

Image display procedures using SeaDAS

**Northwest Pacific Region Environmental Cooperation Center
version 0.9**

Contents

1 . Image Display by SeaDAS.....	1
1 . 1 Starting the SeaDAS software.....	2
1 . 2 Starting the "seadisp" general display program.....	2
1 . 3 Selection of image data (for displaying raster data).....	3
1 . 4 Display of the image data	8
2 . Display of color images by SeaDAS.....	9
2 . 1 Display of an image data.....	9
2 . 2 Setting of the color table	10
2 . 3 Editing the color table.....	11
2 . 4 Count values display	13
2 . 5 Longitudes and latitudes display	14
2 . 6 Adding coast lines.....	15

1 . Image Display by SeaDAS

The following are instructions to display images, by using an example of displaying the "MODIS chlorophyll" data. Please refer to "Image display procedure using SeaDAS" for the method of ordering the MODIS BSQ format data.

(1) Data format

GRASS supports only a limited number of formats. Therefore, the data format supported by GRASS will need to be ordered from the Marine Environmental Watch System. This manual covers the MODIS data parameters and image display procedures using GRASS, based on the file formats, as shown in Table. 1-1.

Table .1-1 Formats used

File format	BSQ	
Center Coordinates	North Lat.35°, East Long.132.5°	
Coordinates of 4 corners	50N / 115 E	50N / 150 E
	20N / 115 E	20N / 150 E
Resolution	1.0 k m	
Projection	Rectangular	

(2) Data used

This manual uses the following data, as shown below.

Data ID : MCHLA_20050708013300

Product : MODIS/Terra Chlorophyll-a

- Observation Starting date : 2005/07/08 10:33:00 (JST)

(3) SeaDAS version

This manual is based on SeaDAS4.7 version. (with embedded IDL)

(4) Operating System

Operating System used in this manual is Fedora Core 4.

1 . 1 Starting the SeaDAS software

First, enter the following command, as shown below, on the command line

```
% seadas -em
```

The "SeaDAS Main Menu" will appear on the screen.

(Refer to Fig1.1-1 Starting SeaDAS)

Fig.1.1-1 Starting SeaDAS

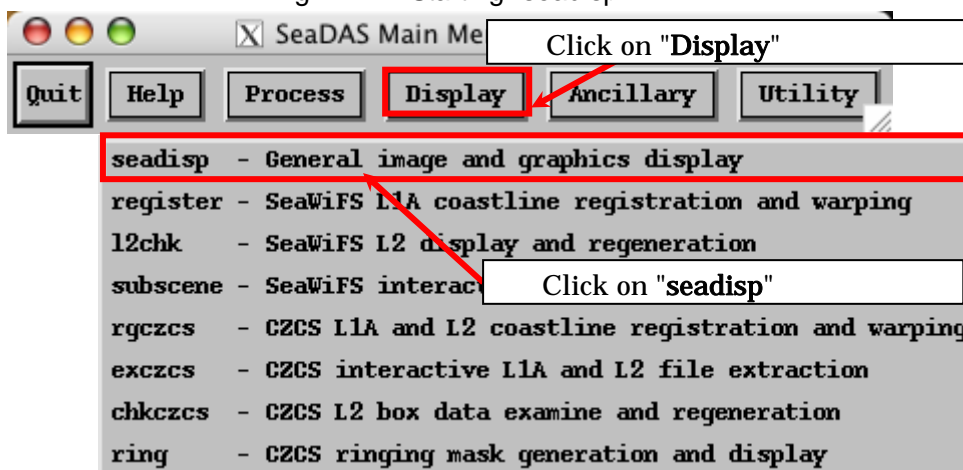


1 . 2 Starting the "seadisp" general display program

- "seadisp" is a general display program for image display. The "seadisp" program needs to be started in order to display the images.

From the "SeaDAS Main Menu", click on "Display", and a pull-down menu will then be displayed (as shown in Fig. 1.2-1).

Fig.1.2-1 Starting "seadisp"



From the pull-down menu, click on "Seadisp - General image and graphics display", and the "Seadisp Main Menu" will then be displayed.

Fig 1.2-2 Seadisp Main menu



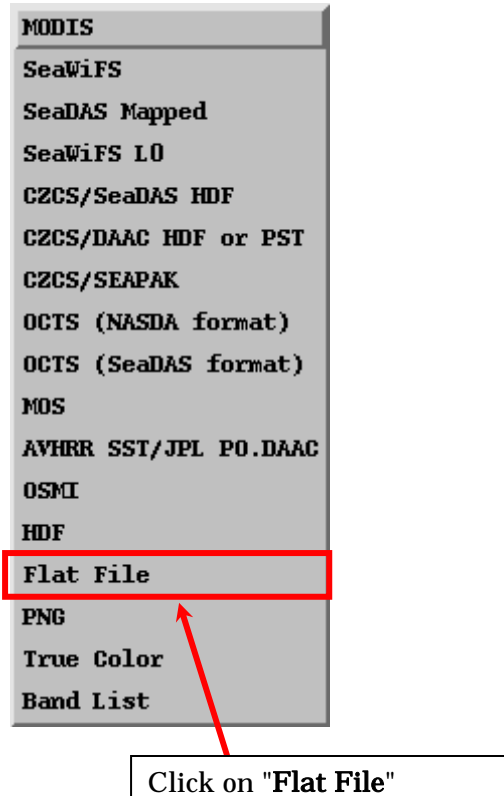
1 . 3 Selection of image data (for displaying raster data)

- First, select the satellite data to be displayed. Select the type of data file from the product list. -

From the "Seadisp Main Menu", click on "Load," and a pull-down menu will then be displayed.

