Data Recipes
Toward Creating How-To Knowledge Base for Earth Science Data

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Why Create Data Recipes?
Earth Science data sets are complicated
- Data type and structure: swath, grid, point, vector, listed, ...
- Map projection: Equidistant, Sinusoidal, ...
- Resolution: hourly, daily, monthly, ..., m, km, deg, ...
- Data formats: HDF, HDF-EOS, netCDF, GRIB, GeoTIFF, ...
- Metadata models: ECHO, GCMD, HDFEOS, COARDS, netCDF-CF convention, ...

Solution: Developed data services and tools
- 70+ data services or tools at EOSDIS DAACs
- All services or tools have user guides
- Online FAQ for data access and usage

Characteristics of Data Recipes
- Task-oriented -- solve a specific problem
- Detailed -- provide step-by-step instruction with screenshots
- Real data -- work with real data archived at data centers
- Online -- reduce supporting resources for data centers and save time for data users

Data Recipe Structure at GES DISC
A data recipe is a task-oriented, common-structured, online How-To page, containing the following eight sections:
- Overview -- summary of the recipe
- Best When -- conditions for which the recipe is applicable
- Task -- group name to which the recipe topic belongs (obtaining data, reading/viewing data, file conversion, etc.)
- Example -- description of a use scenario for the recipe
- Tool or Service -- name of the tool or service to which the recipe applies
- Procedure -- step-by-step instruction with screenshots
- Discussion -- additional information about using the service or tool
- See Also -- related recipes

Each recipe is carefully tested by scientists other than the author
Example Data Recipe Topics

http://disc.gsfc.nasa.gov/recipes

**Obtaining Data in NetCDF:**
- How to Obtain Data in NetCDF Format via OPeNDAP
- How to Obtain Data in NetCDF Format via SSW
- How to Obtain Spatially Subsetted Time Series Data in One NetCDF File via GDS

**Importing Data into ArcGIS:**
- How to Import Gridded Data in NetCDF Format into ArcGIS
- How to Import Satellite Swath Data in NetCDF Format into ArcGIS

**Obtaining Subsetted Time Series:**
- How to Obtain a Spatio-temporal + Variable Subset of Data with the Simple Subset Wizard
- How to Obtain Spatial Subsetted Time Series in ASCII Format via GDML

Example of Data Recipe

**How to Import Gridded Data in NetCDF Format into ArcGIS**

For someone in GIS community who is not familiar with the netCDF data format

Example of Data Recipe

**How to Obtain Data for Conducting Hurricane Case Study**

Advanced event-based data search with sample images

Monthly Access of Data Recipe

- The data recipe project was initiated in late 2012.
- The first set of data recipes was released in early 2013.
- There is a total of 12 recipes that are published so far.

Future Plans at GES DISC

- Group recipes to form a **searchable data recipe catalog**
- Include links to relevant data recipes on GES DISC product landing pages
- Incorporate data recipe feedback capabilities and facilitate moderated user recipe contributions to expand GES DISC Data Cookbook
- Provide links to existing data How-To from "Open Sources", such as GrADS, HDF, NCO, Python, ...

NASA EOSDIS Data Recipe Activities

The NASA Earth Science Data System Working Group on data recipes (EOSDIS-data recipe) was established in Spring 2014.

- Inventory and analysis of existing data tools and help documents
- Provide recommended data recipe template and guidelines for writing and grouping data recipes in a common structure
- Initiate an EOSDIS-wide campaign for leveraging the distributed knowledge within EOSDIS and its user communities, to eventually create an EOSDIS "open data cookbook" for better serving the data users
Thank You

http://disc.gsfc.nasa.gov/recipes

Inviting more data centers and data users to create and enrich data How To for everyone

Make your knowledge powerful!