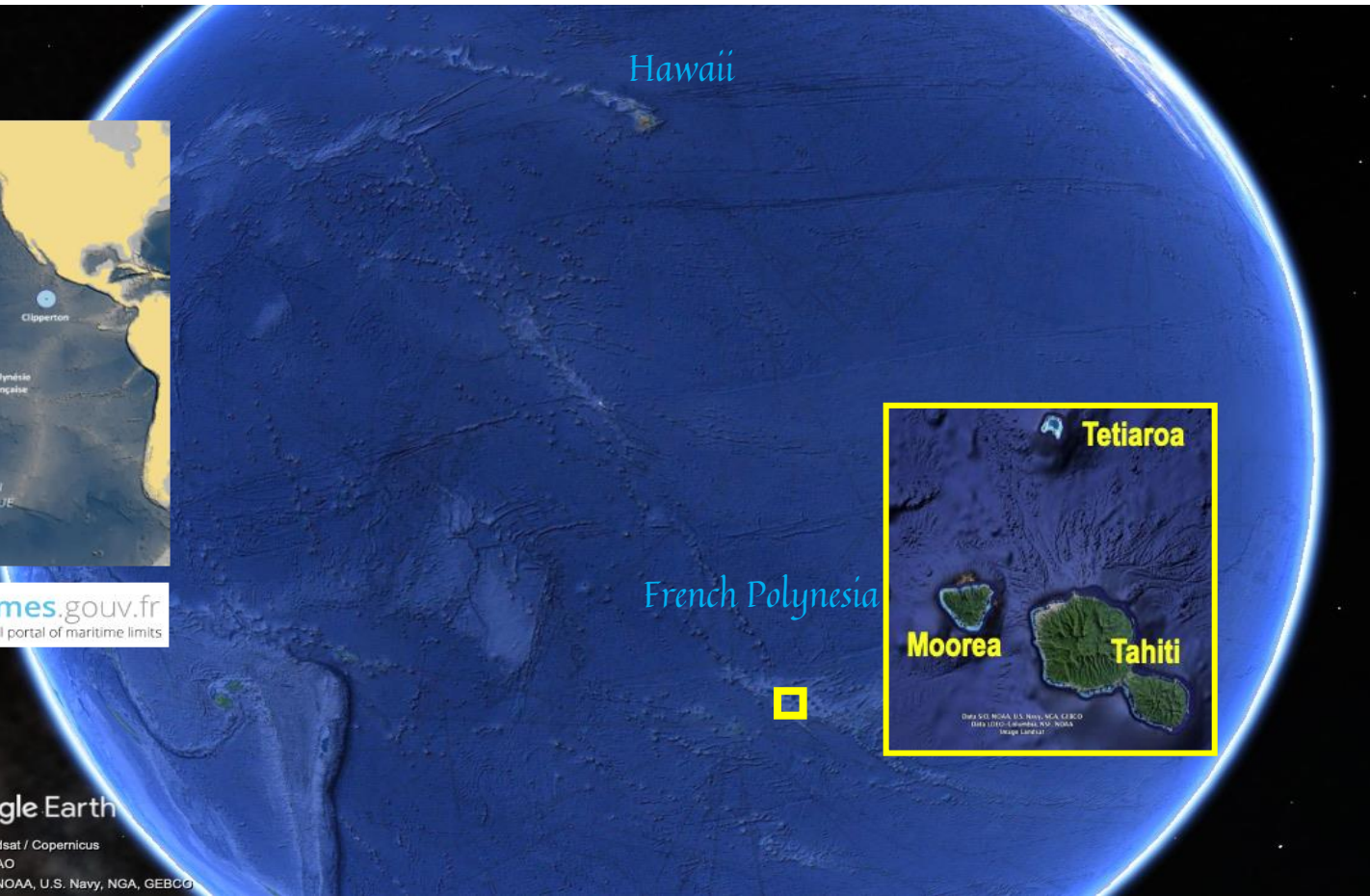
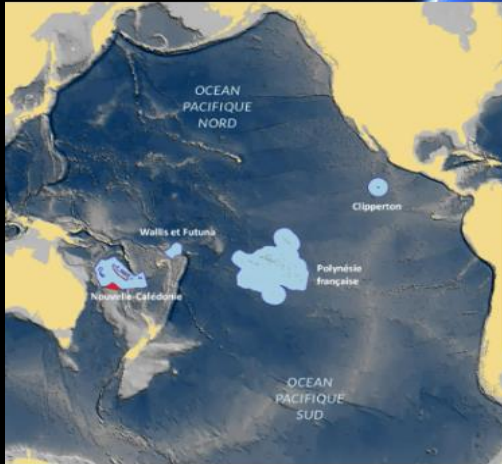
E Kore Au E Ngar...

Local Contexts

We do have mechanisms for recording CARE

- There is growing awareness that the CARE principles and Local Contexts Notices and Labels are important in metadata: many researchers are keen to comply.
 - But what is the most effective way to capture information on the CARE principles/ Local Contexts Notices and Labels and ensure they:
 - Persists with the sample/digital object and any derivatives; and
 - Can accommodate and record changes as the wishes of the Traditional Owners change.
 - We will show two case studies:
 - CARE/Local Contexts applied to Samples and Data collection from Moorea;
 - Considerations for legacy sample and data collections in Australia.
-