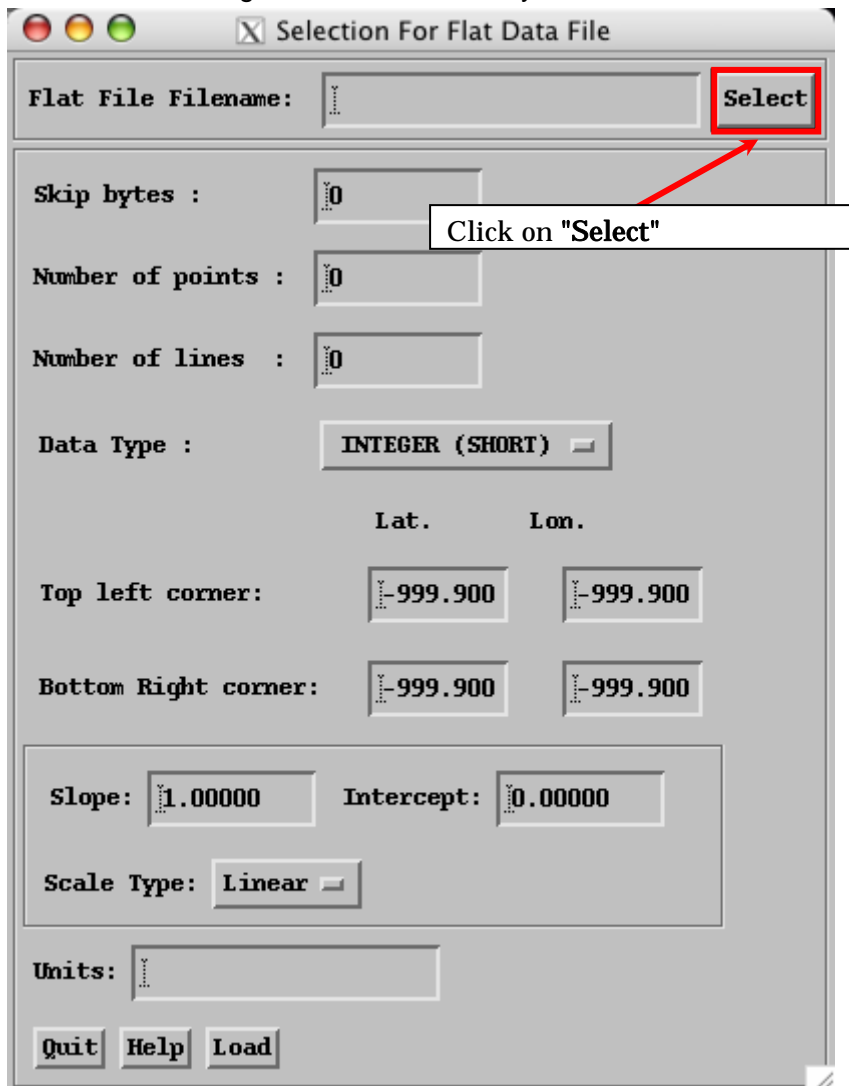
Select and click on "Flat File."

Fig.1.3-1 File type selection



The "Selection For Flat Data File" screen will then be displayed. Click on "Select" to open the file you wish to access.

Fig. 1.3-2 Flat File Entry screen



The "Please Select Flat Data File for Reading" screen will be displayed.

