H4CF Conversion Toolkit
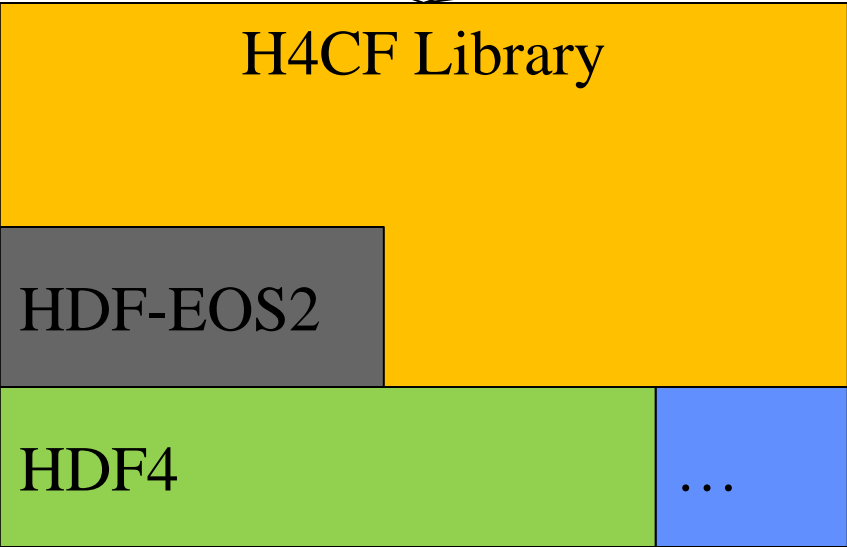
http://hdfeos.org/software/h4cflib.php

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The HDF Group provides the following toolkit for the NASA HDF-EOS2/HDF4 data.
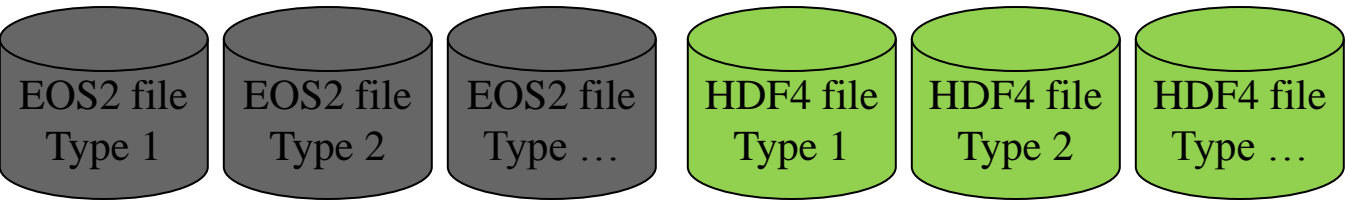

Use the HDF4 CF (H4CF) Conversion Toolkit to access HDF4/HDF-EOS2 following CF conventions.
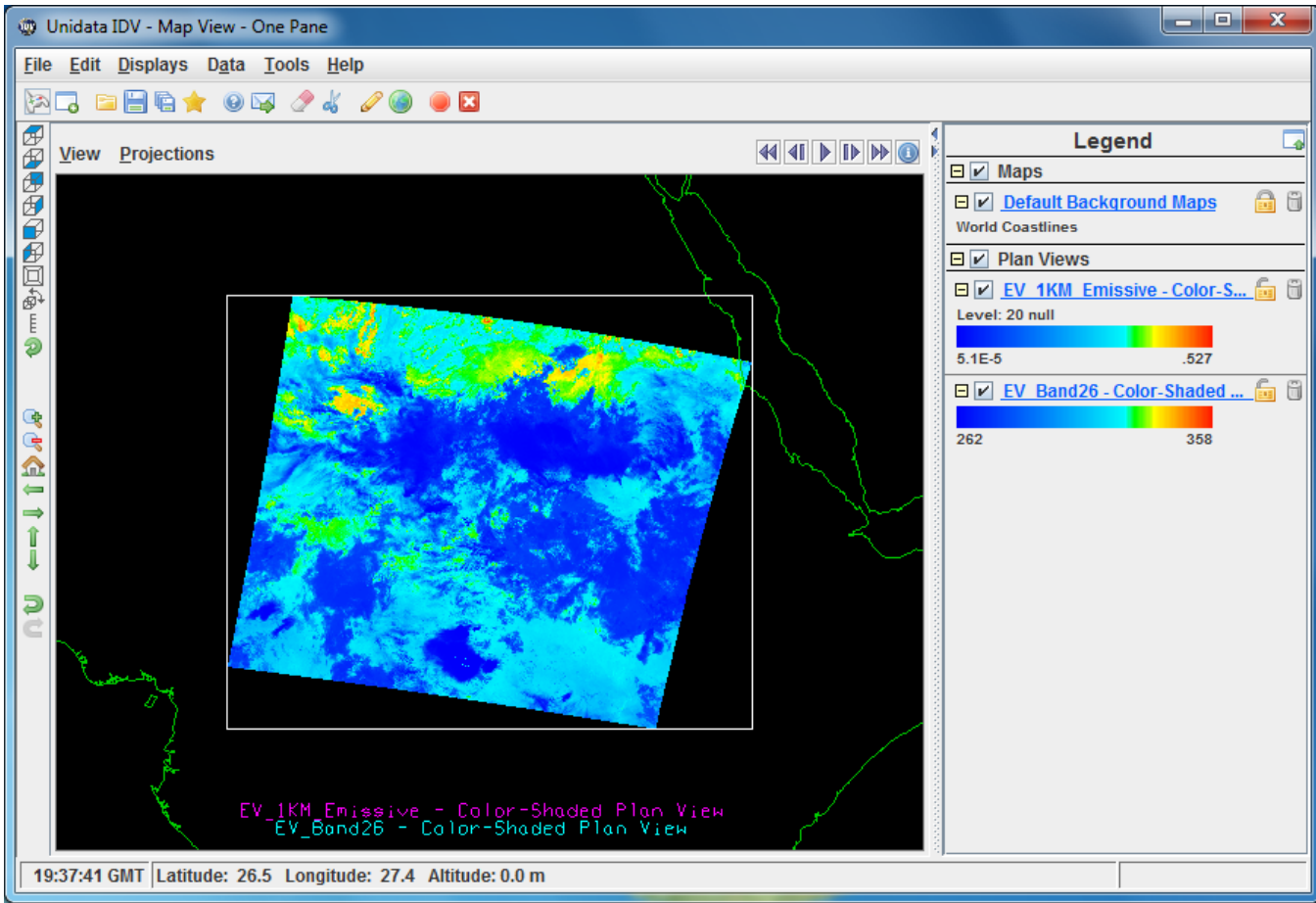
Tools that use H4CF Library