Erin's Projects on Moorea, French Polynesia



Google Earth

Image Landsat / Copernicus
Image IBCAO
Data SIO, NOAA, U.S. Navy, NGA, GEBCO



UC Gump South Pacific Research Station

Moorea, French Polynesia

Established 1985



Berkeley
UNIVERSITY OF CALIFORNIA

UCSB

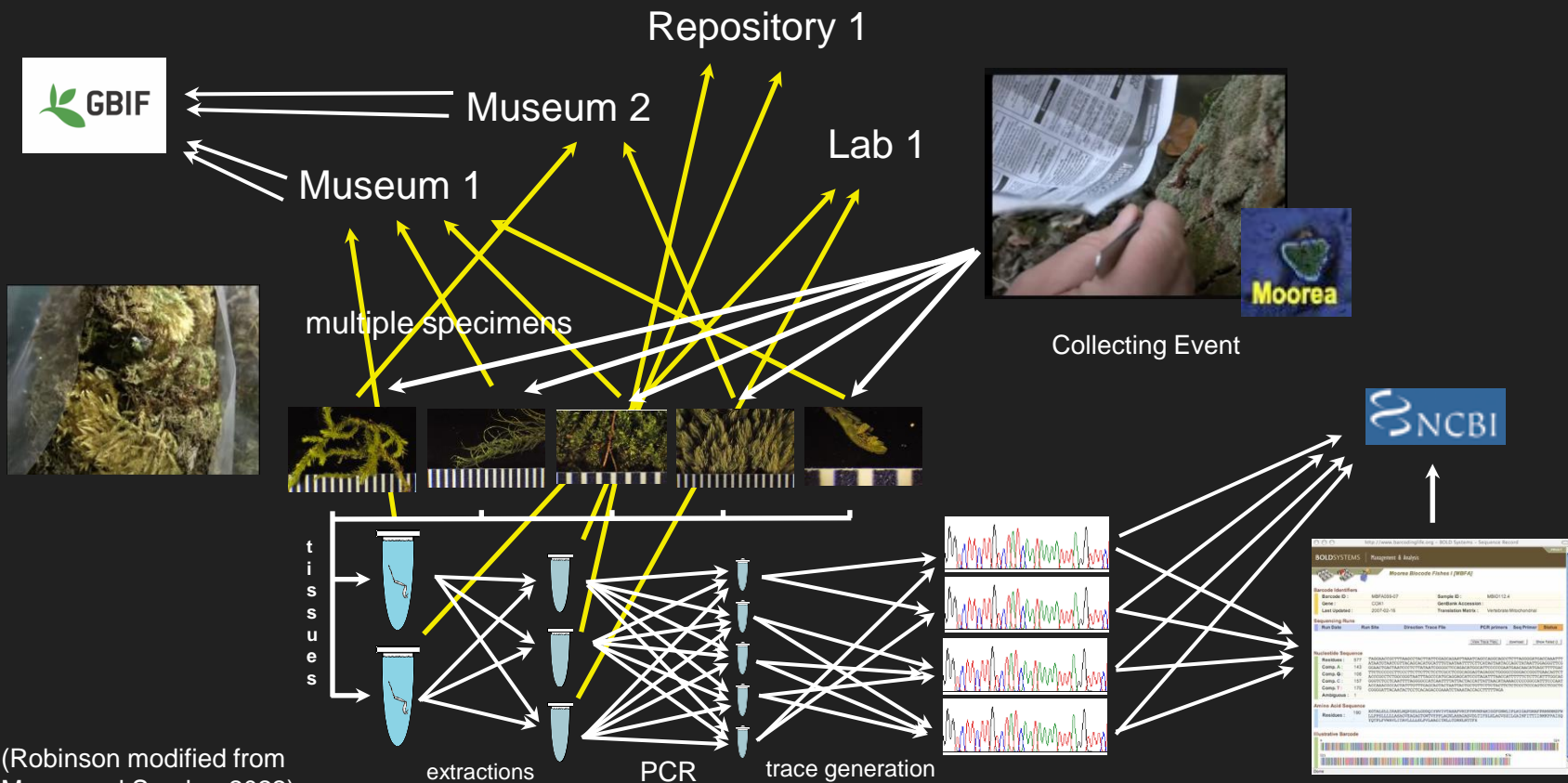
UCLA

UC SANTA CRUZ

CSUN.

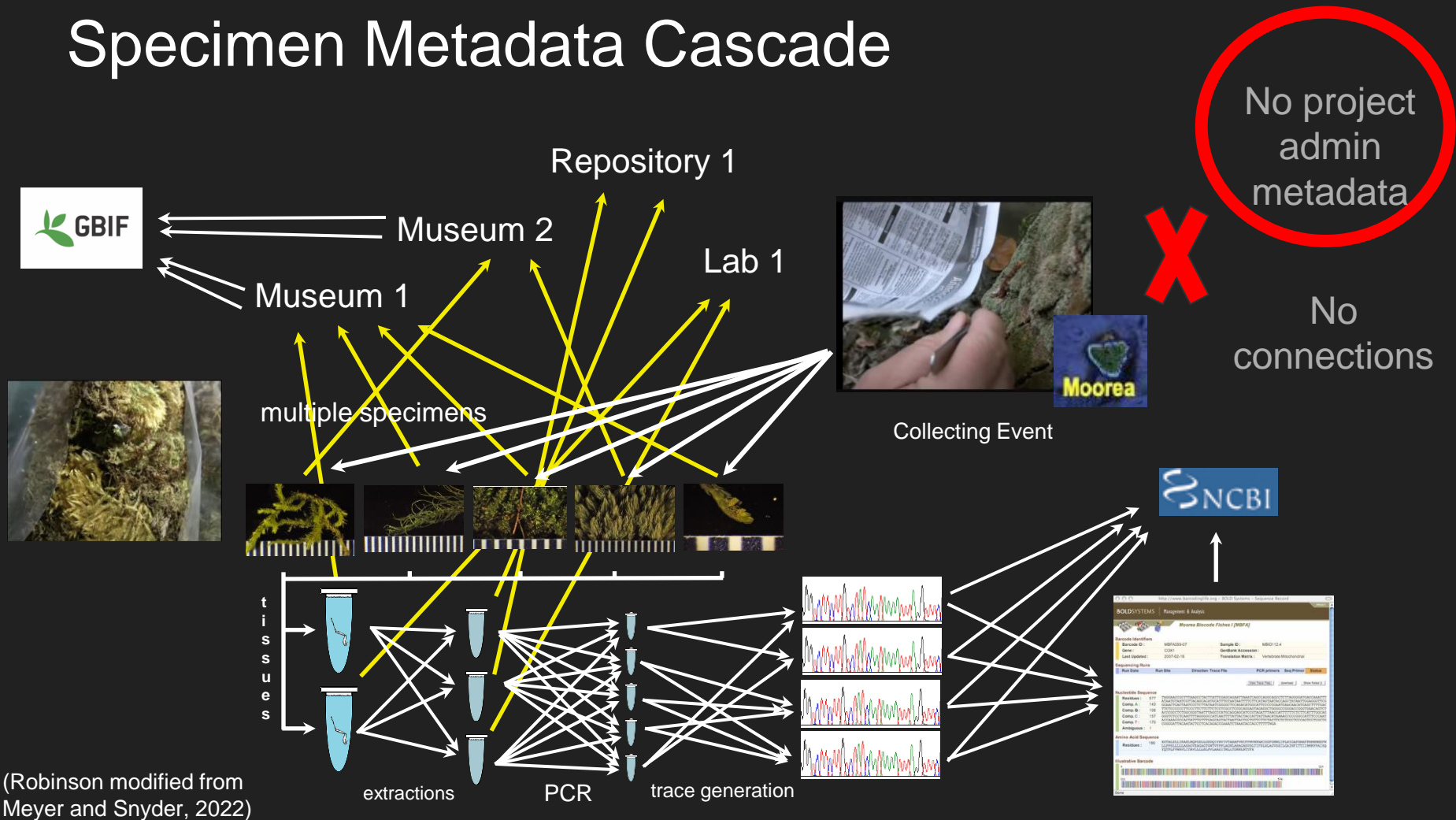


The Reality of the Specimen Metadata Cascade



(Robinson modified from Meyer and Snyder, 2022)

Specimen Metadata Cascade



(Robinson modified from Meyer and Snyder, 2022)

Operationalizing FAIR+CARE: the FAIR Island Project



The FAIR Island Project translates [FAIR Data Principles](#) (Wilkinson et al., 2016) and the [CARE Principles for Indigenous Data Governance](#) (Carroll et al., 2020) into practice for scientific field stations through the development of place-based data policies and critical research infrastructure centered on machine-actionable data management plans.



The Moorea Biocode 1.0 Case Study

In May 2024, a team of researchers met at the Smithsonian Institution in Washington, D.C. and added 3 Local Contexts Notices to 50,000 samples taken from an expedition to Moorea, French Polynesia 10 years earlier.