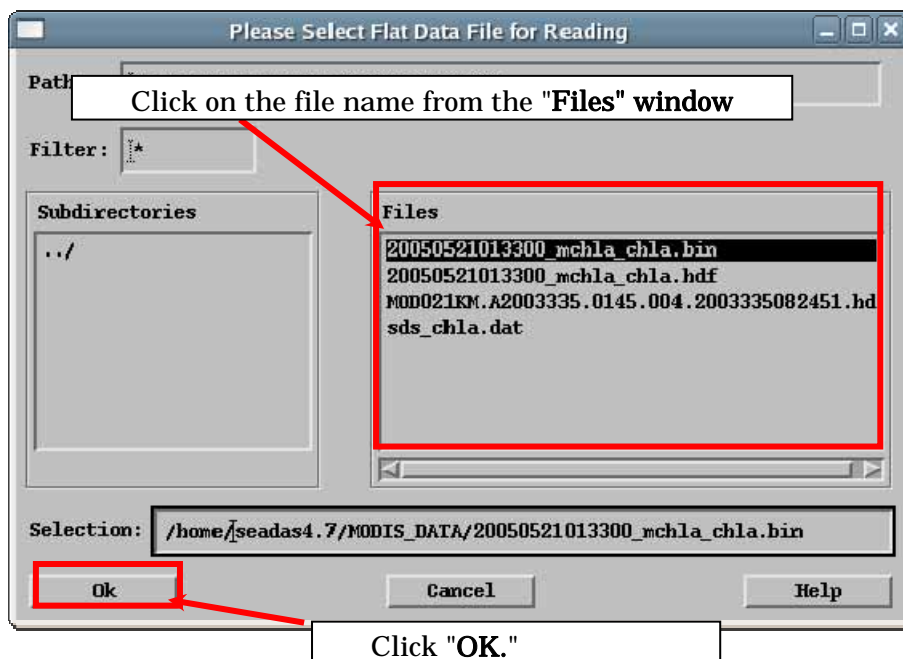
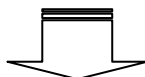
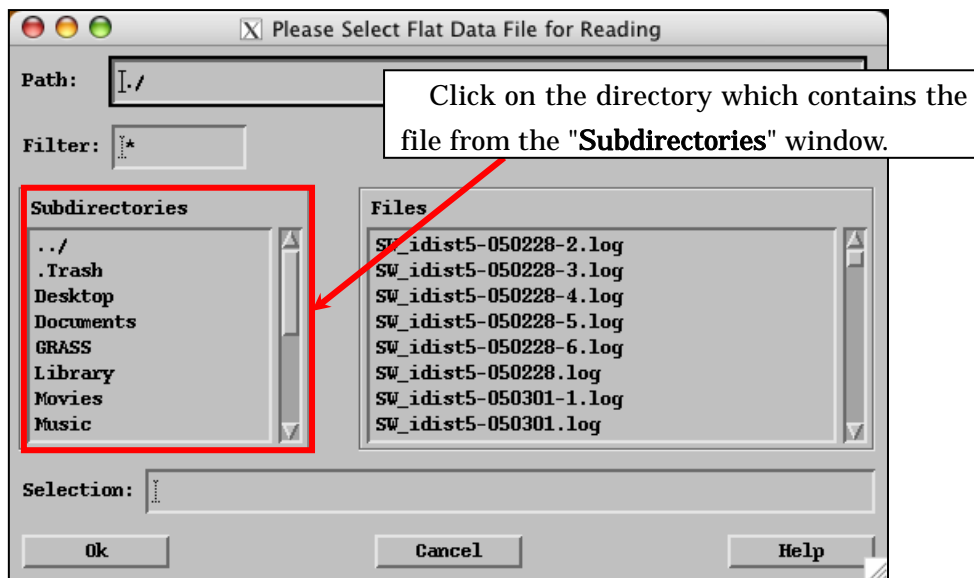
Data to be selected and accessed is done here.

First, select the appropriate directory from the "Subdirectories" window. A list of files included in the directory will then be displayed. From the "Files" window, the list of files

included in the directory will be displayed.

Select and click on the file to be accessed, and then click "OK."

Fig.1.3-3 Selection of image data



Next, enter the file parameters.

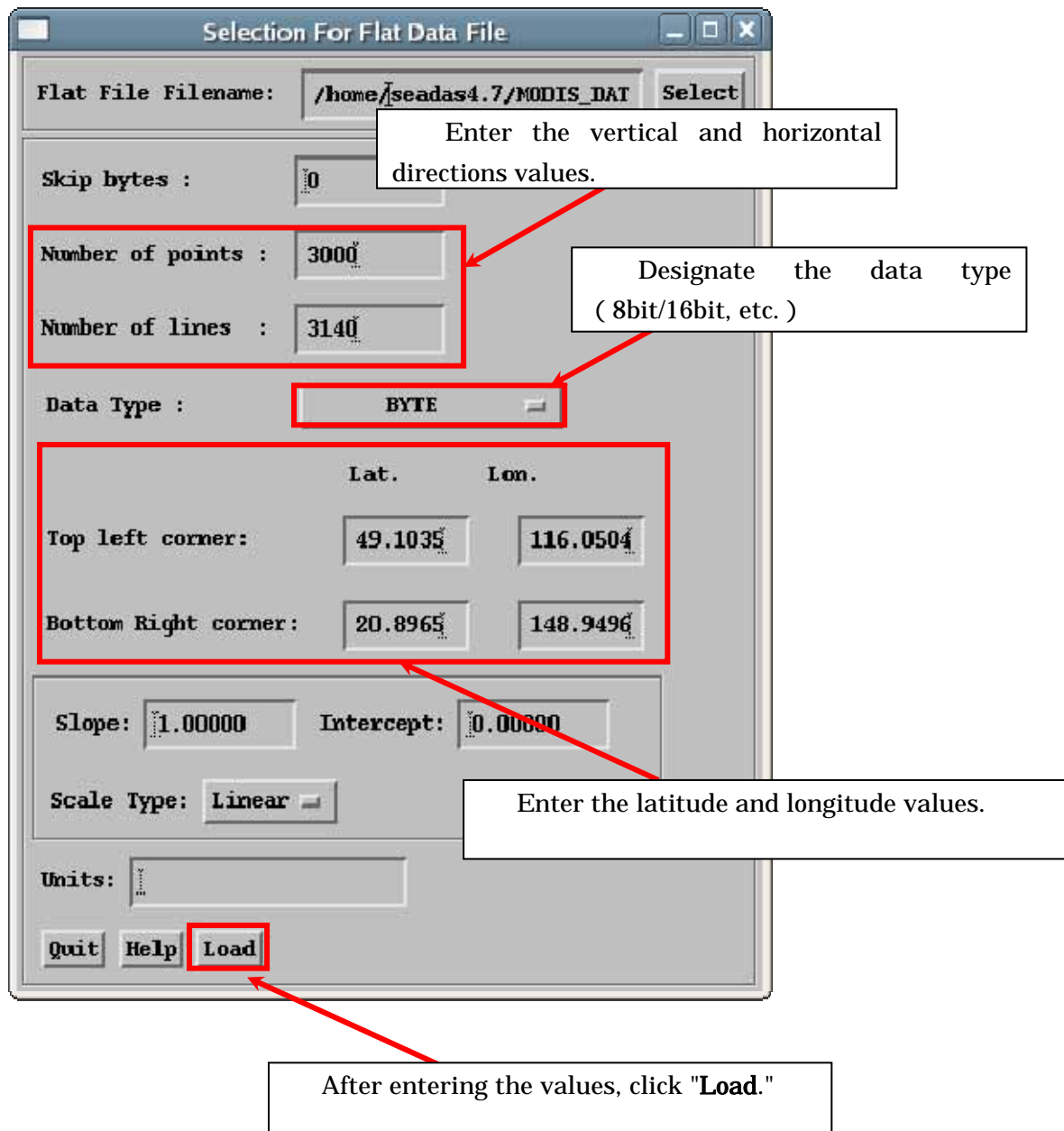
To read raster data, pixel values for vertical and horizontal directions needs to be entered.

