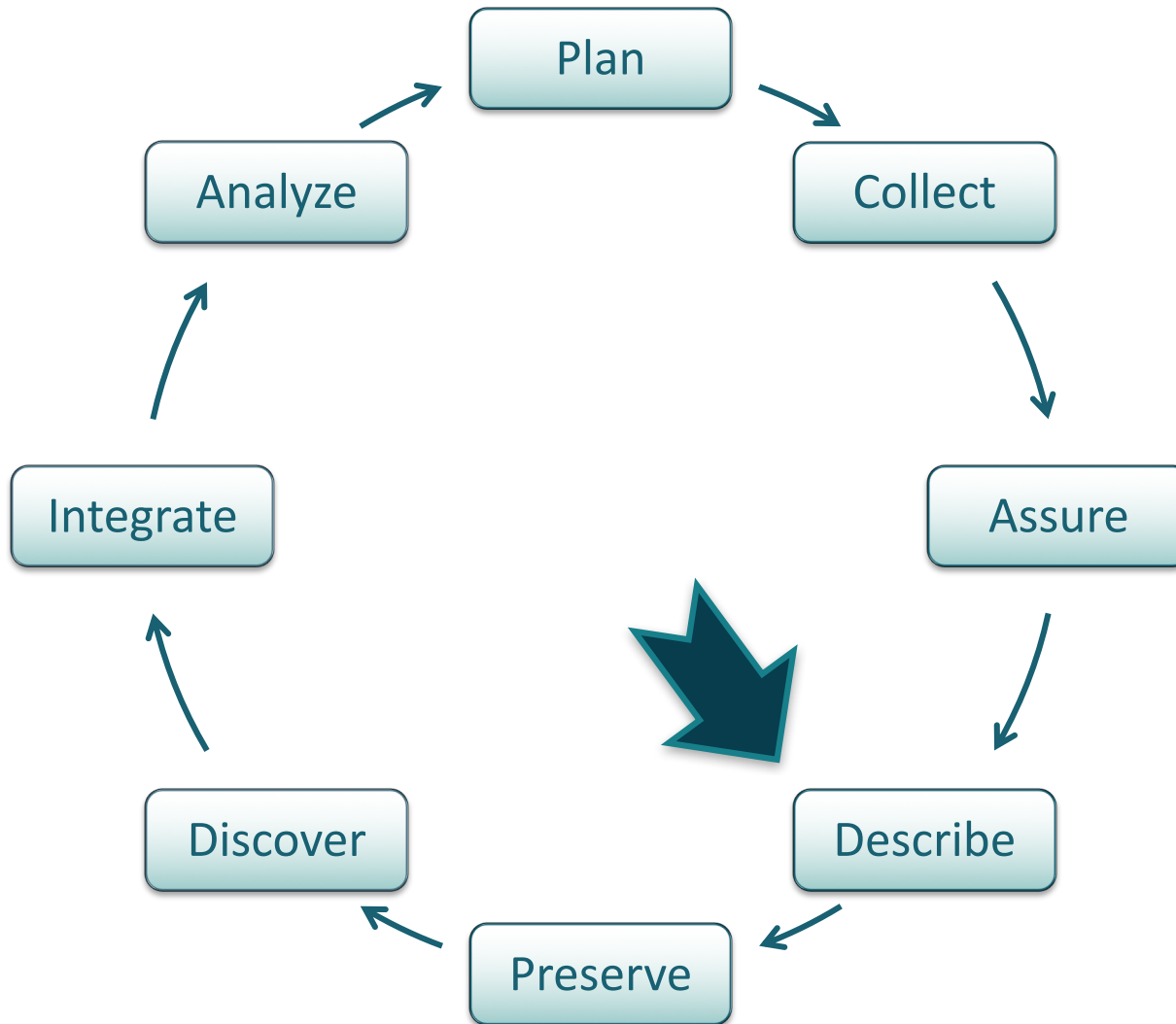


Authoring High Quality Metadata

Jeanette Clark
UC Santa Barbara

orcid.org/0000-0003-4703-1974

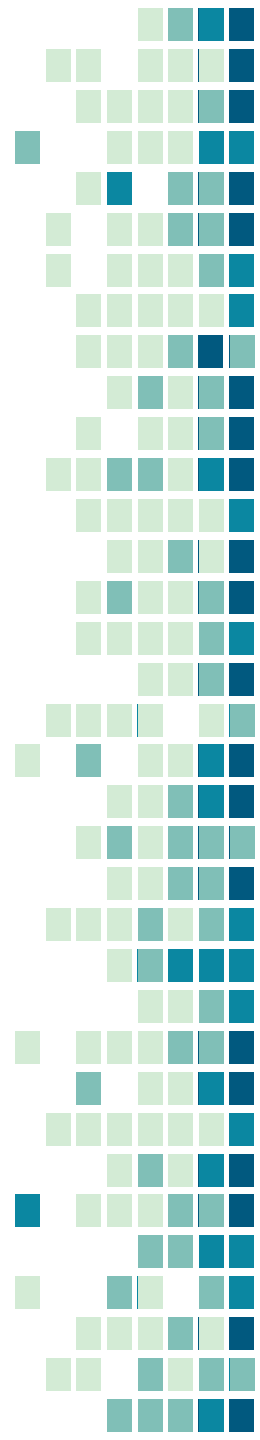
The Data Life Cycle



What are metadata?

Think of metadata as “data reporting”

- **WHO** created the data?
- **WHAT** is the content of the data?
- **WHEN** were the data collected?
- **WHERE** are the data from?
- **HOW** were the data developed?
- **WHY** were the data developed?



Why are metadata important?

DataONE: enables exchange

USGS Science Data Catalog: enables discovery

Metadata capture information

USGS Groundwater Data for the Nation - National Water Information System (NWIS)

Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Accession Information](#)
- [Metadata Reference Information](#)

Identification Information:

Citation:

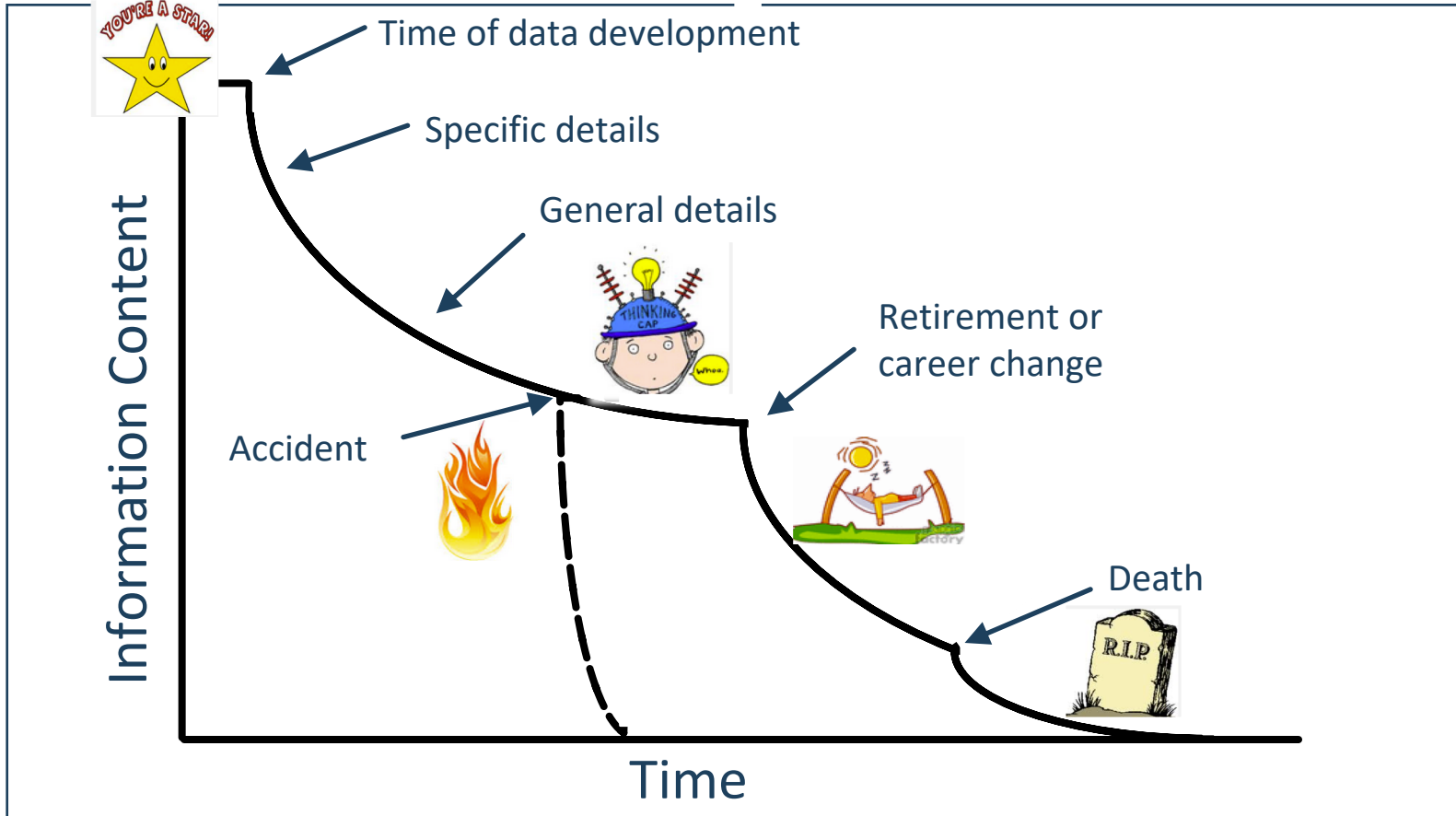
Citation_Information:

Originator: U.S. Geological Survey
Publication_Date: 2014
Title:
USGS Groundwater Data for the Nation - National Water Information System (NWIS)
Edition: 1.0
Geospatial_Data_Presentation_Form: digital data
Publication_Information:
Publication_Place: Reston, Virginia, USA
Publisher: U.S. Geological Survey
Online_Linkage: http://water.usgs.gov/lookuol/getspatial?nwis_groundwater
Large_Work_Citation:
Citation_Information:
Originator: US Geological Survey
Publication_Date: October 1, 2007
Title:
National Water Information System: Web Interface
Geospatial_Data_Presentation_Form: Web application
Series_Information:
Series_Name: USGS Water Data for the Nation
Series_Identifier: 1
Publication_Information:
Publication_Place: Reston, Virginia
Publisher: U.S. Geological Survey
Online_Linkage: <http://waterdata.usgs.gov/nwis>
Description:

The screenshot shows the USGS Science Data Catalog interface. At the top, it says "U.S. Geological Survey Science Data Catalog: BETA". There is a search bar and a "Data Search" button. Below the search bar, it says "Current Selection(s): 2012 Results Found". On the left, there is a "Filter By:" section with a "Keywords" list including terms like "coastal", "estuaries", "inland", "mangroves", "marshes", "rivers", "wetlands", etc. The main content area shows two search results for "USGS Groundwater Data for the Nation - National Water Information System (NWIS)". Each result includes a "Data Source" (Water National Spatial Data Infrastructure Node), a "Mission Area" (Water Resources), and a brief description of the data. There are "View Metadata" and "View Network" buttons for each result.

The screenshot shows the DataONE interface. At the top, it says "DataONE". There is a navigation menu with "About", "News", "Participate", "Resources", "Education", and "Data". Below the menu, there is a search bar and a "DataONE SEARCH:" label. On the left, there is a "Clear all filters" section with a list of filters including "Regional and Global biogeoc...", "SANParks Data Repository", "SEAD Virtual Archive", "TERN Australia", "TERR Data Catalog", "U.S. LTER Network", "USC Merritt", "USA National Phenology Net...", "USGS Science Data Catalog", "University of Kansas - Biodiv...", and "Collapse member nodes". The main content area shows a list of datasets, with the first one being "USGS U.S. Geological Survey 2013. Soil Organic Carbon Stock, USGS Science Data Catalog, 8143200-5923-4111-9d1-1d87c17c2948". To the right of the list is a map showing the location of the data. At the bottom, there is a "Map Data" section with a "1000 km" scale bar and a "Report a map error" link.

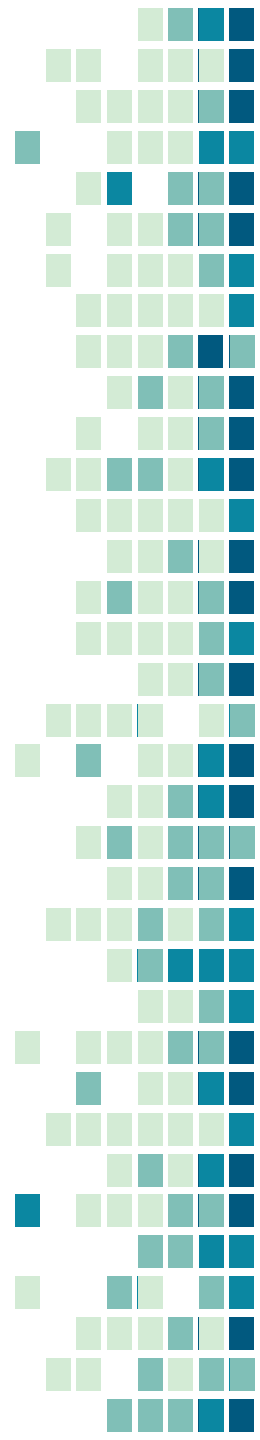
Why are metadata important?



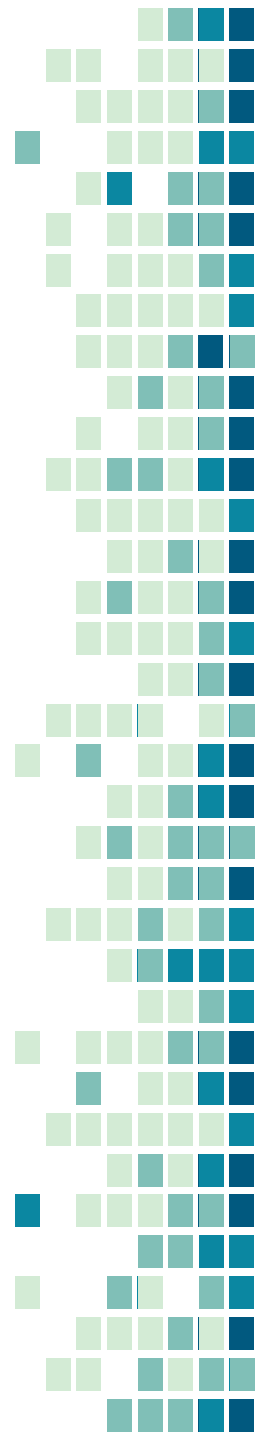
(modified from Michener et al. 1997)

Why are metadata important?

Metadata are important for the short
and long-term utility of data



Why are metadata important?



Why are metadata important?

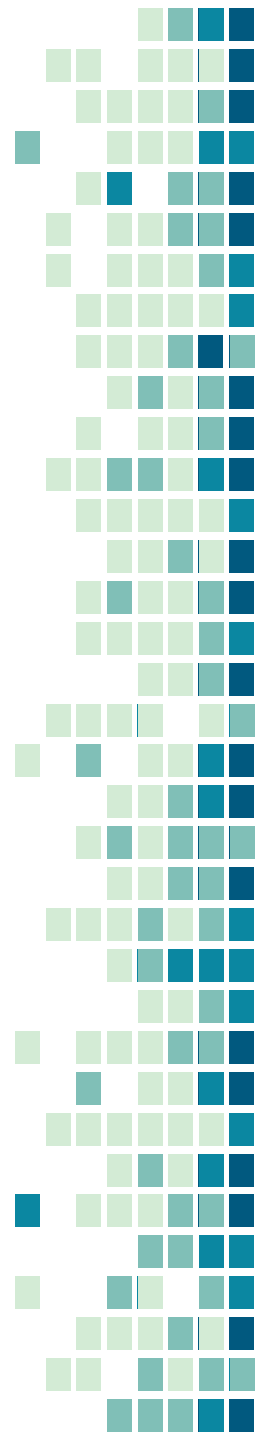
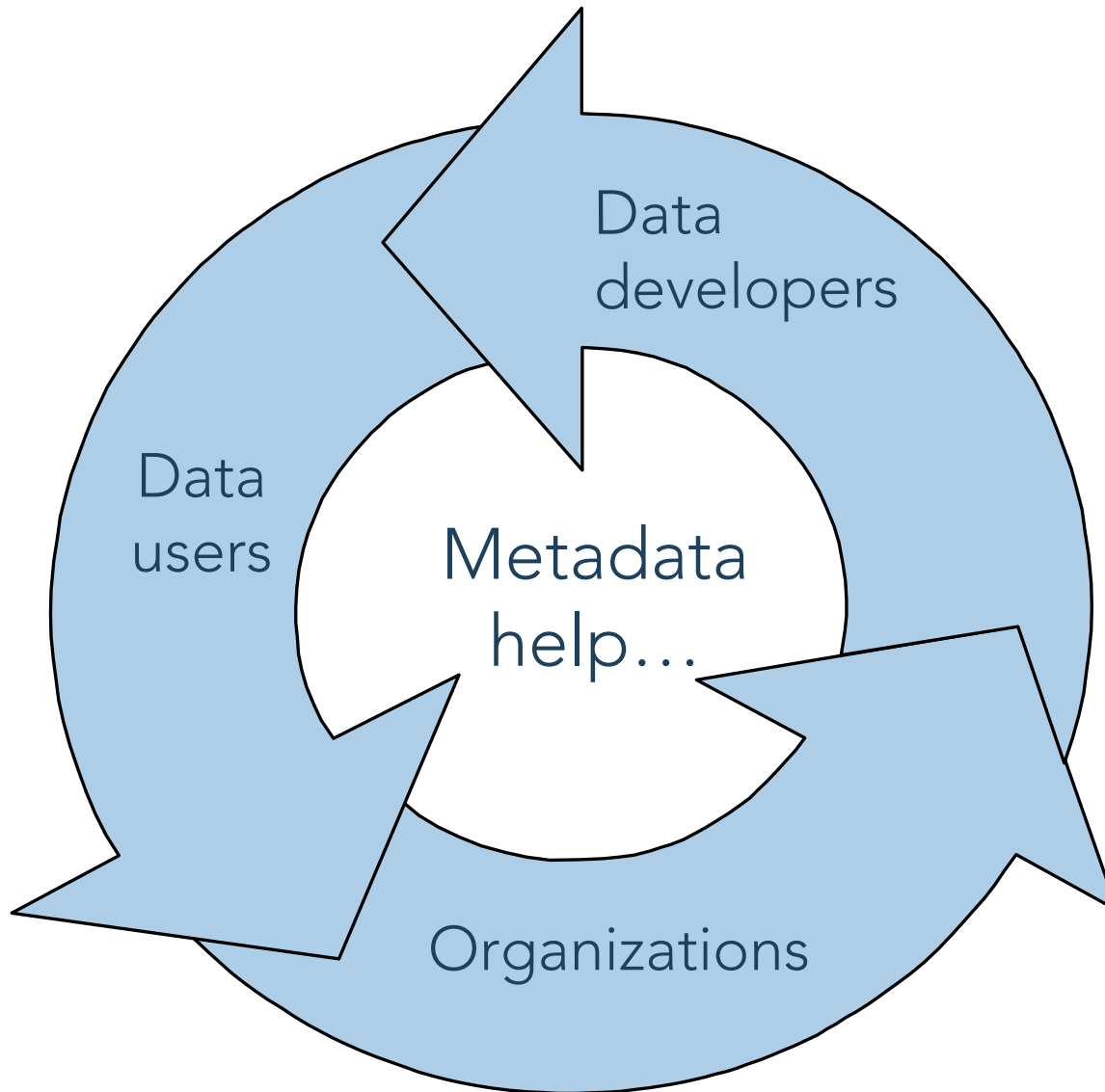
Metadata support scrutiny of data