They then also used the Local Contexts Hub to notify one community, Atiti'a Center, who stewards the lands and waters where these samples came from.

It's never too late to start relationships.

50,000 SAMPLES
3 NOTICES
2 DATABASES
1 COMMUNITY

Creating the Project on the Local Contexts Hub

The screenshot shows a web browser window with the URL `localcontextshub.org/institutions/projects/109/`. The page features a dark green header with the 'Local Contexts' logo on the left and navigation links for 'REGISTRY', 'PROJECTS', 'PROFILE', and a 'SIGN OUT' button on the right. The main content area is divided into several sections:

- Project Header:** Includes a user profile 'Erin >> Gump South Pacific Research Station', a notification bell icon, and a statistics panel showing 00 Labels, 04 Notices, and 00 Connections.
- Project Card:** Displays a photograph of a building, the title 'Gump South Pacific Research Station', and details: 'Institution | Editor | Location: Afareaitu, French Polynesia' and 'Field Station and Marine Laboratory'.
- Navigation:** A row of tabs for 'Notices', 'Projects' (which is active), 'Connections', and 'Members'.
- Local Contexts Projects Section:** Contains a 'Create a Project' button and explanatory text: 'Institutions and researchers can only generate Notices. Institutions and researchers generate Notices by creating a Project within the Local Contexts Hub. Local Contexts projects describe the context where Notices are being applied. For example, a project could include: a website, a university syllabus, a dissertation, a research publication, a dataset, a museum exhibition, an archival record, an item in a collection, a library database, a photography collection, a voucher specimen and/or metadata about a record.' It also states: 'Applying Notices allows institutions and researchers to engage, acknowledge, and make visible Indigenous interests in collections, information, and data. Communities may then choose how and when to add their Labels.' and 'When you create a Local Contexts Project, you will be asked for project details and contacts, and have the option to add metadata.'
- Search and Sort:** A search bar with a magnifying glass icon and a 'Sort: All' dropdown menu with a 'Sort' button.

Details on the project

The screenshot shows a web browser with several tabs open, including 'Agenda for OmicBON, Samp...', 'DC Workshop - Materials - C...', 'Day3_Thomer_Rala_Sampin...', 'Local Contexts | Projects', 'Local Contexts | View Project', 'Genomic Observatories Meta...', and 'DMPTool'. The address bar shows the URL: localcontextshub.org/institutions/projects/actions/109/71b32571-0176-4627-8e01-4d78818432a7/.

← Back to Projects

Moorea Biocode 1.0

Date created 31 May 2024

Project type Expedition

Project visibility Public

Creator Erin Robinson | Gump South Pacific Research Station

Status Active

Project details

Description The Moorea Biocode project has the ambitious goal of DNA barcoding an entire ecosystem: the island of Moorea, located in French Polynesia. This ecosystem has over 5,000 identified species and the project itself has collected and sequenced over 30,000 specimens. As part of the collecting effort in the Moorea Biocode project, we have developed informatics tools to track data from the collecting event, specimen identification, photograph, laboratory, and ultimately to host institution and sequence repositories.

Contact Chris Meyer
MeyerC@si.edu

Links No links added

Contributors

- [Gump South Pacific Research Station](#) | Institution
- [John Deck](#) | Researcher

Actions




- ✎ Edit Project
- ➕ Create Sub Project
- 👤 Notify Communities

- ↻ Share
- ⬇️ Download

- 🗄️ Archive ⓘ
- 🗑️ Delete ⓘ

Project Notice

Select which Local Contexts Notice(s) apply to this Project. To use the Open to Collaborate Notice, [go to the Notices page](#).

		
Traditional Knowledge Notice	Biocultural Notice	Attribution Incomplete Notice
<input type="checkbox"/> Select	<input checked="" type="checkbox"/> Select	<input type="checkbox"/> Select

Project created

The screenshot shows a web browser window with the URL `localcontextshub.org/institutions/projects/109/`. The page header includes a navigation bar with tabs for 'Notices', 'Projects', 'Connections', and 'Members'. The 'Projects' tab is active. Below the navigation bar, there is a section titled 'Local Contexts Projects' with a 'Create a Project' button. The main content area contains a list of projects, with the first one being 'Moorea Barcode 1.0' and the second being 'Te Ora Fenua'. The table has columns for Title, Creator, Last updated, and Visibility.

Field Station and Marine Laboratory

07 Notices
00 Connections

Notices Projects Connections Members

Local Contexts Projects

Create a Project →

Institutions and researchers can only generate Notices. Institutions and researchers generate Notices by creating a Project within the Local Contexts Hub. Local Contexts projects describe the context where Notices are being applied. For example, a project could include: a website, a university syllabus, a dissertation, a research publication, a dataset, a museum exhibition, an archival record, an item in a collection, a library database, a photography collection, a voucher specimen and/or metadata about a record.

Applying Notices allows institutions and researchers to engage, acknowledge, and make visible Indigenous interests in collections, information, and data. Communities may then choose how and when to add their Labels.

When you create a Local Contexts Project, you will be asked for project details and contacts, and have the option to add metadata.

Search Sort: All

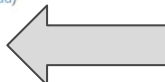
Title	Creator	Last updated	Visibility
Moorea Barcode 1.0	Gump South Pacific Research Station	31 May 2024	👁
Te Ora Fenua	Gump South Pacific Research Station	29 Mar 2024	👁

- View Projects
- View Teams
- Generate Template
- Validate Data
- Plate Viewer
- Team Overview
- Project Overview

Moorea Biocode Overview

The Moorea Biocode project has the ambitious goal of DNA barcoding an entire ecosystem: the island of Moorea, located in French Polynesia. This ecosystem has over 5,000 identified species and the project itself has collected and sequenced over 30,000 specimens. As part of the collecting effort in the Moorea Biocode project, we have developed informatics tools to track data from the collecting event, specimen identification, photograph, laboratory, and ultimately to host institution and sequence repositories.

Project owner meycrc (meyerc@si.edu)
Shareable URLs Project URL: <https://n2t.net/ark:/21547/R275>
 Template Generator Direct Link: <https://geome-db.org/workbench/template?projectId=75>
 Team Direct Link: <https://geome-db.org/workbench/team-overview?projectId=75>
Visibility This is a public project
Contact Christopher Meyer, Smithsonian National Museum of Natural History (meyerc@si.edu)
Publication DOI <https://doi.org/10.48321/D1F88S>
Local Contexts Page <https://localcontextshub.org/projects/71b32571-0176-4627-8e01-4d78818432a7>
License CC-by
Team workspace [Biocode team](#) (geome.help@gmail.com)



