Shared Learning and Intentional Collisions - Benefits of a Community of Practice

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Risk Community of Practice
April 18, 2019
Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.

–Etienne Wenger

I just joined the Risk Community of Practice. How is this different than other groups that I belong to?
Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. –Etienne Wenger

Professional society - usually does not interact regularly

Research Group - a local instance of a CoP

Research Coordination Network - a distributed instance of a CoP
Risk Community of Practice

**Who:** Anyone interested in risk research and applications in the USGS

**Why:** Interactions between members will help them meet their goals faster

**When:** Monthly meetings and some in-person meetings

**How:** Guest speakers, project updates, journal club, trouble-shooting/think tank, group leads, proposal process
Not a hub, but a network

Transmit  ➔ Transact  ➔ Transform
Relationship to the Community for Data Integration

The Risk Community of Practice is using the in-place infrastructure of the CDI to help meet its goals.
Community for Data Integration

Who: Anyone interested in improving their skills in data science, integration, and management

Why: Interactions between members will help them meet their (and USGS) goals faster

When: Monthly meetings of full group and subgroups, biennial in-person meetings

How: Guest speakers, project updates, topical discussions, focus groups, group leads, proposal process, forum
The USGS Community for Data Integration

Increase communication across boundaries and grow the USGS knowledge base in data integration and management

- Monthly Meetings
  - Encouraging discussion through presentations

- Collaboration Areas
  - Member-driven working groups
  - Earth Science Themes

- Funded Projects
  - Over 80 projects funded since 2010

- Workshops and Trainings
  - In-person and virtual events
Recent monthly meeting topics

Information and tools to help you work with your data

• A Cost Effective Approach to Scientific Data Storage and Management: BlackPearl and Globus
• USGS Cloud Hosting Solutions Update
• Data visualization for science: comparing 3 dashboard building software packages
Collaboration Areas

Created by Hsu, Leslie, last modified on Apr 12, 2019

Artificial Intelligence/Machine Learning  Bioinformatics  Citizen-Centered Innovation
Data Management  Data Science  DevOps  Earth Science Themes  eDNA  Elevation
Environmental Modeling (ICEMM)  GIS Community  Metadata Reviewers  Risk
Semantic Web  Software Development  Subduction Zone  Tech Stack

https://my.usgs.gov/confluence/display/cdi/Collaboration+Areas
Community for Data Integration Funded Projects: 2010 – 2017

Let us know...

- Where are they now?
- Are other projects leveraging their outcomes?
- Can you leverage their outcomes?
## Workshops & Training Events:

<table>
<thead>
<tr>
<th>Year</th>
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| 2018 | CDI Group Learning 3: Matplotlib - plotting in Python  
     | CDI Group Learning: Introduction to Python for Data Science - DataCamp  
     | CDI Group Learning: Introduction to Git for Data Science - DataCamp  
     | CDI Summer Reading 2018: Get Your Science Used – Six Guidelines to Improve your Products  
     | Python for Data Management Webinar Series  
     | Risk Map Project Workshop, January 17-18, 2018 |
| 2017 | GeoHackJams |
| 2016 | 2016 SciDataCon Session: Managing Science Data: A Federal Agency's Perspective  
     | Mapping Innovation Workshop: CDI-Theme  
     | Software and Data Carpentry Workshops |
What works well

**Monthly meetings:** When CDI facilitators notice a cluster of questions, inquiries, or frustrations about a particular topic, and invite a speaker to come provide more information.

**Collaboration Areas:** A group gathers around a shared challenge and organizes presentations or creates a time-bounded working group to complete a task. (Populate areas of the Data Management Website, create checklists for processes.)

**Funded Projects:** A data integration need is solved by a cross-Mission Area and multi-expertise team, builds on existing resources, and delivers products that are well-documented for future use.

**Workshops and Trainings:** A shared desire to learn about a topic, flexible formats.
The Community for Data Integration: conversation between the top and the bottom

Top down:
USGS Policies, Open Data Initiatives, Public Access Plan

Bottom up:
Best Practices, Processes, and Tools
Functional interactions between CDI members

- After seeing a monthly presentation where RShiny was used, an email exchange to learn how that group set up their implementation on USGS infrastructure.

- **Demonstration and sharing of python code in Jupyter notebooks** to access data on ScienceBase, query other online catalogs, or do local batch file management.

- Participants on a call asked questions about data and metadata review and release, and in a few days got **authoritative answers from the Fundamental Science Practices Advisory Committee.**

- PIs from a previously-funded project put out a **call for new users in different mission areas to build on their system**, and found a new external contact.
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–Etienne Wenger
AAAS Center for Scientific Collaboration and Community Engagement

Our training topics so far have included:

- **Are you a scientific community manager?** Exploring the skillsets of scientific community managers using the CEFP skills wheel
- **Life cycles models to understand the evolution of your community** – and how to match your community strategy to your lifecycle stage
- **Conflict resolution and team-building** – exploring styles of conflict, stakeholder engagement and planning for successful collaborations
- **Introduction to community playbooks** for i) research collaborations ii) member associations and iii) volunteer organizations.
- **Community playbook creation for organizations undergoing transition**
- **Creating a strategic roadmap for your community team**
- **Building a scientific community of practice using a theory-driven approach**

Take-homes

• Tell the community and the group leads about your needs and interests

• Provide transparency and documentation of past solutions

• “Let’s do something brand new together that we couldn’t do alone.”

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