



GSICS Web Meeting 2012-06-19

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Agenda

- EUMETSAT Bias Plotting Application
- NetCDF template for the GEO-LEO-IR products
- THREDDS configuration for local data subcategories
- Datacasting web feed protocol as a notification service





EUMETSAT Bias Plotting Application





Tb/Rad Conversion Formulas

All netCDF files must have these:

```
planck_function_constant_c1: 1.19104E-5
planck_function_constant_c1_unit: mW(cm^-1)^-4 m^-2 sr^-1
planck_function_constant_c2: 1.43877
planck_function_constant_c2_unit: K cm
brightness_to_radiance_conversion_formula: radiance=(c1 * wnc^3) / ((EXP(c2 * wnc/(alpha*tb + beta))) - 1)
radiance_to_brightness_conversion_formula: teff = ((c2 * center_freq)/alog(1. + (c1 * center_freq^3)/radiance)
```

Some netCDF files may also have this:

```
radiance_to_brightness_conversion_formula_alternative: tb = a1 + a2*teff + a3*teff^2
```





NetCDF Template for the GEO-LEO-IR Products





GEO-LEO-IR netCDF Template

- Template = Minimal common content; GPRCs can add additional content
- Available on the netCDF convention's wiki page
- Noteworthy new features:
 - Official text for the *license* global attribute
 - Global attributes and variables to support the bias plotting app
 - Four global attributes for defining rectangular geospatial region of product's applicability
 - local_data_subcategory global attribute





The id Global Attribute

- It's convention says: "The combination of the naming authority and the id should be a globally unique identifier for the dataset"
- There are software to produce truly global unique identifiers
- Traditionally, dataset identifier = dataset's file name
- My proposal is to use file name as the value of the id attribute, remove the filename attribute from the template





THREDDS Configuration





Representing Local Data Subcategories

- Option #1:
 - GSICS Product
 - Product Type (NRTC or RAC)
 - Algorithm Type (GEO-LEO-IR)
 - Monitored/Reference Instruments
 - Maturity Level (Demo/Pre-Op/Op)
- Option #2:
 - GSICS Product
 - Product Type (NRTC or RAC)
 - Monitored/Reference Instruments
 - Maturity Level (Demo/Pre-Op/Op)
 - Algorithm Type (GEO-LEO-IR)





Representing Local Data Subcategories

- Option #1 follows the logic of the file naming scheme
- Option #2 follows the logic of the THREDDS configuration files
- Option #1 allows for different monitored/reference instrument pairs per algorithm type
- Option #2 keeps the number of user clicks needed to reach file listing pages unchanged
- My proposal: Adopt Option #2
- For the server directory structure no changes





Dataset Pages

- These are THREDDS pages reached by clicking on file links
- They display information about each dataset (i.e. file)
- Must-have content:
 - Data format, data size, naming authority, and ID
 - Summary text (copy the summary global attribute)
 - Rights text (copy the *license* global attribute)
 - Access links: OPeNDAP, HTTPServer, NCML, ISO, and UDDC
 - Keywords
- Nice to have content:
 - Creator and publisher information
 - Viewers (pretty print dataset content and bias plotting app)





Datacasting as a Notification Service





What is Datacasting?

- Created at NASA JPL: http://datacasting.jpl.nasa.gov
- Based on the Really Simple Syndication protocol version 2.0
- Allows embedding relevant ancillary information about Earth science data along with the normal RSS content
- RSS feed protocol is widely supported by web-based and dekstop software
- Users who follow the feed can then filter and download only the files of interest to them





Benefits of Datacasting to GSICS

- Reach out to those users who are not technically skilled to utilize OPeNDAP but are interested in new data as soon as it is available
- An alternative to distributing NRTC products embedded in operational data
- Make mirroring of product files between GSICS THREDDS servers easier





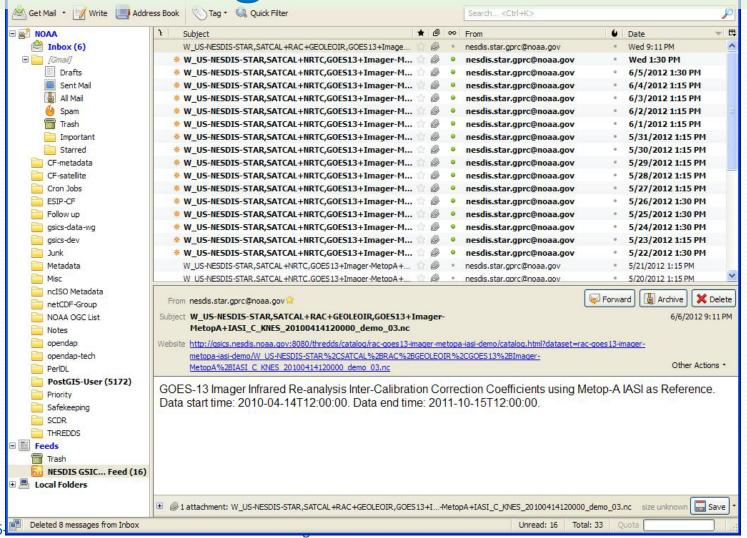
Implementation Overview

- Create one Datacasting feed for each THREDDS server
- Each file's feed links: catalog XML and HTTPServer service
- Data-specific ancillary information to include in the feed:
 - Data category, international and local subcategory
 - Monitored platform and instrument
 - Reference platform and instrument
 - Data's validity period
 - Geospatial region of data's applicability
- Update the feed immediately after adding each new file to the THREDDS server





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