

ESIP Biological Data Standards Cluster Notes

BDS Cluster Wiki	Primer	Primer Repo	Primer Guidelines Repo
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2025-09-04

Attendance:

Alycia Crall, Kit Lewers, Kelsey Huelsman, Frank Muller-Karger, Steve Formel, Kate Rose, Jess Welch

Agenda & Notes: [slides](#)

1. ESIP Community Updates & Intros if needed (10 min)
 - a. Community Fellow applications due October 10:
<https://www.esipfed.org/student-opportunities/community-fellows/>
 - b. If you missed it, July meeting highlights webinar recording:
<https://youtu.be/llkhXsLUS-s?feature=shared>
2. V.1 of Guides (15 min)
 - a. Review exciting updates
 - b. Institutional review requirements?
3. ESIP Meeting inspo (20 min)
 - a. From chat, is the primer guidelines meeting people where they are at?
 - i. Approachable language (hopefully) makes it seem like a not-exclusive club
 - ii. The primer names or cites several international groups - but has any input been sought from outside the USA? How do we cross-walk with them for broad (instant) acceptance?
 - iii. Probably same comment about indigenous groups
 - iv. The guides try to be transparent about gray areas, admitting they exist
 - v. Jess: I think it depends on the target audience/skill level... if the organization and navigation of the material is well done, then it should.(I haven't fully reviewed the primer yet, so I'm speaking generally.)
 - vi. Frank's point about the balance between contributions and audience is a good one. I think the current result is a reflection of the coalition of the willing, but could be built on to be more inclusive.
 - vii. A lot of effort has gone into making them easy to understand and accessible to many levels of user experience but some people do require a lot of support that might be out of the scope of this. But... sometimes the only way to increase input is to put it out there and socialize it

- viii. These are living guidelines so at least with a versioned resource you're able to take a stepwise approach to additions and updates
 - ix. One reason I brought that up about some international groups reviewing is: often people won't promote things that were "not invented here" - so, just seeing how we can be more effective
 - x. Jess: In case people don't know about it... NASA has a pretty extensive guide for Data Producers related to standards. (I contributed to it. 😊)
<https://www.earthdata.nasa.gov/engage/data-producer-resources/data-product-development-guide-data-producers>
 - xi. I agree with Kate - the larger groups and leads named in the primer are also the ones promoting workshops for data mobilization and it would be good for them to include this tool
 - b. Who are the early adopters? AI users, data managers, educators
4. What's next? Proposed plan for FY26.
- a. Every other month
 - b. Thoughtful review process
 - c. IT&I Rants & Raves
 - i. Suggestions: Lydia Jennings: GBIF Indigenous Data Governance task force. She was in Stephanie's lab at University of Arizona
 - ii. Marty Downs from LTER for help identifying an LTER person to rant and rave
 - iii. Andrew Gonzalez - GEO BON chair (there are 3 other chairs)
 - iv. Dave Bloom - TDWG Chair
 - v. ODIS
 - vi. CSIRO

2025-08-07

Attendance:

Alycia Crall, Steve Formel, Kelsey Huelsman, Jess Welch, Kate Rose, Matt Biddle, Kit Lewers

Agenda & Notes:

- 5. Welcome, intros
 - a. Alycia - Community Director ESIP
 - b. Steve - OBIS
 - c. Kelsey - NASA Postdoc
 - d. Kate - NOAA / NCEI / CMECS
 - e. Matt - NOAA / IOOS / data manager + Marine Data Cluster
 - f. Jess - ORNL + NASA
 - g. Kit - CU Boulder + TDWG + FINESST Fellow NASA + GBIF
- 6. Community updates
 - a. [August 25 ESIP-wide meeting recap. Register here.](#)

- b. Upcoming resource page made by the Open Science and Data Help Desk Cluster where we will be asking for review and suggestions
- c. [Executive Director position](#)
- d. [Marine Life Data Workshop](#) for August 12th at 1pm ET (Net tow plankton/HABs data standardization to Darwin Core)
- e. [Environmental Data Science Summit registration announcement](#)
- 7. ESIP meeting recap
- 8. What's next?

2025-06-05

Attendance:

Steve Formel, Tim VDS, Tylar Murray, Kelsey Huelsman, Kit Lewers, Lynn deWitt, Colin Carlson, Alycia Crall, Megan Orlando, Kate Rose, Rachael Blake, Collin Schwantes, Pier Luigi Buttigieg

Agenda:

- 1. Welcome and intros!
 - a. Tim van Der Stap is stepping down as co-chair after July.
- 2. Community Updates:
 - a. Surface Biology and Geology Update (Kit Lewers)
 - i. ORNL DAAC tutorial
https://ornl-daac.github.io/airborne/events/2025-SBG/notebooks/AVIRIS-NG_L3_BioSCape.html
 - b. Genomics Standards (GSC and MxS) and incorporating other “general” standards (Pier Luigi Buttigieg)
 - c. Living Data Conference - very affordable virtually (Steve Formel)
 - d. Preliminary poster content feedback for summer meeting (Kelsey Huelsman)
- 3. Recommendation: for info shares, keep it high level.
- 4. Update on game plan to finish primer guides (Steve Formel)

2025-05-01

Attendance:

Steve Formel, Kelsey Huelsman, Tim VDS, Rachael Blake, Megan Orlando, Kate Rose, Frank Muller-Karger, Jess Welch

Agenda:

- 1. Community check in – institutions and work affected

2. Walk-through on primer guides (Steve) – 3-5 features
 - a. Improvements we've made
 - b. Are there any sections without substance?
 - c. Are there any sections that don't make sense / require more context
3. Brainstorm for summer meeting
 - a. Who's attending?
 - b. Cluster presentation possibilities:
 - i. Minimum: Kelsey shares collaborative process and product
 - ii. Additional option: Poster + computer set-up

Notes:

Walk-through on primer guides:

Summer meeting attendance: Steve and Tim virtual; Kelsey and Rachael in person; Kate trying; Frank no

Tasks:

2025-04-03

Attendance:

Steve Formel, Rachael Blake, Kelsey Huelsman, Kit Lewers, Tim VDS, Laura Brenskelle

Agenda:

Working meeting

Notes:

Tasks:

2025-03-06

Attendance:

Bolivar Aponte, Kelsey Huelsman, Margaret O'Brien, Jess Welch, Rachael Blake, Megan Orlando, Tim van der Stap, Laura Brenskelle, Kit Lewers

Agenda:

1. Walk-on topics
2. Overview of [Primer Guides](#)
 - a. New structure: Preambles, What is it? Why? Top Resources
 - b. Navigating: TOC on left, “Give feedback on this page” in upper right corner.
3. Quick demo: How to give feedback
4. Crowd sourcing:
 - a. Look at your favorite topic(s)... how did we do?
 - b. In “[3 Integrate Your Data with Other Data](#)”
 - i. Climate and Forecast (CF) needs some simplifying
 - c. In “[5 Make Your Data Internet Ready](#)”
 - i. Why is it beneficial to know about Dublin Core for internet ready data?
 - ii. What is beneficial about THREDDS for internet ready data?
 - iii. What is beneficial about Web Map Services for internet ready data?

Notes:

1. Walk-on topics
 - a. New members!
 - i. [Jess Welch from ORNL](#) - experience using git hub - check out her publications: [Enabling FAIR data in Earth and environmental science with community-centric \(meta\) data reporting formats](#) and [A guide to using GitHub for developing and versioning data standards and reporting formats](#)
 - ii. Bolivar Aponte - Data Stewardship Fellow and friend of Steve’s; working on DMP version of Primer Guides
 - b. Confusion around how to join – note to co-chairs to clean up links and events
2. Tim reviewed primer guides
 - a. Feedback from Jess Welch: could refer to the [Openscapes Earthdata Cloud Cookbook](#) for good ideas to make the primer repo more friendly to contributors. Not sure what it looks like to non-contributors, though.
3. Laura demonstrated how to give feedback in github, but we also gave everyone access to the google doc drafts
4. Tim reviewed our “crowd sourcing” requests with attendees
 - a. Jess Welch very familiar with CF Conventions (woohoo!)
 - b. Feedback from Margaret: define biological data on page 1 (pertaining to organisms)
 - i. CF convention is more about the *context* of the data than the data itself; Matthew Biddle has agreed, and many head nods in agreement
 - ii. Vocabulary vs. Framework – CF Conventions vs. Net CDF
 - iii. Helpful resources shared:
 1. <https://noaa-omics-dmg.readthedocs.io/en/latest/>
 2. <https://fair-edna.github.io/index.html>

2025-02-06

Attendance:

Margaret O'Brien, Kelsey Huelsman, Steve Formel, Megan Orlando, Kyla Richards, Matt Biddle, Tim van der Stap, Laura Brenskelle, Rachael Blake, Kate Rose

Agenda:

1. Walk-on topics
2. Winter meeting report-back and updates from other clusters
3. Presentation about biological data standards and research by Kelsey Huelsman, ESIP Community Fellow
4. Ensuring support channels

Notes:

1. Walk-on topics
 - a. With changing landscape, ensuring support channels; talk to Rachael or Kate if this is on your radar and you have ideas
 - b. Getting Megan's bird's eye view of ESIP: Want to preserve good parts of ESIP and provide support to community; board will find the proper path forward; encouraged us to make space for responding to surroundings and changes *and* to continue usual work and maintain momentum.
2. Winter meeting report-back and updates from other clusters
 - a. BDS (our cluster): shared our guides and how to provide Github feedback, and have used that progress to update guides.
 - i. Megan said that our cluster has provided a model of "How to Cluster" with our collaborative repo.
 - b. Marine Data: data management plan (DMP) session, with [big and good changes](#).
 - c. Join us at the ESIP Meeting Highlights Webinar 2/20 at 4 pm ET - lots of fast-paced highlights on sessions and collaboration areas!
<https://www.esipfed.org/event/jan25-esip-meeting-highlights-webinar/>
3. Presentation about biological data standards and research by Kelsey Huelsman, ESIP Community Fellow
 - a. This work might dovetail with Laura and Matt Biddle's work on generating indicators from OBIS snapshots on an H3 grid

Tasks:

2024-12-05

Attendance:

Frank Muller-Karger, Stephen Formel, Laura Brenskelle, Kyla Richards, Pier Luigi Buttigieg, Kevin Lindstrom, Rachael Blake, Kate Rose, Lynn deWitt, Megan Orlando, Kit Lewers, Kelly Goodwin, Chandra Earl

Agenda

1. Introductions for New People
 - a. We have an ESIP fellow (Kelsey Huelsman)!
2. Updates from Other Clusters
3. Our BDS session at the Winter meeting
4. Draft section: [SHARE YOUR DATA ON THE WEB Section](#) of the primer guidelines.

Notes

1. Introductions for New People
 - a. We have an ESIP fellow (Kelsey Huelsman)!
2. Updates from Other Clusters
 - a. Most busy preparing for winter meeting
 - b. Semantic Harmonization (from Kate): substrate types in CMECS and ENVO; anyone interested in this, check out
 - i. This IUCN alignment with ENVO may be of interest - starting with "realm" but many other terms for ecosystem restoration will come soon: <https://github.com/EnvironmentOntology/envo/issues/1556> (Shared from Pier)
 - ii. NERC wants to explore use of CMECS (common among agencies)
 - iii. Here's some ODIS work on mapping common semantics to one another, primarily centred on schema.org: <https://github.com/iodepo/odis-arch/tree/master/utils%2Fmapping> (Shared from Pier)
 - iv. Pier raised transnational concerns/differing management cultures for managing CMECS using NERC, although Kate's CMECS has been endorsed as a UN Ocean Decade Action (project under Marine Life 2030); a good step for visibility!
3. Our BDS session at the Winter meeting, "*Using GitHub for Collaborative Review of the Biological Data Primer Guidelines*"
 - a. Tuesday Jan 21 at 4-5:30 pm ET

- b. How to use Github (30 min) - an opportunity to encounter Github in a safe space
 - i. Pull issues
 - ii. Find issues
 - iii. Tag issues
 - iv. Assign issues
 - v. Pull Requests – go one step further past “issues”
 - c. Review of Guidelines Draft Material (60 min)
- 4. Draft section: [SHARE YOUR DATA ON THE WEB Section](#) of the primer guidelines.
 - a. Two Sections:
 - i. [Web Standards](#)
 - 1. What is the logic behind the “Web-Enabled Standards” section title?
 - ii. [Web Services](#)

Tasks:

Reach out to past co-chairs of BDS who started the Primer to get some clarity behind the Web-Enabled Standards section

2024-10-03

Attendance: Steve Formel, Kit Lewers, Kelsey Huelsman, Frank Muller-Karger, Rachael Blake, Tim van der Stap, Kate Rose, Kyla Richards, Megan Orlando, Gilia Thomas, Pier Luigi Buttigieg

Agenda

1. Introductions for New People
2. Updates from Other Clusters
3. Reminder: Shifting November meeting to webinar from Hakai on Nov 5 and Kyla will present (10-15 min) about the cluster
5. Draft section: INTEGRATE YOUR DATA WITH OTHER DATA?

Notes

1. Introductions for New People
2. Updates from Other Clusters
 - a. Marine Cluster: planning to work with the stewardship committee on the data mgmt plan templates.
 - b. Semantic Harmonization Cluster

- i. CMECS / ENVO harmonization exercise
 - 1. Related, Kate has been investigating how CMECS can fit into OBIS / DwC.
 - 2. ENVO will now be the official semantic reference for the GOOS EOVS, including the BioEco ones
 - 3. We can reach out to IUCN through IOC and arrange a high/mid level governance meeting to figure out what to do wrt use of these vocabularies. IUCN vocabs might not be machine friendly
 - ii. How to bridge ODIS / Schema.org:
 - <https://book.odis.org/gettingStarted.html>
 - iii. Includes biological data that doesn't fit into OBIS
 - iv. INSDC (ENA) is setting up schema.org with Pier's help, which will open it up to ODIS and schema.org
 - c. Sustainable Data Mgmt Cluster (soon to be Data Sovereignty Cluster, led by Joseph Gum)
 - i. CARE principles implementation paper is out and being referenced by ODIS.
 - 1. <https://datascience.codata.org/articles/10.5334/dsj-2024-037>
 - ii. Steve should connect Pier with John Hagan (Coast Region Habitat Biologist, Northwest Indian Fisheries Commission jhagan@nwifc.org) from MTS TechSurge
 - iii. Pensoft biodiv journals <https://github.com/iodepo/odis-arch/issues/460>
 - 1. Very cool, cheap, open and progressive publishing outfit
 - iv.
- 3. Other news
 - a. From MTS Ocean Biodiversity TechSurge, World Bank is having a hackathon. Could this be a space for us to teach/share our knowledge of the standards.
 - i. <https://spatialagent.org/BiodiversityHackathon/banner.html>
 - 1. Contact:
 - Nagaraja Rao Harshadeep (Harsh)
 - Global Lead (Disruptive Technology)
 - Lead Environmental Specialist
 - Environment, Natural Resources & Blue Economy Global Practice
 - +1 (202) 473-9173
 - harsh@worldbank.org
 - ii. Can we start to infuse standards into the financial sector?
 - Reminder: Shifting November meeting to webinar from Hakai on Nov 5 and Kyla will present (10-15 min) about the cluster
- 4. Draft section: INTEGRATE YOUR DATA WITH OTHER DATA?
 - a. [Darwin Core](#)
 - b. [Climate and Forecast](#)
 - c. Notes

- i. Integrate is a verb. Emphasize that the standards help data be actionable and transmitted across repositories as part of the data use process

2024-09-05

Attendance: Steve Formel, Tim van der Stap, Chandra Earl, Laura Brenskelle, Kyla Richards, Kelsey Huelsman, Rachael Blake, Heather Benway, Mathew Biddle, Megan Orlando

Agenda

1. Introductions for New People
2. Updates from Other Clusters
3. Share FY25 Plans
4. Share progress on 'Make your data interoperable'

Notes

1. Introductions for New People
 - a. Heather Benway (WHOI, METS-RCN)
 - i. <https://www2.whoi.edu/site/mets-rcn/>
2. Updates from Other Clusters
 - a. Megan Orlando is back!
 - b. Most clusters are reviewing the summer meeting and working on plans for the coming FY.
 - c. Marine Data Cluster
 - i. DMPtool
 - ii. CARE principles work moving to the Sustainable Data Management cluster
 1. Joseph Gum (who also co-chairs Marine Cluster) is being suggested as new co-chair for SDM cluster
 2. How can we augment membership and leadership for this conversation?
 - d. Sustainable Data Management Cluster
 - i. Discussing changing names at next call; Slack channel is already called #data-sovereignty
 - e. Physical Samples Cluster
 - i. Starting a webinar series, first installment was about "The Geological Survey of Alabama/OGB Core and Sample Repository: the Good, the Bad, and the Ugly."
 - f. ESIP Meeting Highlights Webinar:
https://youtu.be/h_CAuOmS5uE?feature=shared

3. TDWG talks:

<https://www.youtube.com/watch?v=QRGyJglF7Pk&list=PLD9-DRLWVI0nrwFMOYUHe-W82m2VCJjyJ>

4. Share FY25 Plans

a. Invited talks to help grow the cluster membership

i. Talk ideas:

1. Eos paper on data mgmt education, maybe joint with Education cluster?
2. NVCS talk from Lori Pelech and/or Madison Most
3. NEON & Biological Data Standards: Chandra Earl and/or Eric Sokol
4. Hakai, co-production of biological data with indigenous people
5. ESIL - <https://esiil.org/>
6. METS-RCN (Heather Benway)

b. Primer Guidelines - Finish and publish

i. Primer:

https://esip.figshare.com/articles/online_resource/Biological_Observation_Data_Standardization_-_A_Primer_for_Data_Managers/16806712/2?file=38049210

ii. GitHub repo guidelines:

<https://github.com/ESIPFed/bio-data-standards-primer>

c. Planned Meetings

i. Oct 3, 2024

1. Draft section: INTEGRATE YOUR DATA WITH OTHER DATA?

ii. Nov 7, 2024

1. Invited Talk

iii. Dec 5, 2024

1. Draft Section - MAKE YOUR DATA INTERNET READY?

iv. Jan 2, 2025

1. Cancel

v. Jan 21, 2025

1. Jan 24, 2025 ESIP Winter Meeting
 - a. Workshop - using Github to review primer guidelines
 - i. Teaching GitHub by doing this!

vi. Feb 6, 2025

1. Invited Talk

vii. Mar 6, 2024

1. Cluster/ESIP Review of Guidelines

viii. Apr 3, 2025

1. Institutional Review of Guidelines Begins

ix. May 1, 2025

1. Prep Summer Meeting

x. Jun 5, 2025

1. Invited Talk

- xi. Jul 3, 2025
 - 1. Prep Summer Meeting (if needed)
- xii. Jul 21, 2025
 - 1. Jul 25, 2025 ESIP Summer Meeting
- xiii. Aug 7, 2025
 - 1. Victory Lap, what's next?
- xiv. Sep 4, 2025
 - 1. Invited Talk


5. Share progress on 'Make your data interoperable'

- a. Rendered draft: https://esipfed.github.io/bds-primer-best-practices/INTEROPERABLE_DATA.html
- b. Github repo: <https://github.com/ESIPFed/bds-primer-best-practices>
- c.

2024-08-01

Attendance: Laura Brenskelle, Steve Formel, Matt Biddle, Lynn deWitt, Kylie Hollis, Kyla Richards, Chandra Earl, Kelsey Huelsman, Margaret O'Brien

Agenda

- 1. Introductions for new people
 - a. Kylie Hollis - new CSFP intern with GBIF-US/OBIS-USA
 - b. Kelsey Huelsman - Bromery intern with GBIF-US
- 2. Updates from the ESIP summer meeting
 - a. Data Help Desk
 - b. "Sustainable Data Management" Cluster evolution
 - c. Other key takeaways
- 3. Updates from other clusters
- 4. Recap of the plan for Making Your Data Interoperable [Primer guidelines](#)
 - a.  Interoperable Section :
 - i. [controlled vocabularies](#), [taxonomic authorities](#), [habitat classification](#)

Notes

Data Help Desk: Collaboration with Amber Budden and Steve Diggs, received \$5k from ESIP through Funding Friday. ESIP has a data help desk, but it is currently managed by a single manager. The goal is to increase capacity and diversity of running help desks at conferences (AGU and other conferences). Also making a cluster. Currently a channel (#datahelpdesk-experts) on ESIP slack if you are interested in getting involved.