PROJECT CSV ARCHIVE

Expedition Title	Event_Photos	Events	Tissues	Sample_Photos	Samples	Fasta Sequences	Fastq Metadata	Expedition GUID		
ALGAE_LEGACY	0	81	431	1647	802	0	0	https://n2t.net/ark:/21547/CXj2	Q	
FUNGL_LEGACY	0	554	1805	1179	4030	0	0	https://n2t.net/ark:/21547/CYQ2	Q	
MARbol	0	42	78	0	78	0	0	https://n2t.net/ark:/21547/CYg2	Q	
MINV_2006	0	147	4003	1374	2283	0	0	https://n2t.net/ark:/21547/CVl2	Q	
MINV_BMOO	0	1009	10430	11864	15442	0	0	https://n2t.net/ark:/21547/CZM2	Q	
MINV_HANSON	0	77	401	373	440	0	0	https://n2t.net/ark:/21547/CZd2	Q	
MINV_LIITTSCHWAGER	0	1	752	180	502	0	0	https://n2t.net/ark:/21547/CWF2	Q	
MINV_OUTREACH	0	2	0	0	15	0	0	https://n2t.net/ark:/21547/CWu2	Q	
MINV_PARASITE	0	155	324	0	475	0	0	https://n2t.net/ark:/21547/CWW2	Q	
MINV_BLANCKSON	0	28	34	98	111	0	0	https://n2t.net/ark:/21547/CXC2	Q	
MINV_RSU	0	20	469	766	469	0	0	https://n2t.net/ark:/21547/CXT2	Q	
MINV_Spring_2008	0	11	1100	2092	1102	0	0	https://n2t.net/ark:/21547/CYo2	Q	

<https://geome-db.org/workbench/project-overview?projectId=75>


Connecting to Samples in GEOME

geome-db.org/record/ark:~2F21547~2FCXs2MBIO1040

GETTING STARTED QUERY WORKBENCH HI, meyer!

Sample MBI01040

materialSampleID: MBI01040
genus: Sebastapistes
specificEpithet: tinkhami
bcid: <https://n2t.net/ark:/21547/CXs2MBIO1040>



Moorea Biocode 1.0

- Attribution Incomplete Notice**
Collections and items in our institution have incomplete, inaccurate, and/or missing attribution. We are using this
- Biocultural (BC) Notice**
The BC (Biocultural) Notice is a visible notification that there are accompanying cultural rights and
- Traditional Knowledge (TK) Notice**
The TK (Traditional Knowledge) Notice is a visible notification that there are accompanying cultural rights

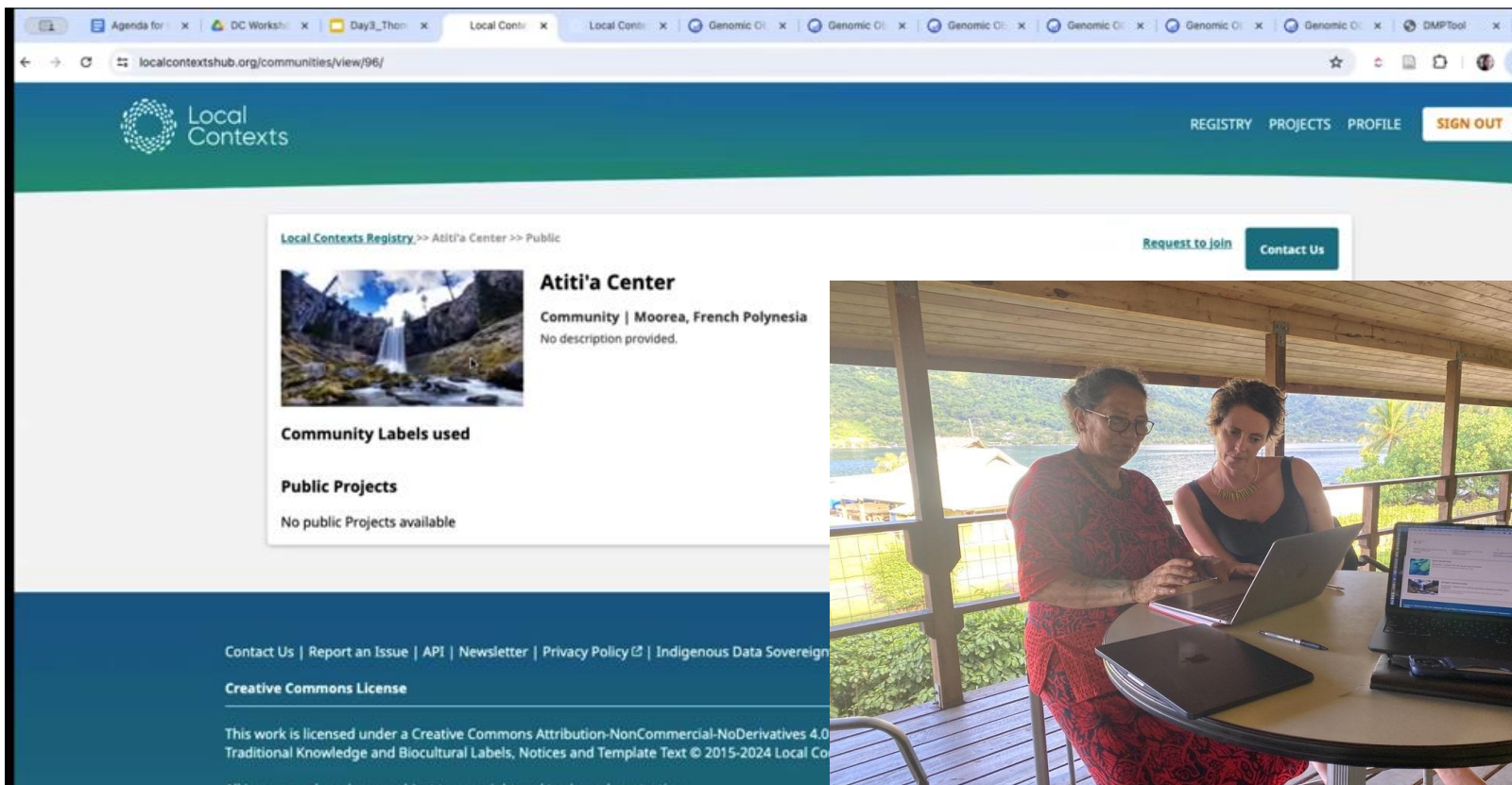
fixative: formalin
institutionCode: Smithsonian
individualCount: 1
eventID: SysCollEvent12
sampleEnteredBy: Serge Planes
catalogNumber: <http://n2t.net/ark:/21547/R2MBIO1040>
voucherURI: <http://collections.nmnh.si.edu/vzfishes/pages/nmnh/vz/DisplayFishes.php?rm=5316007&QueryPage%2Fvzfishes%2Fpages%2Fnmnh%2Fvz%2FDtlQueryFishes.php>
identificationRemarks: Randall 2005
dayIdentified: 19
identifiedBy: D Lecchini
monthIdentified: 3

scientificName: Sebastapistes tinkhami
kingdom: Animalia
phylum: Chordata
subPhylum: Vertebrata
superClass: Pisces
class: Actinopterygii
order: Scorpaeniformes
family: Scorpaenidae
yearIdentified: 2006
expeditionCode: [INVERT_FISHES](#)
project: [Moorea Biocode](#)

Parent Event
eventID: [SysCollEvent12](#) **yearCollected:** 2006 **country:** French Polynesia **decimalLatitude:** -17.48260 **decimalLongitude:** -149.89990

<https://geome-db.org/record/ark:~2F21547~2FCXs2MBIO1040>

Establishing the Community on Local Contexts



The screenshot shows a web browser displaying the Local Contexts website. The URL is localcontextshub.org/communities/view/96/. The page features the Local Contexts logo and navigation links for REGISTRY, PROJECTS, PROFILE, and SIGN OUT. The main content area displays the profile for the Atiti'a Center, a community in Moorea, French Polynesia. It includes a photo of a waterfall, the text "Community | Moorea, French Polynesia", and buttons for "Request to join" and "Contact Us". Below the photo, it lists "Community Labels used" and "Public Projects" (No public Projects available). The footer contains contact information and a Creative Commons license notice.

