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# **CESD Cyberinfrastructure Working Groups**

**Environmental System Science (ESS) PI Meeting**

**Bolger Center, Potomac, Maryland, USA**

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## ***Data Management***

**Lead: Charuleka Varadharajan (LBNL)**

**Current Members: Deb Agarwal, Danielle Christianson, Paul Hanson, Val Hendrix, Trevor Keenan, Terri Velliquette, Lara Kueppers, Dave Millard, Eric Pierce, Gilberto Pastorello, Daniel Ricciuto, Cory Snavely, James Stegen, Roelof Versteeg, Ken Williams, Chongang Xu, Kristin Boye, Alison Boyer**



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## What is ESS Data?

“Data” = Field Observations, Experimental Data, Remote Sensing Data, Analysis and synthesis products, Model data, data in publications

# Scope of the Data Working Group Activities

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- **Management and Archival** of DOE climate and environmental datasets
  - Data **Preservation, Sharing, and Publication**
  - Common Data and Metadata **Standards**
  - Data **Citation and Attribution**
  - Data **Federation** across different data catalogs
- Data **Synthesis** across ESS and other relevant Datasets
- Development of common **Tools** for data usage
- **QA/QC**, processing, analysis, mining and visualization data to prepare them for use in new research projects.

# ESS-DIVE: A New Data Archive for Earth and Environmental Science Data

<http://ess-dive.lbl.gov>



**CESD Data Management Program**



To **preserve**, expand **access** to, and improve **usability** of critical **data** generated through DOE-sponsored research of **terrestrial and subsurface ecosystems** in support of the DOE's efforts to address some of society's most pressing energy and environmental challenges.

# Support Data Infrastructure

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- Working group supports CESD/ESS data infrastructure with input from community
- Provided input into ESS-DIVE design
  - Initial package metadata
  - API requirements and testing
  - Requirements for data ingest

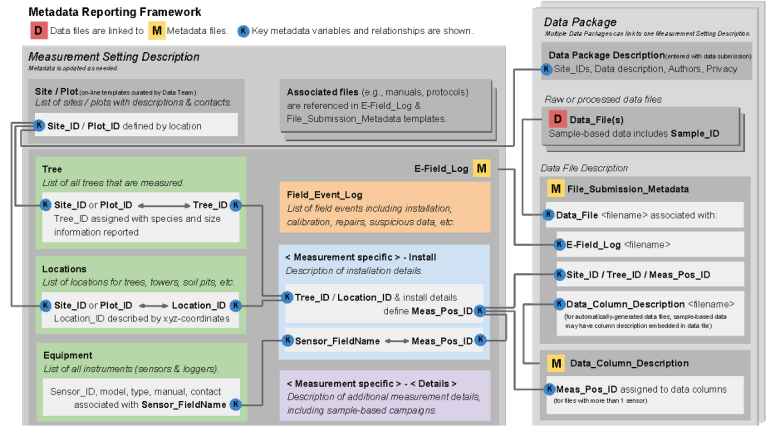
# Short term goals (2015-2017)... and beyond!

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- Shared database for published data
  - Develop workflow to capture and serve publication data that meets DOE digital data requirements; define publication data packages
  - Define a common standard for using DOI or similar digital identifiers to uniquely identify electronic data for publication and citation
  - Best practices and use case driven templates for data archiving beginning with observational data, and extending to all supporting data, workflow information
  - Centralized DOE single sign-on
- **Identify Best Practices for Metadata**
- **Sample Tracking**

# Short term goals for the upcoming year

- Continue to engage and provide feedback in ESS-DIVE design
- Work with ESS-DIVE on metadata standards for ESS data to archived data usable
  - Identifying relevant existing standards (e.g. netCDF, EML, file-level metadata)
  - Defining new standards where needed (e.g. geochemical, spectroscopic data)
- Work with ESS-DIVE on sample tracking, sample metadata
- **Tools for data QA/QC, analysis, synthesis, visualizations in conjunction with science needs**



# Long-Term Goals

