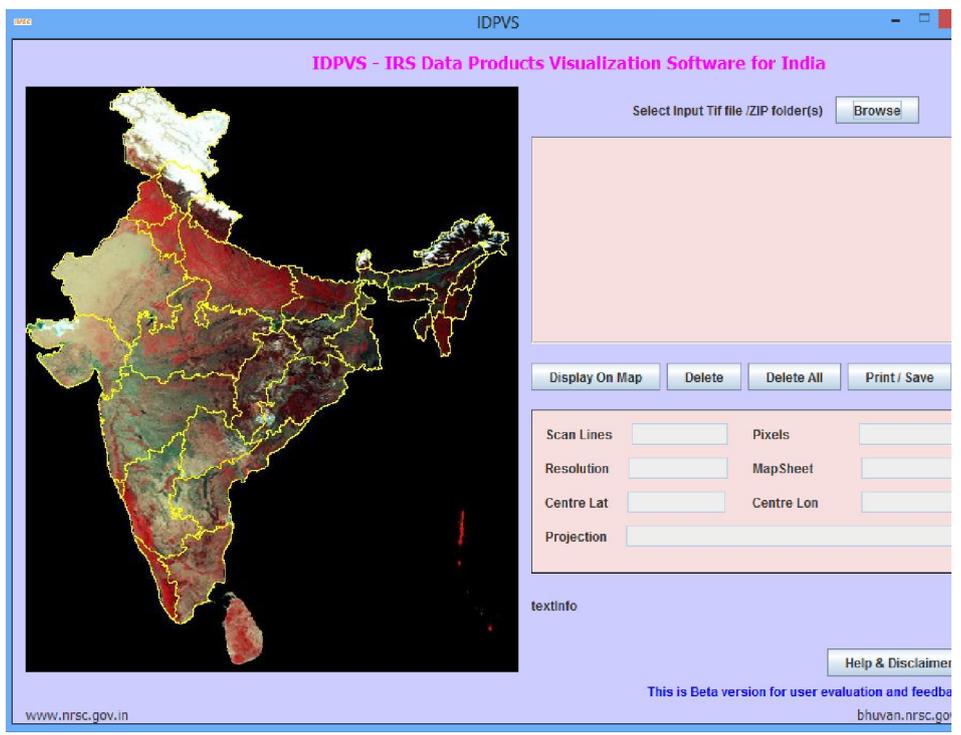


User Manual

IRS Data products Visualization software for India



National Remote Sensing Centre

January, 2017

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1. Introduction

The Standard products supplied by NRSC have path row or orbit number based referencing scheme and it is not implicitly possible for the user to visualize as to where in India the data is covered. The problem becomes more severe for national level projects where the data for the entire Indian region needs to be handled. The division of data here is usually on a state boundary based and hence it is required to quickly visualize the exact area and state where the data is covered.

It is required many a time during a project to check the status of the already delivered products and to know as to data pertaining to which area is still pending to be delivered by NRSC.

It has been perceived that if a sub-sampled image can be generated quickly along with the geo-information it can be easy to display all the sub-sampled images on the boundary to quickly identify the gaps in the received data. This utility is developed for quick plotting and preview of the IRS data received from NRSC data Centre and helps users in understanding the correctness of the data ordered by them.

2. Hardware and software requirements:

Desktop computer system with minimum 1 GB RAM and any operating system with preinstalled Java SE JRE 7 (Build 1.7.0 or higher). The software is developed in Java and has no dependency on any other packages or utilities.

Update Environment Variable Settings:

Add Java Installation directory at the end of 'path' variable inside Environment Variable settings of your system.

a. **Software Requirements:** Java 1.7 or More

b. **Hardware Requirements:**

Hard Disk : 3GB and Above

RAM : 1GB and Above

Input Requirement:

Input file should be in Geotiff format of Indian Remote Sensing(IRS) satellite data products. This software utility may also work with any other satellite data provided they meet the

structure of IRS data products. However its functionality is tested only with NRSC supplied data products.

