



HDF JPSS tools and libraries

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- HL_NPOESS v 1.1 2009 – 2015
- Nagg 1.6.2-beta 2012 – 2015
- H5augjpss prototype 2012

Information and Documentation:

https://www.hdfgroup.org/projects/jpss/jpss_software.html

https://www.hdfgroup.org/projects/jpss/jpss_docs.html



...description from 2009

- 10 new C APIs to support HDF5 region references and packed bits in support of JPSS quality flags
- New APIs are wrappers around several HDF5 library calls
- HL APIs
 - [Region References](#)
 - [Bit-fields](#)



What is nagg?

Nagg is a tool for rearranging NPP data granules from existing files to create new files with a different aggregation number or a different packaging arrangement.



Why would I use nagg?

- Change aggregation number or packaging of previously downloaded npp data.
- Create aggregation or package combination not available for download.
- Change file layout or compression while changing aggregation or packaging



Nagg operations

Aggregation

- Aggregate data granules
- De-aggregate data granules
- Re-aggregate data granules

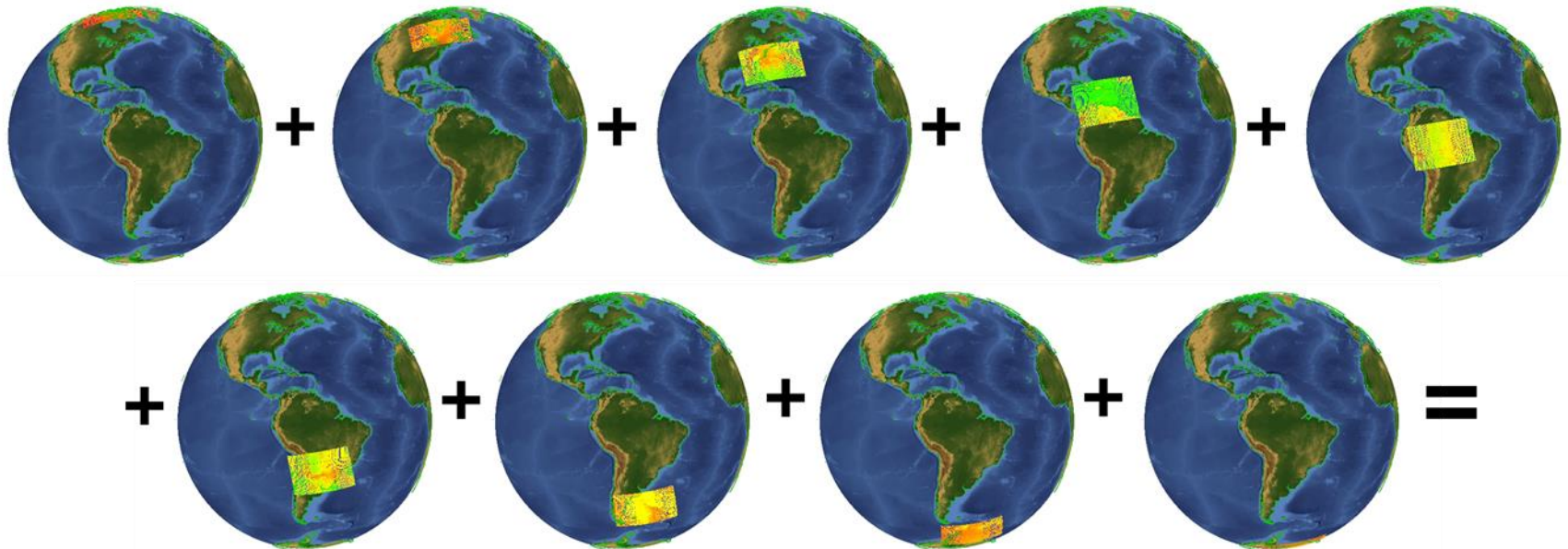
Packaging

- Package granules of multiple compatible products in common files
- Un-package products into separate files for each product