For image data values, refer to the instructions for image data production.

For north, south, east, and west entry information, refer to the 4 corner's data contained in a Word file, which is included as part of the downloaded data. (The name of the data file

(Word format) is "20050708013300_mchla_chla.doc")

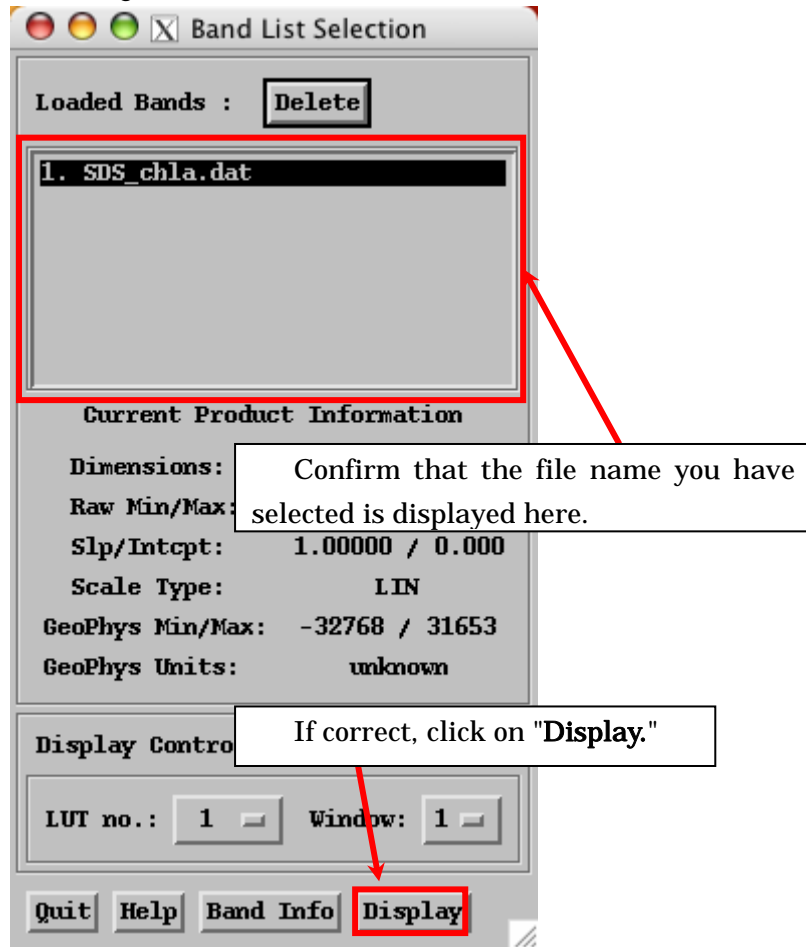
Fig.1.3-4 Entry of parameter values



Next, "Band List Selection" will be displayed on the screen.

Confirm that the file name you have selected is listed in the "Loaded Bands" windows.
If the file name is correct, then click on "Display."