The H4CF Library provides a unified way of accessing different types of HDF4 and HDF-EOS2 files.

• Provides all coordinate and data variables and attributes.

• Adds CF-metadata to data variables for meaningful access.

h4tonccf Tool Example

IDV displays the NetCDF-3 file that is converted from NASA MODIS HDF-EOS2 file.

Use the **H4CF Library** API to build your HDF4/HDF-EOS2 application following CF conventions.

```
// open the example HDF file
h4cf_open("geo.hdf");

// HDF file attributes are obtained in a C++
STL map object
const map<string, string> file_attrs =
h4cf_get_file_attrs();

// HDF file variables are obtained in a C++
STL list object
const list<var*> pvars = h4cf_get_vars();

// close the HDF file
h4cf_close();
```


CDL dumper   HDFView

The H4CF Library is available in C++ and the simple, unified API works for both HDF4 and HDF-EOS2 files.

The library provides CF data variables and attributes so developers don't have to write codes to meet CF conventions.


Use **h4toncccf** tool to convert HDF4/HDF-EOS2 to NetCDF-3 or NetCDF-4
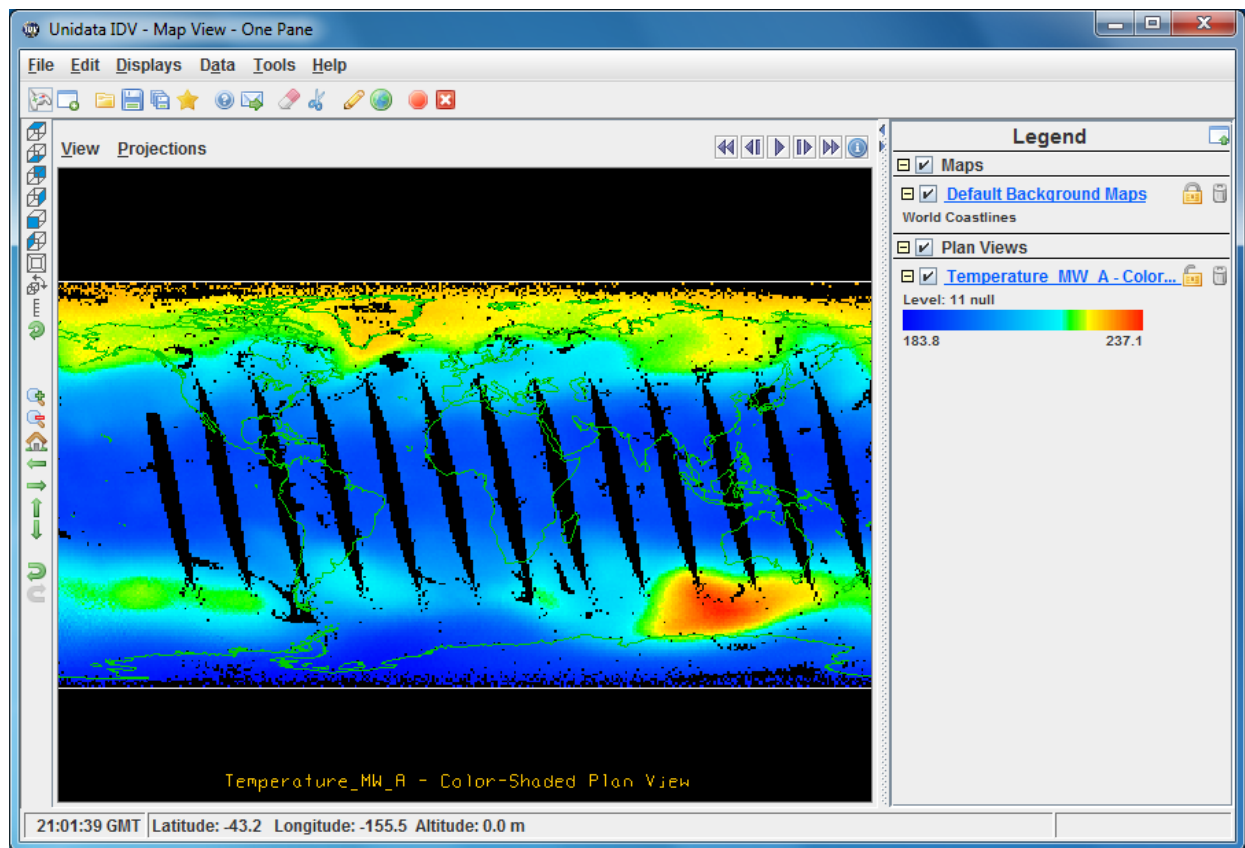
IDV displaying the GES DISC AIRS file converted using the