3. Downloading the program

The program and the user manual can be downloaded from the location:

http://www.nrsc.gov.in/Satellite_Data_Products_Overview?q=Download_Softwares_1

4. Salient features of the software:

- ❖ User friendly Java GUI.
- ❖ All Java code built using Java Version jdk1.7 - You will need Java jre7 or higher on your system to run this utility.
- ❖ Does not require any installation as program can run by invoking it through double clicking the jar file or run.bat or through command mode.
- ❖ Displays the location layout of IRS data on WiFS India mosaic with state boundaries.
- ❖ A sub-sampled image preview of the data is shown on selection of the dataset
- ❖ Displays the following text information in a separate panel at the bottom
 - Scan Lines and Pixels
 - Resolution
 - Scene center Latitude and Longitudes.
 - Corresponding 15"X15" map sheet No.
 - Map Projection
- ❖ Allows the printing the entire contents of display panel on the system.

5. Steps in Running the Program:

Invoke program by double clicking on "**IRSDataProductsVisualization.jar**" or "**run.bat**" or type the following command in the terminal window of your operating system "**IRSDataProductsVisualization.jar**" or "**run.bat**" the GUI appears. (Give full path of Java command and full path of run.bat in case if above command does not work)

If your system is having more memory try allocating more memory to JVM using **-Xmx** argument in command mode.

(Example: to allocate 4GB of memory: "**-Xmx4096m**")

Download JRE: Java SE JRE can be downloaded and installed from Oracle website (www.oracle.com).

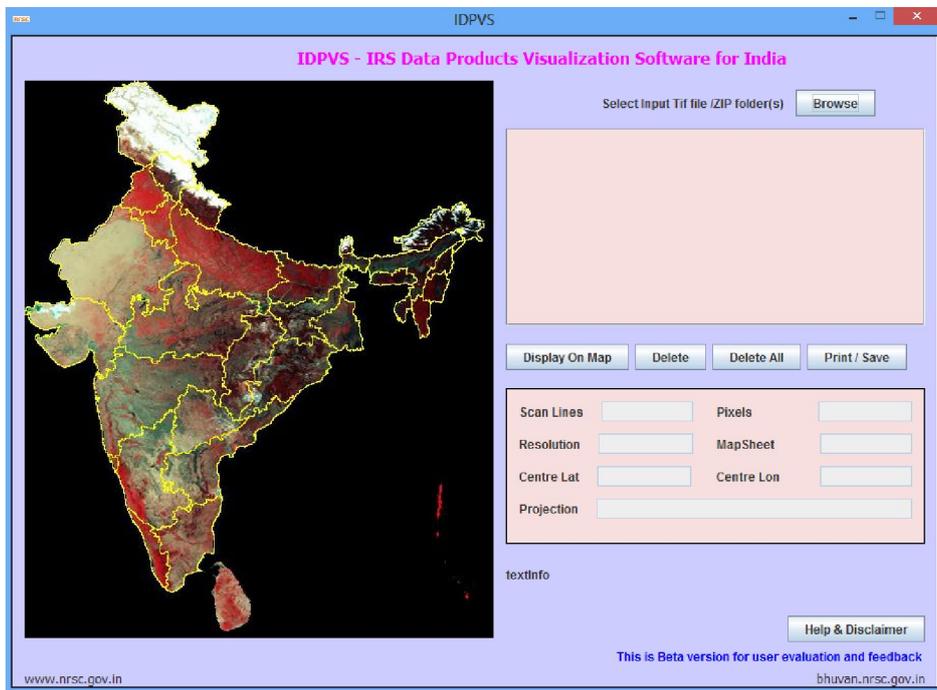


Figure 1. IRS Data Products Visualization Software

Steps:

- ❖ Click on "**Browse**" button for selecting input tif file(s) as it prompts for entering the locations of the IRS Geotiff data products as shown in the figure below:

