

EarthCollab: Enabling Scientific Collaboration and Discovery

<http://earthcube.org/group/earthcollab>

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1. National Center for Atmospheric Research (NCAR) Library, 2. NCAR Earth Observing Lab, 3. Cornell University Library, 4. UNAVCO

NCAR, Cornell University, and UNAVCO are collaborating on the EarthCollab project, officially titled "Enabling Scientific Collaboration and Discovery through Semantic Connections."

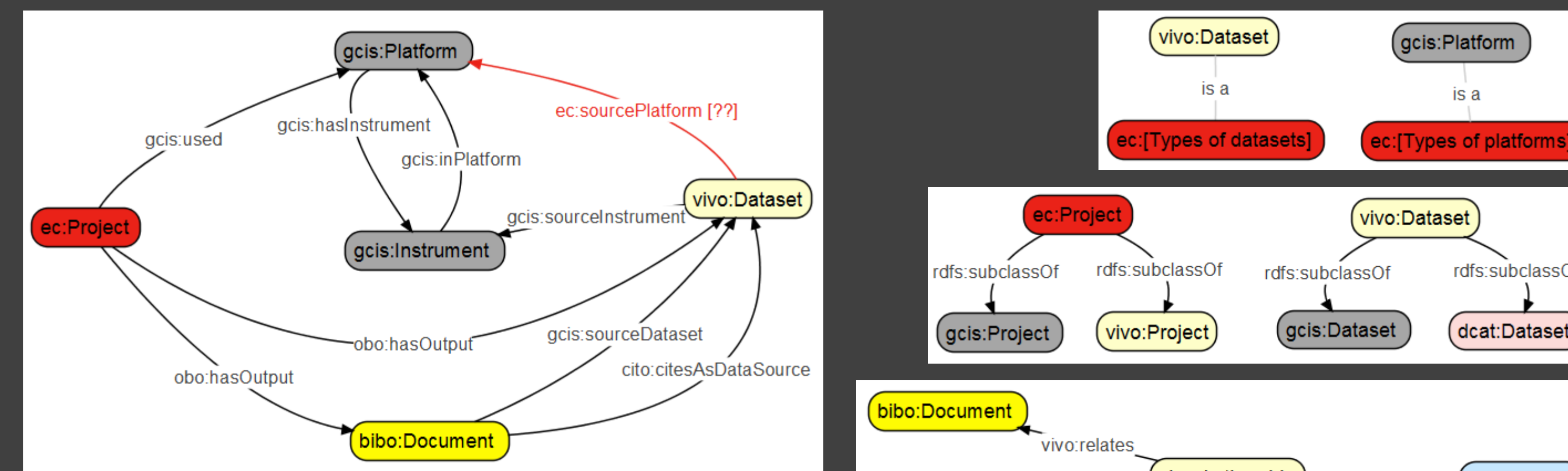
Project Goals:

- Participants and products (and the relationships between them) of complex scientific projects are easily connected and discovered.
- Support scientific collaboration, and increase the discoverability and usability of scientific resources, via semantic and linked data tech.

EarthCollab Data Structures

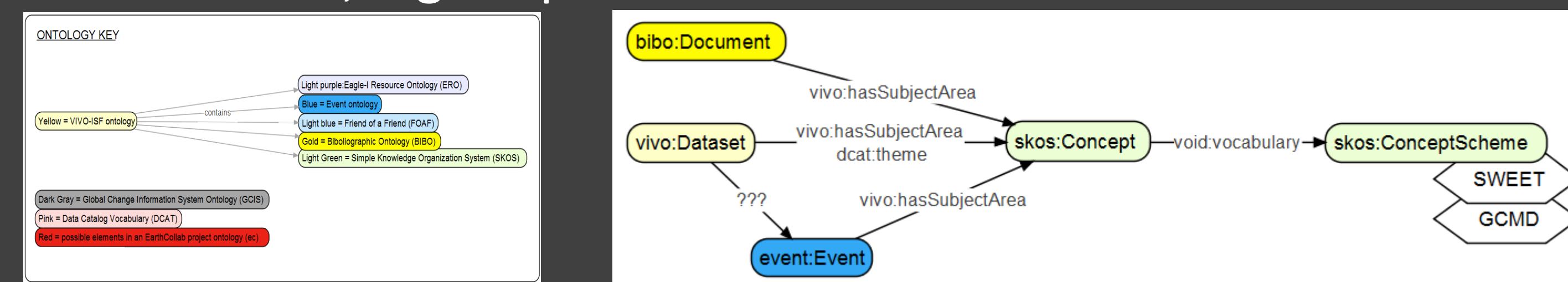
Build ontology extensions for linking:

- VIVO-ISF: People, organizations, publications
- DCAT: data sets and catalogs
- GCIS: Scientific instruments, platforms, projects
- Local ontology development to fill gaps



Yet to model:

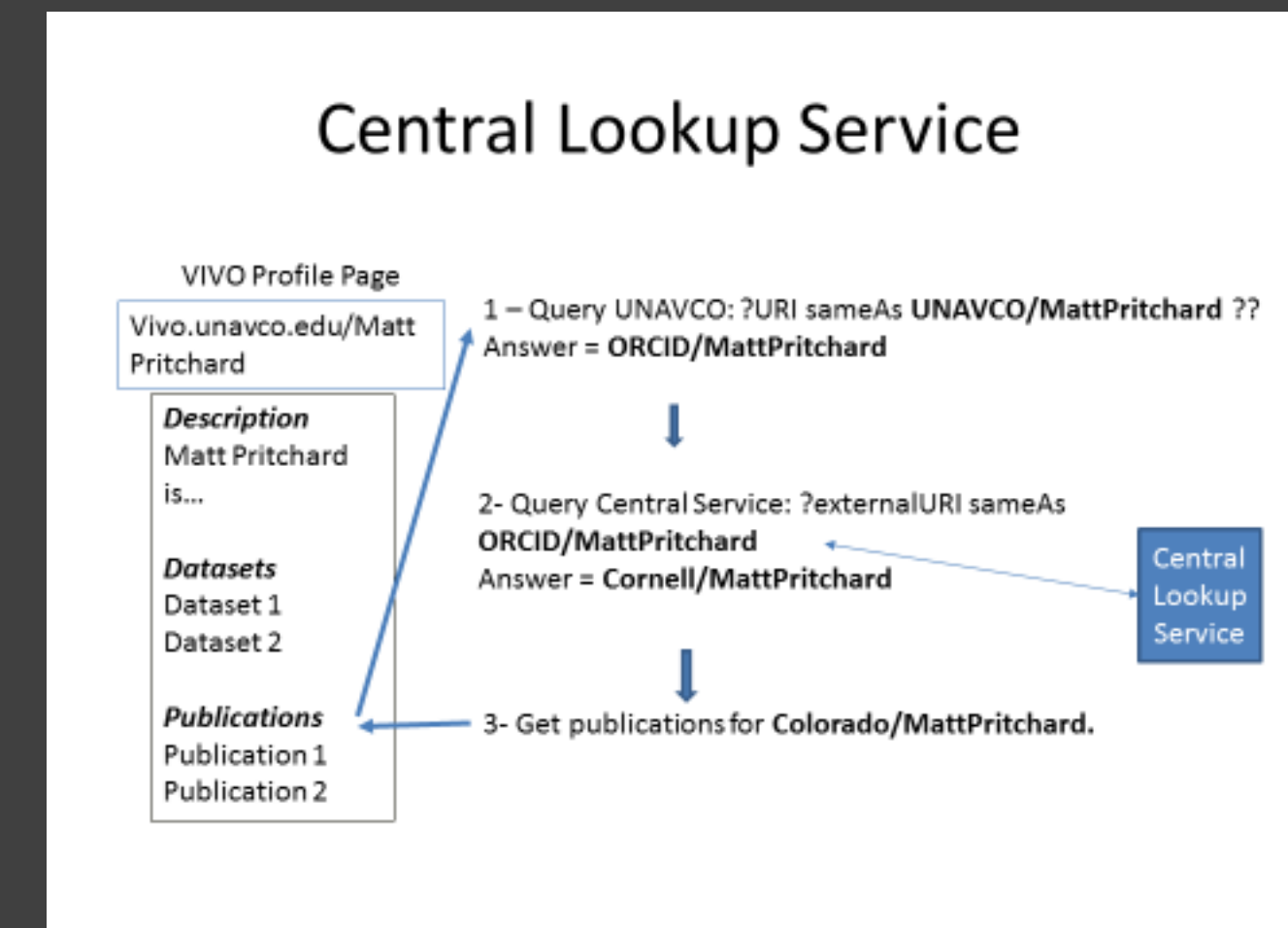
- Geospatial and temporal features
- Parameters/variables
- Use case specific features, e.g. ship tracks