Local Contexts Registry >> Atiti'a Center >> Public

Atiti'a Center
Community | Moorea, French Polynesia
No description provided.

[Request to join](#) [Contact Us](#)

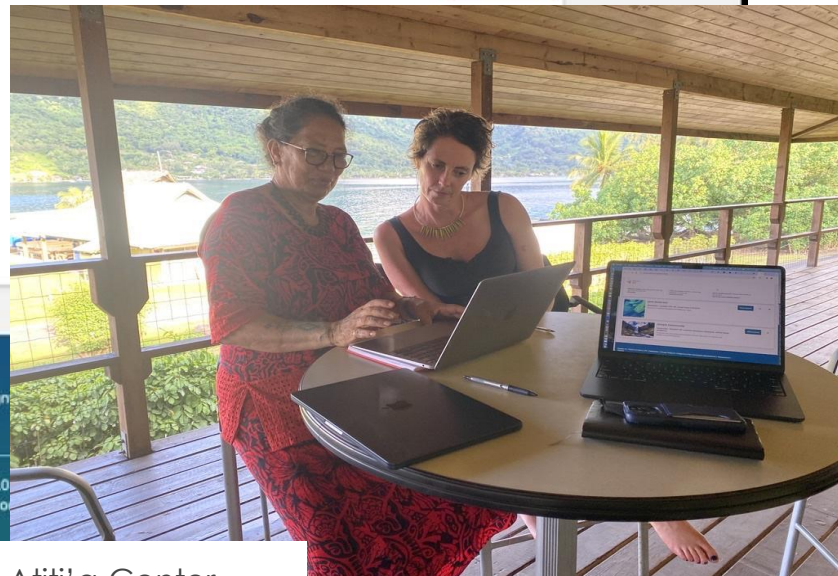
Community Labels used

Public Projects
No public Projects available

Contact Us | Report an Issue | API | Newsletter | Privacy Policy | Indigenous Data Sovereignty

Creative Commons License

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. Traditional Knowledge and Biocultural Labels, Notices and Template Text © 2015-2024 Local Contexts



Hinano Murphy, President of the Atiti'a Center and Jane Anderson, Founder of Local Context

Biocode notified the Atiti'a Center

REGIST

Biocode

Notify Communities

Notify relevant communities about this Project to add them as a potential contributor. Notified communities can decide if they would like to add their Labels to the Project. Notified communities will also be able to see and edit Project details, see and add Project comments, and see Project activity.

Select community/communities to notify about this Project

Atiti'a Center

Atiti'a Center ✕

Edit Project

Create Sub Project

Notify Communities

Share


Download

Sample MBI01040

materialSampleID: MBI01040
 genus: Sebastapistes
 specificEpithet: tinkhami
 bcid: <https://n2t.net/ark:/21547/CX>



Moorea Biocode 1.0

 **Faarii**
 This Label is being used to verify that [community name or ...]

fixative: formalin
institutionCode: Smithsonian
individualCount: 1
eventID: SysCollEvent12
sampleEnteredBy: Serge Planes
catalogNumber: <http://n2t.net/ark:/21547/R2MBIO1040>
voucherURI: <http://collections.nmnh.si.edu/vzfishes/pages/nmnh/vz/DisplayFishes.php?irn=5316007&QueryPage=%2Fvzfishes%2Fpages%2Fnmnh%2Fvz%2FDtlQueryFishes.php>
identificationRemarks: Randall 2005
dayIdentified: 19
identifiedBy: D Lecchini
monthIdentified: 3

scientificName: Sebastapistes tinkhami
kingdom: Animalia
phylum: Chordata
subPhylum: Vertebrata
superClass: Pisces
class: Actinopterygii
order: Scorpaeniformes
family: Scorpaenidae
yearIdentified: 2006
expeditionCode: [MVERT_FISHES](#)
project: [Moorea Biocode](#)

Parent Event

eventID: [SysCollEvent12](#) yearCollected: 2006 country: French Polynesia decimalLatitude: -17.48260 decimalLongitude: -149.89990

The Atiti'a Center reviewed the project and added the first label, which is Tahitian for "BC Consent Verified."

The label immediately propagates to all 50,000 samples!

Sharing Local Contexts Metadata with DataCite

The Biocode 1.0 Project metadata includes Local Contexts notices and labels in the rights section. This ensures that the LC metadata is always passed with DOI.

The screenshot shows the DataCite Commons interface for the project 'Moorea Biocode 1.0'. The browser address bar displays the DOI: commons.datacite.org/doi.org/10.17913/100501.9190. The page features a search bar, navigation tabs for Works, People, Organizations, and Repositories, and a 'Sign In' button. The project title 'Moorea Biocode 1.0' is accompanied by Creative Commons license icons (TK, BC, BY) and a 'license BC CONSENT' button. Below the title, there are buttons for 'Add to ORCID Record' and 'Download Metadata'. The 'Cite as' section provides a list of authors (Davies, N., Meyer, C., Roderick, G., PLANES, S., Meyer, J.-Y., PAYRI, C., Paulay, G., Pyle, R., Charlal, S., Deck, J., Moritz, C., Garbelotto, M., Gargominy, O., & Mishler, B. (2007)), the project name 'Moorea Biocode 1.0', the location 'Gump South Pacific Research Station', and the DOI link. A dropdown menu is set to 'APA'. The 'Description' section states: 'This project aims to create the first DNA barcode-based 'All Taxa Biological Inventory' of a model ecosystem, specifically the island of Moorea. The work will accelerate ecological discovery and enable the development of more innovative and effective conservation strategies.' It also notes 'Project published 2007 in iPlaces-Kotahi' and includes tabs for 'Other', 'Biological sciences', and 'Natural sciences'. The URL <https://doi.org/10.17913/100501.9190> is repeated at the bottom of the page content.

<https://commons.datacite.org/doi.org/10.17913/100501.9190>

Sharing Local Contexts Metadata to iSamples

The screenshot displays the iSamples web interface. On the left, a search sidebar includes filters for text fields (with 'biocode' entered), Collection Date (1800-2024), Context, Identifier, Keywords, Material, Registrant, Sample Object Type, Source (GEOME, 953), and Spatial Query. The main area shows 'Found 953 results' with a map of Moorea Island. A detailed metadata table is overlaid on the right, listing various attributes such as 'Has_sample_object_type_confidence', 'Keywords', 'Produced_by Identifier', and 'Complies_with'. A 'Viewer Change' panel at the bottom offers 'Display Points' and 'Display Grid' options.