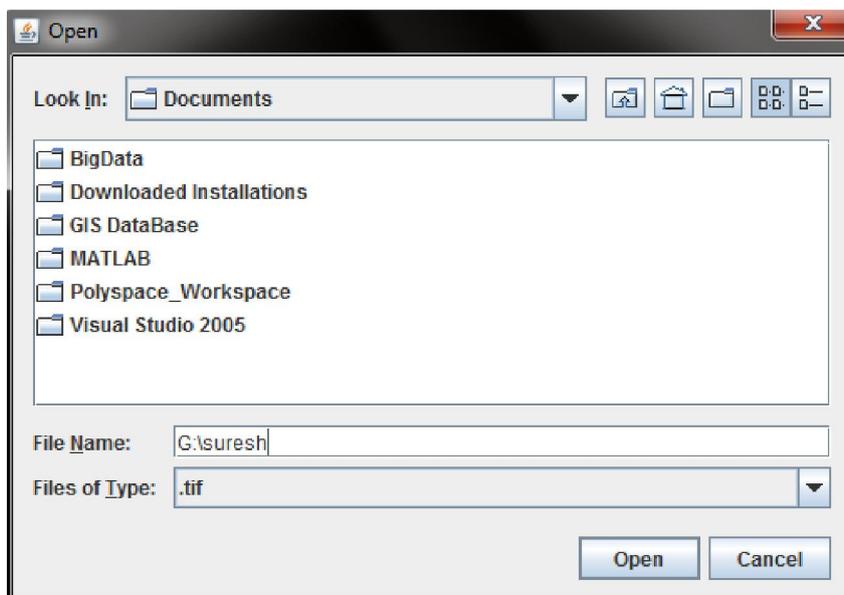


Figure 2. File Open window for selecting input tif file(s)

The file open window also allows the multiple file selection. All files can be selected at a time if they present in one folder or select files by clicking “**Browse**” button multiple times. After selecting the input data product(s), software reads the image data and all file names will be displayed as a list. If any problem occurs during image read, exception message will be shown and that file will not be added to the list. The input files can be added at any time to the list.

- ❖ To remove any file from this list, select those file and click on “**Delete**” button. Even multiple selected files can be deleted on this button.
- ❖ To remove all the files from the list, click on “**Delete All**” button.