Technology development

Identifying and sharing information across systems

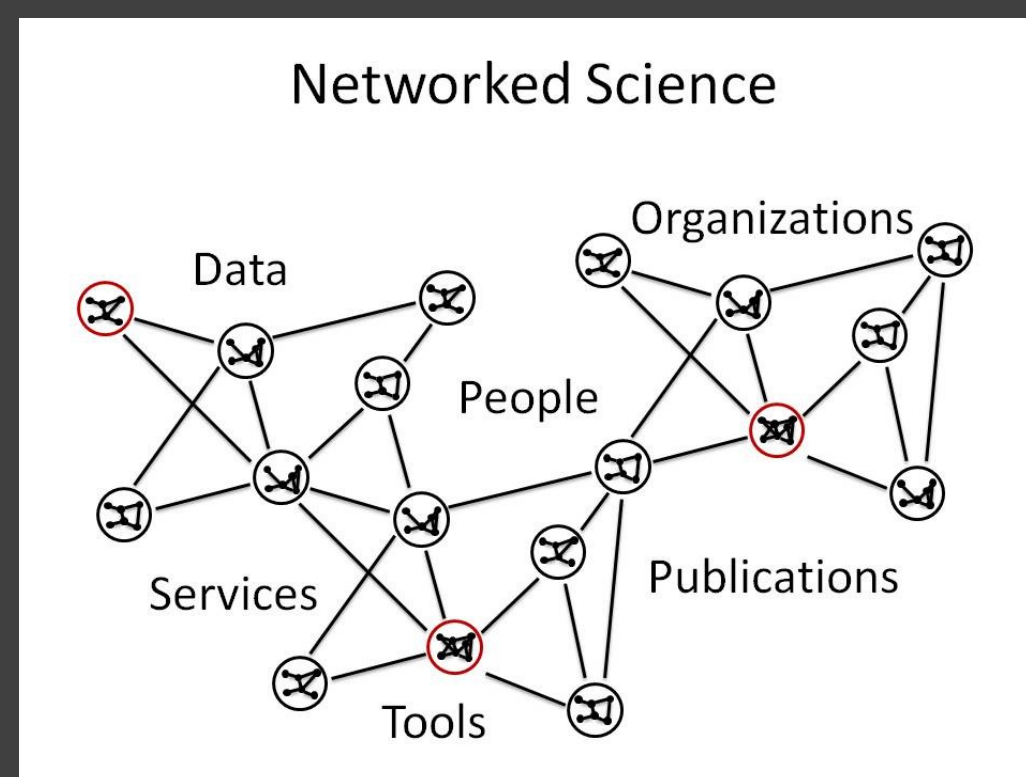
- The same people, data, projects, places, etc., are represented in different linked data stores
- Investigating a central look-up service concept
- Focusing on VIVO community first, but working towards a general approach