Internet of Samples: iSamples

Fields Search New search

All text fields biocode

Collection Date 1800 2024

Context Select Children

Identifier

Keywords

Material Select Children

Registrant

Sample Object Type Select Children

Source GEOME 953

Spatial Query

Found 953 results

All text fields biocode

List Table Map

Has_sample_object_type_confidence	1.0/wholeorganism
Keywords	keyword:Moorea Island keyword:Society Islands keyword:French Polynesia keyword:in ARMS 10 keyword:Mollusca_scheme_name:Taxon: phylum keyword:Gastropoda_scheme_name:Taxon: class
Produced_by Identifier	ark:/21547/CZ2BMOO_18636
Produced_by Label	event BIZ_808
Produced_by Description	samplingProtocol: ARMS disassembly expeditionCode: MINV_BMOO taxonomy team: MINV projectId: 75
Produced_by Responsibility	role:Collector,name:BioCode IZ/ARMS team role:Taxonomy team,name:MINV role:Event registrant,name:Mandy Bemis
Produced_by Result_time	2012-02-06
Produced_by Sampling_site Description	outer reef slope
Produced_by Sampling_site Label	ARMS 10 site
Produced_by Sampling_site Sample_location Elevation	13 m
Produced_by Sampling_site Sample_location Latitude	-17.47638
Produced_by Sampling_site Sample_location Longitude	-149.83159
Produced_by Sampling_site Place_name	ARMS 10 site, Moorea Island, Society Islands, French Polynesia
Registrant Name	Mandy Bemis
Curation Description	fixative: 95% ethanol
Curation Curation_location	University of Florida
Curation Responsibility	role:curator,name:University of Florida
Related_resource	label:Tissue_relationship:tissue extract,target:ark:/21547/CZQ2MBIO60234.1
Authorized_by	
Complies_with	localcontexts:projects/71b32571-0176-4627-8e01-4d78818432a7

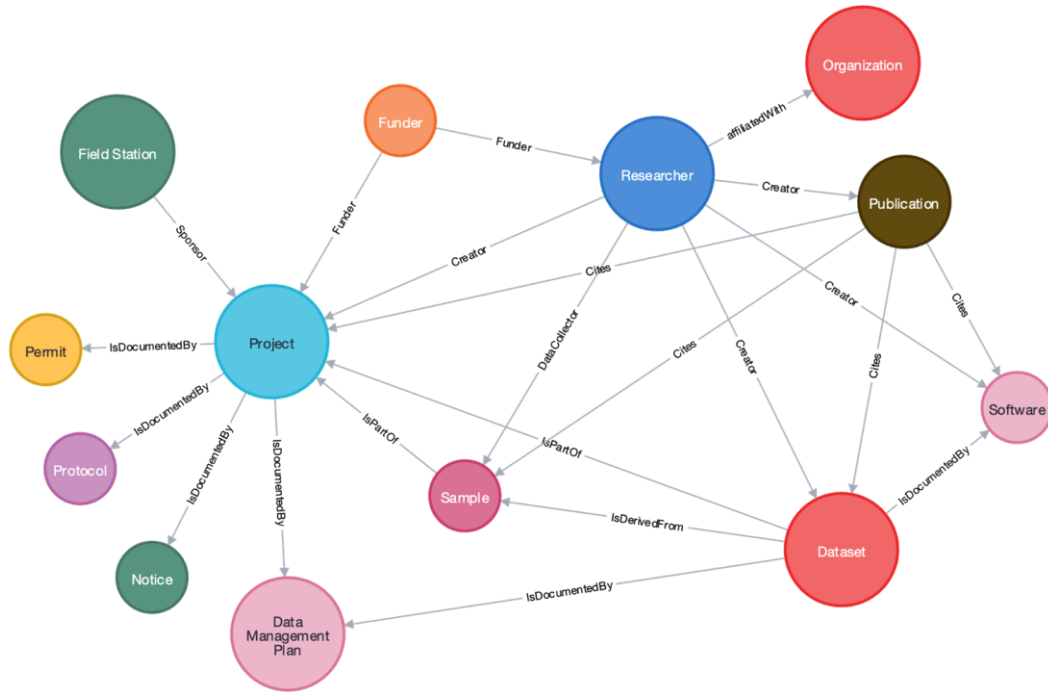
Moorea Biocode 1.0
Faarii

This Label is being used to verify that [community name or authorizing party] have consent conditions in place for the use of this information, collections, data, and digital sequence information. [These can be found at ...].

Viewer Change

Display Points Display Grid

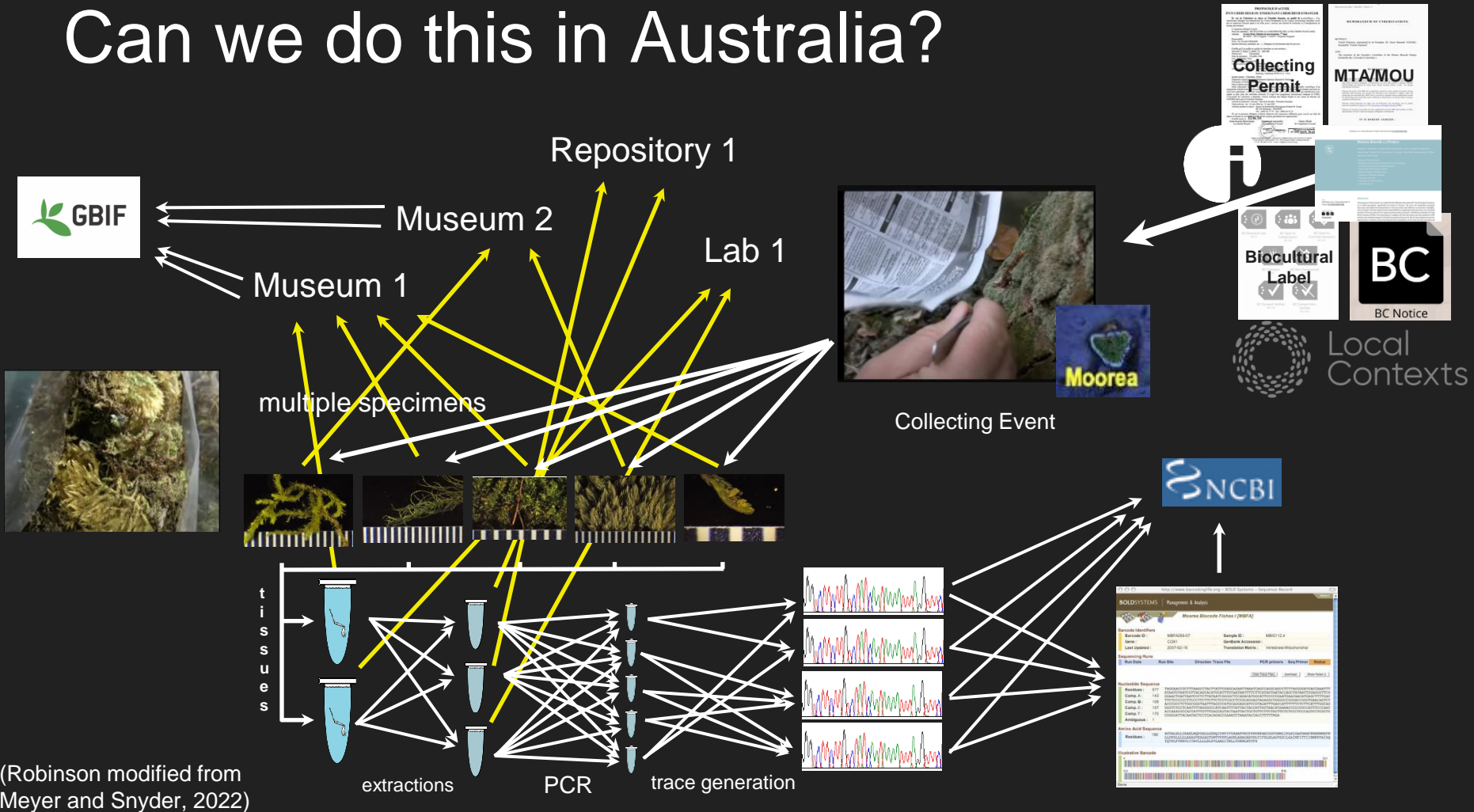
Using PIDS to facilitate/propagate connections