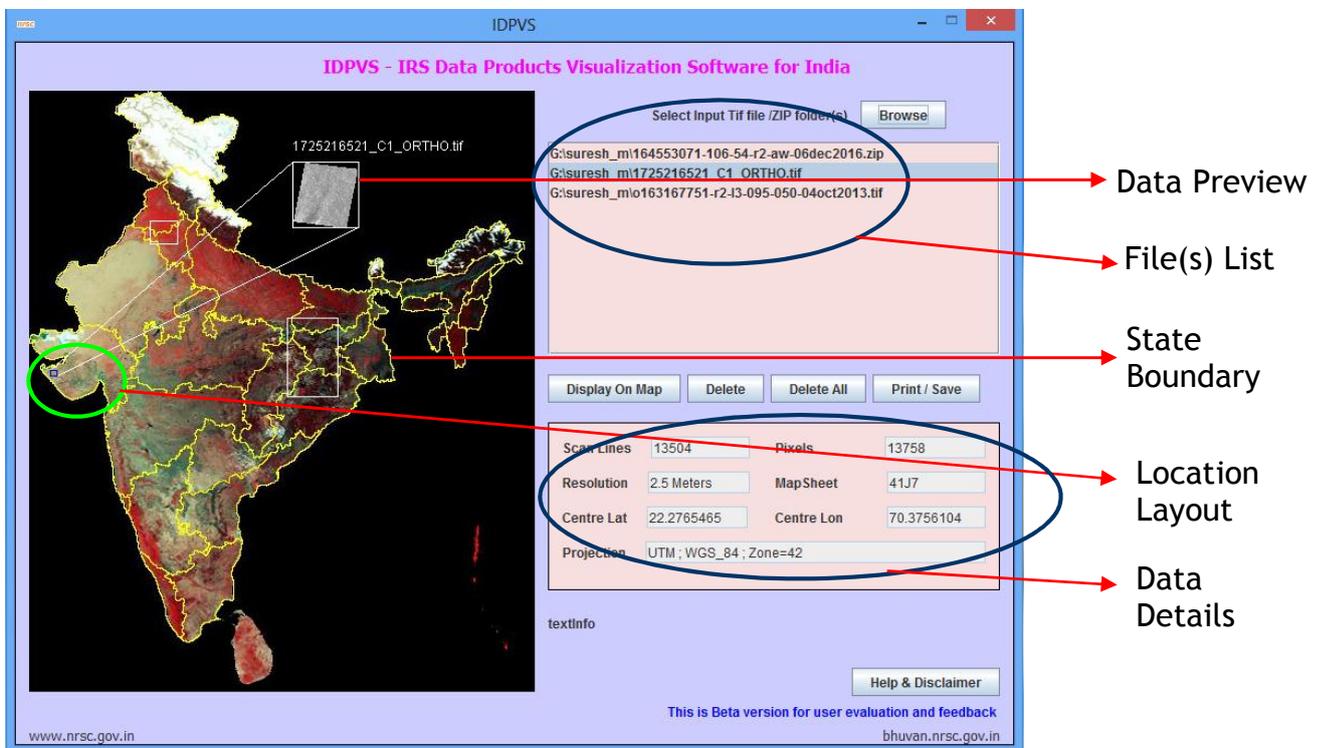


Figure 3. Description of the various fields on the GUI

- ❖ From the list of files, select one file of interest and click on “**Display On Map**” button, displays the layout of the data on the satellite image of India mosaic with state boundaries. A preview of the sub-sampled geotiff image data is shown in the Zoomed panel. Along with this additional information relating to the scene such as Scan lines, pixels, resolution, map sheet number, the scene center Lat/Long and the map projection are provided in the panel at right corner side of the window. The various fields and their descriptions are shown in above figure.

By default, all image layouts are displayed in white color, and selected images are in red color. When multiple images are selected for display on map, only the first image's preview is shown and its layout is in blue color.

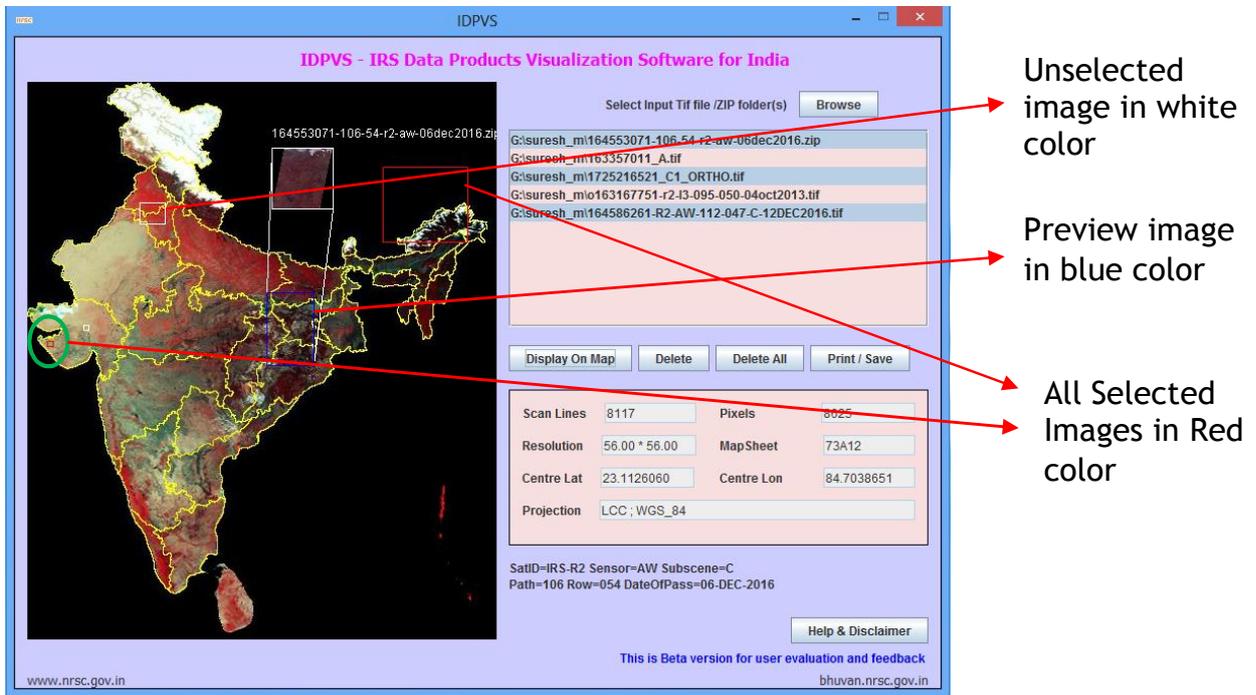


Figure 4. Multiple files display on map

- ❖ User can save or print the contents of display panel with all the geo-information and orientation by selecting '**Print/Save**' button. The displayed view port contents can be either printed or saved on the system in jpg format. These sub-sampled images have the full geo-information and provide the users the advantage of quickly displaying as many images in a single viewer attached with geographic knowledge so that the total area of coverage under these data sets can be effortlessly known.