%h4tonccf AIRS.2002.08.01.L3.RetStd_H031.v4.0.21.0.G06104133732.hdf
command. The output file is
AIRS.2002.08.01.L3.RetStd_H031.v4.0.21.0.G06104133732.nc
and IDV can visualize it.
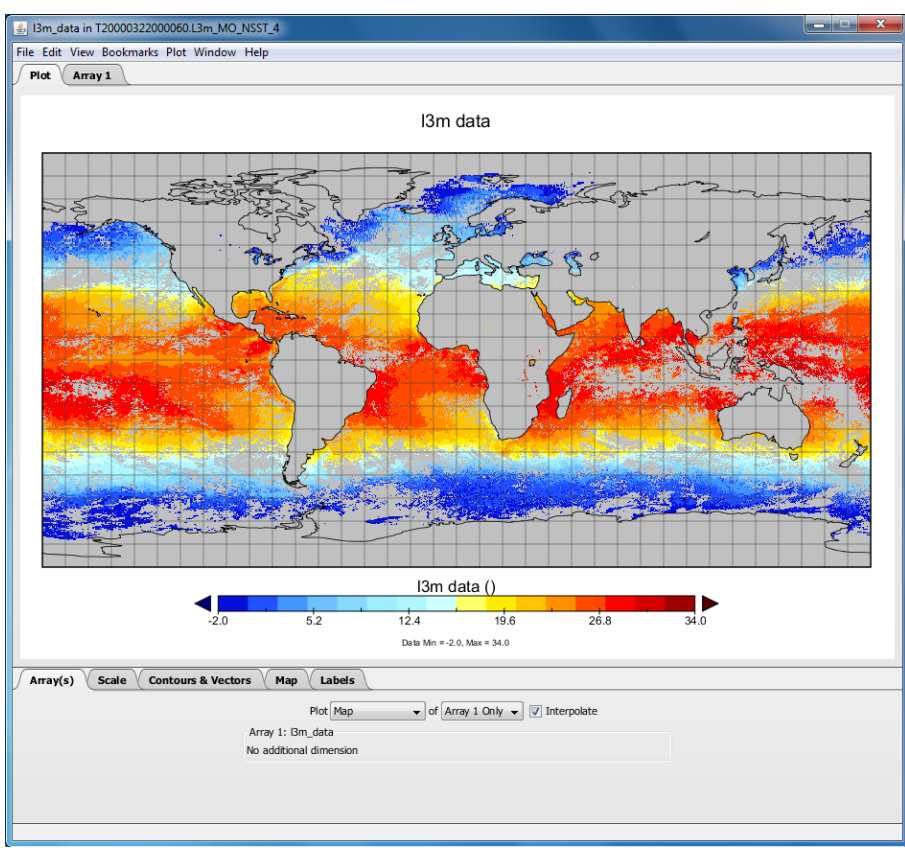
Panoply displaying the OBPG MOIDS-T file converted using the
%h4tonccf T20000322000060.L3m_MO_NSST_4.hdf
command. The output file is
T20000322000060.L3m_MO_NSST_4.nc
and Panoply can visualize it.
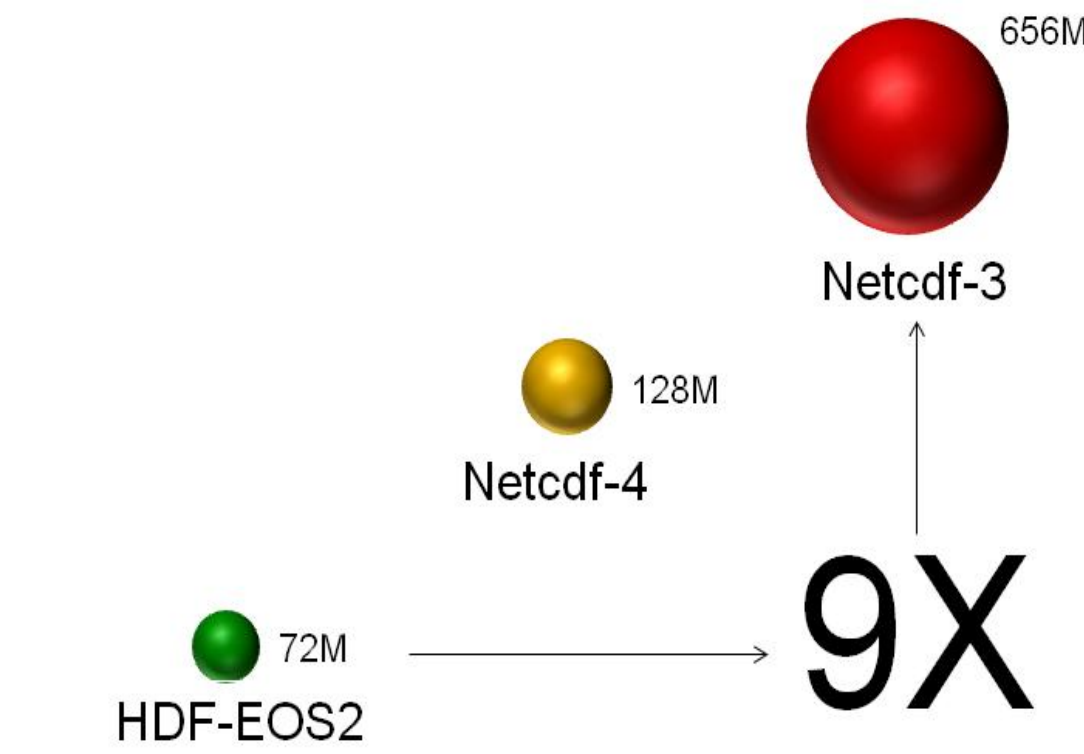
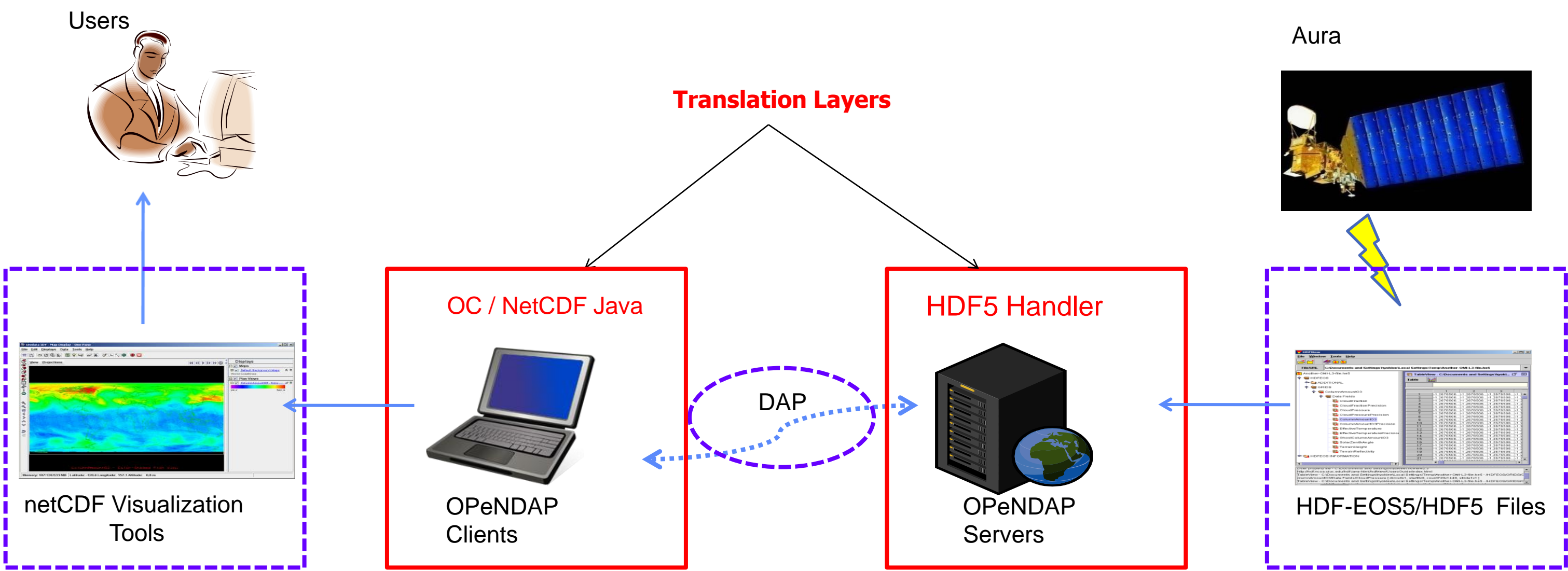A file size comparison for an MYD21KM file converted using **h4tonccf** from HDF-EOS2 to Netcdf-4 and Netcdf-3.

