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 needs.

The GES DISC Approach
- Engage Users
  - Communications must be frequent
  - Dedicated points of contact to gather/prioritize information are identified
- Build economically
  - Look for reuse, ways to save funds
  - Willing to take calculated risk; 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 they will come.
We will: Build it because they came (collaborating on mutual interest).

Successes
- Up to date on all Mission reprocessing and documentation
  - Successfully released first data products produced for newest missions: GPM, OCO-2, SNPP
- Completed transition to dynamic web page capability, driven by EMR web documentation
  - Released new version of Giovanni (smoothing maps, histograms, downloaded GeoTIFF maps, etc.)
  - Delivered the first version of Unified User Interface with support for faceted navigation
- Completed population of HIRODS data and documentation into preservation system; Other datasets in the works
  - Deployed User Registration for GES DISC services and data access
- Recovered heritage data (Nimbus, others) from 1960’s vintage media.
  - Researching data: continues.
- GES DISC is now a recognized data repository by SciData, an open-access, peer-reviewed journal for descriptions of scientifically valuable data sets

Challenges
- Efficiently adapting potentially useful advancing technologies to specific problems
- Facilitating science research or the masses, based on a handful of use cases
- Rapidly responding to the needs of users needs for value added products, tools, and services
- So much to do… so little time to do it.

Best Practices
- Implement in response to user driven needs
  - UWG, but also user feedback, user surveys, science meetings
- Seek opportunities for collaboration
  - EOSDIS drivers, but also now shareable initiatives
- Strategically utilize technology to enhance efficiency in the face of growing archives and number of users
  - Readily understand forward looking relevant information technologies, but also engage science research and applications users to better understand their needs, and improve EOSDIS services
- Publish results for the betterment of information science

What We Do
- Science User/Data Support
  - Receive and disposition data, science, service inquiries daily.
  - Understand and develop new research driven tools and services
  - Analyze metrics to address research need priorities
  - Provide Outreach, Documentation, Capturing data preservation artifacts
- Mission Support
  - Build tailored archive, distribution, service systems to requirements of new project.
  - Develop IDCs. Ensure formats and metadata guidelines are met. Build hvac systems cost-effectively to spec. Interfaces work.
  - Support mission driven (data) identifier, Landing Pages
- Software Engineering
  - Lead overall system architecture: planning/implementation
  - Implement/monitor flexible system tools and services to enhance data usability; to accommodate evolving user needs.
  - Employ advanced SW Engineering techniques (Agile Methodologies)

What We Do
- Infrastructure
  - Perform System Administration (upgrades, patches, installations, backups, etc.) for main computers and desktops.
  - Security, web, system configuration management
  - Virtual Machine to support SA.
  - 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.

Stewarding Mission Data

Current Operational Services/Tools
- Giovanni – Data Discovery, Visualization and Exploration
- WISE – User search and access
- Simple Subset Wizard – Cross DIAC effort to provide submitting data products
- Data Recipes
- OPDAP & GIDS Data Server
- Open Geospatial Consortium (OGC) Web Map Service (WMS)
- Data provided in various formats (HDF, netCDF, ASCII, kml, others)
- OnLineHelp – Significance for applications
- Data Reduction – Submit desired measurements from data products
- Applications: Contributions: Applied Remote Sensing Training (ARSET); Hydrologists (CUAHSI); USDA World Board; Public Health
- User Registration
- Digital Object Identifier and Landing Pages
- Data Stewardship
- Caching
  - Cloud applications
- Unified User Interface

GEC DISC Facts – as of 2015
- Archive Volume (as of 7/16): 1.441 TB
- Distribution Volume: 2,071 TB (up 150% in 4 years)
- Granules Distributed: 5,423 M (up 400% in 3 years)
- NRT Distribution Volume: 38.7 TB (up 150% in 3 years)
- NRT Granules Distributed: 6,707 K (up ~120% in 2 years)
- Number of Unique Users: 32,165 (almost 74% in 4 years)
- GES DISC Presentations/Publications: >70/year
- Number of Publications: 150+ (no Giovanni).
- Number of Recipes (current): 31
- Number of DDS registered (currently): 384
- Data Collections with Landing Pages: 40

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