“Sustainable Data Management” Cluster evolution - scope and name of cluster doesn't accurately describe work being done. Look in #data-sovereignty for more information about discussion at the upcoming meeting (Fri. Aug 16th at 4pm ET). Related to this is a Funding Friday effort to increase capacity within the Eastern Band of Cherokee Indians (and other tribal communities) for data management. Caleb Hickman was interested in this. After much discussion at an Unconference, a poster was made to survey needs of different indigenous communities. Some social scientists (Wade Bishop at University of TN, some folks from Univ of Washington because next year ESIP is in Seattle) are on board to help develop survey/interview materials. After initial discussion, a template for a workshop could be rolled out for 'train the trainer' type of effort.

Marine Data Cluster will meet on August 8 to also recap the ESIP meeting. They hosted two sessions at the meeting: Sustainable Data Management and DMPtool. Sustainable Data Management/CARE Principles work will continue in the Sustainable Data Management cluster. But the Marine Data Cluster will continue to work on DMPtool and how to make that tool better for NOAA-funded projects.

IGSNs: Natalie Raia (Univ of AZ postdoc w/ [SESAR](#)) - interested in getting feedback on next steps for [IGSN](#) users.

- Also [RAIDs](#) were all the rage at the ESIP meeting

Making Your Data Interoperable Primer guideline update

- Expanding sections of the [Primer](#)
- [Primer guidelines GitHub](#); [rendered version](#)
- Sarah Gao presented at the March meeting about this
 - Who are our users? What “mood” do we want to convey?
- Co-chairs will meet later this month to discuss next steps, will provide an update before the September meeting.

2024-06-06

Attendance: Laura Brenskelle, Kyla Richards, Margaret O'Brien, Tim van der Stap, Daniel Segessenman, Kelsey Huelsman, Kate Rose, Jennifer Webster, Jen Bayer, Rachael Blake

Agenda

5. Introductions for new people
6. Updates from other clusters
7. Review of last meeting (Jam Session with Semantic Harmonization Cluster)
8. [ESIP summer meeting](#) July 23-26
9. July meeting is cancelled due to U.S. holiday/ESIP meeting later in the month.

Notes

Sustainable Data Management Cluster: Session at ESIP Summer Conference - recording data related to CARE Principles and the EML standard.

Semantic Harmonization Cluster: Working with CMECS, which ties together marine data cluster, semantic harmonization cluster, and BDS, and the FAIRification of CMECS with other ontologies

Physical samples cluster - develop guidance / use cases, how to best deal with data provenance and citations for multiple samples. Might be related to the Humboldt Core. This cluster will not be doing a session at the ESIP Summer meeting.

Kate Rose: Paper that gave definitions for semantic terms:

<https://datascience.codata.org/articles/10.5334/dsj-2024-026>

2024-05-02

Attendance: Kyla Richards, Margaret O'Brien, Steve Formel, Tim van der Stap, Daniel Segessenman, Ruth Duerr, Kate Rose, Gary Berg-Cross, Mathew Biddle, Laura Brenskelle, Rachael Blake

Agenda

1. Introductions for new people
2. Updates from other clusters
3. ESIP Summer meeting sessions call ends May 22
4. Jam Session with Semantic Harmonization Cluster
 - a. Drafting guidelines for the 'Making Your Data Interoperable' section of the [primer](#).
 - i. **Interoperable Section** :
 1. [controlled vocabularies](#), [taxonomic authorities](#), [habitat classification](#)
 - ii. Each section includes:
 1. Preamble describing purpose of section
 2. For each subsection:
 - a. What is it?
 - b. Why should you use it?
 - c. How to use it?

Notes

General Feedback

- RD: These are all vocabularies so it is unclear why some things are labeled in the Primer as “controlled vocabularies” vs. taxonomic authorities vs. habitat classification. Also ENVO is an ontology not technically a controlled vocabulary.
- GBC: Semantic Harmonization cluster is working with Kate on CMECS with a connection to ENVO.

- A long-term goal for data interoperability is to make it based on the shared meaning of the data and its classifications. To do semantic interoperability involves standardizing data models, vocabularies, ontologies, and metadata to enable accurate and meaningful data exchange. It goes beyond the technical aspects of data exchange to ensure that data is interpreted correctly and can be effectively used for its intended purpose across different systems and domains.
- Chat:
https://drive.google.com/file/d/1GKygtuxC7HnCuDVdLKZ8TnzNU0-Tke9H/view?usp=share_link

2024-03-07

Attendance: Steve Formel, Chandra Earl, Tim van der Stap, Laura Brenskelle, Sarah Gao, Kate Rose, Rachael Blake, Brian Westra, Margaret O'Brien

Agenda

1. Breaking news! Kyla Richards new co-chair.
2. Introductions for new people
3. Updates from other clusters
 - a. ***April meeting is canceled, our next meeting is May 2nd.***
 - i. In May, we will be collaborating with the Semantic Harmonization Cluster to brainstorm content for the next section of the primer - "Make Your Data Interoperable".
 - b. Sustainable data management cluster: CARE recommendations paper for repositories being finalized. 12 authors, so fine-tuning is taking some time.
 - i. Steve mentioned this work at OSM
 - ii. Tim says the Hakai Institute is very interested in this work too
 - iii. To join mailing list:
<https://lists.esipfed.org/mailman/listinfo/esip-sustainableDM>
4. Primer Guidelines Aesthetic Review
 - a. Intro special guest Sarah Gao, USGS Product Designer & Strategist (sgao@contractor.usgs.gov)
 - b. Brainstorm: Who are our three audiences?
 - i. <https://app.sli.do/event/kjBesZTK9KRqDecATZ7BaY>
 - c. Example aesthetics presented by Sarah Gao
 - d. Brainstorm: aesthetic wordcloud
 - i. <https://app.sli.do/event/kjBesZTK9KRqDecATZ7BaY>
 - e. If time...vote and create actions.

Notes

- New member, Brian Westra, is a librarian from Univ of Iowa. Is involved in the Data Curation Network: <https://datacurationnetwork.org/>
- DCN Primers: <https://datacurationnetwork.org/outputs/data-curation-primers/>
- Brainstorm: Who are our three audiences?
 - <https://app.sli.do/event/kjBesZTK9KRqDecATZ7BaY>
 - Good next step would be to take some of those users and write out statements of what each user would do with the primers and guidelines
 - Keep in mind this range of experience when you're developing the content
- Example aesthetics presented by Sarah Gao
 - Why? To purposefully instill a certain impression upon your audience of how your brand/product should be perceived. The audience will decide how they perceive it whether or not you are intentional with the design so it is better to do it ahead of time.
 - [NY Times](#)
 - Serious, Conservative, Realistic
 - From chat: Boring, Established, Informative, Concrete, Organized, Diverse Topics, non-trivial, professionalism
 - Many of these can be subjective
 - [Craigslist](#)
 - Serious, Conservative, Realistic
 - ...but different from NY Times
 - Informal, community, uncurated, bare, haphazard
 - [Genentech Her2 Story](#)
 - Serious, bold, realistic
 - Empathetic, approachable, relatable, clean but intimate, modern, friendly
 - [Arcadia Science](#)
 - Serious, conservative/bold, balance of realistic and abstract
 - Creative, artsy, whimsical, nature, organic
 - [Oscar Health](#)
 - Serious, bold, realistic
 - Personable, bland and generic
 - [Rewiring America](#)
 - Playful, Bold, Realistic/Abstract
 - Electric, Engaging, busy/exciting, punchy
 - [Headspace Meditation App](#)
 - Playful, Slightly bold, very abstract

- Playful, but maybe too abstract. Maybe conservative because they're following expected patterns
- [Spotify Wrapped](#)
 - Playful, Bold, Abstract
 - Manipulative, chaotic, low stakes, 90's vibes, concise but complex
- Brainstorm: aesthetic wordcloud
 - <https://app.sli.do/event/kjBesZTK9KRqDecATZ7BaY>
- If time...vote and create actions.
 - If people find examples of visual identities they think would work, they can be pulled as issues

Action Items

- ☐ co-chairs finish transferring google doc material to github repo.

2024-02-01

Attendance



Laura Brenskelle



Megan Orlando



Kate Rose



Sarah O'Connor



Claude Nozeres



Frank Muller-Karger



Margaret O'Brien



Stephen Formel (he/his)



Matt Biddle - NOAA/IOOS



Rachael Blake



Tim Van Der Stap



Jennifer Webster, NOAA NCEI

Agenda

1. Introductions for new people
2. Updates from other clusters
3. Review ESIP January meeting session for those who couldn't attend
4. Discuss feedback, especially big items:
 - a. adding introductions
 - b. inclusion of other standards
 - c. soliciting examples
 - d. describing the 'who'
5. Discuss plans and timeline leading up to ESIP July meeting.

Notes

1. Introductions for new people
 - a. No new people
2. Updates from other clusters
 - a. Marine Data Cluster
 - i. Hosted three sessions on Ocean Decade on OIS and OIH
 - ii. More detailed update next month after having some time to process the meetings
 - b. Sustainable Data Management Cluster
 - i. Steve attended one meeting, it was excellent and provided a more nuanced understanding of the CARE principles
 - c. Semantic Harmonization Cluster
 - i. Whirlwind, several sessions, still digesting
 - d. Notes from Megan to ESIP board:

<https://docs.google.com/document/d/1G7f4J6R51Y45w7QS0w2589Hul2LZcD9W2Bh51Kij1uU/edit>
3. Review ESIP January meeting session for those who couldn't attend
 - a. ESIP Meeting Highlights Webinar to be held on Wednesday Feb 21 at 4 pm ET.
Register at
<https://esipfed-org.zoom.us/meeting/register/tZwudOmgqDIjGNTDDzYtq3fhOm4>

Z_yJ62jG1#/registration. Session leaders, you'll get an email soon about presenting (2-3 min, 1 slide highlights)

- b. Full session recordings will also be available on the ESIP YouTube Channel within the next 2 weeks also.
4. Discuss feedback, especially big items:
 - a. Big Takeaway was providing more context
 - i. adding introductions
 - ii. describing the 'who'
 - iii. Adding examples/visuals
 - b. inclusion of other standards
5. Discuss plans and timeline leading up to ESIP July meeting.
 - a.

Action Items



2023-12-07

Attendance



Kyla Richards (Me)



Megan Orlando (Host)



Stephen Formel (he/his) (Co-host)



Laura Brenskelle (Co-host)



Chandra Earl



Sean Tippet



Frank Muller-Karger



Mathew Biddle



Claude Nozeres



Tim Van Der Stap



rscully




Rachael Blake

Agenda

1. Introductions for new people
 - a. Welcome Rachael!
2. Updates from other clusters
3. January meeting (<https://www.esipfed.org/meetings>)
 - a. Reminders about deadlines for registration, etc.
 - b. Any sessions/presentations we should be aware of?
 - c. Present outline and discuss (Steve)

Notes

1. Introductions for new people
 - a. Rachael Blake from Intertidal Agency
2. Updates from other clusters
 - a. MDC - Please save the date for the next Marine Data Cluster call on 2023-12-14 at 11:00 PT / 2:00 ET, for a review of instructional materials under development from Doug Fils on Structured Data on the Web and the UN Ocean Decade.
Get a sneak peek at the GitHub repository here:
<https://github.com/gleanerio/archetype/blob/master/networks/oceans/README.md>
 - b. January meeting - MDC and Semantic Harmonization cluster will be hosting 3 sessions related to the Ocean Decade.
 - i. Overview - Towards digital federations for marine data for societal benefit: Trust, pluralism, and multilateralism during the UN Ocean Decade
 - ii. Panel Discussion of Trustworthy Data Networks like ODIS for Marine Data in the Ocean Decade, e.g., ODIS:
<https://oceaninfohub.org/odis/>
 - iii. Working session to further a Trustworthy Data Network for Marine Data in the Ocean Decade
 - c. Sustainable Data Mgmt Cluster

- i. Continue developing draft of “Repository Recommendations: Implications of the CARE Principles”
 - d. Physical Sample Curation Cluster
 - i. Cluster is currently writing a manuscript on author guidelines for AGU journals.
 - ii. Also looking for feedback on this document:
 -  [ESIP_SamplesGuide](#)
 - iii. We might be asking them to present some of their work in a 2024 cluster meeting as it relates to overlap in biological data and physical samples.
 - e. ESIP Program Committee
 - i. Promoting cross-cluster collaboration
 - ii. BDS cluster may be invited to share work in the coming year, as a group that may benefit from this
- 3. January meeting (<https://www.esipfed.org/meetings>)
 - a. Reminders about deadlines for registration, etc.
 - i. Virtual Jan 23- 26
 - ii. Early registration closes Dec 22
 - b. Any sessions/presentations we should be aware of?
 - i. <https://docs.google.com/spreadsheets/d/1BFsuIOIFnnbNyMtngBOggDtOyWav3nCXMIaUqUjKKbw/edit#gid=1190381363>
 - c. Present outline and discuss (Steve)
 - i. 90 minute virtual session on Thursday @ 4pm ET
 - 1. Links
 - a. Primer [Repo](#) and [Figshare](#)
 - b. Guidelines [Repo](#) and [Draft](#)
 - ii. Intro Presentation (5-10 min)
 - iii. Feedback on [“Make your data software ready”](#) (10 min)
 - 1. Slido feedback
 - a. Slider + Free Text
 - b. Reminder that content feedback goes to github issues
 - c. Presentation
 - i. Clarity
 - 1. Do you feel like the information is clearly presented and understandable? If not, what are some things that could be improved?
 - ii. Aesthetic
























1. Do you find the current aesthetic appealing or repulsive?
 - iii. Utility
 1. In its current format, is this useful?
 2. Do you have possible testers in mind?
 3. How can we make it more findable?
 - iv. Breakouts / Development of ["PROVIDE CONTEXT AND UNDERSTANDABILITY TO YOUR DATA"](#) (60 min total)
 1. EML (20 min)
 - a. Tim van der Stap lead
 2. ISO (20 min)
 - a. Laura Brenskelle lead
 3. MixS (20 min)
 - a. Steve Formel lead
 - v. Discussion (10 min)
 1. What section would you like to see tackled next?
- d. Walk-on Topic: Update on the Data Management training in science degrees ESIP session from summer 2023
 - i. Might publish this as a group in EOS(?)
 - ii. Will not be a follow-up at winter ESIP 2024, but Steve is presenting a poster at Ocean Science in Feb 2024 to expand the conversation.
 - iii. (Megan) Might be cool to bring in the the authors of this resource, who were ESIP Community Fellows:
https://esip.figshare.com/articles/educational_resource/A_Graduate_Student_s_Road_Map_to_Data_Management_Training/14384456
 This resources shows that the call for more training is also coming from the students themselves!
 - iv. Let Steve know if you are interested in participating more on this going forward, but he will try to report on this regularly at the cluster since there is interest.
 - v. NASA TOPS training just released a curriculum for open science 101 <https://nasa.github.io/Transform-to-Open-Science/take-os101/>
 - vi. ESIP funding friday supported work with GCOOS on teaching animal tracking <https://gcoos.org/resources/for-educators/>
 1. https://esip.figshare.com/articles/poster/Animals_on_the_Move_Using_Technology_to_Track_Marine_Life_and_Understand_Environmental_Change/21918816

Action Items



2023-11-02

Attendance:

	Stephen Formel (he/his)	Mute	More ▾
KR	Kate Rose		
LB	Laura Brenskelle		
CE	Chandra Earl		
T(Tylar (USF IMaRS)		
LD	Lynn deWitt (NMFS/SWFSC)		
JB	Jen Bayer		
FM	Frank Muller-Karger		
CP	Carolina Peralta USF		
LT	Luke T	Ask to Unmute	More ▾
TV	Tim Van Der Stap		
CN	Claude Nozeres		
R	rscully		

1. Introductions to re-orient the cluster to one another (5-10 min)
 - a. What do people hope to get out of the cluster?
 - i. Make biologists better data manager
 - ii. Stay up to date on best practices
 - iii. Give back
 - iv. Take information back to their respective orgs
 - v. To learn about standards
 - vi. Interactions between humans and computers and how data standards plays into that

- vii. Interactions between experts, stewards, and users and how computers or software tools will assist (because of standards)
- 2. Cluster Logistics (10 min)
 - a. Reminder of open co-chair position
 - b. Standing item of introductions for new people
 - c. Add monthly summaries to Slack to describe what cluster is about
 - d. Agenda for next few months
- 3. Updates from other clusters (5-10 min)
 - a. Laura will attend the Physical Samples Cluster to see if collaboration with our cluster would be helpful
- 4. January Meeting Session ideas (15 min)
 - a. Proposal due Nov 13
 - i. Jen: hands on how to do things, making the primer more accessible
 - 1. Those with questions can join our Slack channel and ask more hands-on questions year-round.
 - ii. Laura: how feasible would creating a help desk for biological data be?
 - 1. Either at a biologically inclined conference or virtual office hours.
 - iii. Analysis/dashboard of new data added to various portals as a way to motivate others to use data standards (use of standardized data repositories - e.g. OBIS use cases)
 - b. Work session on Primer Guidelines
 - c. Last year we got some input from people who don't normally attend the cluster
- 5. Updates from the TDWG / GEO BON eDNA connect meeting (15 min)
- 6. Other relevant meeting:
 - a. GOOS and International Workshop: FAIR Data Practices for Ship-based Ocean Time Series – January 9-12, 2024 (BIOS, Bermuda)

RSVP: <https://forms.gle/Ko5A8rracYhTfNGy7> and [more info about workshop](#).

2023-09-07

Agenda











- 1. Poll for naming the companion product (5 min)
 - a. Winner is "Guidelines"

2. Publishing the Make Your Data Software Ready section of the primer companion product (5 min)
 - a. Switched to using Quarto for the document
 - b. Document is in the USGS publishing pipeline
3. Updates to cluster leadership (5 min)
4. Start populating Provide Context and Understandability to Your Data (45 min)
 - a. See all documents here:
<https://drive.google.com/drive/u/0/folders/1gOH-5Awm1IN2l6s59aB-CGB1gfhEJ2Pr>

2023-08-03

Attendees:

Kyla Richards

-
-  Room 2 (Host, Me)
 -  Abby Benson
 -  Tylar (USF IMaRS)
 -  Megan Carter
 -  Kate Rose
 -  Lynn deWitt
 -  Laura Brenskelle
 -  Jennifer Webster
 -  Steve Formel (he/his)
 -  Pier Luigi Buttigieg

Agenda:

1. ESIP Summer Meeting feedback on poster (5 min)
 - a. Generated strong discussion
 - b. Agreement that the gap we're trying to fill is legitimate and solutions are needed
 - c. Format was seen as a robust solution that could be copied by other communities
2. Update on publishing the best practice (15 min)
 - a. Updates to three bullets
 - i. Abby shared the three small updates we had made to the primer
 - ii. Pier asked that we reconsider calling this 'recommendations' instead of best practice, and pulled an issue so we can pursue and

document that conversation:

<https://github.com/ESIPFed/bds-primer-best-practices/issues/26>

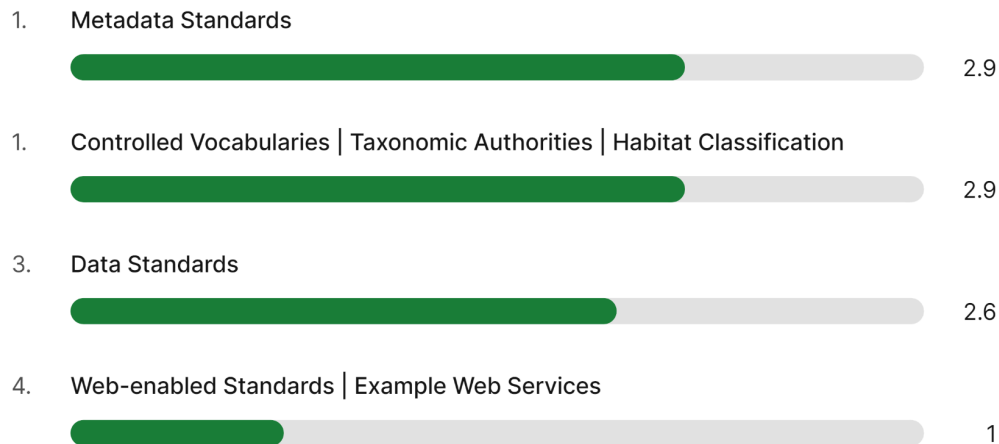
- b. Plan for authorship
 - i. For now we will keep all authors and continue to investigate ways to track membership, like a PID associated with a members list (and the pros/cons for ESIP) and eventually collapsing authorship into a cluster.
 - ii. <https://credit.niso.org/>
 - 1. In our [Semantics paper](#) we used this in an Acknowledgement section, but that doesn't help for what you're trying to accomplish (sorry!)
- 3. Planning for next best practice section (30 min)
 - a. Metadata standards will be next section per SLIDO vote
 - i. PL highlighted some recent efforts that might be useful for this conversation
 - 1. <https://zenodo.org/record/8208410>
 - 2. <https://zenodo.org/record/7682399>
 - b. The "Make your data interoperable" section should be kept together to maintain a 1:1 relationship with the primer
 - i. Likewise the section should highlight the overlap (e.g. shared schemas) rather than highlighting the dissonance and partisan nature than can sometimes exist
 - c. Web-enabled standards can be woven into the other sections as a highlight that cuts across. Just being consistent with FAIR principles and 5-star linked open data

Slido Results



Which section of the primer should we focus on to develop the next best practice document?