Reengineered OPeNDAP HDF5 Handler

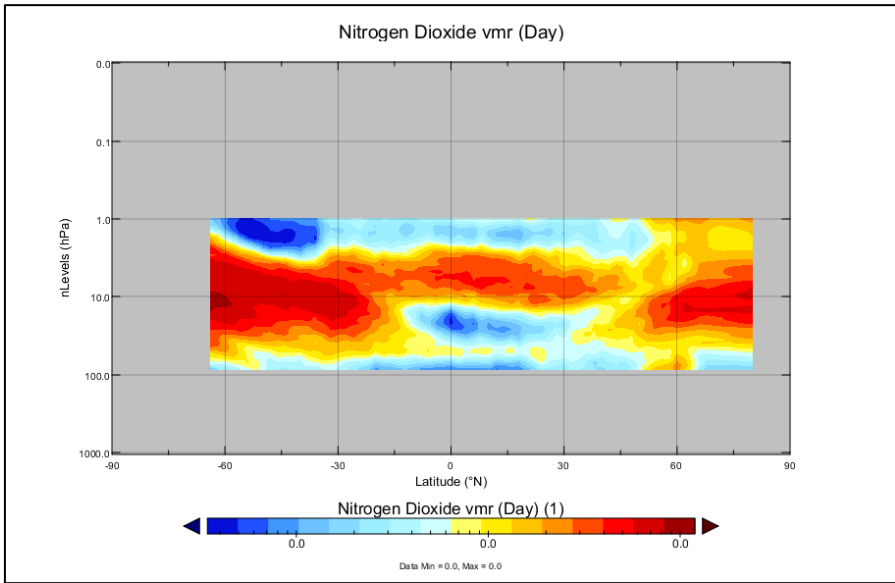http://hdfeos.org/software/hdf5_handler

MuQun Yang and Hyo-Kyung Lee
The HDF Group

It can better support NASA HDF-EOS5 and HDF5 products such as Aura HDF-EOS5 products, MEaSUREs SeaWiFS and GSSTF products, and Aquarius product than the previous handler.
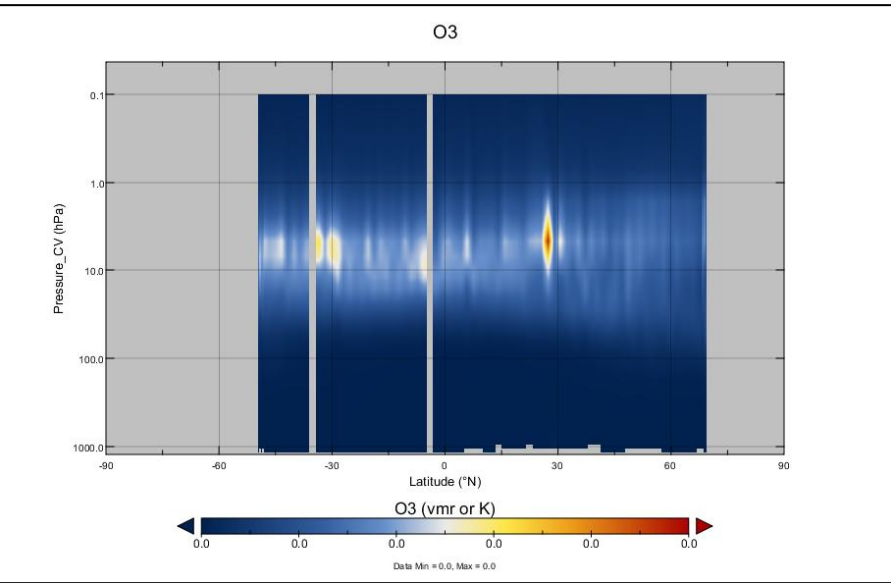
Use netCDF tools to access remote HDF5/HDF-EOS5 via OPeNDAP