Fig.1.3-5 Selection of Band

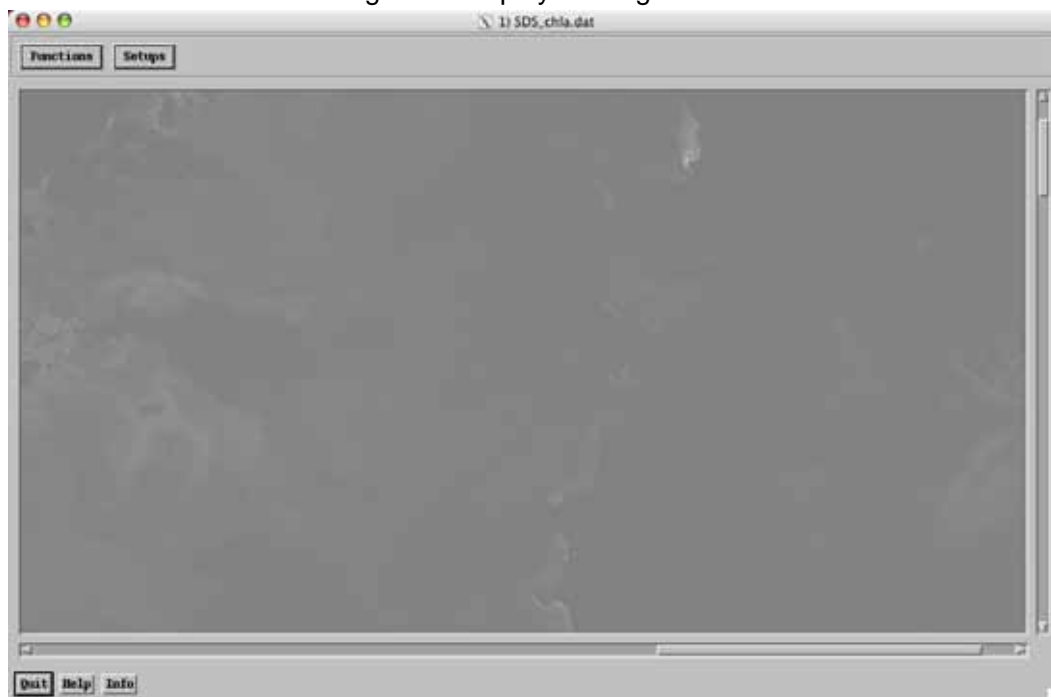


1 . 4 Display of the image data

- The band selected is displayed. Next, the image data needs to be visualized (display the image data on the screen). -

MODIS data displayed in gray-scale, as shown in Fig. 1.4-1

Fig.1.4-1 Display of image data

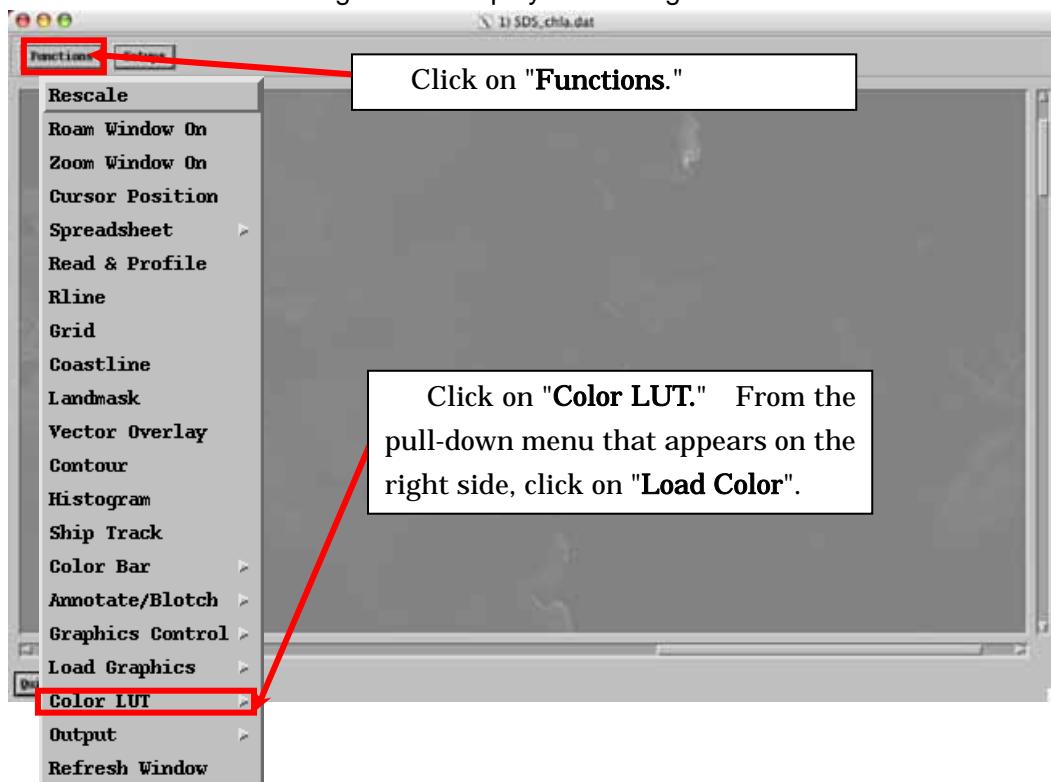


2 . Display of color images by SeaDAS

When satellite data is initially opened, the images are displayed in a gray-scale (black and white tone). The image colors can be adjusted by using the SeaDAS functions. The following procedures are explained here using as an example, the MODIS chlorophyll data.

