SEEKCommons

RESEARCH COORDINATION NETWORK

Socio-Environmental Knowledge Commons

HDF User Group Meeting 2023

The full presentation was given by Luis Felipe Murillo (ND)

at the NSF-FAIROS Meeting May 19, 2023

National Science Foundation
WHERE DISCOVERIES BEGIN

SOCIO-ENVIRONMENTAL KNOWLEDGE COMMONS PROJECT

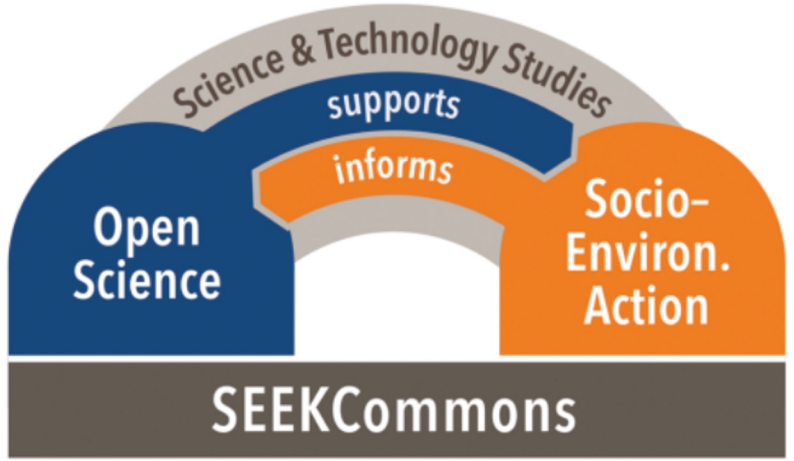
- **Main Goal:**
  - Study, translate, and disseminate Open Science (OS) tools and methodologies to advance collaborative socio-environmental research

- **Scope:**
  - Social + environmental research projects that **(1)** collaborate with frontline communities and **(2)** use or develop OS tools and methodologies

- **Disciplinary Improvements:**
  - Science and Technology Studies + Public Access
  - Research Coordination Network (RCN) supported by NSF OAC and SBE
  - NSF Grant #2226425

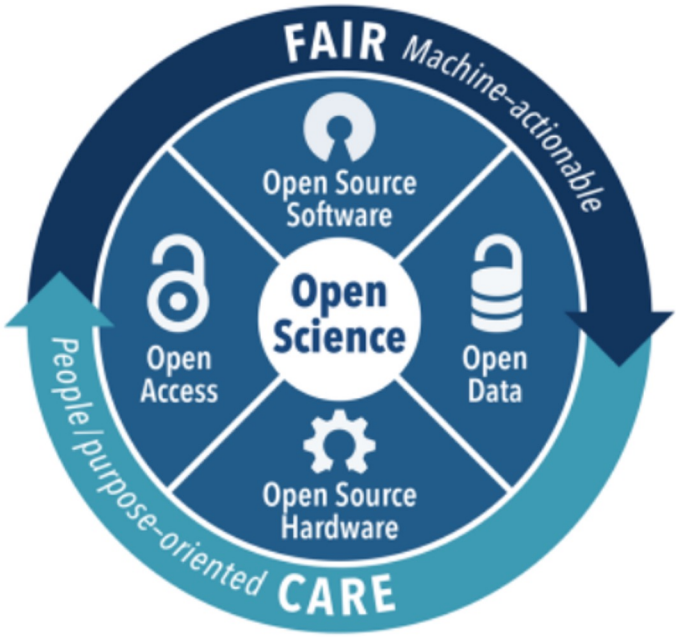
PROJECT STRUCTURE

- **Three Components of Research and Development:**
  - **(1)** Open Science, **(2)** Science and Technology Studies (STS), and **(3)** Socio-Environmental Action Research
  - **STS as "Translational" Practice** between **OS** and **socio-environmental researchers** working with communities affected by environmental and climate issues



PROJECT: WORK PACKAGES

- **Five Research Network Coordination Activities:**
  - **(1) STS research** on the challenges of “openness” in sci/tech
  - **(2) Convenings** to workshop OS tools with RCN members
  - **(3) Fellowships** for early-career researchers to advance OS
  - **(4) Data Facilitation Consortium** to support data stewardship goals
  - **(5) Resource Hub** to disseminate OS outputs from RCN members



PROJECT TEAM

Luis Felipe Murillo, PI
U of Notre Dame

Shannon Dosemagen, co-PI
Open Environmental Data Project

Gerd Heber, co-PI
HDF Group

Natalie Meyers, co-PI
U. of Notre Dame

Katie Hoeberling, sr. person.
Open Environmental Data Project

Lane Rasberry, sr. personnel
U. of Virginia

John Readey, staff tech.
HDF Group

Alek Jelenak, staff tech.
HDF Group

Michelle Cheripka, staff comms
Open Environmental Data Project

Matias Milia, postdoc
U. of Notre Dame

RESEARCH COORDINATION NETWORK (RCN): MEMBERS

Science and Technology Studies

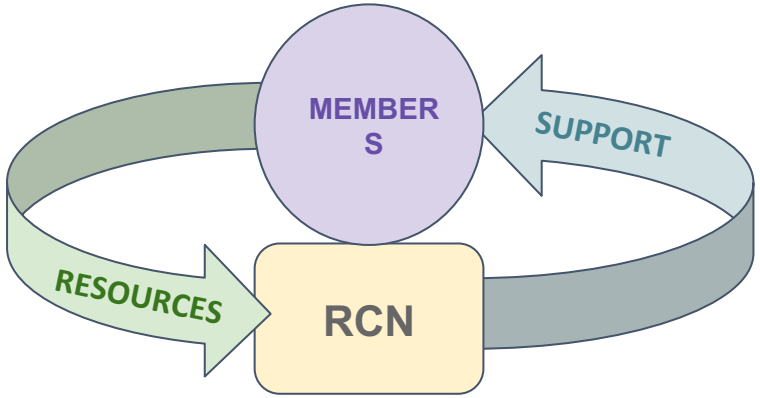
Scott Frickel, Brown U.
Aya Kimura, U. of Hawaii
Gwen Ottinger, Drexel U.
Abby Kinchy, Rensselaer Polytechnic Institute
Kirk Jalbert, Arizona State U.
Marko Monteiro, State U. of Campinas