Users

Translation Layers

Aura

OC / NetCDF Java

HDF5 Handler

DAP

netCDF Visualization Tools

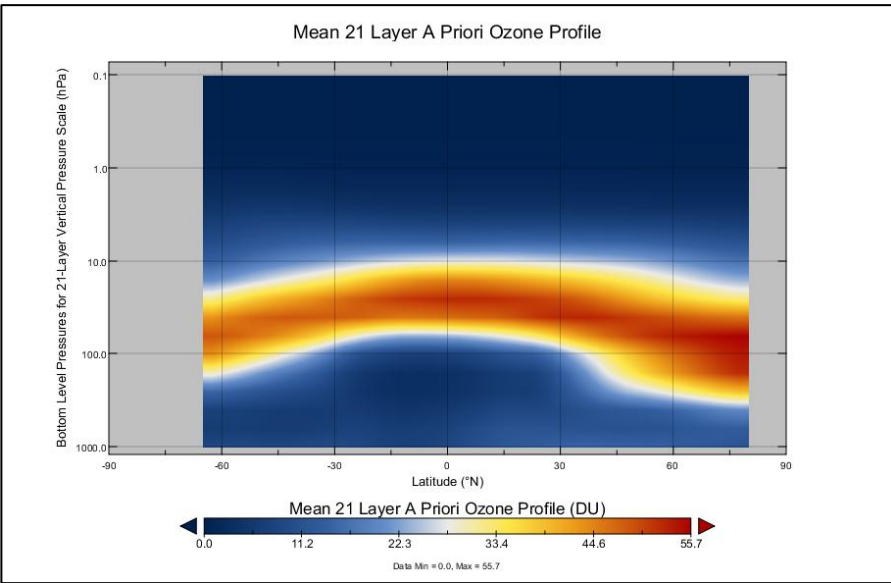OPeNDAP Clients

OPeNDAP Servers

HDF-EOS5/HDF5 Files

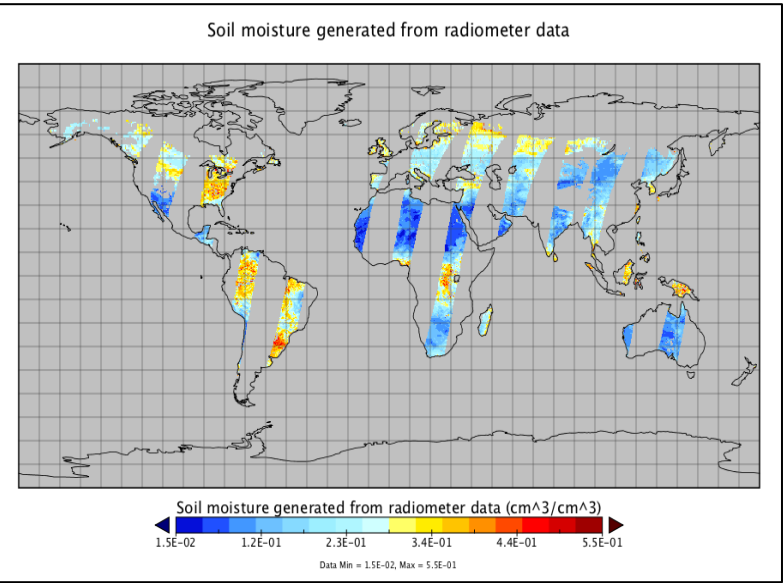## Examples of Accessing NASA HDF5/HDF-EOS5 via reengineered OPeNDAP HDF5 Handler
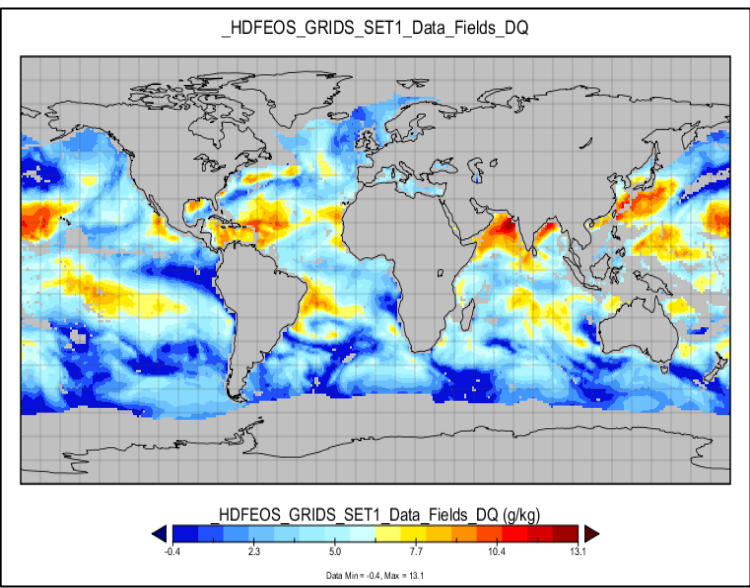