2 . 1 Display of an image data

Fig.2.1-1 Display of an image data



2 . 2 Setting of the color table

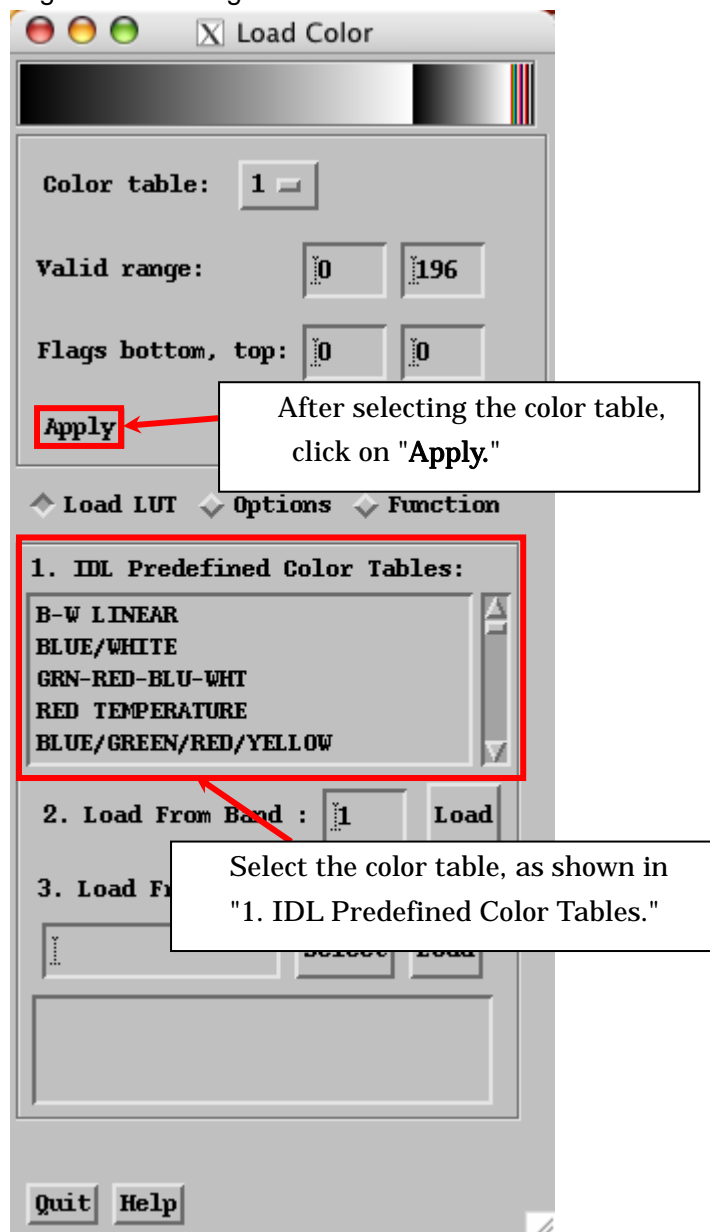
From the image display screen, click on "Functions" and a pull-down menu will then be displayed.

Next, select "Color LUT", and another pull-down menu will then appear.

From this menu, select "Load Color."

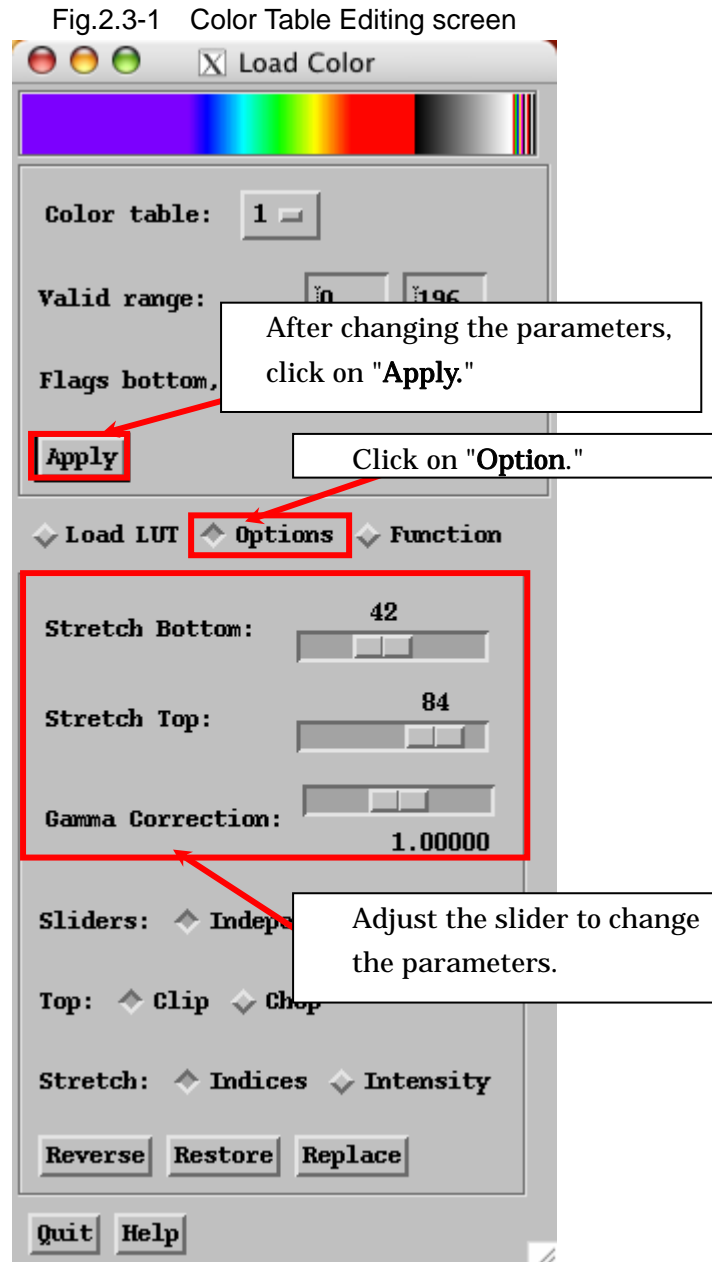
The "Load Color" screen will then be displayed.