- Motivations
- Methodologies
- Conflicts of interest



The screenshot shows the Guardian website interface. At the top left is the logo 'guardian.co.uk'. To the right is a search bar and a dropdown menu set to 'Environment'. Below this is a navigation bar with links for News, Sport, Comment, Culture, Business, Money, Life & style, Travel, Environment, TV, Video, Community, Blogs, and Jobs. The main content area features a breadcrumb trail 'Environment > Hacked climate science emails'. The article title is 'Climategate scientists cleared of manipulating data on global warming'. Below the title is a sub-headline: 'Muir Russell report says scientists did not fudge data, but they should have been more open about their work'. There are social media sharing options for Facebook (86) and Twitter (99). A list of links includes 'Read the full text of the review here' and ''Climategate' report - main findings'. At the bottom left, the author is identified as 'David Adam, environment correspondent' and the publication date is 'The Guardian, Thursday 8 July 2010'. There is also an 'Article history' link. On the right side of the article, there is a large graphic for 'The Economist' featuring a globe with the word 'SPECIAL' overlaid.

Who uses metadata?



Metadata for data developers

Avoid data duplication

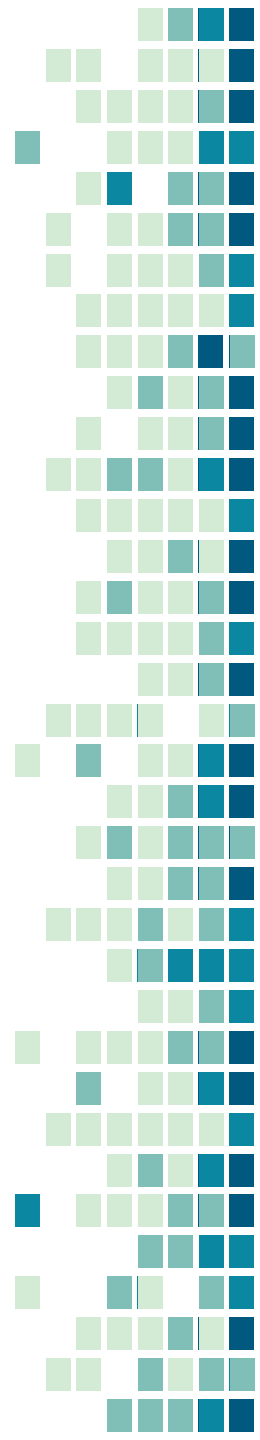
- What data have already been collected?

Share reliable information

- What methods were used?
- What methods are in common use in my field?

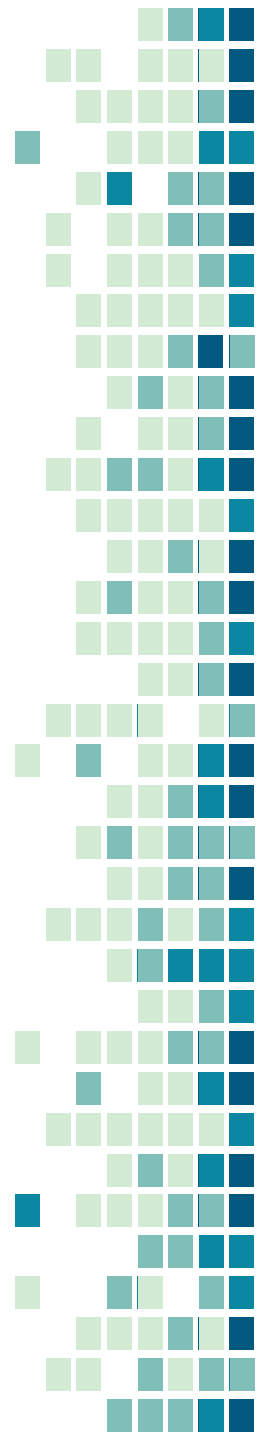
Publicize and share work

- “Hey, I made this!”



Metadata for data users

- Find relevant data
- Evaluate what is suitable for use in your work
- Retrieve the data you've found
- Understand if and how to actually use the data



Metadata for organizations

Insure the organization's investment in the data

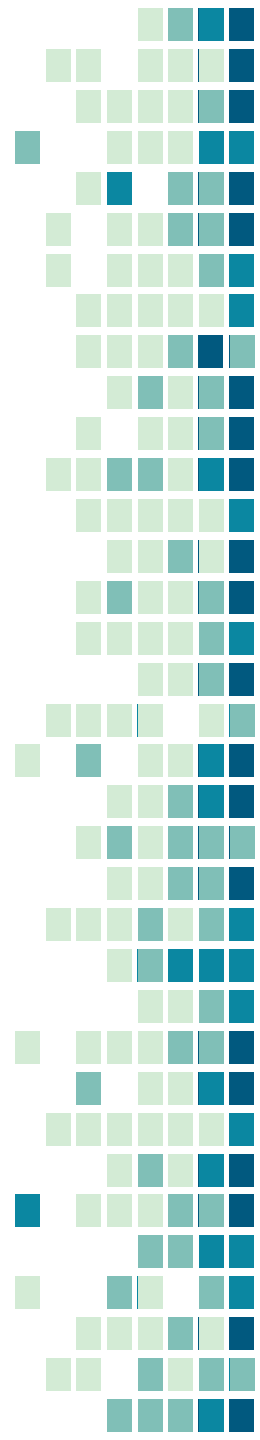
- Documentation for sampling and data processing methods are recorded
- Ability to use data after initial intended purpose
- Track data re-use and citation

Transcend people and time

- Data are not lost when researchers or labs leave
- Avoid duplication in new work

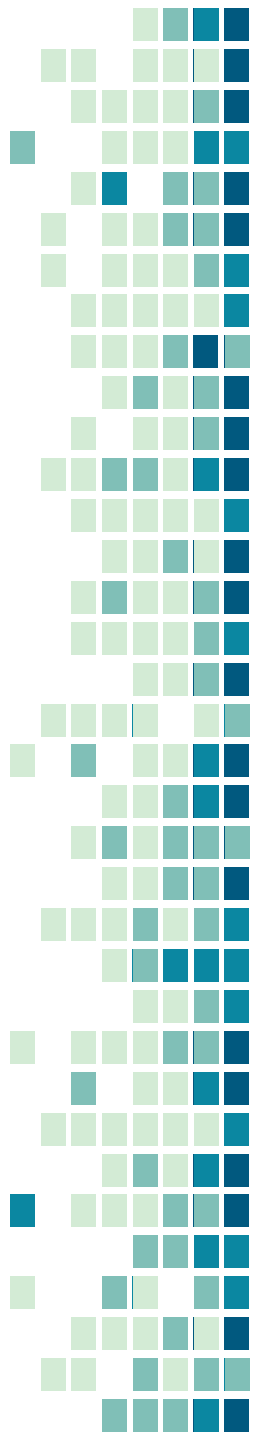
Advertise organization's research

- What data has our organization produced?