Ranking Poll 9 votes 9 participants



slido

2023-06-01

Attendees:



Steve Baskauf (he/him) (Co-host)

Mute M



Abby Benson



Sarah Davidson



Tylar (USF IMaRS)



stippett



Laura Brenskelle



Steve Formel (he/his)



Adrian Moore (She/Her) - USGS



Lynn deWitt



Mathew Biddle

















-  Katherine Silliman
-  Margaret O'Brien
-  Greg Baillie (ONC)
-  Tim Van Der Stap

Agenda

1. Provide time for other clusters to present updates (10 min)
2. Audiovisual Core - Steve Baskauf (30 min)
 Last meeting we presented an overview of the different cores and how they relate to each other. One core that was of particular interest to learn more is Audiovisual Core. Steve Baskauf, Vanderbilt University, will provide us with an overview.
3. Update on the plans for the best practice document (10 min)

2023-05-04

Attendees:

-  Steve Formel (he/his) (Me)
-  Abby Benson, USGS, GBIF-US, OBIS-USA (Host)
-  rachael storo
-  Tim Van Der Stap
-  Frank's Ipad
-  Mathew Biddle
-  Laura Brenskelle
-  Margaret O'Brien
-  Sean Tippet
-  Luke T
-  becca scully
-  Jen Bayer
-  Jennifer Webster
-  Errol
-  Tylar (USF IMaRS)
-  Sarah Davidson

Agenda

Meeting was recorded by Abby Benson

1. **Presentation:** Summary of the [Marine Biodiversity Data Mobilization Workshop](#) (Tim van der Stap): A group of us recently held a workshop to help mobilize marine biodiversity


data to OBIS. A similar workshop was held last year. We will hear an overview and outcomes of that workshop.

- a. Large collaborative effort with several institutions
 - b. Learner led, 8 hour workshop over two days
 - c. Overcome main blockers of time and lack of knowledge
 - d. ~ 65 participants
 - e. Catalyzed the mobilization of 56 datasets
 - f. Special session on DNA-derived data
 - g. Post-workshop survey had limited participation, but did indicated that blockers were overcome and the workshop was useful
 - h. Q&A
 - i. How do we keep up participation? How do you spread the word for subsequent workshops? How do you spread this type of effort?
 - 1. Materials and technical infrastructure is there and available
 - 2. Identify possible groups to try this out for their community (e.g. OBIS-Caribbean)
 - 3. Significantly less effort to update materials than the initial generation of materials
 - 4. Consistency will help it built steadily
2. **Presentation:** Disambiguating the “Cores” (Laura Brenskelle and Abby Benson): Last meeting there was a question on what the different cores (Dublin Core, Darwin Core, Audubon Core, Humboldt Core) mean and how they relate to each other. This presentation will give a high level overview of the purpose for these different cores and how they relate to one another.
- a. Dublin Core was the original ‘core’ metadata standards
 - b. Darwin Core is an extension of Dublin core for biodiversity informatics
 - c. Audiovisual Core (formerly Audbuon core) is metadata for multimedia (e.g. artwork, photographs, video, sound). Focused on biodiversity related multimedia.
 - d. Humboldt Core is a community developed standard for metadata about scope, method, completeness of biological inventories. Now an extension to Darwin Core.
 - e. Darwin Core has extensions: e.g. Resource Relationship, Species Distribution, Chronometric Age
 - f. GBIF is working on a new Unified Data Model to accommodate modern data types and use cases for a more complete capture of metadata.
 - g. Q&A
 - i. Audiovisual core is associated with Morphosource, among others
 - ii. Can we bring in someone to give examples and tell us about AV core?
 - iii. Humboldt core seems to be used by Map of Life, but they rely on GBIF data quite a bit. Not clear how they are Working with DwC. Should we invite these people to this group?
 - 1. These conversations happen at TDWG. This ESIP cluster is intended to be a bridge between TDWG and the US community.


- iv. If OBIS could use AV core, that would alleviate some confusion over how to work with media from ROVs, for example.
- 3. Plans for managing the GitHub repo
 - a. <https://github.com/ESIPFed/bds-primer-best-practices>
 - b. Issues will be assigned randomly

2023-04-06

Attendees: Kyla Richards



Abby Benson



Steve Formel USGS (he/his)

LB

Laura Brenskelle

Ask to Un

MB


Mathew Biddle

GB

Greg Baillie (ONC)

S

stippett



Ian Brunjes (he/him)

MO

Margaret O'Brien

LD

Lynn deWitt

TV

Tim Van Der Stap

Agenda

Provide time for other clusters to present updates (10 min)

Matthew Biddle: Marine Cluster might be presenting in summer meeting

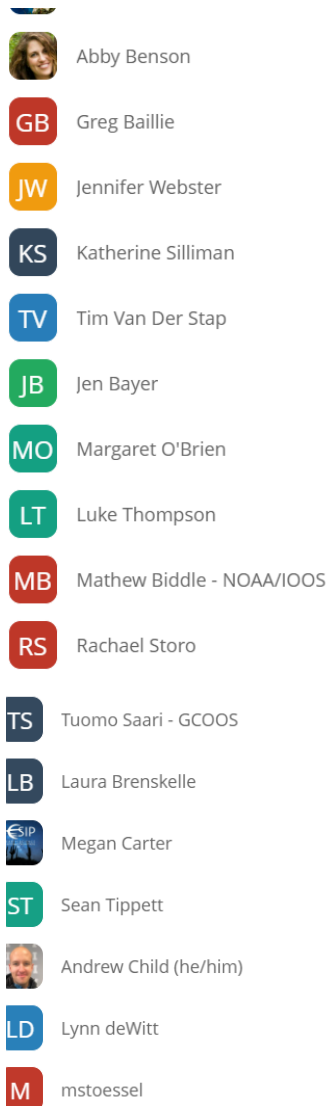
ESIP: Call for session is open for summer meeting and registration will begin next week

- Present the document - Steve (15 min)
 - a. [ESIP blog post](#) about primer
 - b. [Example development google doc](#)
 - c. [Github repo](#)
 - i. __book has the html document
 - d. Rendered html of [Section 6 \(make your data software ready\)](#)
 - e. We plan on using [issues in github](#) for development going forward
 - i. Comment issues and volunteer to resolve issues if you feel comfortable

- Discussion about the document (25 min)
 - a. Is anything major still missing
 - i. Matthew Biddle: will help getting the document onto a webpage
 - 1. <https://github.com/ESIPFed/bds-primer-best-practices/pull/17>
 - ii. Hassan: suggests every meeting spending some time resolving issues on Github
 - iii. Frank: wonders when we will get to guidance on recording of the data (e.g., aspects that are specific to biological data, like traits) and commented that maybe there should be a disclaimer stating this document for English speakers.
 - 1. Steve: the introduction could be a way to state this is for english speaker until we can get to translation
 - 2. Abby: we will tackle the data and metadata in other sections
 - 3. For translation, going to GEO-BON or RDA is probably the best solution
 - iv. Steve: adding a bibliography to the introduction so that people can do a deep dive into this topic themselves
 - 1. Also would alleviate some of the redundancy (ie, that parts of these recommendations exists elsewhere already)
 - b. Invite cluster to [provide feedback via GitHub](#)
 - i. Please start commenting feedback now
- Identify friendly reviewers (10 min)
 - a. Reviewers outside of the group
 - i. Sarah O'Connor - NOAA NCEI
 - ii. Frank: I may suggest that the group funded by FL may contact you (abby/steve) for review? (I think of their work, not of the best practices)
- Schedule a session on Web-Enabled Standards
 - i. Tim: Matt Jones from NCEAS on schema.org
 - ii. Matthew: Adam Shepard for schema.org, bco-dmo's implementation and datacite
 - iii. Stippett: Elizabeth Lawrence (head of OBIS Vocabulary Working Group at UNESCO)
 - iv. Margaret O'Brien ?

2023-02-02

Attendance: Kyla Richards, Stace Beaulieu (WHOI), Pier Luigi Buttigieg



- **Megan ESIP**
 - February 22 there will be an overview of the Winter ESIP meeting
- **Updates from other ESIP Clusters**
 - Marine Data is working on the schedule the next meeting will be February 9th
 - Welcome Rachel and Katherine
 - Welcome Tuomo
- **Review feedback from Winter meeting session**
 - We are building best practice documents for the primer
 - Primer link:
https://esip.figshare.com/articles/online_resource/Biological_Observation_Data_Standardization_-_A_Primer_for_Data_Managers/16806712
 - Session was on Friday and it was a small group, we worked through each best practice together and received good feedback. These can be found in the google document

- Adding context to the links provided in the best practices document was a main take away on how to improve the document
- Identify next steps
 - Go through the comments made on the best practices and see what we would like to incorporate into our best practice documents
 - Publish in ESIP
- Google Doc links
 - **Use non-proprietary formats**
 - **Structure data in tidy/long format**
 - **Follow ISO 8601 for dates**
 - **Match scientific names to a taxonomic authority**
 - **Record latitude and longitude in decimal degrees in WGS84**
 - **Use globally unique identifiers**
- Wrap up and next meeting March 2, 2023

2022-12-01

Attendance: Jennifer Webster (NOAA), Rebecca Scully (USFWS)

Final participants



Robert McGuinn (Me)



Room 2 (Host)



Megan Carter (Co-host)



Tylar | IMaRS | USF



Jen Bayer



Mathew Biddle



Tim Van Der Stap



Jennifer Webster



Errol Ronje



Abby Benson



Steve Formel



Margaret O'Brien



Sean Tippet



becca scully



Nastassia Patin

NOTES

- Megan: ESIP Jan meeting
 - <https://2023januaryesipmeeting.sched.com/> (fully virtual, registration open now)
- AGU in a week and a half
 - Come see us at the [Open Science & Data Help Desk](#) (Exhibit Booth #1901)
 - Join us at [Ignite@AGU](#)
- New class of ESIP Fellows
- Kyla Richards (ESIP Fellow) - Pathways Intern USGS. Genetic diversity in seagrasses.
- Steve Formel (USGS)
- Tim Van Der Stap - data mobilization efforts (HAKAI), UN Decade.

- Laura Brenskelle
- Year ahead brief (Abby) - see slides.
 - Decision tree ended up being the Primer
- Connectivity across ESIP.
- Introduction of brainstorming activity.
- Hassan Moustahfid: On "Make your data software ready" is there any discussion with ESIP AI Ready. https://wiki.esipfed.org/Data_Readiness or Data readiness
- Tim Van Der Stap: Would this perhaps also be of to document for the OBPS?
- Matt Biddle: Simple links to data management resources for scientists. AGU involvement. Session next Thursday, Open Science and Marine Data.
-

2022-11-03

Attendance

Stephen Formel, Abby Benson, Gregory Baillie, Erin Satterthwaite, Lynn deWitt, Jen Bayer, Robert McGuinn, Tim Van Der Stap, Laura Brenskelle, Megan Carter, Sean Tippet, Rebecca Scully

Agenda

1. Welcome & ESIP announcements (5 mins)
 - a. ESIP sessions are due Nov 11th. We will be working on one in this cluster for the winter meeting in January.
 - i. https://docs.google.com/document/d/11LWiAD94Qft7_UA7kxtHoGAoB7XmjEijP879yn5YDBQ/edit
2. Presentation and discussion about the year ahead (20 mins)
 - a. Steve Formel has joined Abby at USGS and is actively supporting the cluster
 - b. Reminder of cluster problem statement and cluster success criteria
 - i. improving widespread use of bio data standards
 - c. At the initial cluster workshop we identified low hanging fruit
 - i. The primer evolved from this
 - ii. Best practices and more education were also high on the list
 - d. 4 community generated themes
 - i. Increased awareness and interest in standards
 - ii. create shared vision around standards
 - iii. provide opportunities for knowledge sharing and coordination
 - iv. provide connectivity across ESIP
 - e. What's next? Extension of primer
 - i. Refined cluster goals
 1. Help people choose which standards to use

2. increase buy-in and agreement among data managers on what are the 'best practices'
 3. Target audience are data management novices
 - ii. Extend usefulness of primer by creating best practice guidance
 1. needs template and content
 - a. could include value proposition
 - b. key information
 - c. references list
 2. Result in a modular suit of best practice docs
 - f. Open Discussion
 - i. LD: sounds very organized and worthwhile. But, should our audience include old data managers who are not up-to-speed with standards/contemporary standards?
 1. Yes. The audience should include anyone who has biological data that isn't FAIR.
 - ii. AB: An important distinction from the primer is this target is the people with hands on the data, vs supervisors/managers of projects.
 - iii. RM: These meetings should be useful and be a product of our work. Does this seem worthwhile?
 - iv. GB: Are there currently a fixed number of standards that we're going to point people toward?
 1. Yes, the [primer](#) provides a narrow list of standards. But it can be expanded.
 - v. SF: We are trying to find a balance point between the minimal detail of the primer and deep knowledge. We should also consider how we will build this. Something like Bookdown or Latex + github might allow us to collaborate outside of this meeting.
 - vi. What is value proposition? Explanation of why you would use this standard, or facet of standard.
3. Idea brainstorm activity (20 mins)
- a. [Notes](#) template
 - b. Example: Non-proprietary formats
 - c. Important point that a value proposition articulates a clear understanding of the unique value your project delivers to your users or stakeholders. Getting this right requires starting with a hypothesis about what users like and need from you, testing it, and making choices about which directions to pursue.
 - i. So we need to think carefully about endpoint
 - d. We will try to work our brainstorming sessions into coherent statement
 - e. Example: Tidy/long formats
 - i. Should remember that this might not always be the most useful format for your personal needs but it's important to be able to transform to tidy for export to standards and sharing
 - f. What should final form be?

- i. ½ page is too long? too short?
- 4. Wrap up & next meeting on December 1, 2022 (5 mins)
 - a. Erin Satterthwaite is transitioning off cluster leadership at end of calendar year
 - b. Is there anyone interested in taking her place?
 - i. Time commitment is not large

2022-08-04

Attendees:

Erin Satterthwaite
Matt Biddle
Tylar Murray
Megan Carter
Laura Brenskelle
Sean Tippet
Ore Solanke
Lynn DeWitt
Steve Formel
Heather Benway
Pier Buttigieg
Margaret O'Brien

Welcome & ESIP announcements (5 mins)
Summer meeting highlights from the cluster? (10 mins)
Discuss next steps for the cluster (30 mins)
Open mic on synergistic activities (e.g., METS RCN, etc.) (10 mins)
Wrap up & next meeting on October 6, 2022 (5 mins)

Megan

- August 17 meeting wrapup (2 min, 1 slide)
- <https://www.esipfed.org/webinars>
- ESIP fellows.

Matt

- ESIP Summer Meeting: Tuesday: Building a thriving open science community.
 - Mind mapping activity to figure out where things are going next.
 - Maybe we could use a mind-mapping meeting.
 - Good strategies.
 - See email blast for links.

- jamboard mind mapping activity - https://jamboard.google.com/d/1cfimdLubVwVjYwn_Q1exG3q_7EUmJei_nh_zVeIMavg/viewer

Steve

- Standards for physical samples.
- Citations are becoming a bigger deal.

Megan

- Research Artifact Citation Cluster
- but also there is a Physical Samples Cluster that was focusing on sample citation - I think that's actually what you're referring to!
- <https://sched.co/12etP>

Steve:

- Plenary speakers

Next steps to the cluster

- Primer
- Videos/meeting on items on primer
- Details on the standards / repositories so people can make decisions on them.

Pier

- Are you being fair.
- Trying to reconcile earth systems stuff with biological standards reconciliation.
- MoU between earth and biological systems sizes
- CF and CMECS within biological standards.
- Whole Ocean: UNESCO: DRAFT don't share: <https://oih.staging.derilinx.com/>
- Overlap with schema.org.

Matthew

- Hesitant to put what standards are, based on competition.
- Very hard conversation, and you might not find the end of it.
- Marine Data Cluster: Here is a list of vocabularies. Figures out which ones are best is a hard thing to do.
- example, <https://github.com/ESIPFed/marinedata-vocabulary-guidance>

Sean T.

- Tool tips page? Unique SWOTs for each.

Steve

- How you pick your own winner?
- If you are totally naive, you need an entry point.
- What is your community using?
- Guidance towards your personal situation. And the decision tree for picking the right.

Lynn

- Expanding the primer.
- Do a SWOT analysis of each biological standard.

Erin

- Flow chart as a process and as an advisory team.

Matt

- What about making some use cases as appendixes to the primer?

Pier

- Greater interoperability between earth sciences and biological sciences.
- I also feel this cluster need not be so passive - the Earth Science community needs change

Erin

- Do any of these stand out as being useful to work on?

Matt

- The Primer itself is useful.
- Look to get feedback on the Primer.
- Primer itself has been useful.

Steve

- Constrained by governing requirements.
- Helpful at higher levels for integration and details. Manager vs. Doer vs. Policy Maker.

Erin

- Audience piece is important.

Robert

- See <https://www.ala.org.au/>
- NOAA Deep Sea Corals database in the Marine Biodiversity Observation Network portal <https://mbon.ioos.us/#metadata/415c622b-d513-4f7e-bf27-a128f54ee68f/bc9ef62e-dc2d-48d6-ab3e-9f3ddae383cf>
- Slack team.

Heather Benway

- METS ecological time series ECN
- Common set of standards for metadata reporting for biological community.
- Margaret and Erin.

- Special Session for Ocean Best Practices.
- “You all need to adopt this standard”. Decision making roadmap.
- Data science community should converge.
- Nutrients, pigments, biological diversity groups.
- Biological data community. Pick a core set of parameters.
- Ocean Best Practices groups.
- Make this work for the ship-board community.

Margaret O.

- Darwin Core Archive creation.
- Lookup or map up. (Cindy Chandler)
- Most of metadata systems will allow connection to external vocabularies.
- Squeaky Wheel conversation
- Upcoming conversation at Ocean Best Practices.
- <https://www.oceanbestpractices.org/community-engagement/workshops/>

Laura B.

- Could you place Information about Ocean Best Practices onto Slack?

Megan

- Good questions today!
- Work aides
- Other clusters
- <https://esip-slack-invite.herokuapp.com/>

Chat

Sean Tippet:

- I'm sorry I didn't attend the ESIP meeting this time, but am all ears!

