Managing Scientific Research Data: Data Packaging and Organizing Materials for Curation

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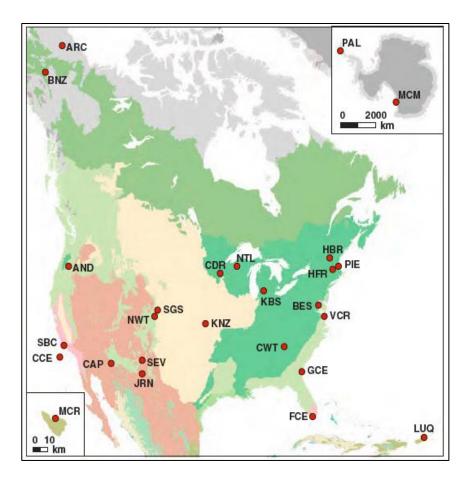


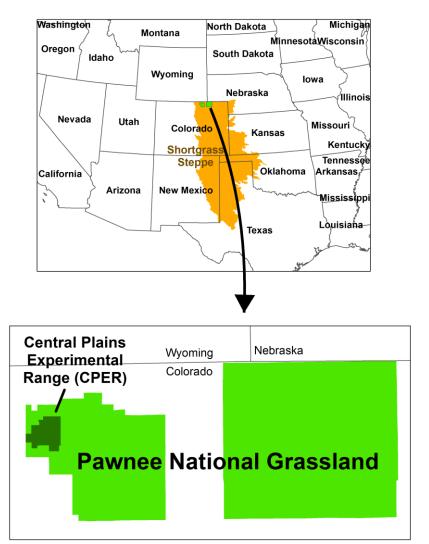


International Biological Program (1960-70s)



The Shortgrass Steppe LTER Research Site





Sunset for SGS LTER = A New Horizon

The end presents:

a need for persistent, reliable and interoperable access to a collection of scientific data
identification of an appropriate host for data
an opportunity for a CSU IR pilot study

The Participants

- SGS-LTER
 - local information management
- CSU IR
 - expanding collections to include data
- LTER Network Information System (NIS)
 - a secondary domain repository
- University of Illinois at Urbana-Champaign
 - data curation education at research centers



Broader Goals

- Develop *an information infrastructure* that supports new approaches, tools, and services for collections of scientific data and related artifacts.
- Provide digital *access to all project materials* as well as the data packages.
- Use a *collaborative team approach* that includes information professionals and scientific researchers.
- Contribute to a *web of repositories.* (Baker & Yarmey 2009.)

The Focus

- Needs Requirements
- CSU as the Source
- Pilot Study



Needs Requirement

- Open Access for LTER
 - LTER Data Access Policy
- Stay Involved
 - Access to Data Curators
 - Ability to Participate in Curation
 - Ability to Append, Revise or Version
- Keep it Local
 - CSU as Publisher
 - Control Embargos and Attribution
 - Establish CSU as Source Repository



Needs Requirement cont.

- Use Rich Metadata
 - Map Ecological Metadata Language to Qualified DC
- Satisfy Interoperability
 - NIS built on PASTA, Data Packages replicated within DataONE, accessible by local IBIS



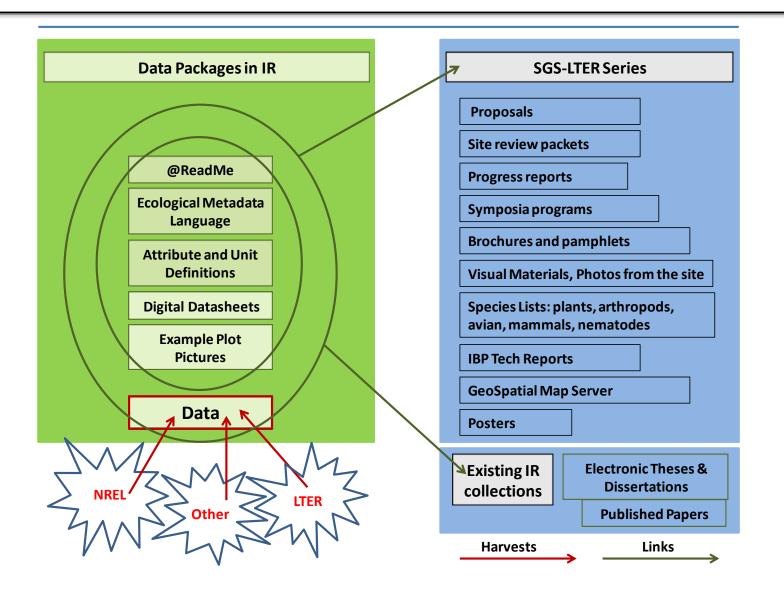
CSU IR as Source Repository

- DigiTool
 - workflow tailored to the project
- Data Package
 - Descriptive information
 - Only useful with data table



- Data table on the outside (i.e. interoperability)
- Links to other series or established collections (ETDs, IBPs)
- Links to published research (papers) that supported by data
- Persistent identifiers provided by Handle.net

Research Data and Related Artifacts



We're Live!

• Hop to IR!



A Pilot Study

- Lessons Learned
- Report and poster produced
- Inter-collection linking
- Interoperability between repositories via programmatic harvest
- Find and work with local data managers

Interoperability, Data Discovery and Citation

Inter-repository data sharing in three steps:



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- 1. Data Package is registered with a handle @ CSU IR
- 2. Contents of an LTER data package is transferred to LTER
- The data subset is registered with a new DOI (DataCite) in LTER and TR

Data users find data in source repository (CSU) or secondary repository (LTER)



SECONDARY REPOSITORY

Next Steps

DM Tasks:

- ingest more data packages
- continue to share our story

Local Data Management System:

no landing page for the collect

 create web page at the lab to serve as
 portal with descriptive information about
 the project and its history

IR Policies:

- link to GeoSpatial Centroid
- articulate issues that arise in interoperability between source and secondary repository and duplication or replication of data packages (i.e. provenance of data)



Thanks!

- NSF Grant DEB-1027319
- CSU Libraries
- UIUC Data Curation Education at Research Centers (DCERC IMLS Award #RE-02-10-0004-10).