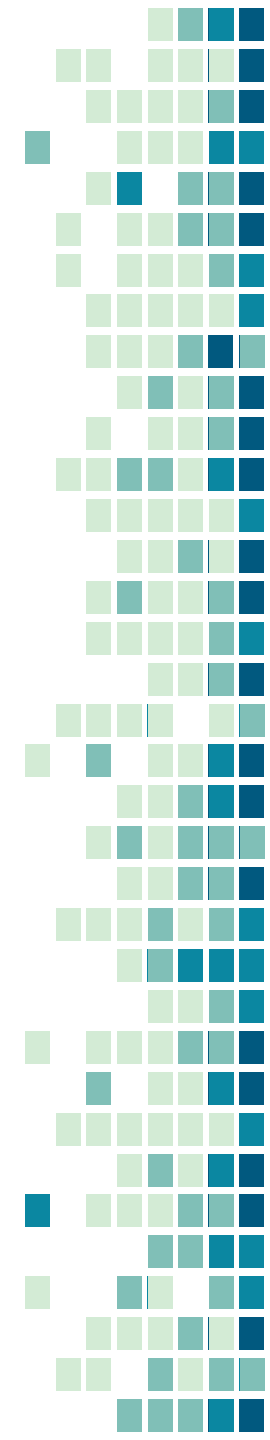
Concerns about creating metadata

Even if the value of data documentation is recognized, researchers are often concerned about the effort required to create metadata that effectively describe their data.



Concerns about creating metadata

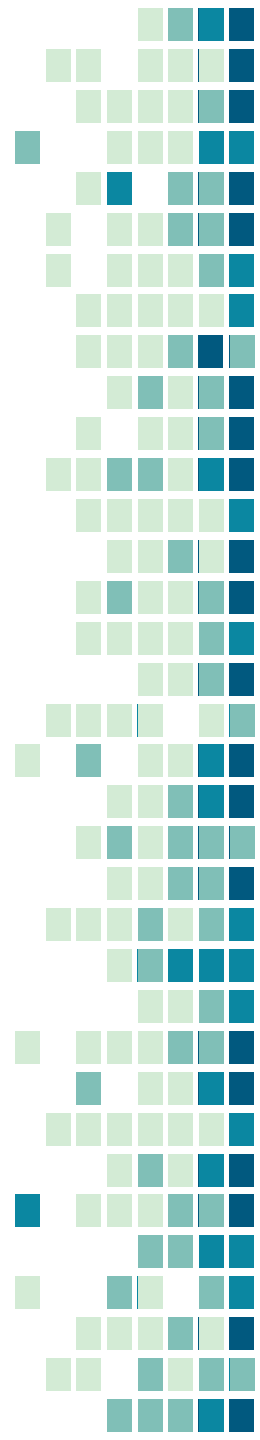
Concern	Solution
Workload required to capture accurate robust metadata	Incorporate metadata creation into data development process – distribute the effort
Time and resources to create, manage, and maintain metadata	Include in grant budget and schedule
Readability / usability of metadata	Use a standardized metadata format
Discipline specific information and ontologies	Use a standard 'profile' that supports discipline specific information



Metadata standards

A metadata standard provides a uniform structure to describe data:

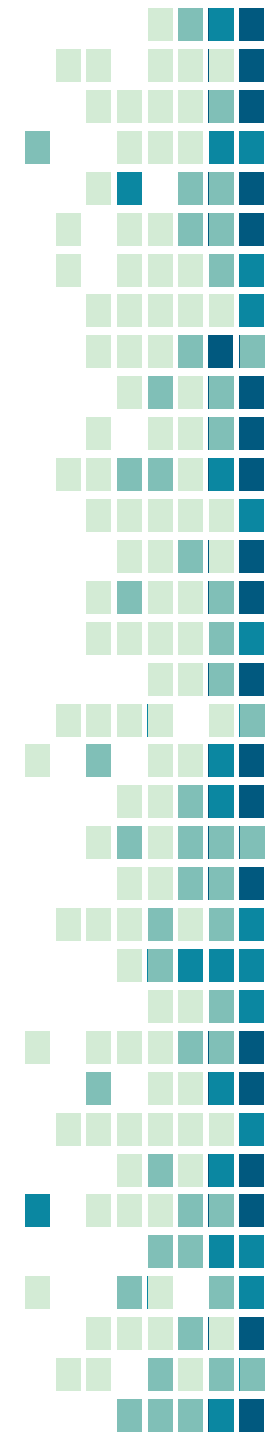
- Machine readable (usually XML)
- Common terminology
- Common structure



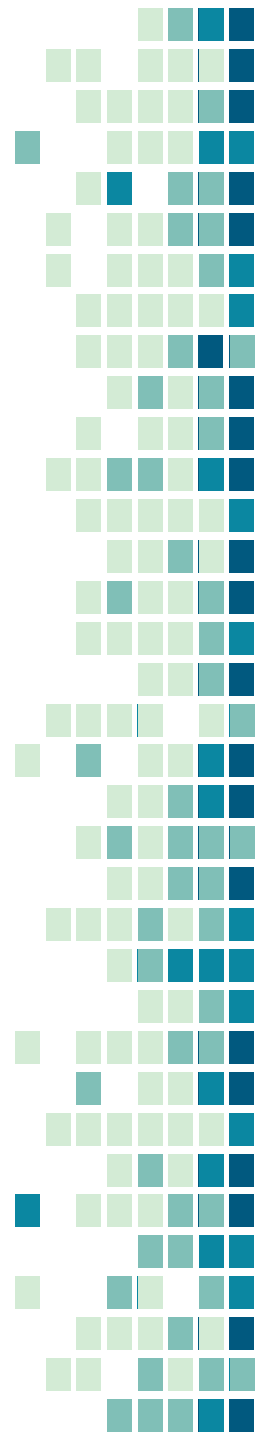
Metadata standards

Example standards:

- Dublin Core (emphasis on publications)
- Darwin Core (emphasis on collections)
- FGDC (emphasis on spatial data)
- ISO19115 (emphasis on spatial data and services)
- Ecological Metadata Language (general, but emphasis on filesystem artifacts, attributes, taxonomy)



Metadata standards



```
<?xml version="1.0"?>
<eml:eml xmlns:eml="eml://ecoinformatics.org/eml-2.1.1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsi:schemaLocation="eml://ecoinformatics.org/eml-2.1.1 eml.xsd" packageId="urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f4">
<dataset>
  <title>Example dataset showing metadata submission tools, Ecological Society of America, 2019</title>
  <creator id="1407671562528544">
    <individualName>
      <givenName>Jeanette</givenName>
      <surName>Clark</surName>
    </individualName>
    <organizationName>National Center for Ecological Analysis and Synthesis</organizationName>
    <positionName>Projects Data Coordinator</positionName>
    <electronicMailAddress>jclark@nceas.ucsb.edu</electronicMailAddress>
    <userId directory="https://orcid.org/0000-0001-8250-4250">
  </creator>
  <abstract>
    <para>This is an example of how to use the Ecological Society of America conference information workflow.</para>
  </abstract>
  <intellectualRights>
    <para>This work is dedicated to the public domain under the Creative Commons Attribution-NonCommercial-ShareAlike license. See https://creativecommons.org/licenses/by-nc-sa/4.0/ for more information.</para>
  </intellectualRights>
  <coverage>
    <geographicCoverage>
      <geographicDescription>Louisiana</geographicDescription>
      <boundingCoordinates>
        <westBoundingCoordinate>85.7585</westBoundingCoordinate>
        <eastBoundingCoordinate>85.7585</eastBoundingCoordinate>
        <northBoundingCoordinate>38.2527</northBoundingCoordinate>
        <southBoundingCoordinate>38.2527</southBoundingCoordinate>
      </boundingCoordinates>
    </geographicCoverage>
    <temporalCoverage>
      <rangeOfDates>
        <beginDate>2019-01-01</beginDate>
        <endDate>2019-12-31</endDate>
      </rangeOfDates>
    </temporalCoverage>
  </coverage>
</dataset>
</eml:eml>
```

The 'creator' element provides the full name of the person, organization, or position who created the resource. The list of creators for a resource represent the people and organizations who should be cited for the resource.

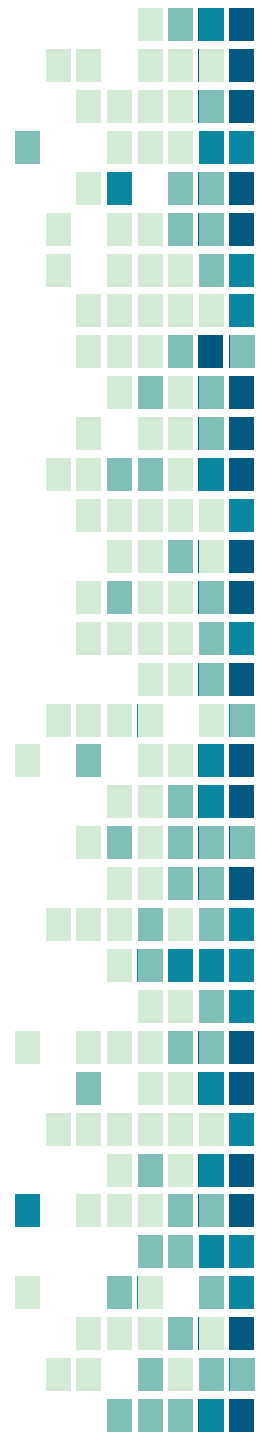
What makes a good metadata record?