The FAIR Island project is using PIDs to make many connections.

[This Video shows how they are doing it:](#)

Can we do this in Australia?



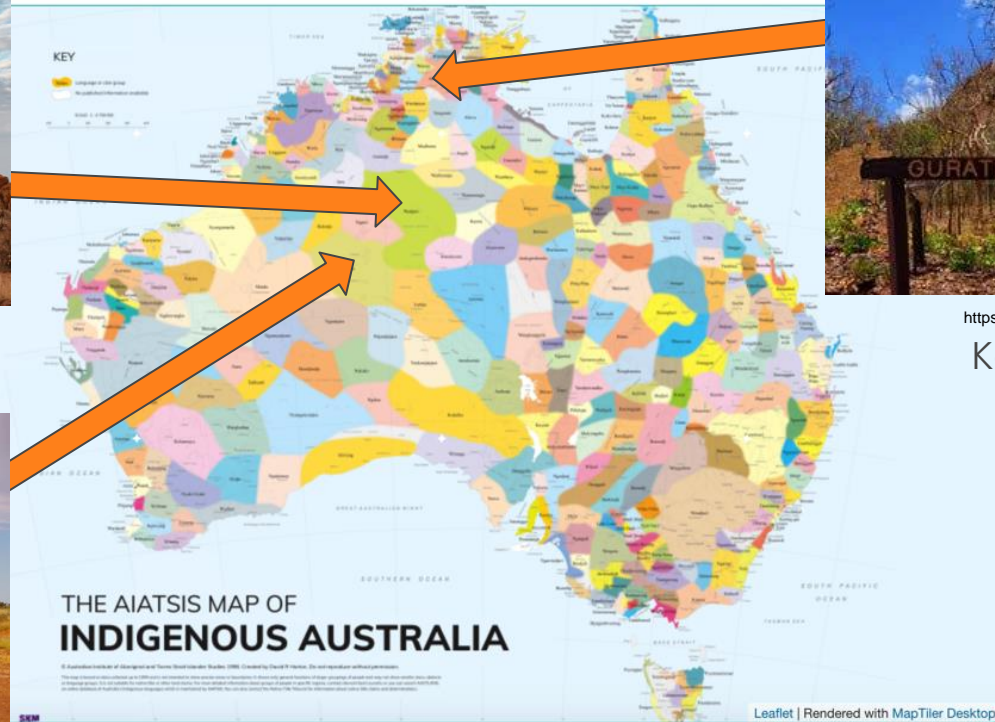
(Robinson modified from Meyer and Snyder, 2022)

Lesley's Past Projects on Australian Indigenous Lands



<https://wikiaustralia.com/destination/tanami-desert/>

Tanami - 1988-1995



<https://aiatsis.gov.au/explore/map-indigenous-australia>



<https://www.bushwalkingholidays.com.au/buladjang>

Kakadu - 1989-1993



https://cdn.exploroz.com/images/Places/57952_0__TN1000x800.jpg?gid=1254

Kiwirrkurra - 1997-2005

Lesley's Past Projects on Indigenous Lands

All Projects required compliance with some form of Indigenous legislation



<https://wikiaustralia.com/destination/tanami-desert/>

Tanami: 1988 -1995



<https://aiatsis.gov.au/explore/map-indigenous-australia>

Dk Green: Exclusive Native Title

Lt Green: Non-Exclusive Native Title

Hatched: Land ownership according to the Land Rights Act



<https://www.bushwalkingholidays.com.au/buladjang>

Kakadu: 1989-1993

- Pre-1980, Indigenous lands were poorly known at the time of collection;
- Post 1980, many samples datasets were collected with Indigenous participation



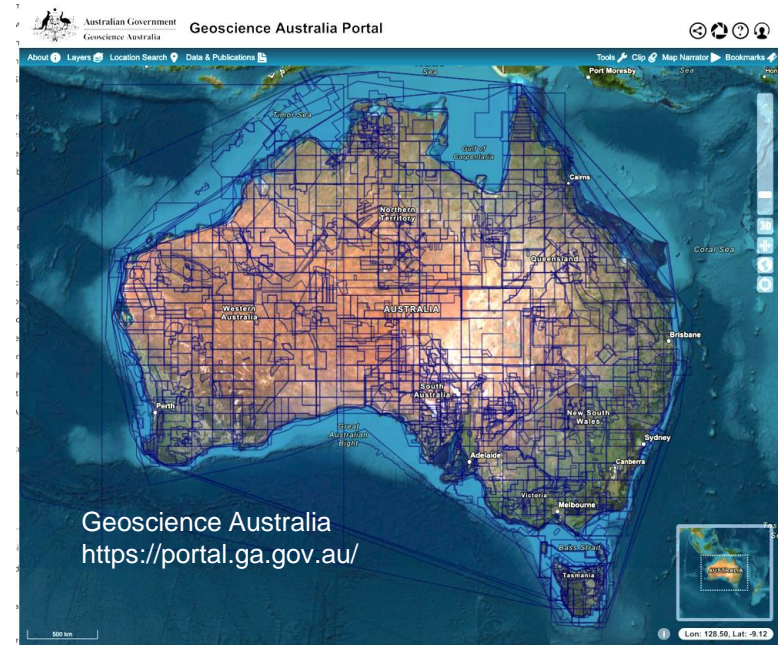
https://cdn.exploroz.com/images/Places/57952_0_TN1000x800.jpg?gid=1254