Nagg Illustration - IDV visualization

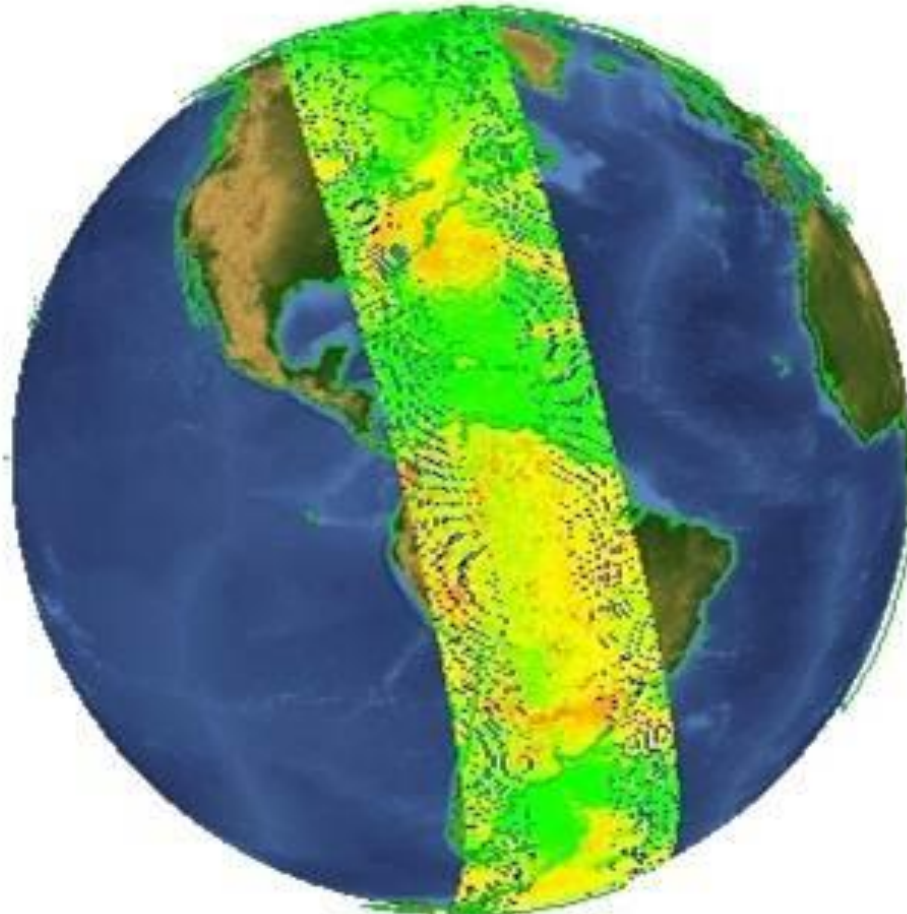
9 input files – 4 granules each in GMODO-SVM07... files





Nagg Illustration - IDV visualization

1 output file –36 granules in GMODO-SVM07... file





Aggregation

- -n *n* where *n* is the number of granules in each output aggregation
- Default value of *n* is 1
- --onefile

Packaging

- Default output is in packaged output files
- -S option produces simple unpackaged output files

General

- -A *<seconds>* *n*
- -d *<preexisting output directory>*
- -h or --help
- -t *<list of product ids>* (list is required)
- -g *no* - don't process geolocation product
- -g *<geolocation product>*

- Packaging of 2 sensor data products plus geolocation product
- Packaging of 2 sensor data products plus geolocation product
- Aggregation of geolocation product only
- De-aggregation (packaged) with geolocation product
- Re-aggregation without geolocation product
- De-aggregation and un-packaging of 2 sensor data products plus geolocation product



More examples:

<http://www.hdfgroup.org/projects/jpss/documentation/nagg/nagg-UG.pdf>

Help:

help@hdfgroup.org

Questions/comments
About nagg?

“Augmentation”

Making an HDF5
JPSS file look
like a netCDF-4
file





Clarification

- **netCDF-3 files**
 - Based on netCDF **classic** data model
- **netCDF-4 files**
 - Based on netCDF **enhanced** model
 - Uses HDF5 as a storage layer
 - Group hierarchy, user-defined data types, etc.
 - But can be restricted netCDF classic
- **NPP files**
 - HDF5 file with primary data
 - Incompatible with netCDF, unless modified
 - XML metadata file
 - Important information, including dimensions
 - Geo data in separate file, or group in primary file