Overall goal: Could a reasonable scientist make sense of your data in 10, 20, 30+ years without contacting you?

When in doubt, be more specific:

- Spell out acronyms
- Use full names, emails, addresses, etc.

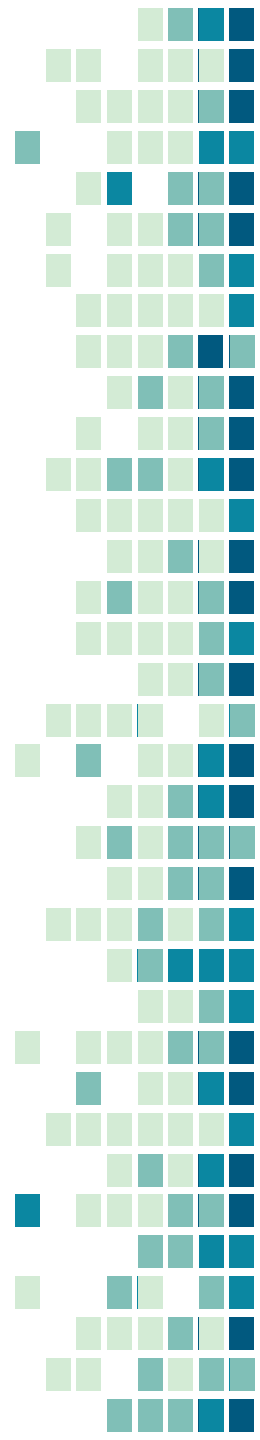
Include as much information as possible directly in the metadata record



What makes a good metadata record?

Target multiple user groups:

- Someone looking directly for your data
- Someone who does not know about your work but should
- Someone looking to scrutinize your work
- Someone trying to reproduce your work
- Someone looking to give you credit for your work

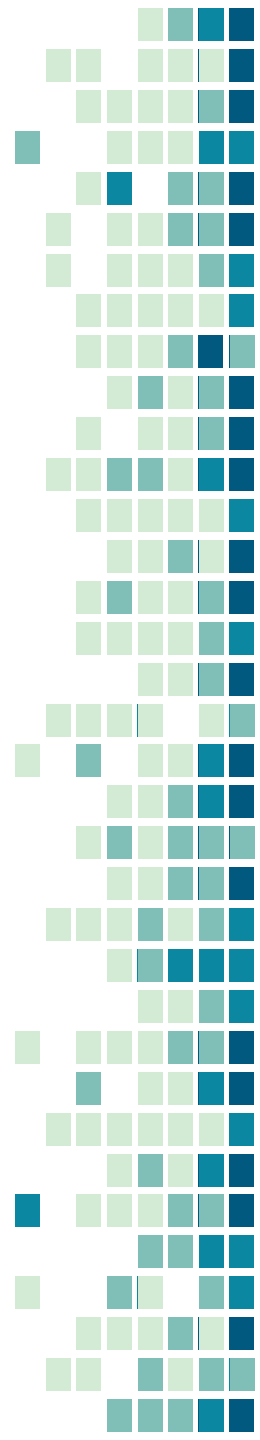


Dataset Title

Good titles include:

- What
- When
- Where

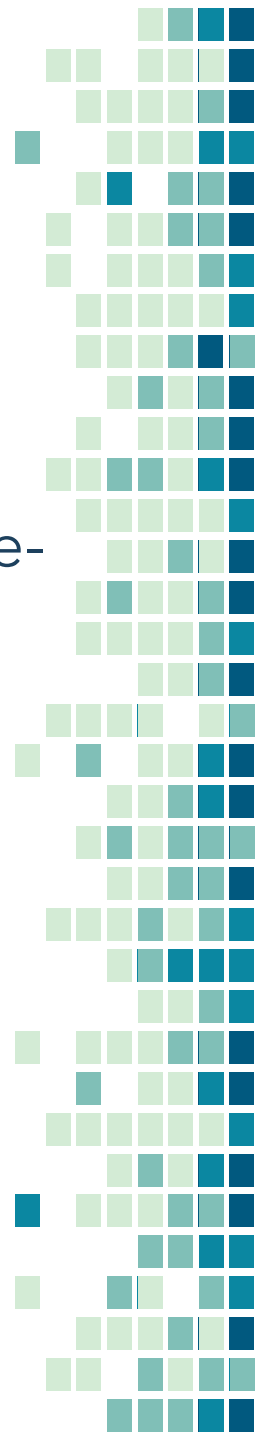
The title is often the first way a user will evaluate your data set



What makes a good metadata record?

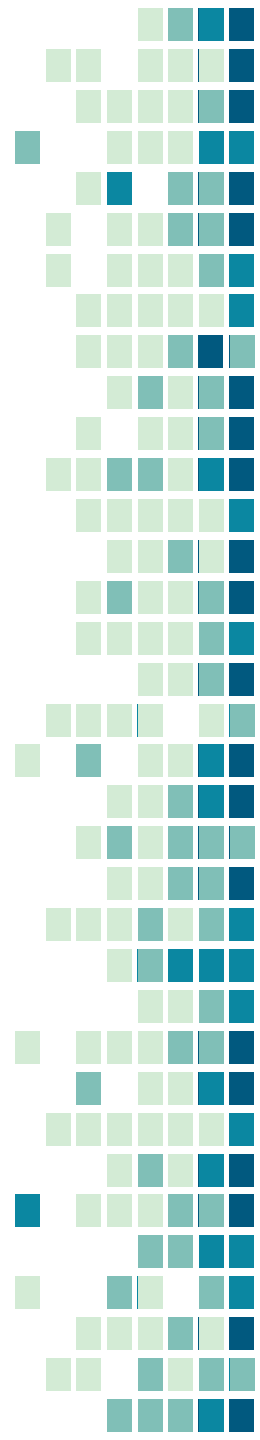
Title:

“Ocean water property observations reported from ice-tethered profiler #37, Transpolar Drift, 2009”



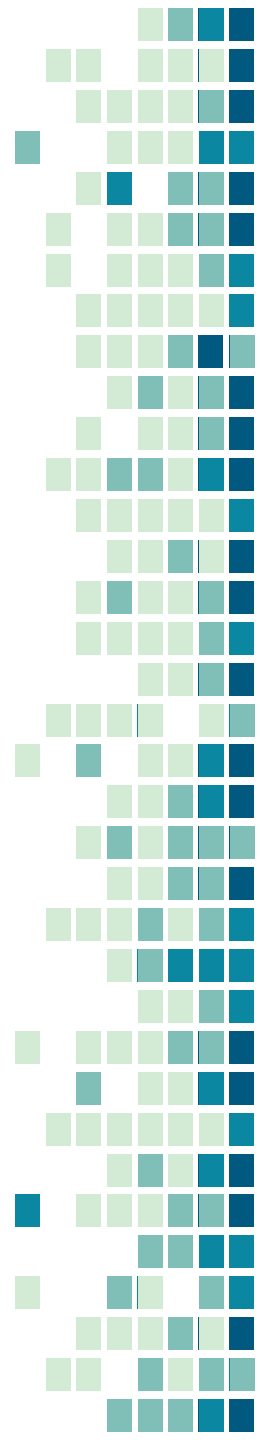
Abstract

- Distinct from publication abstract
- Should provide more context for the title
- Should give a high-level summary of methodologies, data formats, coverages, etc.



