The GES DISC Approach

- Engage Users
  - Communications must be frequent
  - Dedicated points of contact to gather/provide information are identified
- Build economically
  - Look for reuse, ways to save funds
  - Willing to take calculated risks; Otherwise low risk
- But also, build to integrate new technologies
- Engage employees
  - Ensure that employees realize the value of their contributions
  - Treat all employees equally

We will not: Build it and it will come.
We will: Build it because they come (collaborating on mutual interest)

What We Do

- **Science User/Data Support**
  - Research and dissemination data, science, service requires daily
  - Understand and develop new research driven tools and services
  - Analyze metrics to address research need priorities
  - Perform Outreach, Documentation, Capturing data preservation artifacts
- **Mission Support**
  - Build tailored archive, distribution, service systems to requirements of new project
  - Develop IDI. Ensure formats and metadata guidelines are met
  - Build/have systems cost effectively to spec, Interfaces work
  - Specify/Implement Key Direct-to-Identifiers, Landing Pages
- **Software Engineering**
  - Lead overall system architecture: planning/implementer
  - Perform/implement flexible system tools and services to enhance data usability, to accommodate evolving user needs
  - Employ advanced SW Engineering techniques (Agile Methodologies)

Stewarding Mission Data

- **EOSDIS PI**
  - Science Data Services开发
  - Data Access and Services
  - Data Search and access
  - Data Discovery, Visualization and Exploration
  - Applications: Visualization, Scientific Analysis, Remote Sensing
  - Metadata: Simple Subset Wizard, OPeNDAP, Level 2 Data Services

What We Do

- **Infrastructure**
  - Perform System Administration (patches, patches, installations, backups, etc.) for main computers and desktops
  - Security, web, system configuration management
  - Virtual Machines to support IA
  - Implement and analyze cloud computing application prototyping
- **Operations**
  - Ensure data ingest, archive, and distribution
  - Apply system monitoring tools to enhance operations efficiency
- **Management**
  - Manage a diverse staff and set of functions: Contracts, cooperative agreements, budgets, ~60 people, new business, system ownership, etc.

Current Operational Services/Tools

- Giovanni – Data Discovery, Visualization and Exploration
- WMS: Web Map Service
- Simple Subset Wizard – Cross DISC effort to provide subsetting
- Data Recipes
- OpenDA & GISDS Data Server
- Community Gateway Interface (CGI) Web Map Service (WMS)
- Data provided in various formats (HDF, netCDF, ASCII, kml, others)
- Shapefiles – Significant for applications
- Data Reduction – Submit desired measurements from data products
- User Registration
- Digital Object Identifier and Landing Pages
- Data Stewardship
- Caching
- Cloud applications
- Unified User Interface

LEADERSHIP ACTIVITIES

- Exploratory Science Data User Forum (Co-head, new)
- EDSSG Participation
  - Leader: Virtual Collections (Completed)
  - Time series – (Completed)
  - Data Interoperability (Co-lead)
  - EDSSG Science User Forum (Co-head, new)
  - Project Leader: Data Recipe (Completed)
  - Data Quality, OpenGeospatial Web Services Best Practices, SPwDAF, Search Relevance
  - EDSSG Participation
  - Leader: Earth Science Data Analytics
  - Agriculture and Climate
  - Participant: Education, Preservation and Stewardship, OpenGeospatial, Data Quality

GODDARD EARTH SCIENCE DATA AND INFORMATION SERVICES CENTER (GES DISC)

Earth System Science Data
- hydrologic cycle
- environmental processes
- human interactions
- land use
- chemistry
- climate
- ocean biology
- temperature
- sea ice
- snow and ice
- atmospheric composition
- upstream reader
- gravitational wave (GW)
- Earth Science Information Partnership
- Earth Science Data and Information Services Center
- Community Gateway Interface
- Open Geospatial Consortium (OGC) Web Map Service (WMS)
- Simple Subset Wizard
- OPeNDAP
- Level 2 Data Services
- Data Discovery, Visualization and Exploration
- GrADS
- Data Quality, Geospatial Web Services Best Practices
- Data Search and access
- Data Discovery, Visualization and Exploration
- Applications: Visualization, Scientific Analysis, Remote Sensing
- Metadata: Simple Subset Wizard, OPeNDAP, Level 2 Data Services

GEO DISC FACTS AS OF 2015

- **Archive Volume** (as of 7/15): 1.44 TB
- **Distribution Volume:**
  - Weekly: 2,071 TB (up 100% in 4 years)
  - Monthly: 5,423 TB (up 150% in 3 years)
- **NRT Distribution Volume:**
  - Weekly: 8,679 TB (up 100% in 2 years)
  - Monthly: 32,182 (almost 100% in 4 years)
- **GES DISC Publications/Publications**: 25/year
- **Number of Publications:** 384
- **Number of Idoks registered (currently):** 384
- **Data Collections with Landing Pages:** 40

GES DISC Vision

- To enable researchers and educators maximize knowledge of the Earth by engaging in understanding their goals, and by leading the advancement of remote sensing information services in response to satisfying their goals

SPEAKER INFORMATION

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