Approach to Managing MEaSUREs Data at the GSFC Earth Science Data and Information Services Center (GES DISC)

Abstract

- A major need stated by the NASA Earth science research strategy is to "develop long-term, consistent, and calibrated data and products that are valid across multiple missions and sensors/satellites." (NASA Solicitation for Making Earth System data records for Use in Research Environments (MEaSUREs) 2006-2010)
- Selected projects create long-term records of a given parameter, called Earth Science Data Records (ESDRs), based on mature algorithms that bring together continuous multi-sensor data.
- ESDRs, associated algorithms, verified by the appropriate community, are archived at a NASA affiliated data center for archive, stewardship, and distribution. See http://measures-projects.gsfc.nasa.gov/ for more details.
- This presentation describes the NASA GSFC Earth Science Data and Information Services Center (GES DISC) approach to managing the MEaSUREs ESDR datasets assigned to GES DISC. (Ecosystems water cycle and related atmospheric composition ESDRs)
- GES DISC will utilize its experience to integrate existing and proven capable data management components to accommodate the new ESDRs.

- Components include a data archive system (S4PA), a data discovery and access system (Mirador), and various web services for data access.
- In addition, if determined to be useful to the user community, the GES DISC data exploration tool will be made available to ESDRs.
- The GES DISC data integration methodology to be used for the MEaSUREs datasets is presented.
- The goals of this presentation are to share an approach to ESDR management, and initiate discussions amongst the data centers, data managers and data providers for the purpose of gaining efficiencies in data management for MEaSUREs projects.

Checklist for Supporting MEaSUREs Datasets and Services

1. Preparations for ingesting, archiving and supporting MEaSUREs generated datasets (Highlights)
   - Identify points of contact from data center and MEaSUREs Project data provider (e.g., Principal Investigator or designee to handle data).
   - Finally, to discuss this checklist.
   - This presentation describes the NASA GSFC Earth Science Data and Information Services Center (GES DISC) approach to managing the MEaSUREs ESDR datasets assigned to GES DISC. (Ecosystems water cycle and related atmospheric composition ESDRs)
   - GES DISC will utilize its experience to integrate existing and proven capable data management components to accommodate the new ESDRs.

2. Preparations for making data/services known and accessible (Highlights)
   - Ensure data and documentation are in place
   - Test documentation and data services for public access
   - Setup and populate web pages
   - Gather information on the data to be archived
   - Ensure data and documentation are in place
   - Transfer data and associated services (if any) to data center
   - Integrate services at data center as necessary

Timeline for Integrating MEaSUREs Datasets Into the GES DISC

- 2009: Establish contacts with projects and GES DISC
- 2010: Start collecting information on project datasets
- 2010: Procure initial hardware for testing infrastructure and archive
- 2012: Purchase hardware to host data sets and services
- 2013: Begin to transfer data sets ready for public distribution
- 2014: Finalize all data transfers from projects

Special Situations

- Preliminary discussions with NSIDC on how to make Eric Wood’s Hydrologic cycle data, slated for 2 DAACs, seamlessly accessible by hydrologists
- How do we handle early data deliveries?
- Is dataset closed (dataset delivered; no longer being produced) or open (Continuous ingest of data as long as it is being produced)
- What other special situations lurk?