Megan:

- Research Artifact Citation Cluster
- but also there is a Physical Samples Cluster that was focusing on sample citation - I think that's actually what you're referring to!

Matt

- What about making some **use cases as appendixes to the primer?**















Sean T.

- Yes to use cases - it keeps things objective while allowing users to relate to their unique requirements

Laura Brenskelle

- Could you post more information about this special session in the bio-data Slack?
-

2022-07-07

Find a participant	
	Robert McGuinn (Me)
	Abby Benson (Host)
	Lynn deWitt
	Alexa McKerrow
	Kate Rose
	Rusty Griffin
	claudenozeres
	Margaret O'Brien
	Stace Beaulieu
	mstoessel
	Megan Carter
	Sean Tippet
	Becca Scully
	Pier Luigi Buttigieg

Habitat classification standards meeting

- Megan (ESIP): July meeting coming up!
- Abby Benson : Welcome and introductions.
- Kate Rose (Northern Gulf Institute)
 - CMECS Implementation Group

- CMECS: whole ecosystem classification where biological data in one component.
- Set of defined terms that are hierarchically organized.
- Place biological communities within an ecological context.
- Biological setting (eg. faunal bed)...down to representative communities.
- Communities within their ecological function (non-taxonomic)
- Unique: Not just a taxonomic definition- Ecological context.
 - Water column components can be tied in.
 - CMECS is much more expansive than a biological component.
- Limitations:
 - Allowance for ambiguity can lead to problems/issues for implementation.
 - CMECS can be used.
- LINK for CMECS:
- Abby: Does it go into the rocky intertidal?
- Kate: Heads of tide to splash zone to full ocean depth / great lakes.
 - Alignment with NWI was worked on.
 - National Vegetation Classification
 - Similarities to ease translation from land to sea.
- Stace: I'm liking the biotic groups. A way to talk about communities or organisms.
- Kate: It is a controlled vocab, but also relationships between different components. (eg. shoal + sediment classification)
 - Picklist with metadata.
- Alexa McKerrow (National Vegetation Classification Standard)
 - Dominant and diagnostic species.
 - ESA veg panel is science oversight
 - FGDC veg subcommittee.
 - Dynamic content is peer reviewed
 - 8 level hierarchy (forest to association)
 - Overstory and understory.
 - CMECS overlap.
 - NPS has used this. Each of 270 units have been mapped.
 - Classifications specific to parks.
 - LandFire program has a National Map.
 - NVC group level mapping.
 - State Heritage Programs
 - Gap Analysis Program.
 - Group level types.
 - Forest Inventory and Analysis Program.
 - Linking to the plots/types
 - Unique:
 - All veg types
 - It is hierarchical (down to association level)
 - NVC trying to bridge the gap between (common language across
 -

- Limitations:
 - Not same level of data
 - Not enough information about dominant species.
 - Coherent community.
- Pier: Each term with link?
- USNVC.org
- Pier: Links to other semantic infrastructure.
- Rusty Griffin (Fish and Wildlife Service)
 - National Wetlands and Deep Water Classification System (Cowardin)
 - Intermittent streams to deep water.
 - Medium resolution
 - Wetland Mapping Standards protocol.
 - Around since 1979.
 - Short hand key is available (eg. PEM1a
 - FGDC (2013).
 - How flexible it is.
 - 8000 codes used currently. (could be more combinations)
 - CCAP uses this.
 - 30m pixels down to field services.
 - Limitations:
 - Limitations on data available
 - Freshwater tidal in Alaska wetlands. Limitations.
 - Limitations in mapping portions
 - Overlapping with CMECS.
 - Pier: mapping codes to wetland descriptions.
 - Code system is so large (too large to put online)
 - Pier: good to have web links to them and it helps the interoperability push.
 - Rusty: what would you want it to look like.
 - Pier: Talk off line discussion. Dereferencable public resources (IRI)
- Discussion:
 - Lynn:
 - It really helps to have an API.
 - Helps to have the standard code.
 - Rusty: ArcGIS tool and lookup table is available.
 - Public information vs. science folks.
 - Pier: expose the guts of things.
 - Kate: accept and adjudication of new suggestions not too formal.
 - Alexa: ESA veg panel. Editor and chief role. Works with regional groups to make sure they make sense. Group of regional editors and associate editors. Peer review process of proposed chains.
 - Plan for 2023 edition
 - 2008 new hierarchy proposed and established.
 -
 - Rusty:

- May 1 and Oct 1
- Wetland mapping standard: review of data before publication.
- FGDC formalized classification system.
- Review possible for 2023.
- Not changing things
- Abby: How would you update in Alaska?
- Hard to come up with class for each and every instance.
- Classification and mapping standard are co-dependent.
- Lots of Alaska mapping effort going on now.
- Kate: use of “provisional unit”. Need to spell out.
- Abby: How might invasive species affect the standard?
 - Rusty: Phragmites example (added class). Reed Canary grass. Tamarisk in west. Another subclass to be added. Minimum mapping unit is
 - Alexa: New types can be added to the classification.
 - When do you go out of a native type to a new type.
 - Chestnut forest does exist anymore.
 - We can add types.
 - Kate: cannot interact with data types in an automated way.
 - Rusty: “flexibility has a cost”
- Pier: Semantic harmonization. Takes a lot of effort. Harmonization should be done earlier than later. How can ESIP help? DarwinCore and MiXs. Competing standards cause choosing. TDWG executive board.
- Abby: Some overlaps are happening
- Kate: Some of the overlap is informal. Formal process.
- Rusty: FGDC was made to help manage overlaps.
 - Cowardin (NWI) to CMECS standard.
-

Chat log:

Megan Carter To Everyone

2:02:25 PM



<https://2022esipjulymeeting.sched.com/>

Stace Beaulieu To Everyone

2:05:34 PM

SB

Is there a good link to explore the CMECS terms?

I found PDF dated 2012

<https://coast.noaa.gov/data/digitalcoast/pdf/cmecs.pdf>

Pier Luigi Buttigieg To Everyone

2:13:11 PM



sorry, just got back from travel and joined, so this may have been answered already : is the update and review process formalised?

Kate RoseToEveryone

2:19:14 PM

KR

NCEI CMECS webpage:

<https://www.ncei.noaa.gov/products/coastal-marine-ecological-classification-standard>. There are links there for the CMECS document under the Vocabulary tab, as well as information about the CMECS Update process

Rusty GriffinToEveryone

2:28:35 PM

RG

<https://www.fgdc.gov/standards/projects/wetlands/nwcs-2013>

Pier Luigi ButtigiegToEveryone

2:31:33 PM



basically an IRI or URI like this : http://purl.obolibrary.org/obo/ENVO_01001385

(an ENVO casting of a CMECS term)

Mention of

WoRMS is interesting. They do traits—opposite of CEMECS?

<https://www.marinespecies.org/news.php?p=show&id=9034>

claudenozeresToEveryone

2:34:29 PM

C

Started with this: <https://arctictraits.univie.ac.at/>

And here is an example. I chose the taxon Polydora because I find a Biotic Class of this in CEMECS: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=129619#attributes>

Rusty GriffinToEveryone

2:36:37 PM

RG

Just a few resources we provide.

Here is a python toolbox to help query NWI data by classification.

<https://www.fws.gov/program/national-wetlands-inventory/gis-tools-and-resources>

Lots of info regarding code definitions..

<https://www.fws.gov/program/national-wetlands-inventory/classification-codes>

[Pier Luigi Buttigieg](#)ToEveryone

2:42:32 PM



Thanks Alexa - the hierarchy logic can really be a tricky issue when it's tied to an application scenario

[Kate Rose](#)ToEveryone

2:43:14 PM

KR

@Claude, the definitions for Biotic Communities in CMECS are very general and don't include the taxonomy

[claudenozeres](#)ToEveryone

2:43:50 PM

C

p.290 of the document

[Pier Luigi Buttigieg](#)ToEveryone

2:43:53 PM



many standards change frequently - the key is to have that process of change standardised too, and the changes somehow automatically detectable / pushable to downstream systems

[Stace Beaulieu](#)ToEveryone

2:50:20 PM

SB

With regard to Darwin Core which is used to report 'biodiversity data' to GBIF and OBIS, I am thinking that all 3 standards could be used in the 'habitat' term... but how to declare what vocabulary was used. Is there a habitat URI term in Darwin Core?

Biotic observations can be very precise. Habitat classification is broad?

[Pier Luigi Buttigieg](#)ToEveryone

2:52:30 PM



@Stace - that's the value of having dereferenceable URIs for each term/class that have either kernel information describing the collection it's from or are linked to the URI/IRI of the resource you then don't need to declare it in the structure of a DwC record

you then don't need to declare it in the structure of a DwC record

[Sean Tippet](#)ToEveryone

2:55:20 PM

ST

@Stace, I believe you could declare the "habitat" as a measurement or fact in an eMoF extension in DwC-A, then you could have the IRI to the term listed in the same row under the measurementTypeID field

[Kate Rose](#)ToEveryone

2:55:34 PM

KR

@Claude, if you'd like to email me with a follow up question: kate.rose@noaa.gov

[Stace Beaulieu](#)ToEveryone

2:55:53 PM

SB

Thanks :)

[Pier Luigi Buttigieg](#)ToEveryone

2:56:00 PM



are these standards hosting authoritative mappings to one another / other resources out there?

[mstoessel](#)ToEveryone

2:59:01 PM

M

Thank you. Have leave.

[Pier Luigi Buttigieg](#)ToEveryone

3:00:43 PM



worth checking out how we do that in semantic harmonization :)

[Stace Beaulieu](#)ToEveryone

3:01:30 PM

SB

Thanks again to Abby, Cluster Co-Chairs, and presenters today, bye 'til ESIP Meeting

[Pier Luigi Buttigieg](#)ToEveryone






























3:01:35 PM



we use SSSOM <https://mapping-commons.github.io/sssom/tutorial/>

Who can see your messages? Recor

2022-05-05

RM	Robert McGuinn (Me)	Unmute	More ▾
SIF	Abby Benson (Host)		 
LD	Lynn deWitt		
TV	Tim Van Der Stap		
CN	Claude Nozères		
	Erin Satterthwaite (she/her) CalCOFI		
	Megan Carter		
FM	Frank Muller-Karger		
MO	Margaret O'Brien		
SD	Sarah Davidson		
JW	Jennifer Webster		
ST	Sean Tippet		
HM	Hassan Moustahfid		
T(Tylar (helper) - MBON + USF IMaRS		



Claude Nozères



Megan Carter



Frank Muller-Karger



Margaret O'Brien



Jennifer Webster



Sean Tippet



Tylar | MBON + USF IMaRS



Jennifer Webster



Sean Tippet



Emilio Mayorga

Also Pier. Luigi.

- Opening/pre-meeting:
 - How about reaching out to the deep ocean community. (DOOS): Frank and Stace. Talk to Simone Baumann-Pickering sbaumann@ucsd.edu. Leslie Schmidt. See Erin's project on eDNA, etc.
 - Planning for summer meeting.
 - We will not be hosting a Biological Cluster meeting session this summer meeting.
- 1. Overview of progress so far with the Primer
 - a. Sent to our networks and got feedback
 - b. Review [comments](#) brought forward
 - c. Questions for discussion & Clear steps forward on changes
 - i. Should we add links to resources (e.g., structure data in long format)? If so, what should we link to?
 1. Lynn D: Link to [interactive page](#)? Maintaining two versions might be a problem.
 2. Frank: We don't really guide or create a decision tree just yet. Could go a little deeper with an [interactive page](#).
 3. Sean: I think it depends mostly on what *formats* are we *distributing this primer*? I think having a *key with a separate page for URLs* would

be more appropriate if, for example, we dedicate a back page for them with numbered references on the front end

4. Abby: video sessions are a companion product.
 5. Lynn D: People can do their own research, so we should not feel obligated to provide all.
 6. Erin: Pipeline where people could provide resources. Framework for community input. Community generated.
 7. Megan: Don't forget the wiki.
 - a. Low barrier to entry.
 - b. This is an example of a cluster who uses the Wiki a bit more: https://wiki.esipfed.org/Information_Quality
 - c. Example of a more extensive resource hosted on the Wiki: https://wiki.esipfed.org/Attribute_Convention_for_Data_Discovery_1-3
 8. Lynn: Back on the first discussion, does the primer exist somewhere else besides at the ESIP link in the agenda? On that page it wasn't clear to me that if you "download" it then the links would work.
 9. Abby: Links don't work from figshare. Canva public won't work.
 10. Megan: we could add a note with links to the page.
 11. Frank: you could embed with links?
 12. Megan: The links should work if you download. I have published things like it there before with embedded links.
 13. Megan: Links can also be added as related references, so they would appear at the bottom of the page (if Abby scrolls down)
 14. Megan:
https://esip.figshare.com/articles/online_resource/Virtual_Data_Help_Desk_Planning_Guide/19674579
 15. Tylar: Rmarkdown to Blogdown
 - a. Also see Quarto (<https://quarto.org/>)
- ii. Should we add Catalog of Life and Paleobiology Database to Taxonomic Authorities? Should we add Audubon Core to Standards?
1. Margaret O.: EML2.2 records. Link to authorities for taxonomy. Specific resource for a specific identity. Margaret has a list of those that are most simple to use and generate a URL for a landing page. Margaret to send link to Abby. I don't seem to be able to copy from the git issue. The list is here: <https://github.com/PASTaplus/DataPortal/issues/7>
 2. https://us02st1.zoom.us/web_client/1q1nf58/html/externalLinkPage.html?ref=https://docs.google.com/spreadsheets/d/14UV2TREuDYj90Xk7RAqINuQeFN7QOY3fZYbt5NRKwAM/edit
 3. Abby: we will add Catalog of Life and Paleobiology Database.
 4. Claude Nozères: Catalogue of Life is a good idea--should cover all, and is linked to others (WoRMS, ITIS). Data on OBIS, however, is special. Unlike GBIF, OBIS requires a taxonomic authority? But GBIF

has their own backbone? This is why we had the recent surprise that 'Biota' was a top-level for organisms in WoRMS and Catalogue of Life, but not available in GBIF.

<https://www.catalogueoflife.org/data/taxon/5T6MX>

- iii. Should we make this updatable/interactive? For example, should we put this document on Github so it's updatable (and then we could publish a new version each year with the contributors as additional authors)?
 1. Can you start using **version numbers**?
 - a. Yes, there is a version number in the metadata, but we can add to the title as well - the DOI will always resolve to the latest version.
 - b. If you do go the GitHub route, ESIP also has a GitHub repository - if you want this to continue to exist/be worked on in the ESIP-sphere, I can help you get access.
 - c. Might be nice to correlate with an ESIP Meeting
 - d. That would be in line - Octoberish before January Meeting
 - e. +1 to be in the ESIP GH space
- iv. Should "Share your data on the web" be changed to something else since "example repos" in other sections allow users to share data also?
 1. How to allow people to easily access data as opposed to a repo (where you store your data)
 2. Applications that are better suited to visualize the data
 3. ERDDAP services vs. archival/repository that may be less accessible.
 4. API level accessible programmatically vs. repository.
 5. Hassan: basic requirements vs. all the way to AI ready.
 6. Erin: storage vs. accessibility.
 7. Erin: maybe make uses a bit more clear.
 8. Hassan: well documented and quality control is the first step.
 9. Sarah Davidson: Use *disciplinary repositories when they exist*. GBIF is doing this for you! Set up your data ingest framework that it can be ingested to GBIF.
 10. Tylar: This outlines all of the available options. Maybe the first step is to get in touch with the specific disciplinary.
 11. Becca: More details about different repositories. Building it into a document. Costs, benefits, and barriers to entry. How to link regional & local data systems?
 12. Tylar | MBON + USF IMaRS: I would love to see a spreadsheet of "places to publish your data"
 13. Link to the paper Abby just mentioned:
<https://academic.oup.com/bioscience/article/67/12/1044/4430265>
 14. Frank: I wonder how many *biology textbooks and biology core courses for undergrad and grad programs use resources that talk about data standards*

15. Erin: focus on what web-enabled standards enable you to do. - maybe something like "make your data internet ready"?
16. Abby: what do web-enabled standards do that other repositories may not allow.
- v. Design – Do we like the icons/graphics and want to keep? Do we like the colors? If not, what colors should we adjust to?
 1. Pier: visual communication of overlap to samples cluster and other geophysical realm. Making linkages are important. Strategically it is also important. Digital twinning of the ocean. Biodiversity data into ocean monitoring. Bridge earth science to geo-sciences.
<https://www.g7fsoi.org/digital-twin-ocean-summit/>
 2. Special projects funding (Megan).
2. Plans for publishing version 2
 - a. We will plan to make above changes that the cluster agrees on and publish a second version
 - i. Abby: possible yearly update?
 - ii. Frank: review on an ongoing basis and make changes once a year with emergency.
 - iii. Tylar: use semantic versioning.
 - iv. Pier: Continuous public review. Post to issue tracker/spreadsheet.
 - v. Aiming for October as an update (at Ocean Best Practices meeting)
 - vi. Frank: Maybe requirements could be right at the top. These are requirements as well as best practices.
 - b. Do we want to update this on a regular basis? If so, how and how often?
 - i.

Pier: Darwin Core and MiXs alignment. TDWG and GSC. RDF and web-accessible formats. Fields in MiXs space. Substitute with earth science identifiers. This bridge is being build. Bridge to be built.

Abby to email (free beer)!

Would be good to hear Pier Luigi about the digital twins requirements to drive standards - next time?

2022-04-14

Attendees: Abby Benson, Robert McGuinn, Megan Carter, Roy Lowry, John Wieczorek, Todd O'Brien, Ben, Stace Beaulieu, Lynn DeWitt, Mathew Biddle, Tylar Murray, Carolina Berys-Gonzalez, Emilio Mayorga, Diana LaScala-Gruenewald, Steve Formel, Riley Young Morse, Megan McKinzie, Pier Luigi Buttigieg, Laura Brenskelle, Marion Stoessel, Jonathan Blythe, Hassan Moustahfid

Agenda:

1. Data Standards Panel
 - a. Darwin Core - John Wieczorek
 - b. Climate and Forecast - Roy Lowry
 - What is the best/most common use case for this standard for biological data?
 - What does this standard uniquely offer for biological data that other standards don't?
 - What are the limitations of this standard for biological data? What doesn't it cover?
 - c. Discussion
1. 2022 ESIP Summer Meeting Session - didn't really get a chance to cover

Notes:

- John:
 - Overview of Darwin Core model
 - Darwin Core facilitates nested observations
 - Mostly for biodiversity observations (I thought I heard that?)
 - Limitations:
 -
- Roy
 - Overview of CF
 - CF works really well with gridded data
 - CF uses feature types (time-series, trajectory, grid) to organize data around
 - Intrinsically tied to netCDF - some barriers to entry there for bio folks.
 - Discussed the need to identify what the end goal is for the data, in some cases CF is appropriate and others Darwin Core is. (eg. biodiversity data is a shoe in for Darwin Core, whereas model output is a shoe in for CF).

Chat:

09:04:36 From Megan Carter to Everyone:

More info about the ESIP July Meeting: <https://2022esipjulymeeting.sched.com/info>

09:13:49 From John Wieczorek to Everyone:

Darwin Core Quick Reference Guide - <https://dwc.tdwg.org/terms/>

09:14:31 From John Wieczorek to Everyone:

"Diversifying the GBIF Data Model" - <https://tinyurl.com/diversifying-gbif-data>

09:21:38 From Todd OBrien to Everyone:

Are there slides on the screen? (Is my zoom broken?)

09:22:10 From Mathew Biddle to Everyone:

@Todd, no slides.

09:22:12 From Megan Carter to Everyone:

No slides.

09:22:22 From Abby Benson, USGS to Everyone:

No slides :-). We wanted to keep it the same as the Winter Session where we did not have slides for the metadata standards either.

09:24:32 From Diana LaScala-Gruenewald to Everyone:

I haven't really worked with CF yet. Do folks have favorite resources for learning about it and how to use it?