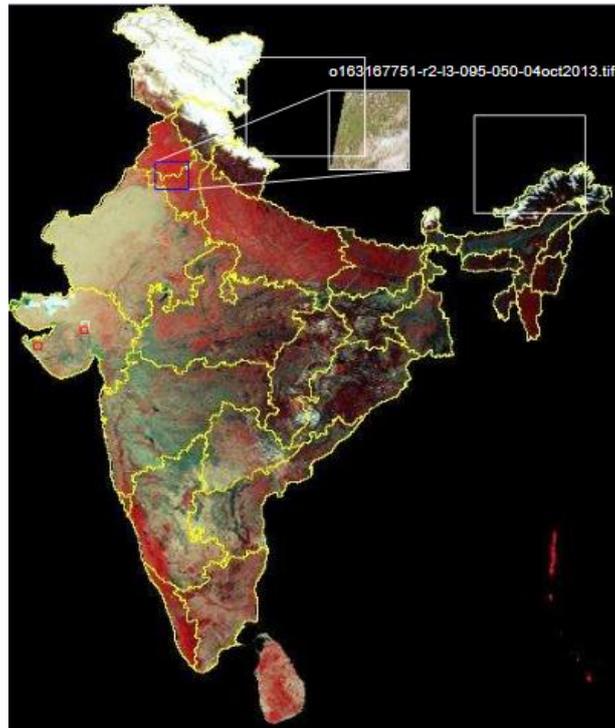


Figure 5. Contents of image display panel on Print/Save option

To have magnification/zoomed view of display panel, move the mouse over this panel. A magnifier is displayed as show in below figure.

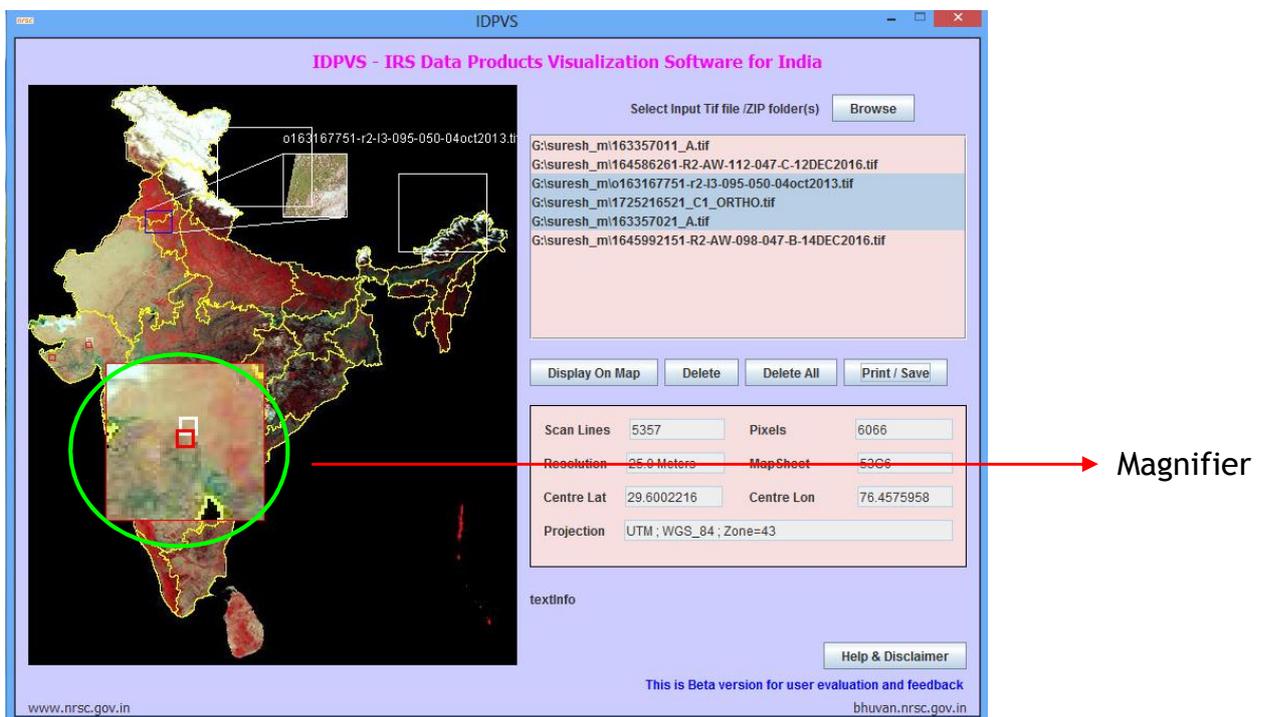
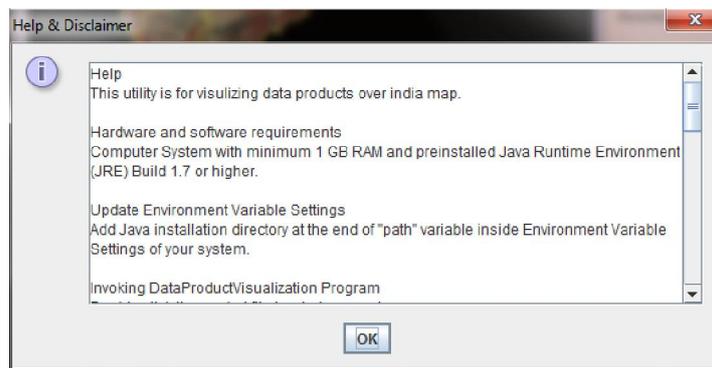


