

HDFVIEW

<http://www.hdfgroup.org/hdf-java-html/hdfview/index.html>

Basics of HDF data format

HDF (Hierarchical Data Format) is a library and multi-object file format for storing and managing data between machines.

Two versions: HDF4 and HDF5.

Important features:

- Self-describing;
- Can store swaths, grids, in-situ data, instrument metadata, and browse image in a single file;
- No limits on size or number of data objects;
- Allow complex data relations&dependences;
- Support parallel I/O, multiple platforms and API with C/C++/Fortran/Java interfaces

Main usage of HDFVIEW

- View a file hierarchy in a tree structure
- Create new file, add or delete groups and datasets
- View and modify the content of a dataset
- Add, delete and modify attributes
- Replace I/O and GUI components such as table view, image view and metadata view

Screenshot of main window

Menu and tool bar

The screenshot shows the main window of a software application. At the top, there is a menu bar with 'File', 'Window', 'Tools', and 'Help'. Below the menu bar is a toolbar with several icons. The main area is divided into three panels:

- Tree panel:** A hierarchical tree view on the left side. The root node is 'T2010127160500.L2_LAC_OC'. It has three main branches: 'Sensor Band Parameters', 'Scan-Line Attributes', 'Geophysical Data', and 'Navigation Data'. Under 'Sensor Band Parameters', there are sub-nodes: 'wavelength', 'vcal_gain', 'vcal_offset', 'F0', 'k_oz', and 'Tau_r'.
- Data panel:** A table view on the right side. The table has two columns. The first column contains integers from 4 to 23. The second column contains numerical values. The table is titled 'Table' and has a small chart icon next to it.
- Info panel:** A panel at the bottom of the window displaying metadata information.

Tree panel

Data panel

Info panel

T2010127160500.L2_LAC_OC (0, 0)
Group size = 4
Number of attributes = 56
Title = HMODIST Level-2 Data
Sensor Name = HMODIST
Product Name = T2010127160500.L2_LAC_OC
Software Name = l2gen
Software Version = 6.3.9
Processing Version = 2010.0
Orbit Node Longitude = -86.15203
Orbit Number = 55240
Node Crossing Time = 2010127161436521685

Log Info Metadata

Example: ocean color in Florida Bay

2010 May 07
MODIS/Terra

True color image



Chlorophyll concentration

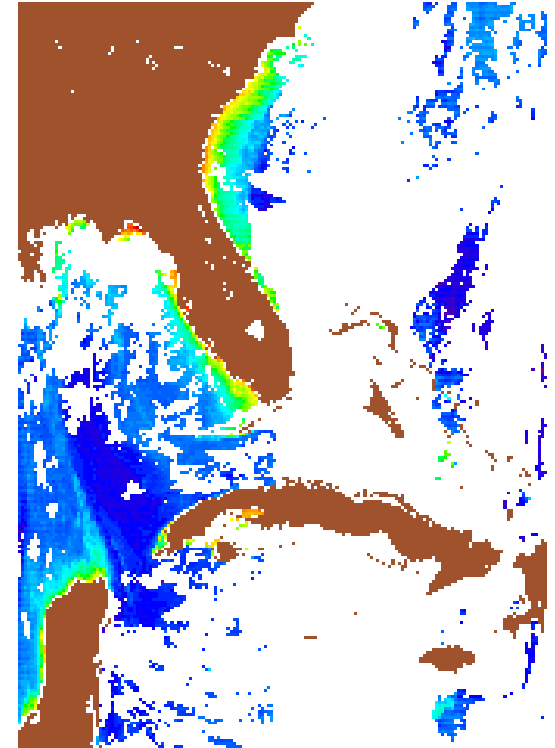


Table view

Open a proportion of data as table
Export data to a text file

The screenshot shows a software interface with a menu bar (File, Window, Tools, Help) and a toolbar. The main window displays a table of data with columns labeled 19 through 29. The data values range from approximately 0.0887 to -32767.0. A dialog box titled "Dataset Selection" is open, showing options for "Display As" (Spreadsheet or Image) and "Dimension and Subset Selection" (Height, Width, Depth). The "Image" option is selected, and the "Dimension and Subset Selection" section shows a preview of the data as a red and black image. The "Height" is set to 1300, "Width" to 900, and "Depth" to 0. The "Reset" button is visible at the bottom of the dialog box.

