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.

The GES DISC Approach
• Engage Users – Communications must be frequent - Dedicated points of contact to gather information and are identified
• Build economically – Look for reuse, ways to save funds – Willing to take calculated risks; Otherwise low risk
• But also, to build innovative 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 come (collaborating on mutual interest)

Successes
• Up to date on all Mission reprocessing and documentation
• Successfully released first data products 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, download GeoTIFF maps, etc.)
• Delivered the first version of Unified User Interface with support for faceted navigation
• Completed population of HRDLS 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, et al) from 1960’s vintage media.
• GES DISC is now a recognized data repository by Scientific Data, 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 – LOVE, user interface feedback, user surveys, science meetings
• Seek opportunities for collaboration – ESDIS drivers, but also new shareable initiatives
• Strategically utilize technology to enhance efficiency in the face of growing archives and number of users – We very understand forward looking relevant information technologies, but also engage science-users and information technologies
• Partner’ with users and producers – Remain expert in Atmospheres, Hydrosphere, Climate Modeling data (both NASA and other) and data management services, but also engage science research and applications users to better understand their needs, and improve GES DISC services
• Publish results for the betterment of information science

What We Do

Science User/Data Support
• Receive and disposition data, science, service requires data
• 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 IDKs. Ensure formats and metadata guidelines are met, Build have systems cost-effectively to spec. Interfaces work
• Open/Share Direct (ID) identifiers, Landing Pages

Software Engineering
• Lead overall system architecture: planning/implementer
• Implement/Improve flexible system tools and services to enhance data usability, to accommodate evolving user needs.
• Employ advanced SE Engineering techniques (Agile Methodologies)

Stewarding Mission Data

Current Operational Services/Tools
• Giovanni – Data Discovery, Visualization and Exploration
• Winker – Search and access
• Simple Subset Wizard – Cross DISC effort to provide subsetting
• Data Recipes
• OPeNDAP & GISDS Data Server
• Open Geospatial Consortium (OGC) Web Map Service (WMS)
• Data provided in various formats (HDF, netCDF, ASCI, kml, others)
• Shapefile – Significant for applications
• Data Reduction – Submit desired measurements from data products
• Applications Contributors: Applied Remote Sensing Training (ARSET); Hydrologists (CUAHSI); USDA World Board; Public Health
• User Registration
• Digital Object Identifier and Landing Pages
• Data Stewardship
• Centering – Cloud applications
• Unified User Interface

Leadership Activities

ESDGIS Participation
• Leader – Virtual Collections (Completed)
• Task team – Complete
• Data Interoperability (Co-lead)
• Level 3 Data (USV and others)
• Atmospheric Science User Focus (Co-lead, team)

Participation
• Data Recipe (Completed)
• Data Quality, National Web Services Best Practices, SIF/OGP - Search Relevance

EOP Participation
• Leader – Earth Science Data Analytics – Agriculture and Climate
• Participant – Education, Preservation and Stewardship, Openness, Data Quality

World Data System Members’ Forum – Sept. 11, 2016, Denver, CO

GES DISC Facts – as of 2015
• Archive Volume (as of 7/16): 1.441 TB
• Distribution Volume: 2.071 TB (Up 100% in 4 years)
• Granules Distributed: 5,423 M (Up 400% in 3 years)
• NRT Distribution Volume: 88.7 TB (Up 510% in 3 years)
• NRT Granules Distributed: 6,707 K (Up ~100% in 2 years)
• Number of Unique Users: 32,164 (Almost 100% in 4 years)
• GES DISC Presentations/Publications: ~50/year
• Number of Publications (China Government): 23/year
• Number of Recipes (Currently): 31
• Number of OIDs registered (Currently): 384
• Data Collections with Landing Pages: 46