09:25:49 From Laura Brenskelle to Everyone:

Seconding Diana's question. I'd be interested in those resources as well.

09:26:06 From Mathew Biddle to Everyone:

Documentation, of course: <https://cfconventions.org/>

09:28:09 From Stace Beaulieu @ WHOI to Everyone:

Thank you both John and Roy. I really appreciate your expertise and perspective. In general I have been recommending the use of DwC for datasets with named taxa, while recommending CF for environmental and model data. What's challenging is in-between: such as datasets for functional groups (e.g., eukaryotic picophytoplankton), and model data for named taxa...

09:30:49 From Diana LaScala-Gruenewald to Everyone:

Yeah, Stace, I feel like biology is increasingly headed in the direction of trying to produce datasets that are extensive in both space and time. So it's interesting to think about how we might need to handle taxonomic data in those cases.

09:33:46 From Mathew Biddle to Everyone:

NCEI has some: <https://www.ncei.noaa.gov/netcdf-templates>

09:35:39 From Mathew Biddle to Everyone:

IOOS expands on NCEI's template: <https://ioos.github.io/ioos-metadata/>

09:36:03 From Laura Brenskelle to Everyone:

Thanks, Mathew, for the links.

09:36:21 From Diana LaScala-Gruenewald to Everyone:

Thanks Matt!

09:37:01 From Mathew Biddle to Everyone:

There are also compliance checkers (eg. <https://compliance.ioos.us/index.html>)

09:42:52 From Hassan Moustahfid to Everyone:

@ Roy, I think we started this discussion a few years ago with Philip Goldstein if you remember. but can't recall we solved that. We stopped addressing this at the Webservice (e.g. ERDDAP etc.).

09:44:09 From Abby Benson, USGS to Everyone:

<https://github.com/cf-convention/cf-conventions/issues/309>

09:44:27 From Mathew Biddle to Everyone:

Section of the CF documentation wrt taxon names:

<https://cfconventions.org/Data/cf-conventions/cf-conventions-1.9/cf-conventions.html#taxon-names-and-identifiers>

09:44:53 From Diana LaScala-Gruenewald to Everyone:

Are CF standard names used as part of other standards? I feel like they come up pretty frequently.

09:45:12 From Hassan Moustahfid to Everyone:

@ Roy, following on my comment. if I remember we used CF for georeference, time, altitude and depth and leave DwC to capture the taxonomic and other bio data. This is what I had to confirm with you again few min ago.

09:49:09 From Hassan Moustahfid to Everyone:

@Pier, Maybe I will leave it to Webservice to deal with it. as I said we did well with ERDDAP. force the space and time and maybe depth and altitude to help with integration between env. data and Bio.

09:51:15 From Hassan Moustahfid to Everyone:

@ Roy, will be interested to learn more about Nansen work. I have been in the Nansen program for years and I may be helpful to help.

09:52:30 From Mathew Biddle to Everyone:

@Hassan:

<https://github.com/cf-convention/discuss/issues/150#issuecomment-1099256999>

09:52:36 From Pier Luigi Buttigieg to Everyone:

we should set up a GSC-TDWG-CF task group to sort out the environment / biodiversity integration - it's getting pretty convoluted these days

09:52:50 From Roy Lowry to Everyone:

<https://github.com/cf-convention/discuss/issues/150#issuecomment-1099143440>

09:52:54 From Pier Luigi Buttigieg to Everyone:

part of that is the confounding of the data model and semantics

09:53:36 From Roy Lowry to Everyone:

URL was Nansen legacy Standard Name discussion.

09:53:58 From Pier Luigi Buttigieg to Everyone:

the ESIP semantic harmonization cluster can help with that to cross link NERC VS to SWEET and ENVO so we cover different levels of semantic expressiveness

09:54:10 From Hassan Moustahfid to Everyone:

Thanks Matt

09:54:16 From Hassan Moustahfid to Everyone:

Thanks Roy.

09:54:21 From Mathew Biddle to Everyone:

Thanks, Roy and John!

09:54:34 From mstoessel to Everyone:

Thank you !!

09:54:37 From Stace Beaulieu @ WHOI to Everyone:

Thanks everyone!

09:54:38 From Laura Brenskelle to Everyone:

Thank you!

09:54:46 From Becca Scully to Everyone:

Abby summer session idea is an interesting idea. There are some examples in other fields like water quality in the EPA funding proposals

09:54:50 From Megan Carter to Everyone:

Yes, this afternoon at 2 pm ET. Find connection info at esipfed.org/telecons

09:55:00 From Pier Luigi Buttigieg to Everyone:

thanks Roy, John, and the Cluster for organizing!

09:55:41 From Hassan Moustahfid to Everyone:
Matt. this link is broken. <https://compliance.ioos.us/index.html>)
09:55:51 From Diana LaScala-Gruenewald to Everyone:
Thanks John, Roy, and Abby!
09:55:55 From Megan Carter to Everyone:
Thank you everyone!
09:56:00 From Mathew Biddle to Everyone:
remove the ")"
09:56:03 From Carolina Berys-Gonzalez to Everyone:
Thanks all
09:56:19 From Hassan Moustahfid to Everyone:
aH i SEE THERE IS) ADDED. FIXED

2022-02-03

Attendees: Abby Benson, Pier Luigi Buttigieg, Bradley Ennis, Dennis Walworth, Mathew Biddle, Bradley Ennis, Sean Tippet, Megan Carter, Tim Van Der Stap, Diana LaScala-Gruenewald, Lynn Dewitt, Erin Satterthwaite, Tylar Murray, Frank Muller-Karger, Robert McGuinn

Notes:

2021-11-04

Attendees:

- Robert McGuinn
- Abby Benson
- Diana LaScala-Gruenewald
- Gary Berg-Cross
- Becca Scully- USGS
- Dellena Bloom
- Sarah Davidson
- Frank Muller-Karger
- Margaret O'Brien
- Lynn deWitt
- Susan Shingledecker
- Jonathan Blythe
- Sean Tippet
- Allison Mills
- Stace Beaulieu
- Lindsay Barbieri

NOTES

- OBIS eDNA Webinar Recording: https://www.youtube.com/watch?v=KKh_Hd8zybs
- Link to Google Drive with Dataset: eDNA Practice:
https://us02st1.zoom.us/web_client/5g6glw/html/externalLinkPage.html?ref=https://drive.google.com/drive/folders/1b9khAIDeCH9v0ihyQ8IIDoT8Iy8BDZXU?usp=sharing
 - a. **Metadata table:** about the samples (primer, where taken, location, etc)
 - i. samp_vol_we: questions about this (unique value: 1000ml, 100ml). Frank MK sample. What is the sample representative of? We should
 - b. **ASV table:** ids for sequences that were extracted from the (SequenceID, Reads, Taxonomy when sequence matched.
 - i. “Read” = number of times a seq was observed in the sample
 - c. **Taxon table:** ASV code matched to taxonomy.
 - i. Water samples by column. Cells are counts (# of reads of a particular DNA sequence)
 - 1. This is a wide-format table, (very wide)
 - ii. Interpretation of counts: Relative abundance of particular sequences within a sample. Not a one to one with an individual organism.
 - iii. This table is “wide”. Needs transformation to long for better handling during analysis.

Group: Diana

1. Yes to all the questions
2. Start at the top
3. Context - all the questions had to do with “I don’t understand this”
4. Use most familiar one
 - a. Default to EML - But maybe that’s not the best for eDNA data? GenBank?
 - b. But it has taxa information, so it’s a good idea to put it somewhere that can handle taxa
5. Click on new one
 - a. OK, I’m at the EML site, now what do I do?
 - b. NCEI - had to read all the way to the bottom
 - i. What metadata standard do these tools use?
 - ii. Resources → metadata → metadata templates → don’t know much about ISO, would read this
6. What metadata standards do these example repositories use?
7. Knowing your needs/requirements is important
8. When and how to provide metadata for the data in its original format? As opposed to a standard format (DwC)?

Group: Robert

1. From DataProvider: Assumed message: “we want our data to be FAIR”
2. Which repositories fit the best for what I am trying to do.
3. Open the tables and look at them!
 - a. Look at metadata table
 - b. Look at data table

- c. Look at the other tables
- d. Look for descriptions or abstracts to better understand the what, when, and how.
- e. Would like a longer description of each column.
- f. Do you know what to look for? Depends on your experience.
 - i. Headers may be familiar or not depending on experience. (for example ASV stands for a
- g. Title for the dataset.
- h. Can look at the **where** (map this?)
 - i. No location stated? See Geo-loc-name variable.
- i. What do you want to do with it?
- 4. Would really be nice to have data dictionary for each.
- 5. Look for “keys” to relate table.
- 6. Metadata standard context
- 7. No one place list for Repositories
- 8. Primer: Step by step.

Group: Abby

- 1. How do you know that there are connections between different standards? We have expertise, but how do non-experts know?
- 2. Controlled vocabs are really overwhelming, it's hard to know how to find and use them
- 3. Chose MlxS right away for the first question because we knew that is specifically focused to genetic data
- 4. For the second question some discussion about whether it's appropriate to integrate these data with other data because the process for collection and the process for sequencing can vary between projects
- 5. Need to include total sample size so that it can be related back to the environment - we weren't sure if that information was included

Report out

- 1. How do you approach the Primer? (is it linear or wholistic)
- 2. Main thing: Need to provide some context
- 3. Metadata standards.
 - a. Links to pages about EML, for example, leads to a very general page.
- 4. Derived vs. Original data. Create metadata for both?
- 5. Also see Group: Abby notes above.

Actions

- Do another case study, so bring data sets!
- Publishing options/cost. (Sean @ONC)
- Social media retweets (Sean @ONC)
 - MBON too! (Frank)

2021-10-07

Attendees:

- Sean Tippet, ONC
- Megan M.- ATN (CenCOOS)

- Stace Beaulieu.- LTER
- Lynn deWitt- CCIEA, ERDDAP
- Tim Van Der Stap- Hakai
- Erin S.- CalCOFI
- Margaret O. - MBON, EDI, LTER
- Megan Carter- ESIP
- Tylar Murray- USF, modeling, OBIS
- Diana LaScala-Gruenewald
- Robert McGuinn - NOAA Affiliate

Resources:

Benson, Abigail; LaScala-Gruenewald, Diana; McGuinn, Robert; Satterthwaite, Erin; Beaulieu, Stace; Biddle, Mathew; et al. (2021): Biological Observation Data Standardization - A Primer for Data Managers. ESIP. Online resource. <https://doi.org/10.6084/m9.figshare.16806712.v1>

Primer (may be slightly out of date):

https://www.canva.com/design/DAEcJs7WdFA/c-FVx57VZ4xzxj0_5pcHcg/edit#

ESIP Figshare: <https://esip.figshare.com/>

Distribution spreadsheet: [LINK](#)

Goals:

- Before we start thinking about new products, we want to make sure we continue to push the primer forward
- Today we're going to focus on structuring what's going to happen next with the primer
- Next time we'll have an activity to explore products we might develop building off the primer as it currently is

Start with Figshare submission (Abby has this in progress)

- Add your name to the spreadsheet to be a co-author on Figshare submission!- *reminded!*
- [ESIP Biological Data Standards Primer Version 1 Author List](#)

Who do we want to distribute the primer to?

[Primer Distribution Email List](#)

- *Stace: Idea to add all the people who are actually listed on the primer as part of this distribution.*
- *Megan: Speak with ESIP comms for crafting a blog post.*

What do we want to say in that email?

☰ Background for Biological Decision tree/Q&A

Potential end-products:

- Figshare submission (version that all other web sources will point to)
- Blog post on ESIP
 - Talk to comms (ESIP)
 - Maybe we can use the language from the email as a draft?
 - ESIP's Communications Mgr is Allison Mills. She can be reached at allisonmills@esipfed.org.
- Entry on DMTC
 - First step: What's required to do this?
 - Stace and Matt volunteered to help. (providing tags/metadata)
- Hardcopies (version 2?)
 - Publishing/distribution costs?
 - Margaret O'Brien may be interested in researching.
 - Tim Van Der Stap: will ask Hakai Media Team.
 - Sean Tippet will ask ONC
 - Design:
 - Fold out? Etc
 - Diana has a friend that is a graphic designer.
 - Condensed flyer with QR code on it.
 - Lynn: Bookmarks.
 - Megan C.: ESIP does have some folks with graphic design skill
 - Application for special funds (needs scoping)
 - Distribute at Ocean Sciences meeting. Certain sessions.
 - Graphic designer?
 - From Megan's Email: "It is possible an ESIP staff member may be able to help with this, though it might be good practice to have you officially request this support via a Special Funding request."
- Announcing the product via social media
 - Which institutions/accounts?
 - Talk to comms at ESIP (maybe they can tweet from ESIP account and tag other affiliated institutions- e.g., ONC, NCEI, MBON, LTER, CalCOFI, etc.) : give a heads up to comms folks at various institutions.
- Paper: Needs lots of work.
- Design notes:
 - Stace: List of acronyms and links to all items on the primer.
 - Sean: Web story creation (StoryMaps) - Lynn's office has some expertise.
 - Mathew- Do we have a process for gathering feedback?
 - Join meetings?
 - Survey, feedback form? For version 2, etc.

Reminder: Add your name to the spreadsheet to be a co-author on Figshare submission!

Action: make sure stippett@oceannetworks.ca is added.

NOTES:

stippett@oceannetworks.ca

Primer (may be slightly out of date):

https://www.canva.com/design/DAEcJs7WdFA/c-FVx57VZ4xzxj0_5pcHcg/edit#

ESIP Figshare: <https://esip.figshare.com/>

Chat: 11:06:26 From Megan Carter to Everyone:

Big news from ESIP: Call for Sessions for the ESIP January Meeting is now out -
https://docs.google.com/document/d/13Trib-w5oVA4xaltmcO3PE-g1r_mQ-0ZmwI14CCCLVM/edit#

11:06:46 From Mathew Biddle to Everyone:

woohoo!

11:07:04 From Stace Beaulieu to Everyone:

Thanks @Sean! I am aware of a couple groups internationally working to get video annotations formatted (and into) OBIS. Please feel free to contact me thru email or Slack
stace@whoi.edu

11:07:12 From Megan Carter to Everyone:

Also, the new Communications Manager just started this week and will be super excited to help you share your primer with the broader community when it's time.

11:11:48 From Room 2 to Everyone:

Primer (may be slightly out of date):
https://www.canva.com/design/DAEcJs7WdFA/c-FVx57VZ4xzxj0_5pcHcg/edit#

11:12:43 From Room 2 to Everyone:

ESIP Figshare: <https://esip.figshare.com/>

11:13:01 From Room 2 to Everyone:

Primer authorship spreadsheet:
https://docs.google.com/spreadsheets/d/1UweOxwmkzrwnQtDPgUuRHM_xLp-Bk60sGdGcpYjpFWY/edit?pli=1#gid=0

11:14:01 From Sean Tippet to Everyone:

Hi Erin! Nice to see you!

11:17:23 From Megan Carter to Everyone:

In case you've never seen ESIP's figshare repo, check out <https://esip.figshare.com/>.

11:17:33 From Sean Tippet to Everyone:

Thanks for the warm welcomes everyone! I will make sure to follow up and start an email convo Stace :)

11:18:47 From Room 2 to Everyone:

<https://docs.google.com/spreadsheets/d/1je1QHprxWW6bQpJYw8CZiqeMXnvGChinW0tUXF3788A/edit?usp=sharing>

11:27:51 From Room 2 to Everyone:

https://docs.google.com/document/d/1DAznj8GbzhfV5aPOru1HxVS_ebbpiqpLC4q7k5zsN80/edit?pli=1

11:38:14 From Stace Beaulieu @ WHOI to Everyone:

This worked really well to group edit!

11:39:10 From Stace Beaulieu @ WHOI to Everyone:

I linked to the Cluster wiki page. I don't think it has the list of acronyms yet??

11:40:19 From Room 2 to Everyone:

Thanks Stace! No, not yet. I think we're hoping to get the primer out in some capacity as is, and then start adding additional products like the list of acronyms.

11:42:10 From Room 2 to Everyone:

Agenda:

<https://docs.google.com/document/d/19NaWD0nY9jXP2fTv9m57FhWRTGbGQdWh/edit?usp=s haring&oid=114604887581172605746&rtpof=true&sd=true>

11:46:26 From Megan Carter to Everyone:

ESIP's Communications Mgr is Allison Mills. She can be reached at allisonmills@esipfed.org.

11:47:22 From Megan Carter to Everyone:

Allison may be able to help with finding that out also.

11:48:54 From Mathew Biddle to Everyone:

business card with a QR code?

11:50:18 From Tim Van Der Stap to Everyone:

If it's just about inquiring about costs for creating/distributing, I can ask our Hakai Media Team

11:51:43 From Stace Beaulieu @ WHOI to Everyone:

I have a question re: electronic version

11:53:03 From Megan Carter to Everyone:

I have to leave a little early to get ready for another webinar. Thanks everyone for the great discussion. Please let us know how we can help.

11:53:52 From Sean Tippet to Everyone:

I can also inquire ONC's media team to inquire costs of printing/distributing this primer as a product. I can also ask our communications team about potentially tweaking it out - but ultimately the decision will be theirs :P

11:56:29 From Mathew Biddle to Everyone:

IOOS can probably retweet or be tagged

11:56:57 From Mathew Biddle to Everyone:

I can share through the Eyes on the Ocean bi-weekly as well.

<https://ioos.noaa.gov/communications/eyes-on-the-ocean-ioos-bi-weekly/>

11:57:53 From Mathew Biddle to Everyone:

Do we have a process for gathering feedback?

12:00:40 From Stace Beaulieu @ WHOI to Everyone:

Thanks!

12:00:45 From Erin Satterthwaite (she/her) | CalCOFI to Everyone:

Thanks, Diana and all! Fun meeting as always :)

12:00:57 From Tim Van Der Stap to Everyone:

Thanks all!
12:01:52 From Sean Tippet to Everyone:
stippet@oceannetworks.ca

2021-09-02

Attendees: Todd O'Brien, Erica Ombres, Megan McKinzie, Emilio Mayorga, Lynn deWitt, Mathew Biddle, Erin Satterthwaite, Frank Muller-Karger, Robert McGuinn, Diana La-Scala Gruenewald, Abby Benson, Megan Carter, Jonathan Blythe

All/most notes from this meeting on JamBoard: [LINK](#)

Time was spent in 3 breakouts and group discussion for next steps for the cluster.

