



# DataONE Users Group 2015 – Community Led Roundtable Discussions - Roundtable 2: Informatics/ Data Management Education

0920 Session 10: Roundtable 2: Informatics/Data Management Education  
(Smith, Wang) (Heather - Rm: Acacia)  
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# Informatics/Data Management Education - Objectives

Informatics and Research Data Management Education require diverse skillsets. Some of the competencies required for informatics and research data management include but not limited to:

- Coordinating provenance or workflow capture, software and data citation, use and management of information in electronic lab notebooks and related protocols
- Conducting reproducible research to become easier, faster, and more efficient for the practicing earth and environmental scientist
- Facilitating reproducible research and developing metrics for evaluating success
- Developing new applications or use cases that offer a new approach to making data, code, workflows, and software containers an openly accessible component of the traditional scholarly record

**Source:** Fall 2015 AGU Session ID#: 8601 – Primary Convener: Nicholas Weber, University of Illinois at Urbana Champaign, Urbana, IL, United States; Conveners: Edmund M Hart, University of Vermont, Biology, Burlington, VT, United States and Christine M Laney, University of Texas at El Paso, El Paso, TX, United States

# Informatics/Data Management Education – Required Skills

## Analytic and Assessment Skills

- ✧ Participate in planning, policy formation and departmental decision making related to services, resources and new technologies
- ✧ Formally assess campus-wide data management needs and current support resources and activities

## Policy Development/Program Planning Skills

## Community Dimensions of Practice Skills

## Programming and Data Analysis Skills (Python, PERL, Java; R, SAS)

## Liaison services to faculty, post-docs, students, and staff

- ✧ Data literacy, data management, instruction, support, and training

## Awareness of emerging trends and best practices in e-science, digital humanities, data curation, and e-scholarship in all disciplines

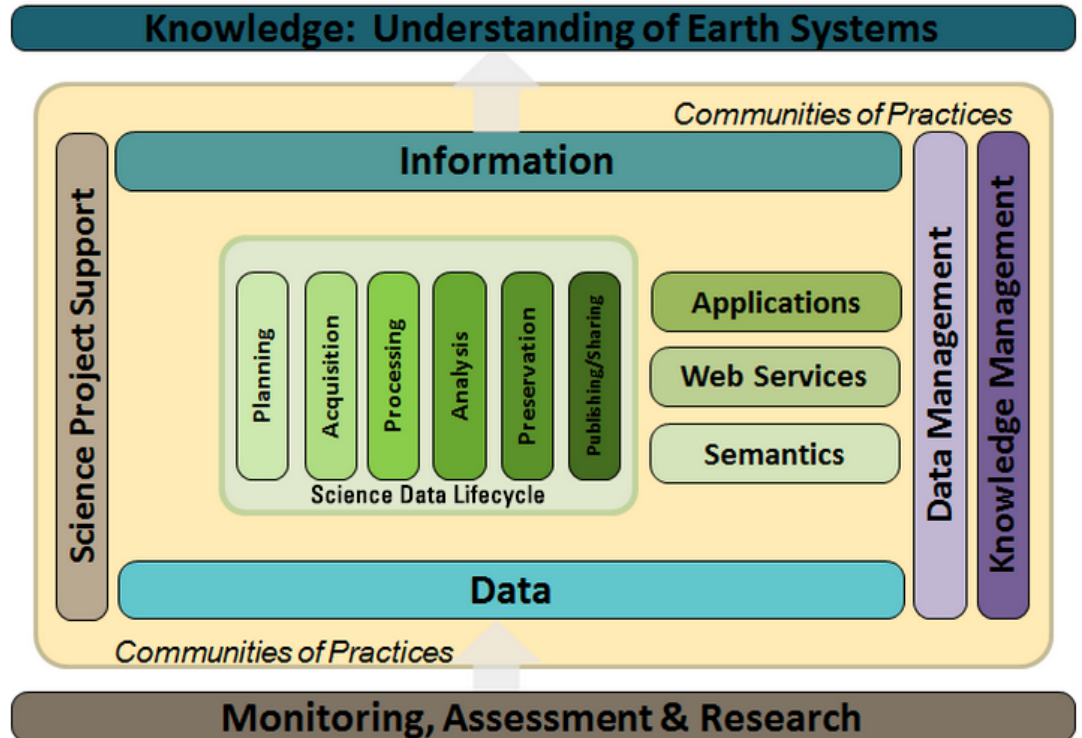
## Awareness of current tools and methodologies for computationally centered, data-driven research (e.g. data mining, visualization, text mining)

# Informatics/Data Management Education – Models and Frameworks

## Research Data Lifecycle Management

- Research and Development
- Publishing and Communication
  - ✧ Community Engagement and Management
- Open Access
  - ✧ Repositories and Web-based Resources
    - ◆ General and Discipline-specific
- Education and Training
  - ✧ Library and Information Science
    - ◆ Aligning curriculum with emerging trends and industry needs

## \*CDI Science Support Framework



Source: GreyNet Literature Network Service  
<http://www.greynet.org/home/aboutgreynet.html>

\*Source: USGS Community for Data Integration (CDI)  
<http://www.usgs.gov/cdi/products-publications.html>

# Concluding thoughts/discussions

- Academic Research Library as broker
  - Serve as partner in connecting scientists/researchers with relevant resources
- General and discipline-specific research data management training
  - Articulate foundational concepts and models across disciplines
  - Tailor training according to needs and relevance to the community/consumers
- Identify and address gaps
  - Develop strategies that work to resolve gaps (e.g. functional components, core competencies, collaborations, communications)
- Increase and leverage collaborations
  - Mobilize and negotiate consortium, memberships, partnerships that increase productivity and continuity across changes, challenges, projects, and trends

# Thank you

If you have any questions, comments, and/or questions, please contact the following members or the DataONE Users Group (DUG).

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