EarthCollab Objectives

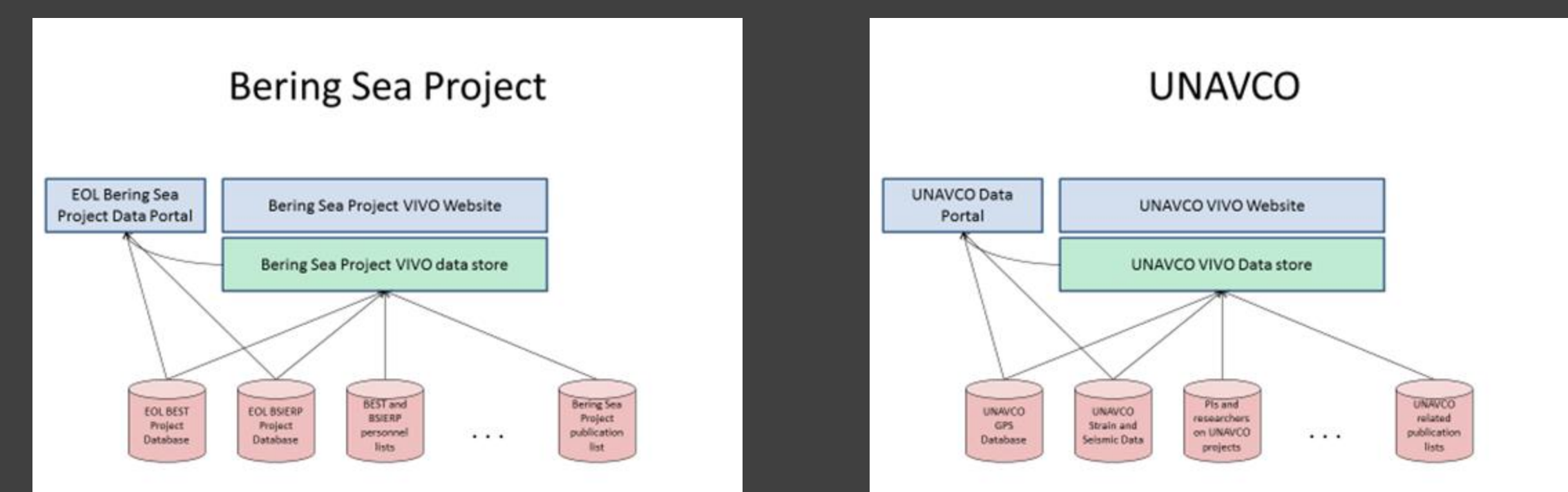
Connect and link researchers and stakeholders:

- To data, publications, researchers, projects, organizations
- To instruments and facilities and other relevant resources