Main themes:

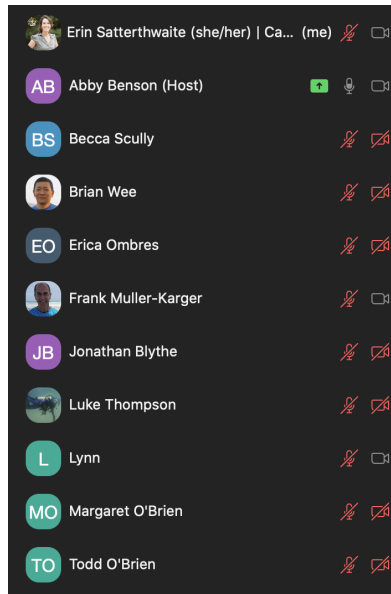
1. Strategy for finalizing primer.
 2. Strategy for extending primer to various audiences (ESIP mechanisms)
 3. When to call the primer work done.
 4. Lots of good ideas on where to go after that on [Jamboard](#).
- Lots of support for creating videos to go along with the primer
 - Discussion about how to socialize the primer - who cares and where do they convene
 - Data sovereignty issue - indigenous communities
 - CARE principles
 - Megan C. suggested:
 - publishing the primer on the ESIP Figshare
 - If we go a new direction make sure our wiki goals and vision align with it

Other ideas:

1. Attend other cluster meetings and extend information or gather ideas for how to move forward.
2. Data help desk.
3. CARE Principles for Indigenous Data Governance: [LINK](#)

2021-08-05

Meeting Minutes



Agenda

1. Report out from the ESIP session – 15 min
2. Discussion about recommendations from the session – 40 min
 - a. Is it clear that the right hand columns refers to actions that need to be taken?
 - b. Determine best URLs for the acronyms
3. Publishing the primer – 5 min


1. Report out on ESIP- link to presentation here (link to presentation)
 - a. 30 participants
 - b. People liked many aspects (see presentation)
 - c. Improvements (see presentation)
 - d. To do today: see items below
2. *Is it clear that the righthand column refers to the action that needs to be taken?*
 - a. On the right side have "...then" -- Lynn [& then add "use" if needed]
 - b. "Do this" / "use" - Margaret
 - c. Box could also have a different background color - Todd
 - d. Recommendation (left) & how you do it (right) -- Jonathan
 - e. Is "understandability" a real word? -provide documentation -- Frank
 - f. Could also just say, "provide metadata" --
3. Other comments
 - a. Web version where acronyms are clickable - Lynn
 - b. In terms of formatting - perhaps left-justify the right hand box, and have overhanging first lines so it is clear that a second line goes with a first line for an entry
 - c. Small typo: MiXS -> MlXS
4. Acronyms & urls

- a. [Link here](#)
 - b. Links to all words whether acronyms or not
 - c. Lots of literature to support recommendations -- maybe put in OBPs or other location -- *flag for future directions discussion?*
 - d. technically you do not need to include the "www." or the "https://". I suggest leaving it off as it is cleaner and often matches the acronym better.
 - e. Should links be to the xml/how to operationalize it?
 - f. List of formats required by agencies
 - g. Where do the data end up?
 - h. Re3 data may be a good place for that info
 - i. Different thoughts on confidence in scientists knowing how/where data needs to go (esp in ecology)
5. Where to publish?
 - a. USGS data management website (Madison)
 - b. Is there a way to put out as interagency
 - c. Data management training clearinghouse (ESIP)
 - d. Other white papers
 - e. <https://dmtclearinghouse.esipfed.org/>
 - f. GeoBON?
 - g. One place and curated and linked to one location
 - h. IOOC?
6. PDF version of the primer
(<https://drive.google.com/file/d/16-vdbrDBrMYfrome0Extnm8cf49-Q2cs/view?usp=sharing>)

Meeting Minutes


2021-06-24




Attendees:


 Robert McGuinn(Me)



Unmute


Rename



 Room 2(Host)






 Mathew Biddle






 Stace Beaulieu @ WHOI






 Lynn deWitt






 Erin Satterthwaite (she/her) | CalCOFI






 Megan Carter






 Diana LaScala-Gruenewald






 mmckinzie






 Mathew Biddle






 Stace Beaulieu @ WHOI






 Lynn deWitt






 Erin Satterthwaite (she/her) | CalCOFI






 Megan Carter






 Diana LaScala-Gruenewald






 mmckinzie




 Ross Timmerman



 Emilio Mayorga



 Stoessel, Marion M

Agenda

1. Review [Canva of Biological Data Standards primer](#) (formerly decision tree)
 - a. Questions to consider:
 - i. Overall, do you feel the Canva infographic conveys the information well?
 - ii. Is the Canva more aesthetically pleasing than the google slide format?
 - iii. Did we incorporate your suggestions appropriately?
 - iv. What's missing?
 - v. What else needs to be done to get this ready for input from the broader ESIP community at the [ESIP Summer Session](#)?

AB: opening context statements, about primer vs. decision tree. Opened for questions/topics.

MB: should these be statements on the left vs. questions.
DG: single question at top option?
LD: too many words on glancing at it. Pair down the words. Use fonts to highlight.
SB: Canva is pleasing to the eye. Questions are all on the same level. Like that it is a primer that could be adjusted for other audiences. Not sure about the other blue boxes at the bottom.
AB: Explanation of mix and match. Can use different standards depending on situation.
ES: How to use this companion piece.
AB: Maybe too busy at top.
AB: Live editing to add question at the top.
SB: Question applies to all boxes. Needs background that goes all the way across.
AB: Any other initial reactions?
AB: Starting walk through of Canva. Going box by box.
MB: Tethys passive acoustic metadata for passive acoustic
EMa: State that "may be more specific stna
MM: Link out to domain specific standards.
SB: Likes the "link out" too.
AB: Are we going to create FairSharing.org? No.
AB: Maybe we link to a specific FairSharing search? Tested and it works. Placed in Canva.
ES: Agreed to go off of existing structures.
DG: Yourself AND others.
EMa: Primer for "new", not necessary.
EMa: Mixs is just metadata.
SB: Minimum information about a sequence.
AB: Crosswalk DarwinCore and Mixs
DG: Mixs extension of DarwinCore - to include sequence data.
EMa: Allow data within Mixs to become available in other contexts.
EMa: Genetic data is a speciality or not?
AB: Only provide Mixs?
EMa: Only provide Mixs, not EML or other.
SB: Mixs: where sample came from and who took it. Minimum requirement.
EMa: Many other things that complement the sequence data.
SB: Climate and Forecast: Metadata convention when NetCDF is the data type.
AB: CF requires you to format the data (so some confusion on standard).
SB: Paren. Around 'meta' in both green boxes.
DG: FAIR doesn't make a distinction between the two.
ES: A way to address the overlap.
SB: Mixs does not help with interoperability, but CF does.
MB: CSV, vs. NetCDF, vs. GeoTiff.
AB: standardization of data vs. the container it lives in. not trying to deal with HDF in this.
MB: CF for NetCDF, DC for CSV
EMa: Mention data format?
DG: Some information on formatting in final box.
DG: Leave off "interoperable" from main question. Replace to main topic.
AB: controlled vocabularies makes things interoperable between standards.

AB: Example from DC. Controlled vocabularies within a column. Only things allowed within a column of data. Valid values and agreed upon meaning.

ES: Column names the same would not necessarily mean that is interoperability.

?: Use italics consistently.

MB: Would add in discoverability.

ES: Large text should state the value proposition.

SB: Can't find things in general repositories.

AB: We are trying to represent schema.org

MB: Would a new data manager be trying schema.org.

SB: Schema.org: additional findability.

DG: Web discoverability

SB: DublinCore standard for findability. Needs more fleshing out.

MM: all good.

LD: Findability. Getting it into ERDDAP or some other web service part.

MS: Served biological data on THREDDS before ERDDAP.

LD: Do you want data to be software ready.

2021-05-20

Attendees: Frank MK, Stace B. Todd, O., Erin Satterthwaite., Lynn D, Brian Wee, Luke, Megan Carter, Enrique Montes, Matthew Biddle, Megan Medina, Emilio Mayorga, Jonathan Blythe, Megan McKinzie, Diana LG, Hassan Moustahfid

Agenda

1. Set context from previous meetings
 - a. Fairsharing.org
 - b. Data Type
 - c. Observations
 - d. Our goal for today: get enough feedback from the cluster on the text and conceptual elements to create a canva version for the ESIP Summer Meeting
2. Review strawman decision tree

Notes:

Abby: Intro to context. Showing spreadsheets from us and Marine Data. Don't want to move towards

Starting from observations of organisms, not raw data types.

Will not address funding agency requirements.

Open for questions: None given.

Abby: Sharing straw man draft and explaining context.

Frank MK: Put the questions in a way that encourages standardization even if they are not wanting to put data online or integrate with other datasets. Are your data online should not be the first question.

Lynn D.: Controlled vocabularies should be 1st question.

Frank: What is it that would encourage me to adopt a standard.

Frank: PI is the audience

JB: 1st requirement, make data into an open format.

Diana: Do you mean non-proprietary format?

JB: Open format.

Matt B.: That type of instruction may not even make it to that tree.

JB: Protected species data (some data is not ever intended to be online). Should be made in open format for internal use as well.

Abby: will add in something about non-proprietary.

Erin: Maybe the order isn't as important as the idea of a network of activities that result to FAIR.

Frank MK: Point of view of PI. 3rd box down. Ability to use community tools. (Would you like to be able to use community tools? Then standardize your data)

Stace B.: People that they interact with. Agrees with format. Data set description all the way to fully controlled. Depending on who you talk to, you might go from different directions. (Double arrows could indicate this? -Diana)

Pier L:

Would you be able to work with this data in 5 years. Yes/No

Would someone else understand your data

Free form tailoring might be needed.

Abby B.

Rewording of the questions might be

Enrique Montes from chat.: Perhaps a way of framing the tree is to start by asking users what they would like to do, and the tree would provide a list of options such as standardizing the data, apply controlled vocabs, etc

Diana:

What do you think of the why bother?

Megan MedinaToEveryone

I like the why bother column, there should always be a why/explanation for what you are doing

JB: Icons will be better than text.

Abby: Showing Canva view.

Want to keep it text lite.

Textual description on back.

Everyone

1:27:16 PM

It may be worth crafting a small statement clearly articulating who the audience is. Who is this for, and what use case scenario(s) is being targeted. I understand (and agree with) the current "data manager" audience, but it sounds like it needs to be more specific

Enrique Montes

To
Everyone
1:27:27 PM

users may have already some of these intermediate steps already completed and probably not necessary to have them go through the entire set of questions in the tree

Megan Medina
To
Everyone
1:27:40 PM

you could reduce the text though e.g. "Ensure the data is accessible to the public"
dianalg

To
Everyone
1:27:43 PM

That's great Emilio - do you have any specific suggestions?

Megan Medina:
Likes the 'why bother' question.

Pier Luigi ButtigiegToEveryone
1:29:09 PM



metadata is data, however, so the FAIR stuff still applies

Hassan:

Figure out how people can share their data. What sharing your data can do for you? Depends which level that you are starting from. Encourage sharing data. Online or not does not matter. What is going to make them share your information. How can you then improve your data.

Mathew BiddleToEveryone
1:31:21 PM



Does it have to be an interconnected decision tree?
Maybe a simple Q&A document would suffice?

Emilio MayorgaToEveryone
1:32:17 PM



dianalg: I've been engaged off and on (mostly off!) in this effort, but I can type some stuff based on what I'm hearing on what I recall from previous meetings. Is there a google doc for the agenda

Abby:

Going forward with audience already primed to share data, but they don't know the biological data standards. Trying to give them a quick and dirty reference for that starting point.

Frank MK:

Do you manage biological data?

Do you want to use community tools?

Not about pushing people to share data.

Diana:

Maybe can tackle both the standardization and the sharing part.

Matt B:

Maybe you will be sharing later and you will have already done that work internally.

Pier:

Want to have good internal standards. Keeping things in order at home. Public data - data should be available. Individual papers come and go, but data is forever. (Did the public fund it? Does the public have access to it?)

Lynn:

What if you just got rid of the arrows.

4 things that make your data better. Choose your own story.

Agreement expressed by group.

Matt B.

Q and A document. FAQ approach to design of infographic.

JB:

Column 3 - standards.

Don't have all the standards he would recognize.

Abby: vocabularies not required in some cases

Pier:

Standard checklist require ontologies. (domain specific)

ENVO annotation guidelines

MiXS specific advice.

JB:
Marine metadata interoperability

JB:
SOPs
Sampling protocols
These are more technical standards

Abby:
We are talking about standards for data and metadata.

Pier Luigi ButtigiegToEveryone
1:40:28 PM



<https://sites.google.com/site/environmentontology/annotation-guidelines>

Mathew BiddleToEveryone
1:41:06 PM



<https://mmisw.org/>

Hassan:
Key is integration with other data sets. These are standards that we already know. Looks fine to me at this point.

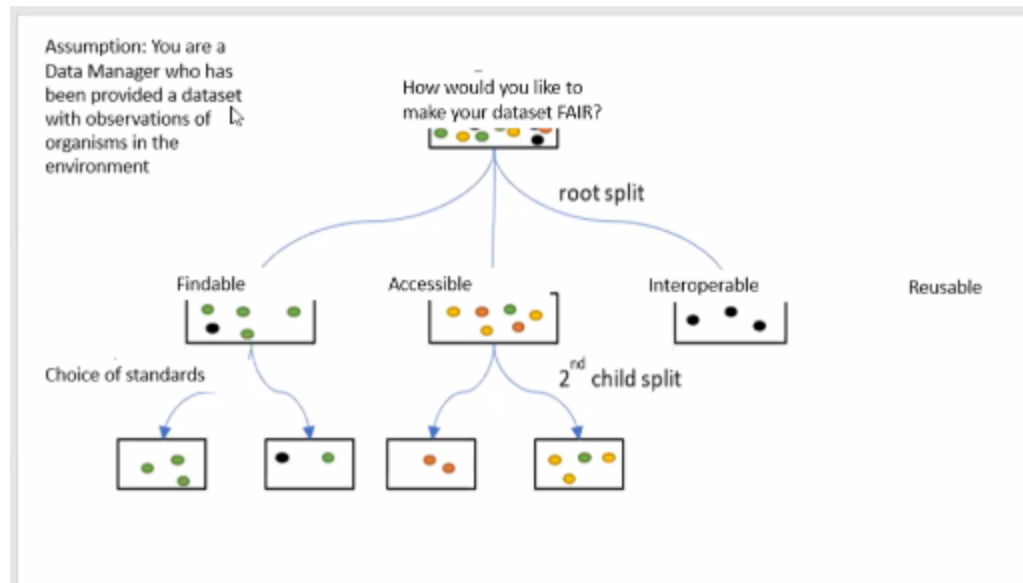
Matt B:
Definition of where?

Abby:
If you use these standards, then these are the places that you put the data.

Stace:
Everyone
1:44:11 PM



I made a little drawing and could share screen if time.
A drawing shared as an idea.



Dataset level to value level.

Stace:

Middle column had multiple standards. This would be at the bottom of the decision tree. Might be more questions in the tree.

Abby: wrap up summary.

Generally good. Comments covered will be considered.

Anything else.

Pier:

Tutorial for multivariate methods. Building of a Google Site.

Pier Luigi ButtigiegToEveryone

1:49:18 PM



<http://mb3is.megx.net/gustame>

Stace Beaulieu @ WHOIToEveryone

1:49:18 PM



I still share @Pier's GUSTA ME !

Encode this decision tree at a web site. Work on this collaboratively at Google Sites.

Emilio

Crafting a statement about the target audience would be good. (Emilio added language, see link below.

Motivating a PI maybe is not the goal

Abby: Audience statement will help with focus.

Here is the link for the framing doc:

https://docs.google.com/document/d/1DAznj8GbzhfV5aPOru1HxVS_ebbpiqpLC4q7k5zsN80/edit

dianalgToEveryone

1:51:46 PM



Thanks Emilio!!

Erin: New slide (something for later discussion)

Todd O.: Don't use the word cheat next to FAIR

Pier: "FAIR Primer for Biological Data"

Megan Carter:

ESIP summer meeting is all up on line.

Complementary speaker registration program

Monday: Webinar (NOAA).

Megan CarterToEveryone

1:54:36 PM



<https://www.esipfed.org/news/next-innovation-webinar-noaa-precision-marine-navigation>

Who can see your messages?

To:Everyone

Abby:

Reworking the decision tree

Present to small group in June

Open it up to the wider ESIP community in July at our session.

IMPORTANT DOCS FROM THE MEETING

Background for Biological Decision tree/Q&A (Framing doc)

https://docs.google.com/document/d/1DAznj8GbzhfV5aPOru1HxVS_ebbpiqpLC4q7k5zsN80/edit

Biological cheat sheet- clean

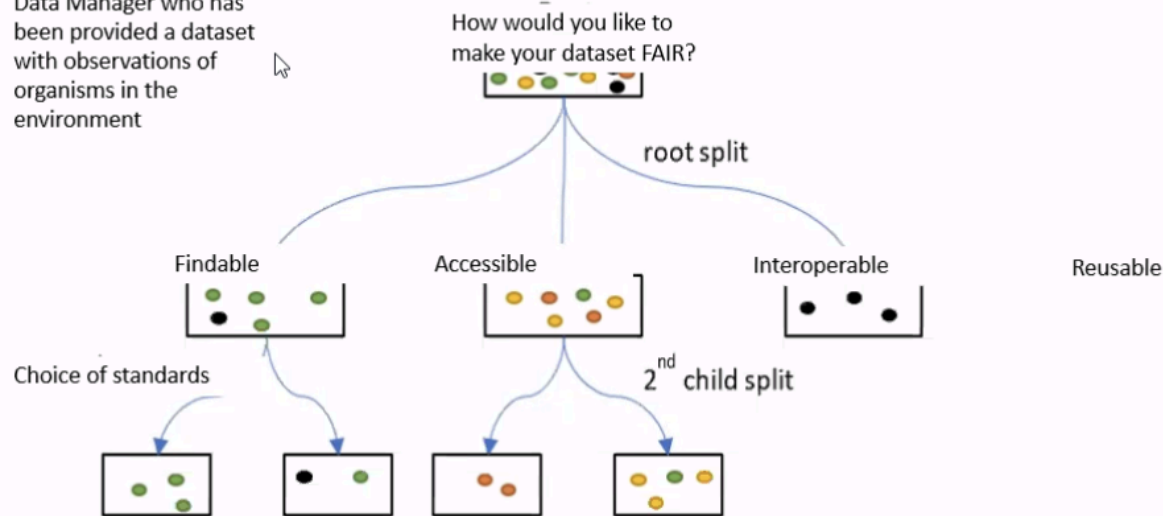
https://docs.google.com/presentation/d/1QfxU1B70Lcem5nAK_UD8TbNoC2tsF68A/edit#slide=id.p1

Biological cheat sheet- original

https://docs.google.com/presentation/d/1LuSYjvydjMnRtjZQ-5hgS_NRVMCY-Par/edit#slide=id.p1

From Stace

Assumption: You are a Data Manager who has been provided a dataset with observations of organisms in the environment



Middle column has multiple standards (bottom of decision tree would be the list of standards)

2021-04-01

Attendees: Frank, Matt, Gabrielle, Hassan, Todd, Adrienne, Sarah, Margaret, Lynn, Jessica, Robert, Erin, Diana, Megan

Agenda:

1. Refresh the group on the decision tree goal (helping a new data manager select appropriate biological data standards) and share preliminary work done by the cluster co-chairs (40 mins)
 - a. Introduce chart
(<https://docs.google.com/spreadsheets/d/1nSbVEuSA19FT1PqUu7yeHx3RhEoSXzmjYaCZEoyN320/edit#gid=0>)
 - b. Solicit help in filling in data serving tool requirements

- c. Solicit feedback on initial decision tree direction
- 2. Share possible FAIR framework for visualizing the data ([Jamboard link](#)). Brainstorm how the information in the chart might fit into this framework, and/or explore proposals for possible other frameworks (20 mins)

Notes:

- Was it intentional to leave out Zinodo, Figshare, etc? (Adrian) No - we want to be inclusive at this point
 - These are resources that we should use if we can't use anything else (when your data doesn't fit the mold of anything else) - Matt B
- Frank: Many of these databases have multiple data types from multiple projects - we may need more of a multidimensional matrix here
 - We should bring in the EOVs - go through this exercise for each organism group
- Hassan: It's important to capture the EOVs. It's mostly capturing biodiversity standards, presence/absence, occurrence data.
 - Do we have representatives from each of the data serving tools giving input?
- Sarah: What I'm hearing from the group is that they want to know if we have this data type or that data type what do we do.
- People seem very, very focused on what type of organisms they have data for, and what data type they have. They don't seem to want to think about it from another perspective.
- Data serving tools take data in in certain formats, but they also serve data out, sometimes in multiple new formats (Matt Biddle)
- Do we want to categorize things or narrow them down by national/international categories? (Erin)
 - Maybe good to focus on truly broad, international resources? (Frank)
- Copepods officially archives with NCEI (Todd)
- I like FAIR as an organizing structure (Adrienne)
 - Do you think this might produce a ranking of data providers as being more or less FAIR?
 - Rob: I don't think we should rate or rank them, I think it depends on the objectives of the person who's doing the data managing. Instead, who are the major players in this landscape, and how are they connected? How can we help data managers meet their goals within this landscape?
 - Frank: I think that each column in the chart could be F A I. Then, the answer is kindof binary. If you have a database, you can say yes/no is it F, A, I (and then, by default, it will be R). You could sort this heatmap and make a graphic.
 - DLG - I like this, but how to include guidance on data standards?
 - Frank - You have to make recommendations for operational purposes. You say: this is the best way to store the imaging data, this is the best way for storing the acoustic data, etc. Again, based on EOVs.
 - It can't all be EOVs!! Has to incorporate terrestrial work as well!!! (Margaret O'Brien)
- Lynn: You can use individual tools and end up with FAIR data. I don't know if we should be concentrating on each tool being all things.
- Is it actually accurate to give a binary answer to whether something is F A I or R?