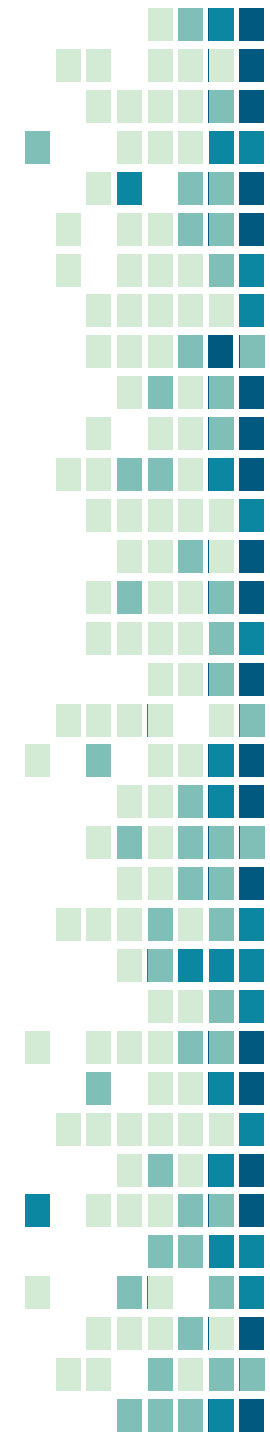
Data Files

- File formats
- File sizes
- Checksums (“Do I have the same file?”)
- Where to download (web address)
- Attributes used (variables)



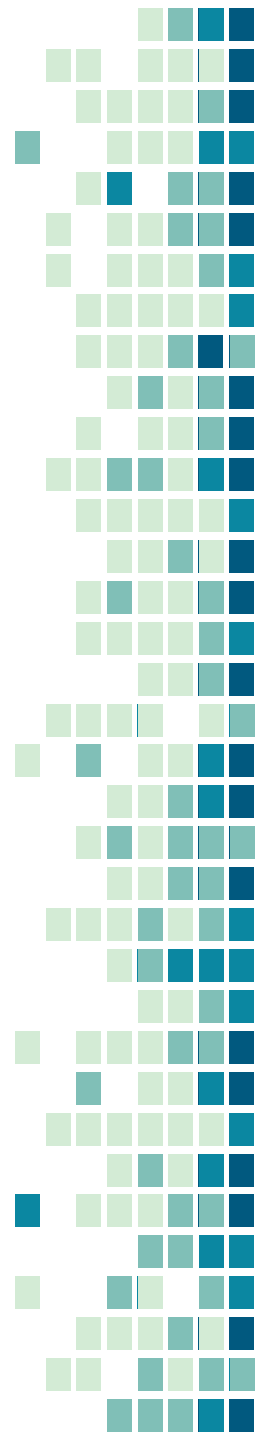
Involved Parties

- Name alone is not enough...
 - to assign credit, nor
 - to disambiguate across data sets
- Email addresses help
- Including ORCID is best



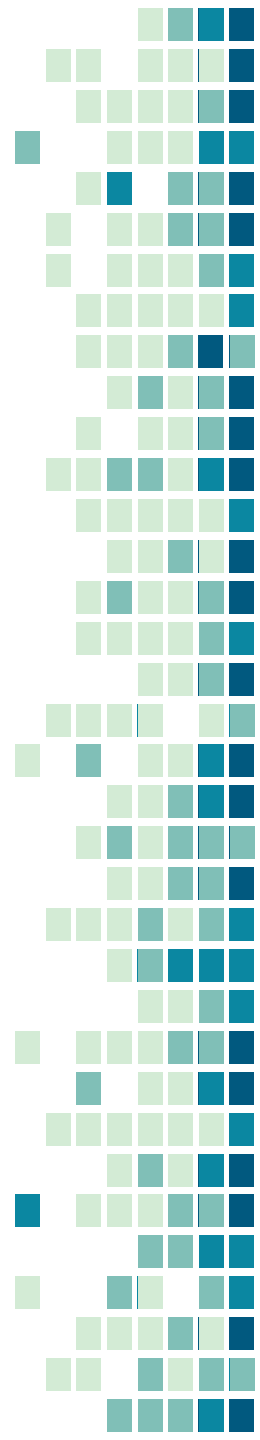
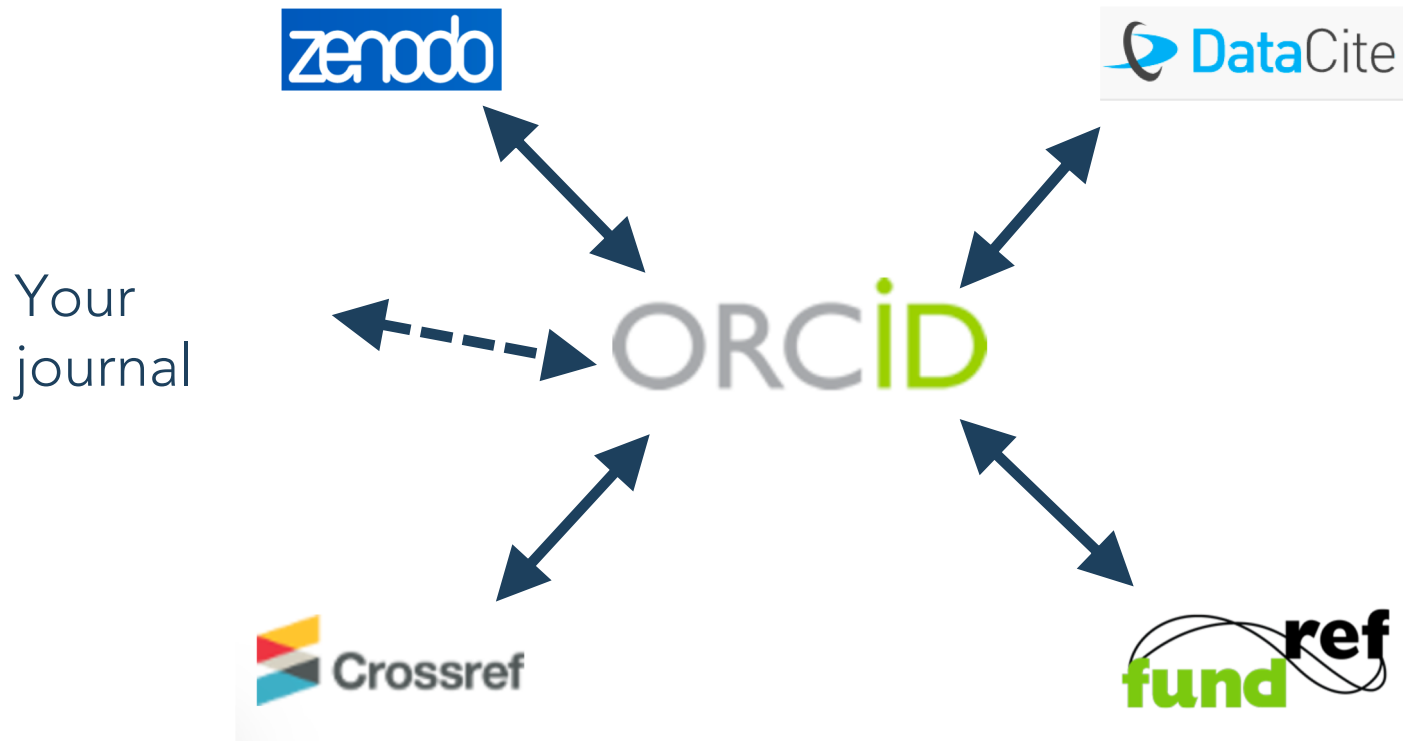
ORCID: "Wait, what is an ORCID?"

- Like an ISBN for people
 - e.g. mine: orcid.org/0000-0003-4703-1974
- Enables unambiguous reference to humans
- Free
- Becoming a community norm
- Inherently connected...



ORCID

Inherently connected



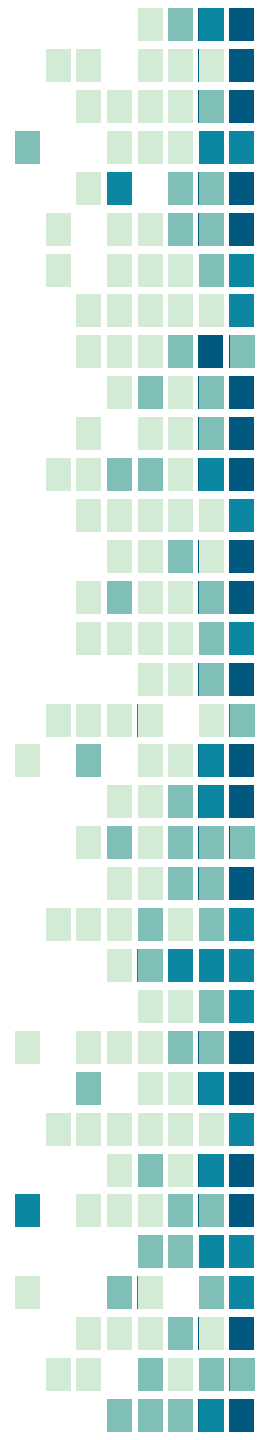
Activity

Register an ORCID iD:

<https://orcid.org/register>

Sign in to

<https://test.arcticdata.io/share>



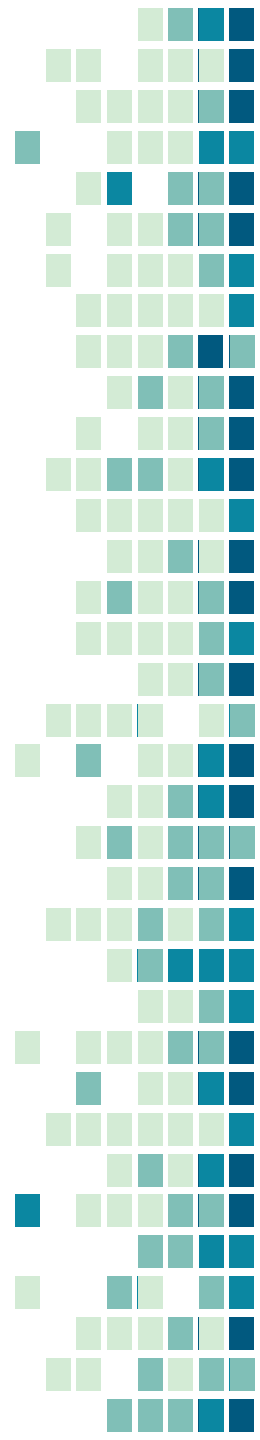
Creating a metadata record

Web forms

- Frequently linked to a data archive
- eg: <https://arcticdata.io/submit>

Software packages

- Run locally
- eg: <https://github.com/ropensci/EML>



Submitting to the Arctic Data Center

- <https://test.arcticdata.io/submit>



Jeanette Clark. Untitled dataset. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

Files	Size	Type	Status
Untitled dataset			+ Add Files

Add files to start your dataset

[+ Add Files](#)

Overview *

Overview

People

Dates *

Locations *

Taxa

Methods

Title *

A title for this dataset. Include the topic, geographic location, dates, and if applicable, the scale of the data. Write out all abbreviations.