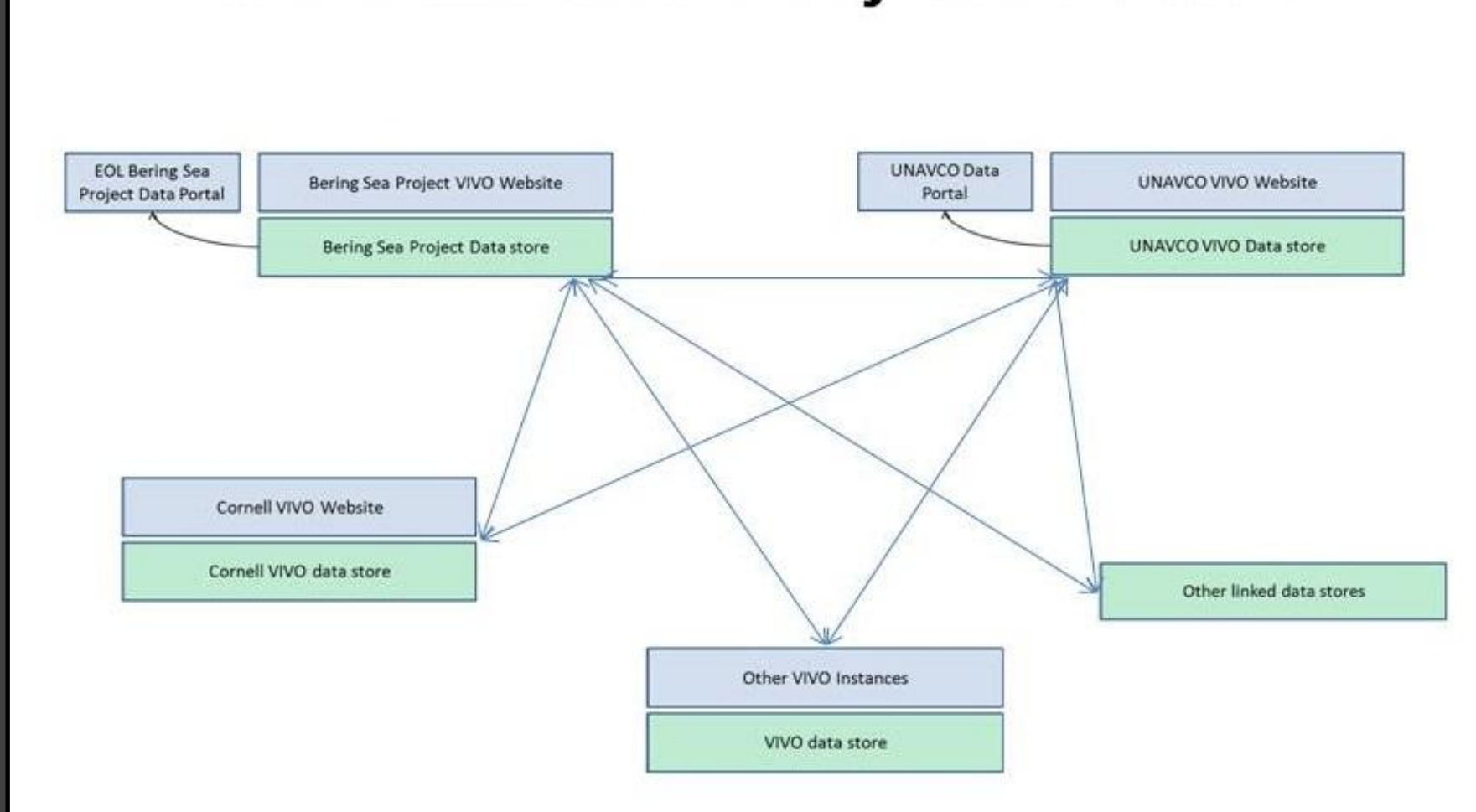


EarthCollab Communities & Use Cases

- Geodesy: UNAVCO
- Arctic Science: Bering Sea Project (NCAR EOL)
- Using VIVO software suite developed at Cornell