Open Science

Phil Bourne, U. of Virginia
Daniel Mietchen, Freie Universität Berlin
Christine Kirkpatrick, SDSC U. of CA, San Diego
Mark Parsons, U. of Alabama, Huntsville
Karl Benedict, U. of New Mexico
Stephanie Carroll, Arizona State U. (pending)

Socio-Environmental Action Research

Alison Parker, Wilson Center
Michelle Roos, Environmental Protection Network
Kathy Pope, Environmental Protection Network
Daniela Soleri, UC Santa Barbara
Marccus Hendricks, U. of Maryland (pending)
Mónica Ramírez-Andreotta, U. of Arizona (pending)



RESEARCH: "STATE OF OPEN SCIENCE IN SOCIO-ENVIRONMENTAL RESEARCH"

- **Main Goal:**
  - Explore **how OS tools and practices are being incorporated** into Socio-Environmental (SE) research

- **Research Design:**
  - Profile socio-environmental projects across **three dimensions**:
    1. *Institutional landscape*
    2. *Use and/or development of OS technologies*
    3. *Collaboration with frontline communities*

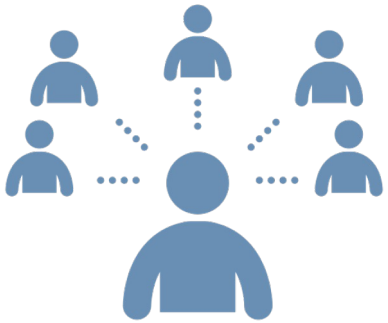
- **Project Examples:**
  - "Impact of Climate Change in the Built Infrastructure of the North Slope, Alaska"
  - "Community Science Kits for Soil Contamination in Upstate New York"
  - "AmazonFACE: studying the impact of climate change in the rainforest"

RESOURCE HUB

RCN

- *Individual researchers*
- *Research projects*
- *Institutions*
- *Communities*

SEEKCommons Hub



Catalog and archive tools, datasets, software, open resources

Hierarchical Data Format

5-star data

Catalogued Resources

Promote and distribute in Linked Open Web

WIKIDATA

WIKIPEDIA

Quick Demo: Wikidata & Scholia

WIKIDATA

Welcome!

Wikidata is a free and open knowledge base that can be read and edited by both humans and machines.

Wikidata acts as central storage for the **structured data** of its Wikimedia sister projects including Wikipedia, Wikivoyage, Wiktionary, Wikisource, and others.

Wikidata also provides support to many other sites and services beyond just Wikimedia projects! The content of Wikidata is available under a free license, exported using standard formats, and can be interlinked to other open data sets on the linked data web.

SCHOLIA

Scholia is a service that creates visual scholarly profiles for topics, people, organizations, species, chemicals, etc using bibliographic and other information in Wikidata. More info...

Scholia relies on Wikidata, and Wikidata contains only a limited albeit growing subset of the corpus of scholarly literature, its authors and citations. Read more about the limitations in the FAQ or check the statistics.

FELLOWSHIP PROGRAM

- **Main Goal:** Bringing the “next generation” of early-career researchers with new perspectives and voices to socio-environmental research with open technologies

- **Program Design:** Two cohorts (Year 2 and 3) with 9 undergrad, grad, post-doc fellows to work on:
  - *Open technologies for data management, formats, standards, protection, and sharing*
  - *Open data and metadata curation for sharing and preserving project outputs*
  - *Developing FAIR Implementation Profiles (FIPs) with embedded ethical principles (i.e. CARE)*

- **Curriculum for SEEKCommons Fellows:** Open Licensing, Open Scientific Computing, Wikidata for Research, Data Management and Stewardship, FAIR Guidelines, CARE principles, and more!

DATA FACILITATORS CONSORTIUM (DFC)

- **Main Goal:** Create a training and capacity-building program designed to support multi-directional learning and sharing. Rely on the expertise of the **SEEKCommons network** to develop and provide OS resources to Fellows and the broader public

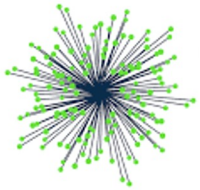
- **DFC Design:** All products—trainings, workshops, resources—will be hosted in the **Resource Hub** and include modules for socio-environmental researchers & communities:
  - *Data Management, Data Standards, and Conventions with OS tools*
  - *FAIR-focused OS methods and services around the research lifecycle (Digital Objects, FIPs, etc.)*
  - *Community-first data sharing and use agreements, stewardship, and (co-)ownership of data*
  - *STS methods for translating OS concepts across diverse and unequal stakeholder groups*

SEEKCommons

how to contact us:

seekcommons.org

info@openenvironmentaldata.org



OPEN
ENVIRONMENTAL
DATA PROJECT

The HDF Group

UNIVERSITY of VIRGINIA