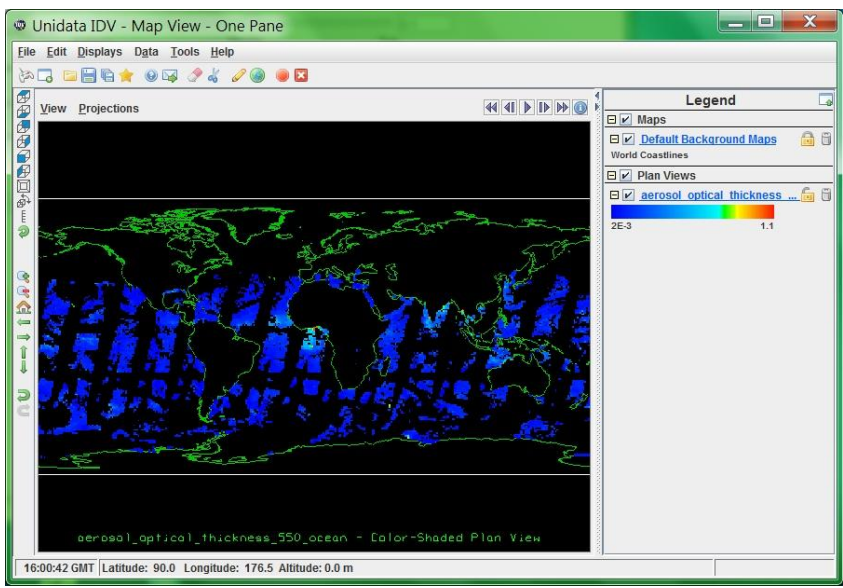GES DISC HIRDLS ZA Panoply
HDF-EOS5

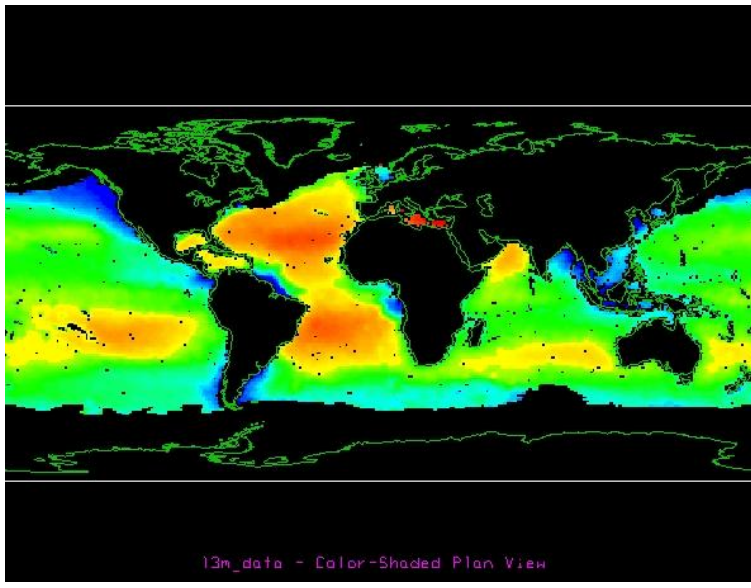LaRC TES Panoply
HDF-EOS5

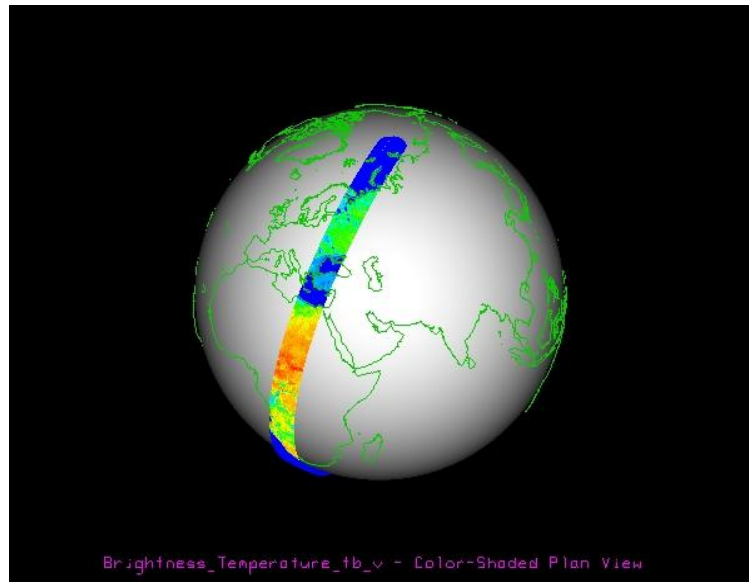GES DISC BUV O3 Panoply
HDF5

SMAP Panoply
HDF5 (Simulation)

GES DISC GSSTF Panoply
HDF5

GES DISC MEaSUREs SeaWiFS IDV
HDF5

PO.DAAC Aquarius IDV
HDF5 (Simulation)

SMAP IDV
HDF5 (Simulation)

The HDF5 OPeNDAP handler software can be used to access HDF5 data via OPeNDAP's Data Access Protocol. The HDF Group reengineered the HDF5 OPeNDAP handler to improve the access of NASA HDF-EOS5 (OMI, HIRDLS, MLS, and TES) and to support new HDF5 products via OPeNDAP's visualization client tools. OPeNDAP released the reengineered HDF5 handler on June 14, 2012.

Improved Comprehensive Examples

http://hdfeos.org/zoo

Mike Folk, MuQun Yang, and Hyo-Kyung Lee
The HDF Group

The HDF Group improved the Comprehensive Examples so that users can access NASA HDF data easily with MATLAB, IDL, and NCL.

Overview

The improved website has new product examples. Old examples are also updated.

New Examples: ICESat-2, Aquarius

We've added recent NASA HDF5 data products.

Updated Examples: MODIS, MISR

We've corrected errors in handling scale/offset and different projections.