EarthCollab Project Vision

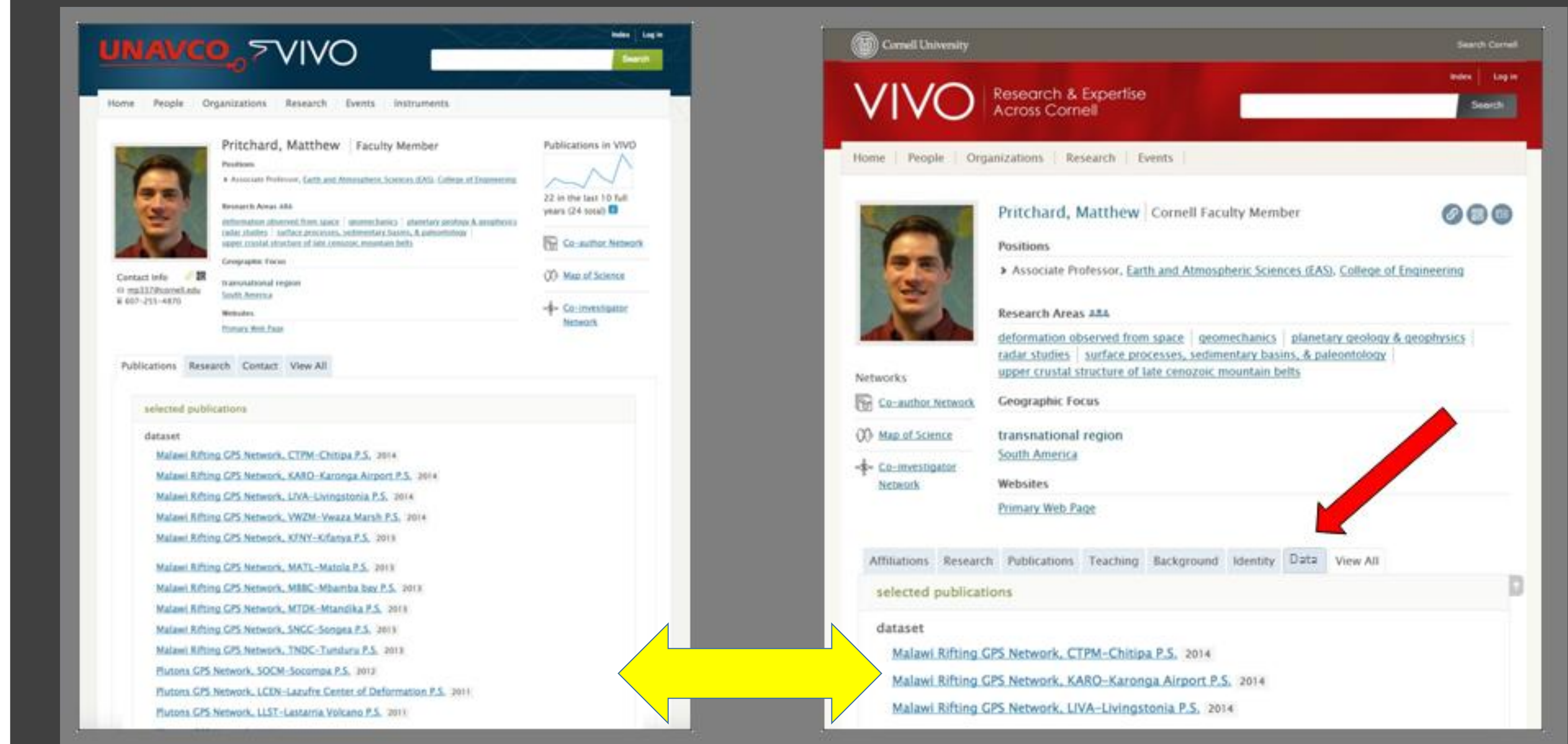


Overarching use case examples:

- Find the publications that used the GPS data held by UNAVCO.
- Identify the people responsible for the collection of a specific Bering Sea data set held by EOL.
- Reciprocal cases, e.g. find UNAVCO data underlying a particular publication.

Science-focused use cases:

- Identify a geospatial region via data where certain parameters show specific features.
 - Ex. #1: Find the areas in a defined region where benthic biomass is high for walrus to feed
 - Ex. #2: Is the line between benthic and pelagic dominated ecosystem shifting?
- Find information (data, pubs, products) related to a geolocated event.
 - Ex. #1: Information related to a seismic event
 - Ex. #2: Information relevant to creating, organizing, and managing geolocated projects



Open Questions

IDENTIFYING AND MEETING USER NEEDS

- How do people find data, tools, publications, collaborators?
- Which aspects of an individual's work are most important to include on scientific project-focused information platforms?
- Do people in your community use LinkedIn, ResearchGate, GoogleScholar?

BUILDING CONNECTIONS WITHIN THE RESEARCH ECOSYSTEM

What mechanisms (tools and procedures) are being used to establish and maintain relationships between research contributors and their products?

- How are you linking publications and associated data?
 - Does your organization promote or require ORCID?
 - How aware is your research community of ORCID?

HOW CAN EARTHCUBE SEMANTIC WEB PROJECTS INTEGRATE?

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