Fig.2.2-1 Setting screen of the color table

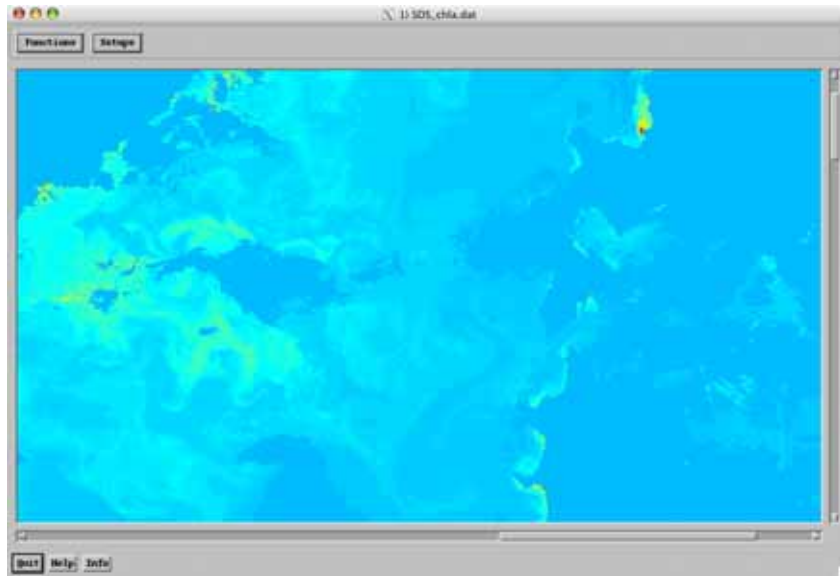


2 . 3 Editing the color table

You can manually edit the selected color pallet.



Example of color image

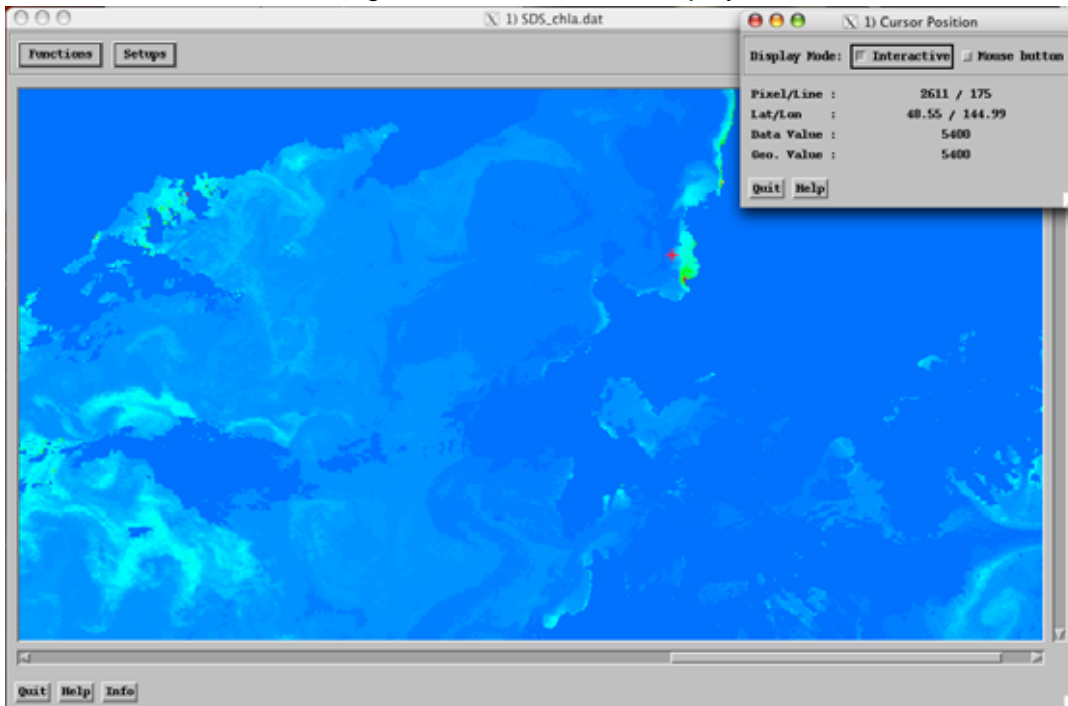


2 . 4 Count values display

To display the count values of a pixel that corresponds to the longitude and latitude for the data shown, from the image display screen, click on "Functions".

From the pull-down menu, select "Cursor Position."

Fig.2.4-1 Count values display



Move the cursor to the desired location. The count values of the pixel will then be displayed at the "Cursor Position."