	19	20	21	22	23	24	25	26	27	28	29
1483	0.0887174	0.093016...	0.094020...	0.103355...	0.107065...	0.100238...	0.100485...	0.099977...	0.097485...	-32767.0	-32767.0
1484	0.085273...	0.100366...	0.103809...	0.103215...	0.102278...	0.106628...	0.109213...	0.099348...	0.094456...	-32767.0	-32767.0
1485	0.086640...	0.098125...	0.098583...	0.106612...	0.105191...	0.107772...	0.106837...	0.099028...	0.120831...	-32767.0	-32767.0
1486	0.090579...	0.1032764	0.099184...	0.101048...	0.099666...	0.107868...	0.105211...	0.100234...	0.115366...	-32767.0	-32767.0
1487	0.1034843	0.104453...	0.109904...	0.108746...	0.1002077	0.106063...	0.111492...	0.101398...	0.105747...	-32767.0	-32767.0
1488	0.110020...	0.106239...	0.114249...	0.111261...	0.105652...	0.1052351	0.111071...	0.115298...	0.086922...	-32767.0	-32767.0
1489	0.109530...	0.110575...	0.120584...	0.118797...	0.114048...	0.114765...	0.106173...	0.106562...	-32767.0	-32767.0	-32767.0
1490	0	0	0	0	0	0	0	0	0	-32767.0	-32767.0
1491	0	0	0	0	0	0	0	0	0	-32767.0	-32767.0
1492	0	0	0	0	0	0	0	0	0	-32767.0	-32767.0
1493	0	0	0	0	0	0	0	0	0	-32767.0	-32767.0
1494	0	0	0	0	0	0	0	0	0	-32767.0	-32767.0
1495	0	0	0	0	0	0	0	0	0	-32767.0	0
1496	0	0	0	0	0	0	0	0	0	0.057900...	0
1497	0	0	0	0	0	0	0	0	0	0.069476...	0
1498	0	0	0	0	0	0	0	0	0	0.074121...	0
1499	0	0	0	0	0	0	0	0	0	0.0825999	0
1500	0	0	0	0	0	0	0	0	0	0.0848705	0

Dataset Selection - /Geophysical Data/chlor_a

Display As

Spreadsheet

TableView: ncsa.hdf.view.DefaultTableView

Image Select palette

ImageView: ncsa.hdf.view.DefaultImageView

Dimension and Subset Selection

Reshape Sta End: Stride: Max Size

Height Numbe... 1300 1500 1 2030

Width Pixels p... 600 900 1 1354

Depth Numbe... 0 0 1 1

Reset

OK Cancel

chlor_a (720, 27)
32-bit floating-point, 2030 x 1354
Number of attributes = 6
long_name = Chlorophyll Concentration, OC3 Algorithm
slope = 1.0
intercept = 0.0
units = mg m^-3
bad_value_scaled = -32767.0
bad_value_unscaled = -32767.0

Image view

Display a proportion of data and save as images
Show histogram information of selected area

The screenshot displays a software interface with three main components:

- Table View:** A table titled "chlor_a" showing data for various rows. The selected row is 1480, 13, with a value of 0.094083704. The table includes columns for row indices and numerical values.
- ImageView:** A window titled "ImageView - chlor_a - /Geophysica..." showing a heatmap of the selected data. A red rectangle highlights a specific region of the heatmap.
- Histogram:** A window titled "Histogram - /Geophysical Data/chlor_a - by pixel Index" showing a bar chart of the data distribution for the selected area. The x-axis represents values from 0.0745 to 0.1377, and the y-axis represents frequency from 0 to 2.

chlor_a (720, 27)
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Useful links

Free download link for WIN/MAC/LINUX:

<http://www.hdfgroup.org/hdf-java-html/hdfview/index.html>

User guide:

<http://www.hdfgroup.org/hdf-java-html/hdfview/UsersGuide/index.html>