Figure 6. Magnifier of image display panel on mouse over

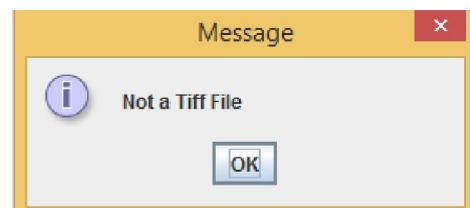
If user clicks on Help& Disclaimer button, it will be shows as below:



6. Error conditions and messages

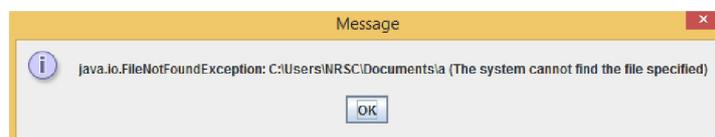
1. Incorrect tiff file: If one enters incorrect input file, it will give an error message

Solution: Select proper Geotiff data products.



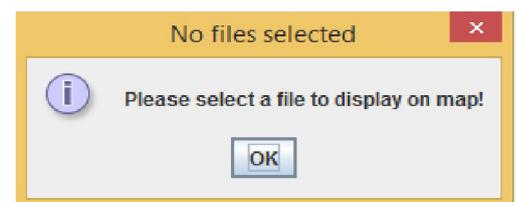
2. Input file does not exists: If one types input file name which does not exists, it will give an error message

Solution: Type correct input data product path



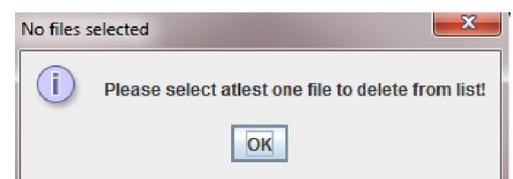
3. Improper selection of Display on map button: If one clicks on Display on map button without selecting at least one any file from the list, it will give an error message.

Solution: Select at least one file before clicking Display on map button.



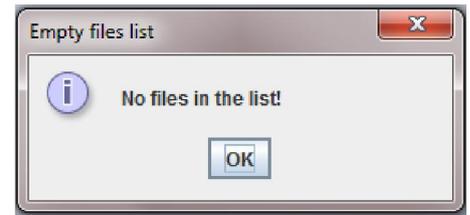
4. Improper selection of Delete button: If one clicks on Delete button without selecting at least one any file from the list, it will give an error message.

Solution: Select at least one file before clicking delete button.



5. Improper selection of DeleteAll button: If one clicks on Delete all button when no files in the list, it will give an error message.

Solution: Click delete all button, when at least one file selected for display.



6. Input Image coordinates are outside valid range: If input image boundaries are not within the range, it will give an error message.

Solution: Select input Geotif file which falls in Indian region.



7. Disclaimer

1. This software product is provided by NRSC "as is" and conveys no license or title under any patent, copyright, or mask work right to the product. NRSC reserves the right to make changes in the software without notification. NRSC also make no representation or warranty that such application will be suitable for the specified use without further testing or modification. There are inherent dangers in the use of any software, and you are solely responsible for determining whether this software product is compatible with your computer and other software installed on your computer. You are also solely responsible for the protection of your system and backup of your data, and NRSC will not be liable for any damages you may suffer in connection with using, modifying, or distributing this software.
2. This software utility is one of the module implemented based upon the quick plotting and quick preview of the data of IRS Geotiff data products. Developer does not claim that this utility will be foolproof and replace any other existing module or software.