New Comprehensive Examples of Accessing ICESat-2, Aquarius, GOSAT/acos
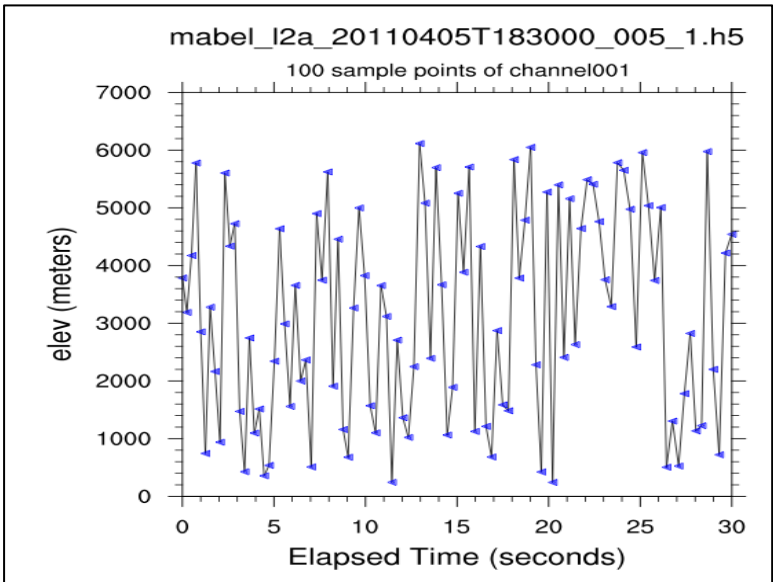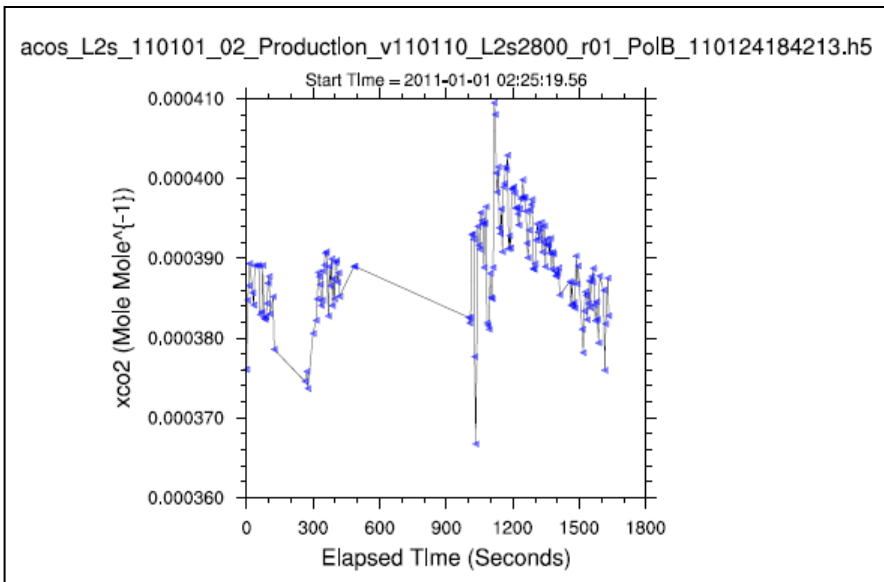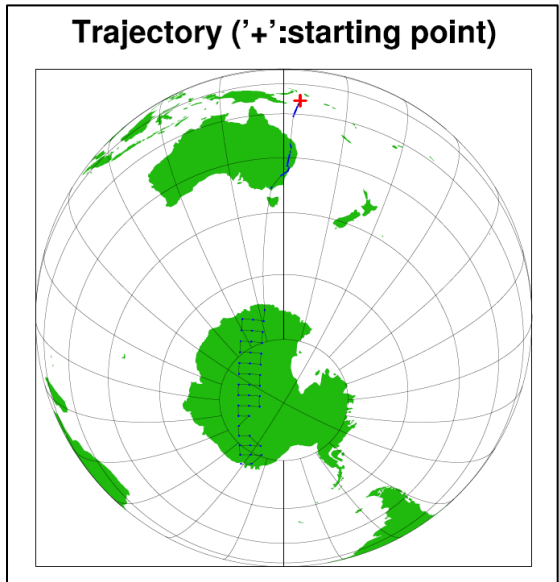
ICESat-2 mabel MATLAB
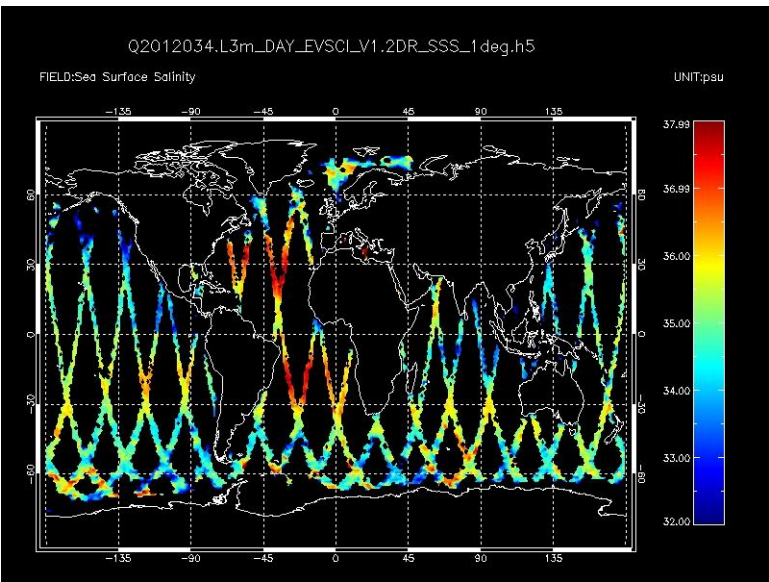
PO.DAAC Aquarius IDL

GESDISC GOSAT/acos NCL

Updated Comprehensive Examples of Accessing NASA HDF with MATLAB, IDL, and NCL

Full HDF file name

Data set name form *long_name* attribute if available

Discrete color bar

MOD29E1D.A2000055.005.2006268025009.hdf
Sea_Ice_by_Reflectance_NP

Key Improvements:
- Corrected the title with HDF file name.
- Added descriptive data set name using attributes.
- Corrected color bar with right unit and scale formula.
- Added more projections.
- Added more data products.

More Projection Support

LaRC MISR IDL

NSIDC MODIS MATLAB

The HDF Group maintains a webpage that includes comprehensive NCL/MATLAB/IDL example codes, and plots of NASA HDF-EOS2, HDF-EOS5, and HDF4 files collected from NASA data centers: GES DISC, MODAPS(LAADS), NSIDC,LP-DAAC, GHRC, OBPG(Ocean Color) and LaRC. More than 80 files and 600 plots and codes of NCL/IDL/MATLAB can be found from this page. More examples will be added soon. We hope this can significantly reduce the time for end users to visualize the NASA HDF and HDF-EOS data. The URL is http://hdfeos.org/zoo.

What's New at the HDFEOS.org