Example: Greater Yellowstone Rivers from 1:126,700 U.S. Forest Service Visitor Maps (1961-1983)

Abstract *

Provide a brief overview that summarizes the specific contents and purpose of this dataset.

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

Files	Size	Type	Status
Example dataset showing metadata submission tools, Ecological Society of America, 2019			+ Add Files
figure1.jpg	159 KB	Data	Describe
example_script.Rmd	21 KB	Data	Describe
dummy_data.csv	62 KB	Data	Describe

Overview *

Overview

People

Title *

A title for this dataset. Include the topic, geographic location, dates, and if applicable, the scale of the data. Write out all abbreviations.

Example dataset showing metadata submission tools, Ecological Society of America, 2019

Dates *

Locations *

Abstract *

Provide a brief overview that summarizes the specific contents and purpose of this dataset.

This is an example of how to write a metadata record and archive data using the Arctic Data Center, for use in a presentation for the Ecological Society of America conference in Louisville, Kentucky, 2019. This dataset contains three dummy files for demonstration purposes, that represent a scientific workflow.

Taxa

Methods

People

Dates *

Locations *

Taxa

Methods

Keywords

Add keywords that accurately categorize these data. Add one keyword per line.

Keyword suggestions for the Earth Sciences can be found on the [NASA Global Change Master Directory \(GCMD\)](#), particularly under Earth Science > Biosphere.

Keyword	Keyword Thesaurus
<input type="text" value="Add one new keyword"/>	<input type="text" value="None"/>

Funding *

To link this dataset to your research project, identify the appropriate funding identification. To search for an NSF award, start typing and choose your award from the search result list.



Publication Date

Set a citation date for this data set. This can be a year (YYYY) or an exact date (YYYY-MM-DD).

Usage Rights *

Choose how you wish your data to be shared and reused.

Creative Commons Public Domain



Creative Commons Attribution



Alternate Identifiers

If this dataset is archived in another location, such as a different data management system, list any additional identifiers that can be used to locate or label the dataset here.

Overview *

People

Dates *

Locations *

Taxa


Methods

People

For each person, provide at least: a person's first and last name, or a position name, or an organization name.

Dataset Creators (Authors/Owners/Originators)

Each person or organization listed as a Creator will be listed in the data citation. At least one person, organization, or position with a 'Creator' role is required.


<input type="text" value="Jeanette"/>	<input type="text" value="Clark"/>	<input type="text" value="jclark@nceas.ucsb.edu"/>	<input type="text" value="Street address"/>		
<input type="text" value="Projects Data Coordinator"/>		<input type="text" value="Website"/>	<input type="text" value="Address line 2"/>		
<input type="text" value="National Center for Ecological Analysis and Synthesis"/>		<input type="text" value="Phone"/>	<input type="text" value="Fax"/>	<input type="text" value="City"/>	<input type="text" value="State or province"/>
		 <input type="text" value="http://orcid.org/0000-0003-4703-1974"/>	<input type="text" value="Postal code"/>	<input type="text" value="Country"/>	

<input type="text" value="First name"/>	<input type="text" value="Last name"/>	<input type="text" value="Email"/>	<input type="text" value="Street address"/>		
<input type="text" value="Position name"/>		<input type="text" value="Website"/>	<input type="text" value="Address line 2"/>		
<input type="text" value="Organization name"/>		<input type="text" value="Phone"/>	<input type="text" value="Fax"/>	<input type="text" value="City"/>	<input type="text" value="State or province"/>
		 <input type="text" value="This person's ORCID"/>	<input type="text" value="Postal code"/>	<input type="text" value="Country"/>	



Contacts



Jeanette  Clark



Projects Data Coordinator

National Center for Ecological Analysis and Synthesis

jclark@nceas.ucsb.edu

Website

Phone Fax

 <http://orcid.org/0000-0003-4703-1974> 

Street address

Address line 2

City State or province

Postal code Country

First name  Last name

Position name

Organization name

Email

Website

Phone Fax


 This person's ORCID 


Street address

Address line 2

City State or province

Postal code Country

Choose new person or organization role ... 

First name  Last name

Position name

Organization name

Email

Website

Phone Fax

 This person's ORCID 

Street address

Address line 2

City State or province

Postal code Country

- Overview *
- People
- Dates ***
- Locations *
- Taxa
- Methods

Dates

Specify the exact date and time of the collection or creation of this data set. Specify a year only (YYYY) or a year, month, and date (YYYY-MM-DD) and optionally, an exact time (HH:MM:SS).

Begin *

Date (YYYY-MM-DD or YYYY)

Time (HH:MM:SS)

End (leave blank if your data set is open-ended)

Date (YYYY-MM-DD or YYYY)

Time (HH:MM:SS)

- Overview *
- People
- Dates *
- Locations ***
- Taxa
- Methods

Locations

Description *

Provide a short and comprehensive geographic description of the sampling site(s) or location(s) where these data were collected. For example, "Teshekpuke Lake, Alaska".

Short geographic description

Bounding Box Coordinates *

Enter two lat,lng coordinates to specify a geographic bounding box or only one lat,lng pair for a single point.

Northwest coordinates

Southeast coordinates



Short geographic description

Northwest coordinates

Southeast coordinates

- Overview *
- People
- Dates *
- Locations *
- Taxa
- Methods**

Methods & Sampling

Methods

For each procedure or "step" used to produce these data, describe the series of procedures. This should include any relevant descriptions of the procedures, details about software or instrumentation used, source data, and any quality control measures.

Step 1

This describes step one of my methods in detail



Step 2

This describes step two of my methods in detail

Entity and Attribute Information

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

The screenshot shows a web interface for describing a file. On the left, a sidebar lists files: 'Example datas', 'figure1.jpg', 'example_script', and 'dummy_data.c'. The 'time' attribute is selected. The main area is titled 'Describe dummy_data.csv' and has tabs for 'Overview' and 'Attributes'. The 'Attributes' tab is active, showing a form for describing an attribute. The form includes a description, a required 'Attribute Name' field, a required 'Category' dropdown, and a 'Date-Time Format' dropdown. The 'Date-Time' category is selected, and the format is set to 'YYYY-MM-DD (e.g. 2008-09-15)'. On the right, a table shows the file's status as 'Data' with a 'Describe' button.

Type	Status
Data	○ Describe
Data	○ Describe
Data	○ Describe

Overview

Attributes

time

temperature

+ Add attribute

Attribute

Describe the attributes (i.e., fields or variables) of this file. An attribute is often the column header in a tabular data file.

Attribute Name *

The name of the attribute as it appears in the data. It is usually found in the column header of a tabular data table.

Example: "species," "site," "temp"

Category *

Choose the measurement scale type of this attribute's values.

- Unordered categories
The values of this attribute are *unordered* categories or classifications. Example: male or female
- Ordered categories
The values of this attribute are *ordered* categories or classifications. Example: low, medium, high
- Numeric
The values of this attribute are numeric and quantitative. Example: 12.2 degrees Celsius
- Date-Time
Date or time values from the Gregorian calendar Example: 2002-10-22

Standard Unit *

The name of a standard unit used to make this measurement

Celsius (A common unit of temperature)

Done

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

Files	Size	Type	Status
Example dataset showing metadata submission tools, Ecological Society of America, 2019			+ Add Files
figure1.jpg	159 KB	Data	○ Describe
example_script.Rmd	21 KB	Data	○ Describe
dummy_data.csv	62 KB	Data	✔ Describe

Overview *

Overview

Title *

A title for this dataset. Include the topic, geographic location, dates, and if applicable, the scale of the data. Write out all abbreviations.

Abstract *

Provide a brief overview that summarizes the specific contents and purpose of this dataset.

This is an example of how to write a metadata record and archive data using the Arctic Data Center, for use in a presentation for the Ecological Society of America conference in Louisville, Kentucky, 2019. This dataset contains three dummy files for demonstration purposes, that represent a scientific workflow.