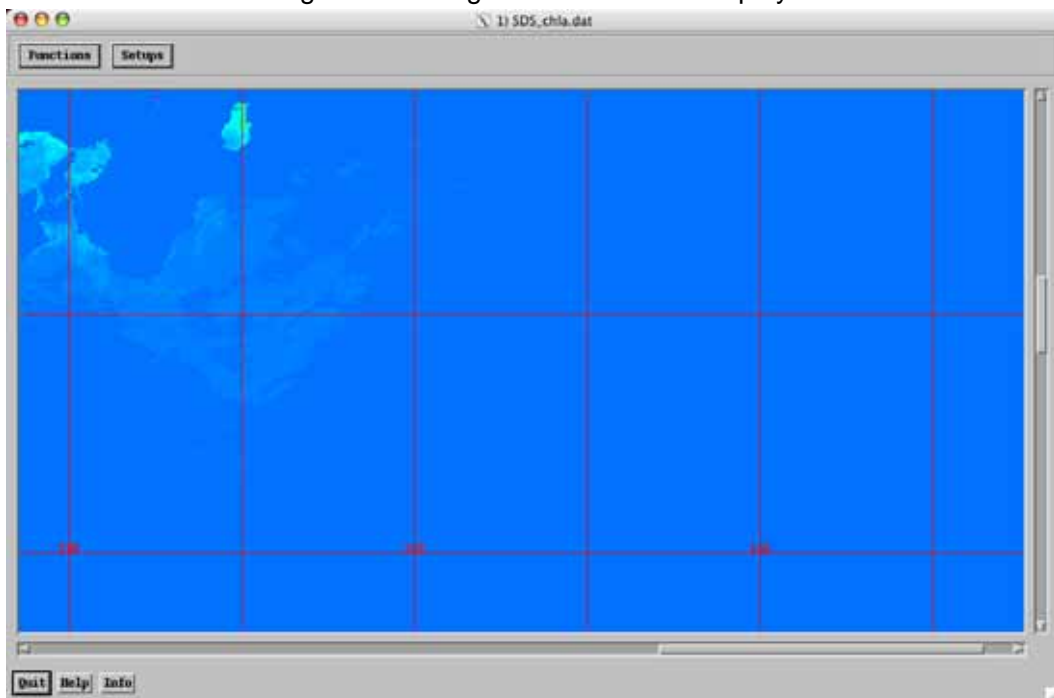
Longitude and latitude values are also displayed - "Lat/Lon."

2 . 5 Longitudes and latitudes display

To add longitude and latitude to the data shown, from the image display screen, click on "Functions".

From the pull-down menu, click and select "Grid."

Fig.2.5-1 longitude and latitude display



You can adjust the color, values, and line space (optional).

Red is set as the default value.

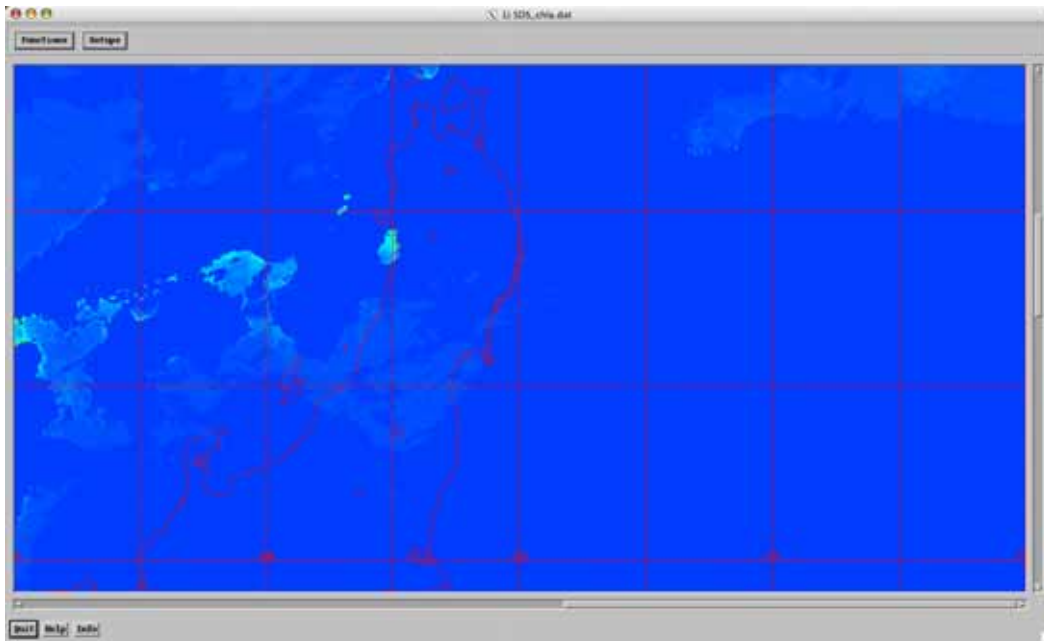
For further information, please refer to the guide.

2 . 6 Adding coast lines

To add coast lines to the data shown, from the image display screen, click on "Functions."

From the pull-down menu, select "CoastLine."

Fig.2.6-1 Addition of coast lines



You can adjust the color, values, and line space (optional).

Red is set as the default value.

For further information, please refer to the guide.