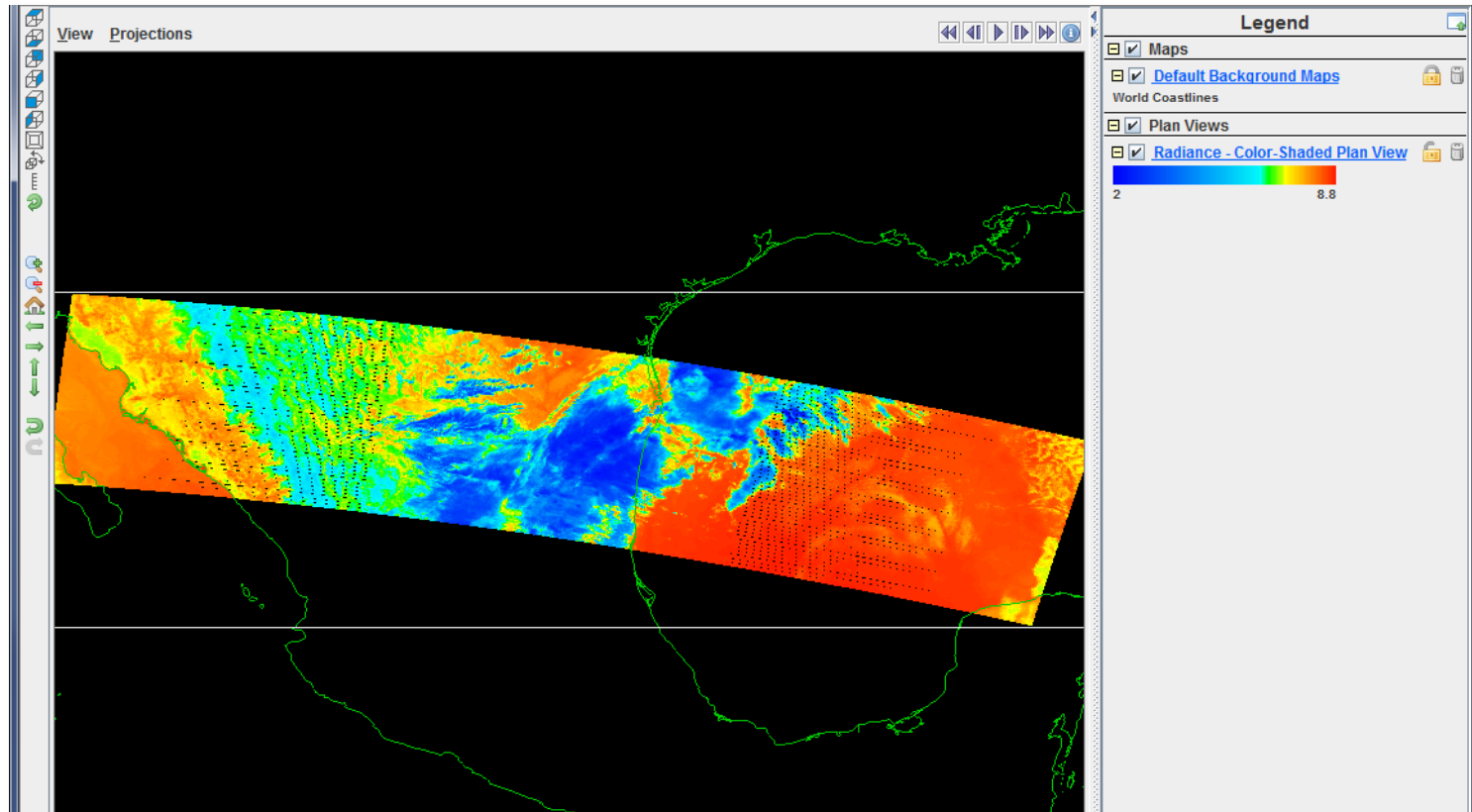


IDV before augmentation

The screenshot shows the IDV software interface with a 'Data Choosers' tab selected. The 'Data Source Type' is set to 'Grid files (netCDF/GRIB/OPeNDAP/GEMPAK)'. The 'Look In' field shows 'SVI05'. A file list below shows a single file: 'SVI05_aqu_d20110314_t0827436_e0828535_b47134_c20110314115650161557_grav_dev.h5'. A dialog box titled 'No Gridded Data' is overlaid on the interface, displaying the message: 'No gridded data found for: C:\Users\lrknox\JPSS\SVI05\SVI05_aqu_d20110314_t0827436_e0828535_b47134_c20110314115650161557_grav_dev.h5'. Below the message, it asks 'Do you want to try to load this as another data type?' with 'OK' and 'Cancel' buttons. The background interface shows a 'File Name' field with the same file name and a 'Files of Type' dropdown set to 'All Files'. At the bottom, there is an 'Add Source' button and a status bar showing '14:11:46 GMT Loading in data source: Grid files (netCDF/GRIB/OPeNDAP/GEMPAK)'.



IDV after augmentation





H5augjpss options

- -o1 Hides /Data_Products (for netCDF C accessibility)
- -o2 (with product_profile – adds metadata)
- -o3 imports Geolocation data into file
- -o4 removes group structure



Questions/comments?



Thank you!