[Submit Dataset](#)

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

Citations 0
 Downloads 0
 Views 0
 Copy Citation
 Quality report
 Edit

Files in this dataset Package: resource_map_urn:uuid:8e724caf-81fc-4fbf-813a-8f87a5354a37

Name	File type	Size	Download All
Metadata: Example_dataset_showing_metadata_submission.xml	EML v2.1.1	4 KB	Download
dummy_data.csv	text/csv	62 KB	Download
example_script.Rmd	text/x-rmarkdown	21 KB	Download
figure1.jpg	image/jpeg	159 KB	Download

General

Identifier: urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37

Abstract: This is an example of how to write a metadata record and archive data using the Arctic Data Center, for use in a presentation for the Ecological Society of America conference in Louisville, Kentucky, 2019. This dataset contains three dummy files for demonstration purposes, that represent a scientific workflow.

Data Table, Image, and Other Data Details

0 sources

Other Entity

Entity Name: **dummy_data.csv**

[Download](#)

Description: General description of this dataset

Data Object Type: text/csv

Attribute(s) Info:

Variables

time

temperature

Name: time

Label:

Definition: time sample was taken

Storage Type:

Measurement Type: dateTime

Measurement Domain: **Format**
YYYY-MM-DD

0 derivations

0 sources

Other Entity

Entity Name

[Download](#)

Description

Data Object Type: text/csv

Attribute(s) Info:

Variables	Name
time	time
temperature	

Label

Definition

Storage Type

Measurement Type

Measurement Domain

Format
YYYY-MM-DD
Precision

Missing Value Code

Accuracy Report

Accuracy Assessment

Coverage

Method

1 derivations

1 inputs

Other Entity

Entity Name

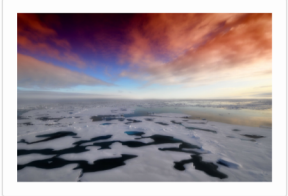
[Download](#)

Data Object Type: application/octet-stream

1 outputs

1 sources

Other Entity



Entity Name

0 derivations

[Back to search](#) | [Home](#) / [Search](#) / [Metadata](#)

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

🔒

🗉 Citations
0

☁️ Downloads
0

👁️ Views
0

📄 Copy Citation

📄 Quality report

Edit

	Name	File type	Size	Download All
	Metadata: Example_dataset_showing_metadata_submission.xml	EML v2.1.1	4 KB	Download
	dummy_data.csv More info	text/csv	62 KB	Download
	example_script.Rmd More info	text/x-rmarkdown	21 KB	Download
	figure1.jpg More info	image/jpeg	159 KB	Download

General

Identifier:

Abstract:

Data Table, Image, and Other Data Details

0 sources

+

+

Other Entity

Entity Name:

[Download](#)

Description:

Data Object Type: text/csv

Attribute(s) Info:

Variables

time

temperature

Name:

Label:

Definition:

Storage Type:

Measurement Type:

1 derivations

</>

+

```

<?xml version="1.0"?>
<eml:eml xmlns:eml="eml://ecoinformatics.org/eml-2.1.1" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsi:schemaLocation="eml://ecoinformatics.org/eml-2.1.1 eml.xsd" packageId="urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f4" >
<dataset>
  <title>Example dataset showing metadata submission tools, Ecological Society of America, 2019</title>
  <creator id="1407671562528544">
    <individualName>
      <givenName>Jeanette</givenName>
      <surName>Clark</surName>
    </individualName>
    <organizationName>National Center for Ecological Analysis and Synthesis</organizationName>
    <positionName>Projects Data Coordinator</positionName>
    <electronicMailAddress>jclark@nceas.ucsb.edu</electronicMailAddress>
    <userId directory="https://orcid.org">https://orcid.org/0000-0003-4703-1974</userId>
  </creator>
  <abstract>
    <para>This is an example of how to write a metadata record and archive data using the Arctic Data Center, Society of America conference in Louisville, Kentucky, 2019. This dataset contains three dummy files for a workflow.</para>
  </abstract>
  <intellectualRights>
    <para>This work is dedicated to the public domain under the Creative Commons Universal 1.0 Public Domain License. See https://creativecommons.org/publicdomain/zero/1.0/.</para>
  </intellectualRights>
  <coverage>
    <geographicCoverage>
      <geographicDescription>Louisville, Kentucky, United States of America</geographicDescription>
      <boundingCoordinates>
        <westBoundingCoordinate>85.7585</westBoundingCoordinate>
        <eastBoundingCoordinate>85.7585</eastBoundingCoordinate>
        <northBoundingCoordinate>38.2527</northBoundingCoordinate>
        <southBoundingCoordinate>38.2527</southBoundingCoordinate>
      </boundingCoordinates>
    </geographicCoverage>
    <temporalCoverage>
      <rangeOfDates>

```

Jeanette Clark. Example dataset showing metadata submission tools, Ecological Society of America, 2019. NSF Arctic Data Center Test Repository. urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37.

Citations 0
 Downloads 0
 Views 0
 Copy Citation
 Quality report
 Edit

Files in this dataset Package: resource_map_urn:uuid:5966b201-f76d-47d0-85db-f463fa7255fc

Name	File type	Size	Download All
Metadata: Example_dataset_showing_metadata_submission.xml	EML v2.1.1	4 KB	Download
dummy_data.csv	text/csv	62 KB	Download
example_script.Rmd	text/x-rmarkdown	21 KB	Download
figure1.jpg	image/jpeg	159 KB	Download

General

Identifier: urn:uuid:71bfb8d4-a692-4a08-aaad-d9e1f49a6a37

Abstract: This is an example of how to write a metadata record and archive data using the Arctic Data Center, for use in a presentation for the Ecological Society of America conference in Louisville, Kentucky, 2019. This dataset contains three dummy files for demonstration purposes, that represent a scientific workflow.

Data Table, Image, and Other Data Details

0 sources

Other Entity

Entity Name: [Download](#)

Description:

Data Object Type: text/csv

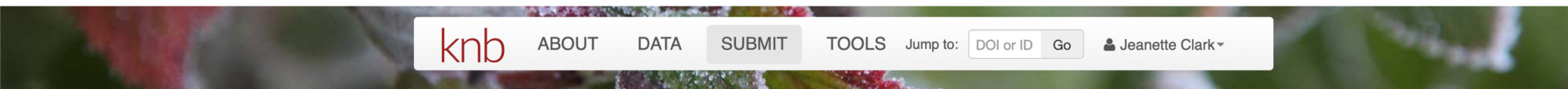
Attribute(s) Info:

Variables	Name	Label	Definition	Storage Type	Measurement Type
time	time		time sample was taken		dateTime
temperature					


1 derivations

Knowledge Network For Biocomplexity

- <https://knb.ecoinformatics.org/submit>



Jeanette Clark. Untitled dataset. Knowledge Network for Biocomplexity. urn:uuid:47770f84-4aa2-47bb-a2b1-d32644d44da5.

Files	Size	Type	Private	Status
▼  Untitled dataset				+ Add Files

Add files to start your dataset

[+ Add Files](#)

Overview *

Overview

Title *

A title for this dataset. Include the topic, geographic location, dates, and if applicable, the scale of the data. Write out all abbreviations.

Example: Greater Yellowstone Rivers from 1:126,700 U.S. Forest Service Visitor Maps (1961-1983)

Abstract *

People

Dates *

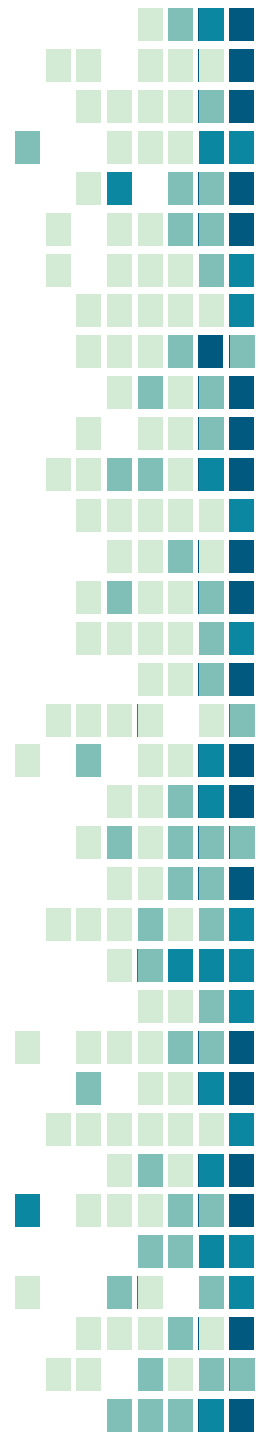
Locations *

For more information...

Data Science Help Desk

Exhibitors Hall

Booth 219





Reproducible Research Techniques for Synthesis
**Register now: A five day immersion into widely
adopted R-based tools for open science**

<https://nceas.ucsb.edu/learning-hub/short-course>