Kiwirrkurra: 1997-2005

Legacy Geophysical Surveys Cover Australia



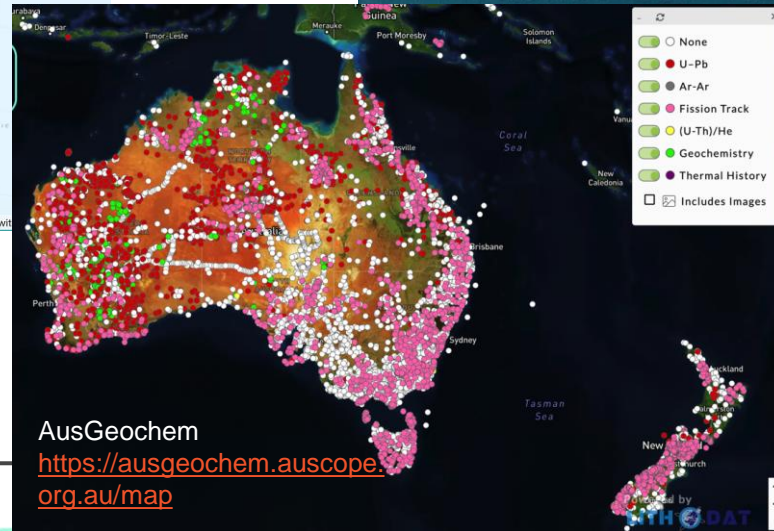
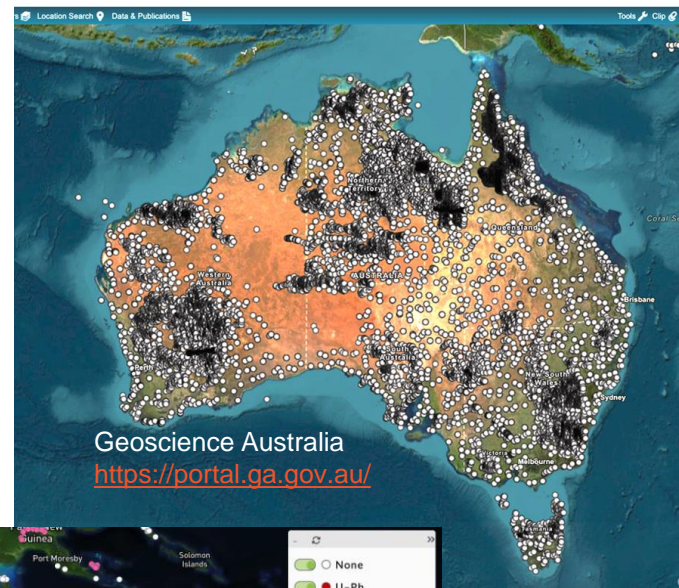
<https://aiatsis.gov.au/explore/map-indigenous-australia>



Legacy Geoscience Samples cover Australia

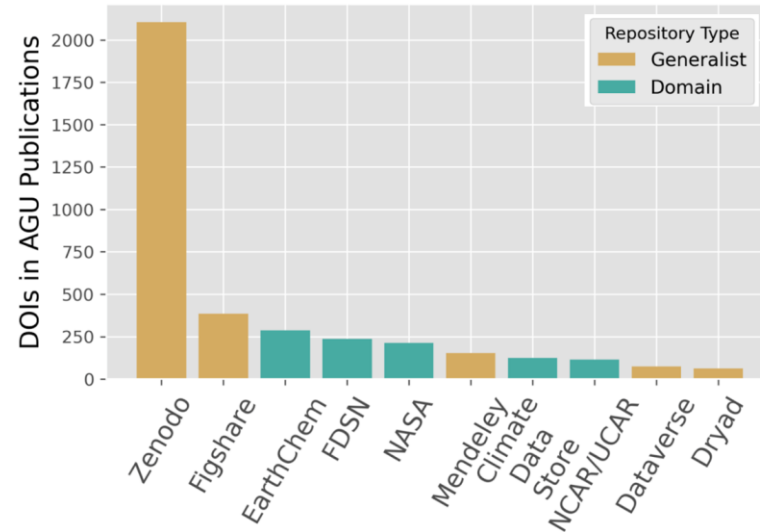


<https://aiatsis.gov.au/explore/map-indigenous-australia>



Summarising the Legacy Problem in Australia

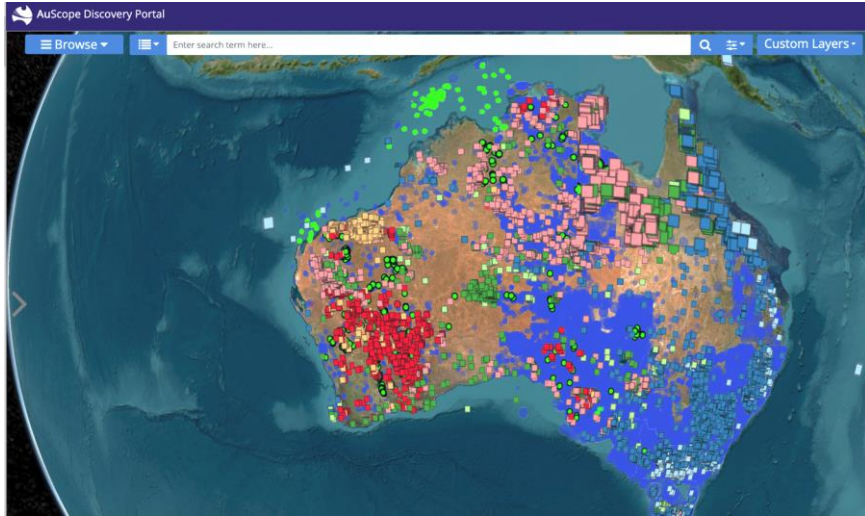
- Agencies and research groups have been collecting samples/data from Indigenous lands for centuries
- Relevant Indigenous interactions are kept in administrative files and rarely if ever attached to samples/surveys metadata
- Many of repositories do not have the basic infrastructure to support FAIR or CARE or Local Context Labels and Notices
- We really do not know the exact Traditional owners who need to be contacted for each sample/dataset: polygon boundaries are fuzzy.
- How can we retrospectively attach Local Context Notices and Labels to the plethora of cascading samples and datasets, some of which are in offshore and/or generic databases?



Top 10 repositories used in primary research papers published in AGU journals in 2022. Modified from Vrouwenvelder & Stall (2024).

Food for thought: not definitive answers!

AuScope Discovery Platform



- Local Contexts Notices and Labels are a way forward
- The Moorea project shows how this can be done using PIDs and how projects, samples, data, communities can be connected through an upstream project record.
- For legacy data, you can apply Local Context Notices to any data set, but to approach the traditional owners for each legacy sample or survey to determine Local Context Labels could be an incredible burden on them.
- We need the repositories from all sectors (government, research, industry, etc.) to group their collections via place/location and then engage with the local communities as a collective: i.e, take a place-based approach.
- Provided the repositories can apply Local Context uuids we can then retrospectively re-curate metadata to comply with the CARE principles and add Local Context Notices as a start.
- We can then apply Local Context Labels in a way that can also be adjusted when required by the local traditional owners.

Thank you!

Short video of Moorea Biocode 1.0 Notice:

<https://vimeo.com/995580974>

Connect with us!

Erin: erin@metadatagamechangers.com

Lesley: lesley.wyborn@anu.edu.au

Rebecca: rebecca@auscope.org.au