- There are people studying how to give a FAIR score (Margaret O'Brien, Adrienne)
- Core Trust Seal

2021-03-04

Attendees:

Agenda:

1. Solicit feedback from the cluster for building a decision tree for biological data standards (45 min)
 - a. Goal: A data manager new to biological data standards can use this decision tree to select a standard that best meets the goals for the data they are managing
 - b. Jamboard:
<https://jamboard.google.com/d/1f4r995y-h6sbKOLp2dATWXXMeaWnXCDOAfVIXzBN2o/edit?usp=sharing>
 - c. Discussion
2. Open Discussion (15 min)

2021-02-04

Attendees: Margaret O'Brien, Megan Carter, Abby Benson, Diana La Scala-Gurenwald, Erica Ombres, Gabrielle Canonico, Heather Benway, Jessica Burnett, Jonathan Blythe, Lynn deWitt, Marion Stossel, Megan McKinzie, Ramon Gallegosimon, Sarah Bingo, Stace Beaulieu, Todd O'Brien, Mathew Biddle

Agenda:

1. ESIP Winter Meeting
 - a. Session Recap
 - b. Discussion

2. Getting to work (next meeting)

- a. Create a decision tree for standards related to biological data 48%
- b. Create a best practice document for required/recommended/optional information for different standards 60%

Notes (scribe: margaret)

1. ESIP Winter Meeting

a. Session Recap

- i. 5 presentations (see sked)
- ii. Takeaways:
 - 1. Open Source infrastructure will increase availability,
 - 2. Use of PIDs improves availability, helps with deduplication, identification of resources
 - 3. Still image, video are most accessible if they are annotated.

2. Discussion

- a. Stace: platypus story very effective. Shared platform - effective, but would like to know the underlying stds.
- b. Emilio: Still on the topic of having presentations: I thought they were great, but preferably some time should still be allocated for discussions, esp. open ended ones that can cross link across presentations
- c. Megan Carter: From an ESIP perspective, I think the session was a good one to help introduce other folks (in the ESIP Community or at the meeting) to this cluster.

Slido questions. Abby (poll owner) will add answers later:

- 1. Are sessions like the ESIP one useful? Intent was a bridge between groups like TDWG (biological) and ESIP (mostly physical scientists)

Are sessions like this one (presentation style) helpful for the cluster to organize for future ESIP meetings?

Yes



No



Maybe



2. What groups/who could be added; are their players missing?

Any additional major movements or players we should be tracking as a group (within these three themes and beyond)?

CDF could incorporate biological repositories

A major player who is often underrepresented at ESIP is NSF, although NSF-funded projects are represented (both science and infrastructure)

idigbio?

OBIS was gaining momentum on environmental DNA datasets - bioarchiving samples and sharing metadata

It feels like the cluster should focus, but not sure exactly how?

persistent identifiers for samples per se. In the geosciences, IGSN is emerging as a powerful connector. I could see it connecting across MxS, DwC, etc

How the biological standards groups such as TDWG or Genomic MxS are handling environmental data (this would be a likely intersection with standards more regularly used in ESIP)

CDi semantics maybe?

3. Low hanging fruit - Any easy to grasp/define next actions within the biological data standards arena that emerged from this session (and beyond)?

Are sessions like this one (presentation style) helpful for the cluster to organize for future ESIP meetings?
13

Any additional major movements or players we should be tracking as a group (within these three themes and beyond)?
6

Any easy to grasp/define next actions within the biological data standards arena that emerged from this session (and beyond)?
6

DO-A-THONS

Develop and spread (like coronavirus) value propositions for data standards, depositing

Addressing/evaluating/reducing barriers to data deposition for investigators (i.e. \$\$\$)

Any simple steps to encourage/educate data providers about data sharing. Grad student trainings?

Review of use, value, next steps for biodata standards, in ESIP report and/or journal pub style.

I repeatedly encounter a barrier in biological data sharing with PIs highly invested in their observations, and finding excuses not to share data. Often sharing is objected to in terms of conservation interests of the observed species. Many times it's intellectual property issues. We could try to explore the topic of biological data sharing and current barriers and technological solutions (eg. block chain, yes it can do that too). It needs to be a community effort, and I think ESIP is a good forum to break some ground in the data sharing arena.

linking/ aligning telemetry/biologging data with other biological data/observations and data standards such as DwC.

Refer back to the same kind of question and discussions from previous cluster meetings (I think we made some headway in a meeting in the last couple of months) ;)

Publish commentaries addressing need for biological data standards in publications.

Define the current landscape.

Workshop in July:

This cluster voted on topics: these bubbled up:

1. Create a decision tree for standards related to biological data (48%)
2. Create a BP doc for required/recommended/optional info for different standards (60%)

Decision tree:

Sample decision tree for applying netCDF formats (geared toward data mgrs):

https://www.nodc.noaa.gov/data/formats/netcdf/v2.0/decision_tree_high_res.pdf

Margaret: EDI has a bottom up approach (data mgrs are the audience). Organize BPs first, then structure. Note: these are multi-page BPs, not infographics

Gabrielle: Must consider potential audience. Infographics are a good entry point, flowchart for details.

Diana - basic definitions are needed by many. E.g., "data standard" , "ISO" - terms that are obvious to data mgrs.

Megan McK also diffs between metadata stds and data (value?) stds.

Diana - could consider outward-facing material - what is best mechanism? Do we want to produce any of that?

Suggestion: can this group join the DHD efforts?

Diana: That's actually an interesting suggestion when we're allowed to have physical meetings again... what if there was some system to actually help people submit their data at meetings? Just a thought.

Pier: It gets more interesting to them when their funders/institutes demand standards-compliant (meta)data submission / storage or when group leaders / section leads suddenly realise it's impossible to access legacy data stores without hiring a post doc and sacrificing their sanity

Some scientists have prescribed repos for sharing (e.g., BCODMO, Arctic and antarctic data centers)

Pier: Over here in Germany, there are data brokers that help scientific groups get their data into shape for submission to long-term and trusted archives. For example, GF-bio:

<https://www.gfbio.org/>

Started as a spinoff (comercial?) now is the national data broker. They gather up big bio data and help researchers to organize. Perhaps we request a talk from them?

Per Pier - no one has convincingly bridged the bio-physical space yet (scribe argues that EDI tries. But we use only one metadata format)

Stace: decision tree that could serve DMs, about repositories.

E.g., working with ocean bio DAAC at NASA. they needed help understanding DwC in order to keep in mind that their data may need to eventually be converted into it.

Also for scientists, about the value of particular formats and future integration.

Cluster seems to be circling around a decision tree - digestible for those starting out

ESIP can provide a stable point that transcends the grant cycle.

Related meeting: Next week, thursday: Mathew Biddle: Marine data cluster: talks on nerc vocab, worms,

Link: ESIP Marine Data Cluster Special session on vocabularies Fed 11th 13:30 ET:

<https://slack-files.com/T092JLYMR-F01KMRDQBQU-1cf3146c74>

Q: Adrienne: do any institutions have data mgt services? With expert help?

A: some for data deposition. They do not provide help during research, however.

More from the chat:

Jessica Burnett (she/her) (to Everyone): 12:21 PM: re: the NSF comment---maybe track fundees under the cyberinfrastructure line?

Gabrielle Canonico (to Everyone): 12:27 PM: This is relevant for an discussion in IOOS about linking MBON and ATN - we should have a follow up with interested folks perhaps.

Jessica Burnett (she/her) (to Everyone): 12:31 PM: infographic...flow chart is too much work for the folx we are trying to influence..

Emilio Mayorga (to Everyone): 12:33 PM: Both of these potential tasks would be of great value to the community. But the first one (a, decision tree) seems to carry less risk that it'll get bogged down in minutiae and become the 40 page document

Jessica Burnett (she/her) (to Everyone): 12:34 PM: Indeed, both would be great. Infographic is to hook em and line em, decision tree to sink em

Emilio Mayorga (to Everyone): 12:35 PM: Agreed, both would be great. The NCEI netCDF flow chart is geared to data managers, and it's great for that audience (first hand experience)

Adrienne Canino (Axiom) (to Everyone): 12:37 PM: Seconded on the data vs metadata standards

Jessica Burnett (she/her) (to Everyone): 12:37 PM: This is a great point (meta vs data)

Jessica Burnett (she/her) (to Everyone): 12:38 PM: "help people who are new to these concepts"...is the audience individual investigators (who are also the data managers) ?

Lynn deWitt (to Everyone): 12:41 PM: It might be useful to target projects before they start gathering data so they can design their data management/structure from the beginning rather than dealing with the mess after the fact.

Jessica Burnett (she/her) (to Everyone): 12:42 PM: NSF requires data management plans in proposals, yes? But these are more for data storage.

Mathew Biddle (to Everyone): 12:42 PM: NSF defines the repo as well

Pier Luigi Buttigieg (to Everyone): 12:42 PM: Sometimes DMPs are required and repos are defined, but how many grants really review these?

Emilio Mayorga (to Everyone): 12:43 PM: "NSF defines the repo as well". Not always. Oceanography is among the best.

Pier Luigi Buttigieg (to Everyone): 12:44 PM: Over here in Germany, there are data brokers that help scientific groups get their data into shape for submission to long-term and trusted archives. For example: <https://www.gfbio.org/>

Megan McKinzie (to Everyone): 12:45 PM: Also important to encourage funders to support data management activities (provide funds), not just require that a data management plan be submitted. For example, automatically kick down an extra 10K on top of funds requested to complete research proposed.

Pier Luigi Buttigieg (to Everyone): 12:46 PM: @Megan - yes, this is key to communicate. We're past individual scientists knowing what to do with their pet data sets, the game has changed.

Rebecca Scully (to Everyone): 12:47 PM: There is a difference between long term monitoring data and shorter term research projects. I think that would be an interesting distinction to make in the decision tree idea

Pier Luigi Buttigieg (to Everyone): 12:48 PM: In the IOC systems, we're developing quite extensive decision trees, but creating interfaces so that users don't see the whole thing at once

Jessica Burnett (she/her) (to Everyone): 12:48 PM: +1 to all of stace's sentiments. and +1 to Pier on a dynamic and interactive resource

Pier Luigi Buttigieg (to Everyone): 12:49 PM: I think this group's core value is the bridge between Earth and Bio/Eco information

Gabrielle Canonico (to Everyone): 12:49 PM: @Pier this data broker role is important to keep talking about






































Emilio Mayorga (to Everyone): 12:49 PM: +1 on Pier's comment about bridging Earth and Bio/Eco































Pier Luigi Buttigieg (to Everyone): 12:49 PM: @Gabrielle - I'm sure GFBio would be up to giving a talk to this cluster

Jessica Burnett (she/her) (to Everyone): 12:52 PM: Could we start a shared zotero library?

2020-12-03

Attendees: 40

		Abby Benson (organizer)	▼
		Margaret O'Brien (organizer)	▼
		Anton Van de Putte	▼
		Carrie Wall	▼
		Cynthia Hall	▼
		Diana LaScala-Gruenewald	▼
		Emilio Mayorga (web)	▼
		Enrique Montes (USF)	▼
		Erica Towle (web)	▼
		Errol Ronje	▼
		Frank Muller-Karger	▼
		Frank Schwing	▼
		Gabrielle Canonico (presenter)	▼
		Heather Benway	▼
		Krista.Nichols	▼
		Laura Lorenzoni	▼
		Luke Thompson	▼
		Lynn deWitt (web)	▼
		Marion Stoessel	▼
		Mathew Biddle	▼

		Maxime Sweetlove	▼
		Megan Carter (ESIP Staff)	▼
		Phil Morin	▼
		Pier Luigi Buttigieg	▼
		Raissa	▼
		Rebecca Scully	▼
		Robert McGuinn (me)	▼
		Sam Simmons	▼
		Stephen Formel	▼
		Teri Rowles	▼
		Teri Rowles	▼
		Tim van der Stap	▼
		Todd OBrien	▼
		Vicky Rowley	▼
		Ward Appeltans (IOC)	▼

Agenda:

1. [BIO-ICE Task Team](#)
 - a. Overview of BIO-ICE
 - b. IOOS biological core variables history
 - c. Mammals subgroup
 - d. Corals subgroup
 - e. Discussion
2. Microbial EOv
3. Open Discussion

Notes:

- Intro by Abby
- Gabrielle Canonico - NOAA Federal Laura Lorenzoni, NASA presenting.
 - Interagency Ocean Observations Committee (IOOC) (see PPT for full notes)
 - BIO Task Team 2013-2015
 - Adopting full list of 11 new core variables

- BiolCE Task Team (2020-2022)
 - Mammals and corals are the initial priorities.
- Erica Towle (Coral Reef Conservation Program)
 - Corals subtask
 - See list of foci on PPT.
 - Co-location of physical and chemical subsets.
 - Table crosswalking IOOS Core/GOOS EOVS, GEO EBVs (see PPT)
 - Table of sub-variables, products, and methods.
 - Reconciliation of genetic composition (will not be tackled in this next year's scope)
 - Comparison of indicators (tricky), example coral cover.
 - ESIP Action: methods and protocols needed for all these priority variables. ESIP sub-team?
- Sam Simmons:
 - Marine Mammal sub-task
 - Table of derived products by variable and phenomena with methods (see PPT).
 - Reconciliation of variables (temporal and spatial requirements)
 - Sub-task foci: line transects, passive acoustics, telemetry, photo-ID.
 - Delivering data from source to OBIS.
 - ESIP Action: need to engage expertise of groups.
- Abby: Asks for questions.
- Frank MK: "Opportunity in chaos". Per EBV, genetics has not been tackled. GeoBON level at EBVs has several papers. Why not adopt and run with it? What was the thinking behind not tackling that?
- Erica:
 - Still open to consider adding genomics.
 - Scoping took six months (1 year is left to implement).
 - Did not want to 'bite off more than we can chew'
 - Arguments are good both ways, intellectually speaking, but work schedule/resources.
- Jennifer:
 - Maybe setting up the framework in ways that could accommodate.
- Frank MK:
 - So much energy around omics at this time.
 - How to link / merge omics data with other types of data.
- Erica:
 - Huge new focus on omics at NOAA
 - Not many national monitoring programs are including omics at this point.
- Pier:
 - Pan-European projects
 - Many new omics projects, far advanced

- Omics BON
- Pogo workshop on eDNA and omics.
 - Innovation to operations.
- TDWG: DarwinCore
- Planetary scale work
- Remote and autonomous samplers.
- Need standards and specifications
- Operations, academia, policy integration.
- Metadata specs: building bridges
- Ocean Infohub, Ocean Data and Information Meeting.
- White papers and policy briefs rather than scientific papers.
- Frank:
 - Pogo effort.
 - USGS is very involved (aquatic invasives)
 - We could at least map it out.
- Abby:
 - Design for plugging into the global efforts rather than design their own.
- Pier:
 - Extensions are possible.
 - Try to align as much as possible.
 - Synchronizing is possible.
- Erica:
 - What do stakeholders need?
 - Alan Coral Atlas
 - Areal extent and composition is more important to coral stakeholders.
- Frank:
 - A lot of interest and activities have not been realized.
- Abby:
 - Cover and diversity focus.
 - We still need to get those things in!
 - So getting organized at a basic level.
- Pier:
 - Omics monitoring - Let other groups know. Circulation requirements among other life observing teams.
- Frank:
 - Don't want to miss an opportunity.
- Abby:
 - Could be as simple as keeping abreast of all of these efforts.
- Enrique Montes:
 - Fish and other marine invertebrates for other biological EOVs.
- Sam:
 - Need to stay focused just to be able to get work plan done.
 - Mammals group: Inventory which programs monitor which EOVs.
 - Staying aware of mission creep.

- Jennifer
 - Reaching out to David Sutter
 - Bring up adding additional taxa.
 - GCM nodes.
- Gabrielle
 - Opportunity for expansion and is very useful.
- Ward
 - Trying to understand DM activities to converge into metrics.
- Erica
 - Monitoring programs for all over the world submitted data.
 - Comparison of coral cover from different methods.
 - National Coral Reef Monitoring Program
- Abby
 - Microbial EOY.
- Pier
 - EOY / EOB alignment.
 - Semantic technologies and meaning.
 - Big bottlenecks related to semantics.
 - EOY or organized in the life components.
 - Semantic reorganization is necessary. Diversity for example is in common.
 - Ward and Pier/
 - Data and informatics side can drive needs. (action can make things clearer)
 - “Semantic Fog”
- Abby
 - Data mobilization is important.
 - Need to make data available.
- Megan -
 - ESIP winter meeting. Bio-data workshop.
- Abby: Closing comments.

ChatLog:

Erica Towle (to Everyone): 12:27 PM: And Jen Koss, Director of CRCP is now here with us

Errol Ronje (to Everyone): 12:27 PM: Accidental!

Ward Appeltans (IOC) (to Everyone): 12:30 PM: how are the groups working? through a GitHub? Happy to be engaged in the sub task teams to make the connection with international OBIS.

Pier Luigi Buttigieg (to Everyone): 12:33 PM: On national and international infrastructures: yes, I think we are close to ready

Gabrielle Canonico (to Everyone): 12:37 PM: @Ward we haven't agreed on the platform yet but thanks for your interest and we'd welcome your engagement. We plan to formally kick off with a virtual meeting in January - date TBD.

Krista.Nichols (to Everyone): 12:38 PM: The NMFS Deep Sea Coral Research and Technology Program has an effort integrating genetics data with monitoring -- not sure that they are represented here in this group?

Erica Towle (to Everyone): 12:39 PM: Good question - this will focus on shallow water hard corals

Erica Towle (to Everyone): 12:39 PM: 0-30 m

Erica Towle (to Everyone): 12:39 PM: (so not deep sea corals for this task)

Pier Luigi Buttigieg (to Everyone): 12:39 PM: Omic BON is also not restricted to marine stuff

Anton Van de Putte (to Everyone): 12:40 PM: with the antarctic biodiversity portal we've been working with microbial genomic data for a while, including OBIS, GBIF etcetera. Happy to share expertise

Frank Muller-Karger (to Everyone): 12:41 PM: @Erica and Krista.Nichols - I do think that a framework can be useful for corals shallow and deep (and other things)(similaar, we can use frameworks developed for other things and bring taht in as we are discussing here)

Stace @ WHOI (to Everyone): 12:42 PM: Will this chat be saved with ESIIP Cluster wiki notes? Some helpful info here :), thanks

Abby Benson (to Everyone): 12:43 PM: Yes the go to meeting chat gets saved to my computer so I'll make sure to add it.

Pier Luigi Buttigieg (to Everyone): 12:43 PM: @all - if you have even provisional guidelines, recommendations, protocols (omic or otherwise) - please check out www.oceanbestpractices.org - these can be updated as they develop

Pier Luigi Buttigieg (to Everyone): 12:43 PM: here's the omics collection: <https://repository.oceanbestpractices.org/handle/11329/832>

Erica Towle (to Everyone): 12:43 PM: Thanks so much, Pier

Pier Luigi Buttigieg (to Everyone): 12:44 PM: small now, but will extend through some EU projects to extend this with a *system* of protocols for microbiome monitoring (which will overlap with other lifeforms)

Erica Towle (to Everyone): 12:45 PM: Good point re: thinking about eDNA protocols in existing monitoring programs

Anderson Mayfield (to Everyone): 12:45 PM: We at AOML regularly integrate coral 'OMIC data with field/ecological survey i.e., monitoring) data over intra- and inter-reef scales. Feel free to email me if you need any advice/suggestions: anderson.mayfield@noaa.gov

Luke Thompson (to Everyone): 12:46 PM: Great point, Pier. It's great to keep eDNA/omics in the conversation even if it's not fully integrated yet

Erica Towle (to Everyone): 12:46 PM: Thanks, Anderson. I definitely will. I'm erica.towle@noaa.gov by the way

Anderson Mayfield (to Everyone): 12:47 PM: It's not as daunting as it may seem....

Erica Towle (to Everyone): 12:47 PM: Happy to hear that. I'll follow up with you.

Ward Appeltans (IOC) (to Everyone): 12:49 PM: Is there a data/information flow with the Global Coral Reef Monitoring Network? I heard that they are about ready to publish a global coral reef status report.

Pier Luigi Buttigieg (to Everyone): 12:49 PM: I'll have to leave soon to wrap up the Omics/eDNA data day for the POGO meeting (would be cool to sync with this group, which we mentioned in the workshop). The way to work will likely be to engage in the GOOS BioEco EOVI Slack which has data-dedicated channels. Let's develop specs and sync them with existing standards. We have the access and contacts to make this happen, I think

Erica Towle (to Everyone): 12:49 PM: Thanks for that question, Ward. Yes, I see big synergies here with GCRMN

Erica Towle (to Everyone): 12:49 PM: and I sit on the GCRMN steering committee

Gabrielle Canonico (to Everyone): 12:49 PM: David Obura is aware of this effort and interested to support as he can.

Ward Appeltans (IOC) (to Everyone): 12:50 PM: OK. I am trying to understand the data management activities to translate this into the coral EOVI indicator.

Pier Luigi Buttigieg (to Everyone): 12:52 PM: @Abby - I have a closing comment on the EOVI/EBV (and perhaps Core) link

Abby Benson (to Everyone): 12:52 PM: Got it.

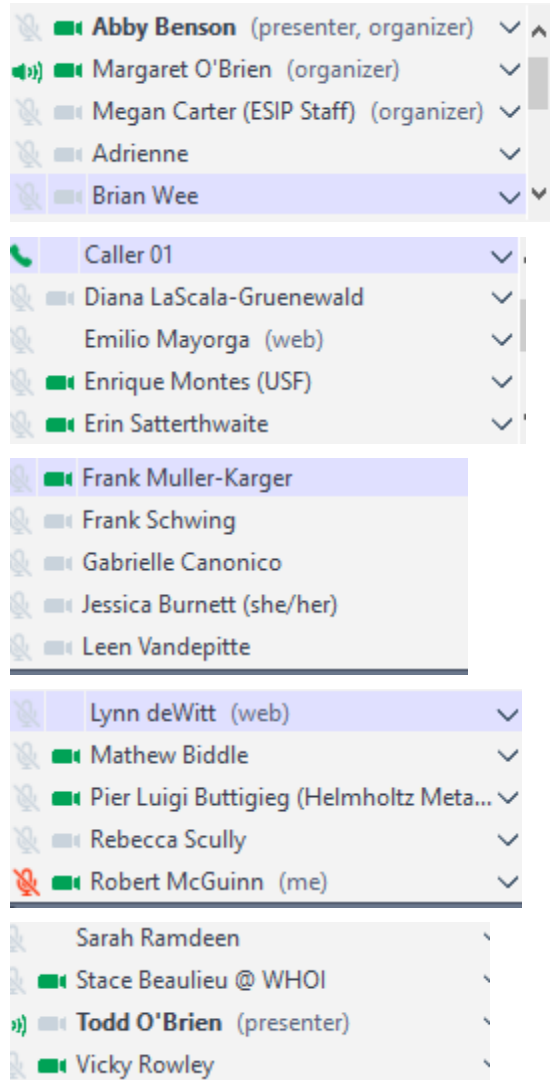
Megan Carter (ESIP Staff) (to Everyone): 12:55 PM: Don't want to interrupt, but did want to share a couple of general ESIP announcements: You can now see the full breakout schedule for the ESIP Winter Meeting at <https://2021esipwintermeeting.sched.com/>. Early registration is 12/21. ESIP is also helping to host a Virtual Data Help Desk at AGU Fall Meeting starting next week. Learn more at <http://bit.ly/DataHelpAGU20>.

Pier Luigi Buttigieg (to Everyone): 12:56 PM: We can share the POGO outcomes with this group, and you're welcome to contribute to the Decade programme proposal we'll generate.

Pier Luigi Buttigieg (to Everyone): 12:56 PM: Ciao!

2020-11-05

Attendees:



24 Attendees

Agenda:

1. Update on co-chair for the cluster
2. Data Horror Stories
 - a. Robert McGuinn
 - b. Margaret O'Brien:
 - c. Todd O'Brien
 - d. Jessica Burnett

3. Open Discussion

Notes:

Margaret O'Brien -

- Story about structured metadata.
- 50 year time series.
- Describing data tables good, but methodological descriptions are lacking.

Abby: What about the Ocean Data Best Practices?

Margaret:

- Protocol libraries are useful. Standard protocols must be tailored to what the water is like.

Frank:

- Protocol databases are not connected.

Todd:

- World Ocean Database 1996 - 2004
- Digitizing data - units are not all what they seem (mm)
- Stripping of precision (rounding issues (Fortran versioning)
- 11.34 is this decimal or 11 minutes 34 seconds.
- Local time versus GMT corrected (problem with duplicate)
- Data Center nightmares:
 - DOI minting. Versions / Repeating.
 - Separate sending of data.
 - Example (Calcofi db).
 - Data.gov etc. have many variations.
 - Go to the actual web site.
 - Does.
- Invasion of the mutated replicates
 - COi
 - GenBank did not force a vocabulary
 - 32 different methods
 - 80 different spellings
 - COi - searching issues.
 - Multiple search times.
- Gremlins in the software
 - CSV - semicolon in European Excel.
 - 12-05-2020 (Dec. 5 - May 12)
 - Column of 100 dates.
- WOD using taxonomic synonyms.

- ITIS was incorrect.
- OBIS reported.
- “Only original data provider can make the changes”
- WOD 2009 database error.
- Error propagation.

Jessica Burnett:

- Avian science and bird conservation.
- Example of Excel spreadsheet.
- No standardization at all
- The database is presented. Indices are highlighted with red letters.

Adrienne:

Pier:

- PhD in comparative genomics.
- What is the difference between marine vs non-marine. Not retrievable.
- Controlled vocabularies.
- Levels of nesting in controlled vocabularies.
- Environment ontology to complement gene ontology.
- Semantics. International data exchange systems.
- Compatible ontologies.
- National and global systems engineering.
- Really a cultural issue.
- Need reward for good data.
- Catalyze better data - behavior.
- Zombie apocalypse of data.

Megan

- Was handed a dataset from a previous student.
- Mineral weathering dataset.
- Transect away from a tree vs. transect toward a tree.
- Records and sharing.

Abby

- Didn't want name included in links to a dataset
- They don't want to be associated with.

Jonathan:

- MulDar system goes back to 1970s
- Format was proprietary.
- Cherry picking a good dataset.
- Journaling process for registering with OBIS.
- Realized someone else had done the same thing.
- Horror story about duplication.

Abby:

- Stace - most data are “dark” data.

Pier:

- Redundant work (waste of money)

Frank:

- Assumes a moral standard.

Pier:

- Embarrassment is a good tool.
- Consultative and funding agencies.

Frank:

- Data policies can help (see NASA)
- Agencies need more teeth.

Pier:

- Biology could lead in this area.
- Some big success stories.

Jonathan

- Need that extra methodology piece
- Reuse is an issue.

Abby

- Fitness for use.
- Not making data available.

Margaret

- Need to do a better job of sharing methods.
- Overtaxed people.
- Scientists publishing re-buttles and that is a corrective feedback.

Pier:

- MixS specification
- Metadata of sequences
- Web accessible IRI's
- Metadata vs. core data
- Metadata could be used as primary data.

Stace:

- Including both environmental data and positional information

Pier:

- Data brokers.
- GSC board.
- Step in that direction.

Pier:

- Earth science/bio data synchronization.
- Consultative group and catalyst
- Standard mapping. Other data is mapped.
- Vocabularies are linking.
- No siloed standards

Frank:

- What is it that we can contribute or do?
- How do you constrain the problem so you can manage it.
- Minimum set of environmental or biodiversity variables.
- Cannot do it all.

- What about the phytoplankton as a standard

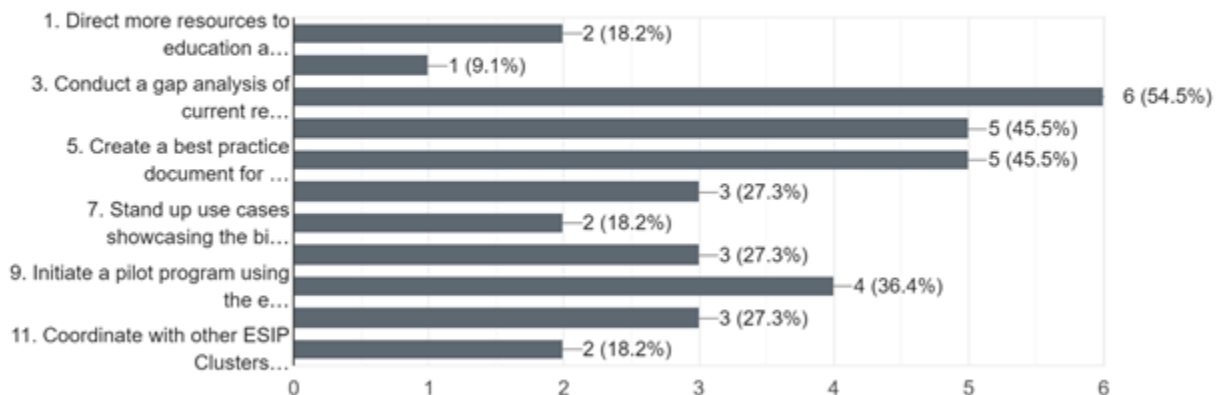
2020-09-23

Agenda:

1. Overview of the IOOS – ESIP Biological Data Workshop
2. Cluster Goals
3. Cluster Actions

We created the following 'action items' from the workshop. Please select THREE action items from this list that you see as most important for the up...ESIP Biological Data Standards Cluster to address.

11 responses













































- a. Conduct a gap analysis of current repositories and portals including portal functionality, strengths, and weaknesses as well as connectivity between them
- b. Create a decision tree for standards related to biological data
- c. Create a best practice document for required/recommended/optional information for different standards
- d. Please focus on the priority of a common practice for operational agencies

4. Meeting times

Notes

Attendees: 22 of 251 (max) X

		ESIP Group Two (presenter, organi... ▼	^
		[Waiting for name 400003]	▼
		Adrienne	▼
		Annie Burgess	▼
		Brian Wee	▼
		Enrique Montes	▼
		Felimon Gayanilo	▼
		Frank Muller-Karger	▼
		Jonathan Blythe	▼
		Lynn deWitt (web)	▼
		Margaret O'Brien	▼
		Marion Stoessel	▼
		Mathew Biddle	▼
		Patrick Daniel	▼
		Robert (me)	▼
		Sam Simmons	▼
		Sarah Ramdeen	▼
		Sarah Ruth Davis Bingo	▼
		Stace @ WHOI	▼
		Stephen Formel	▼
		Tom Hourigan	▼
		Ward Appeltans (UNESCO-IOC)	▼

Attendees:

Abby's presentation:

- Learning from each other (start a community)
- Standards and management.
- Challenges to integration
- 90 participants at the workshop.
- Three stage workshop: videos/workshop/ESIP Cluster (today)
- Videos: on ESIP web site.
- Range of perspectives realized

- Workshop themes.slide
- Base level: Build a community of practice: Today!
- Open for questions
 - None.
- Next up: Goals for cluster.
- ID the landscape for newcomers to this realm.
 - Creating best practices.
- SLIDO poll: In my mind, this cluster will be successful if it...
 - works closely with other relevant ESIP clusters, especially the ESIP Semantic Technology clusters, and also TDWG and the GSC
 - Provides a place to ask questions and discuss issues for people outside the cluster.
 - Develops a clear capacity building strategy to promote data sharing using FAIR principles
 - enhances widespread interest in standards
 - increases awareness and adoption of biological data standards
 - people across multiple agencies and institutions have a place to reliably coordinate efforts.
 - is able to provide clear guidance to someone outside of the cluster.
 - Organismal data are managed and presented in a way that is most appropriate for the data itself, with adequate metadata to describe all research motivations (if applicable) so fitness for additional uses can be ascertained.
 - Develop standards that allow the exchange and reuse of biological data across different platforms and data providers
 - becomes a clearing house for guidance related to biological standards
 - Clear guidance and instruction
 - produces a summary document with our findings and suggestions as well as links to other related resources.
 - establishes reading/training resources for current accepted biological ontologies and data format standards
 - is able to provide best practice guidance that is used widely by repositories and by scientists collecting data relevant to understanding changes in biodiversity over time
 - can start and show adoption of a common vocabulary/ontology even for a small sector of the community
 - Provides clear, easy to follow guidance on best practices to the ocean biology and biogeochemistry community for data interoperability
 - provide a forum to exchange information and share expertise
 - introduces participants to others facing the same challenges and provides venue for discussing.
 - creates unity around standards implementation
 - active communication through GitHub for example

- demonstrate some connectivity to activities being championed by other ESIP clusters
- we align visions and create a minimum best practices for all to follow

Erin S:

- Align what we are doing and bring it to the community.

Matthew B.

- Provide a clearinghouse for data standards.
- Laying out what exists.

Action Items

- We created the following 'action items' from the workshop. Please select THREE action items from this list that you see as most important for the upcoming ESIP Biological Data Standards Cluster to address.
 - Slido Poll Results (see screenshot below)

5. Create a best practice document for required/recommended/optional information for different standards



1. Direct more resources to education about existing biological data and metadata standards and training in how to standardize existing datasets



4. Create a decision tree for standards related to biological data



7. Stand up use cases showcasing the biological data lifecycle



8. Create a suite of best practice resources that are designed to accommodate different levels of expertise and knowledge related to the biological data lifecycle



3. Conduct a gap analysis of current repositories and portals including portal functionality, strengths, and weaknesses as well as connectivity between them



10. Create a list of taxonomic ID registries and generate a decision tree for choosing the one most fit for purpose.



2. Require project funds to be allocated to actions within data management plans



9. Initiate a pilot program using the essential ocean variables as a constraint that results in the ability to track changes over time in an EOVS subvariable with the goal of creating an operational framework.



6. Create a crosswalk between EML and MixS



■ 1. Direct more resources to education about existing biological data and metadata standards and training in how to standardize existing datasets - 44%

■ 2. Require project funds to be allocated to actions within data management plans- 12%

■ 3. Conduct a gap analysis of current repositories and portals including portal functionality, strengths, and weaknesses as well as connectivity between them - 24%

■ 4. Create a decision tree for standards related to biological data - 48%

■ 5. Create a best practice document for required/recommended/optional information for different standards - 60%

■ 6. Create a crosswalk between EML and MixS - 4%

■ 7. Stand up use cases showcasing the biological data lifecycle - 40%

- 8. Create a suite of best practice resources that are designed to accommodate different levels of expertise and knowledge related to the biological data lifecycle - 28%
- 9. Initiate a pilot program using the essential ocean variables as a constraint that results in the ability to track changes over time in an EOVS subvariable with the goal of creating an operational framework. - 12%
- 10. Create a list of taxonomic ID registries and generate a decision tree for choosing the one most fit for purpose. - 20%

○

Abby summary of poll result:

Stace @ WHOI:

- Look across standards to see which elements align between standards.
- Related to Create a Decision Tree for Standards.
 - Strength and Weaknesses

Maggie O.

- Would like to know pros and cons of each standard.

Vicky R.

- Gap analysis and decision tree would be good.

Frank MK

- Looking for convergence and interoperability.
 - Lens - UN Decade recommendations and alignment
 - LTER, MBON, OBP
 - Minimum set of common standards (what are these?)
 - How do we get to a minimum set of commonalities?

Tom H.

- Agree with Stace
- Best practices across those variables.
- Best practices would be built off of gap analysis and decision tree.

Abby

- These are intertwined
- Lay of the land document would be great.
- More of a decision tree.

Erin

- Portals may require different standards.

- Which standards match to which portals.

Frank

- Why EOVs one not operate.

Maggie O.

- Did not pick because EOV.
- What is biological data?
- Too broad a definition.
- Data on organisms (taxon in the mix).
- Other opinions.

Frank

- Agrees
- Not just biomass.
- Functional group, taxonomic group, broader definition of biodiversity.

Abby:

- Good to limit, but don't want to limit the work of the cluster.
- Don't want to limit it too much.

Maggie O.

- Primary productivity
- Standards (metadata specs) ISO, geodata, EML
- How do you use those specs for those particular kinds of data
- Decision tree on when to use certain.

Mark S.

- Standards discussion from semantic cluster
- TDWG and Genomic Standards Consortium
- TDWG and GSC is very important
- Semantics bring about FAIR

Abby

- Connections with TDWG and GSC will be incorporated.
- Semantics and Marine cluster were specifically called.

Mark

- Invite to speak at next Semantic cluster

Abby

- Yes to invitation
- Work to weave together clusters
- Any groups we are missing?

- RDA working group (involved in TDWG.
- Others we should be connecting with?

Jonathan B

- Keep an eye on new technologies and to use it on the web
- Show and tell (hardware/software)
- Learning.

Abby

- Will get these teed up!

Felimon

- Lots of biological data working groups but very little results.
- World of biological data is huge.
- At the end of the day you can talk about standards all day, but how do you enforce human behavior.
- Maybe break this into biological data sectors to achieve more focused results..
- What are these communities.

Abby

- Thinks we do have ways to converge.
- Learning what is working for people.
- What is working for the genomics people.

Mark

- DarwinCore is a pretty well established vocabulary.
- GBIF is a huge aggregator
- Genomics: Gene Ontology
- Gaps, gene ontology.

Felimon

- Requests an introductory lesson on all of this.

Robert

- What is the standards motivation for individual data providers?
- For DSC RTP it is the advantage of getting our data exposed in portals that bring additional functionality or analytical power to the community.
- We want to help assist data flow into these standards and into these portals.

Enrique M

- How do we get people to push data into repositories that exist
- We also want to provide analytical tools within these repositories
- Don't get sidetracked by too much compare and contrast of standards.

Vicky.

- Need to add/take more training in order to effectively push data to these larger sites.
- If it were easier to come up to speed (need additional documentation)

Matt

- Need to communicate this to the science community.
- Don't just develop standards but also actively reach out.

Frank.

- Many groups gearing up and creating different data management plans.
- Too many small group standards.
- Push the data and metadata community.
- How can get people to do it simply and follow some general guidelines
- How much data has been lost to the complexity.

Erin

- Consider myself a user.
- How to bring my data?
- More instruction.

Abby

- A bit more training.

Robert

- To lessen the data management burden, hire the skillset via contract -OR-
- Build new capabilities in-house (new departments)
- Lot's of new graduates with skills and interest in Data Science and Data Management
- The profession is maturing.
- Forward thinking institutions are doing this. (e.g. NOAA)
- Scientists don't have to be data managers. They can get help.

Vicky

- Grants have trouble out-sourcing help for data management because funders look down on it.
- Learning curve for data management (how and where) is really a problem.
- Documentation is the only way to come up that learning curve.
- Produce some video educational experiences.

Steve Formel

- Education module
- Workshop for the faculty.
- Getting end users up to speed.
- Like github training.
- Focus on getting training materials for universities.

Abby

- Meeting times poll.
- Wish to keep it like it is!
- An hour later would be better for Ward A.
- Next meeting within a month.

Annie Burgess

- Communication channels should go along between meetings.
- Starting Biological Data Standards Slack Channel
- Two slack channels (Abby)

- **Action:** Annie to create the slack channel
- ESIPfed.org
- Excited about the direction of this cluster.

Abby

- This group will communicate on listserve or slack channel (to be set)

Annie

- Wiki
- GoToMeeting on next agenda.

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