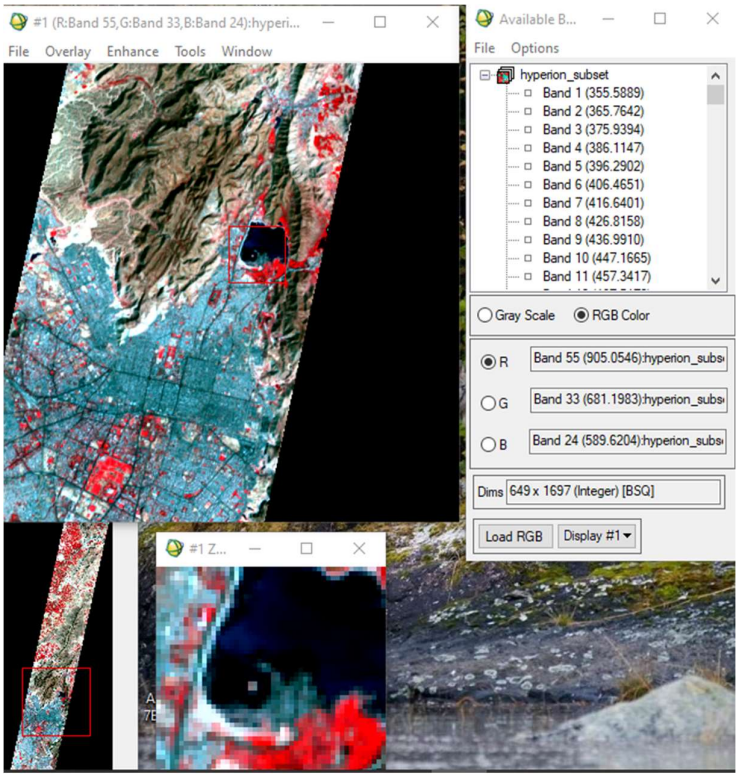
SRIMAYA MOHAPATRA ,244104010

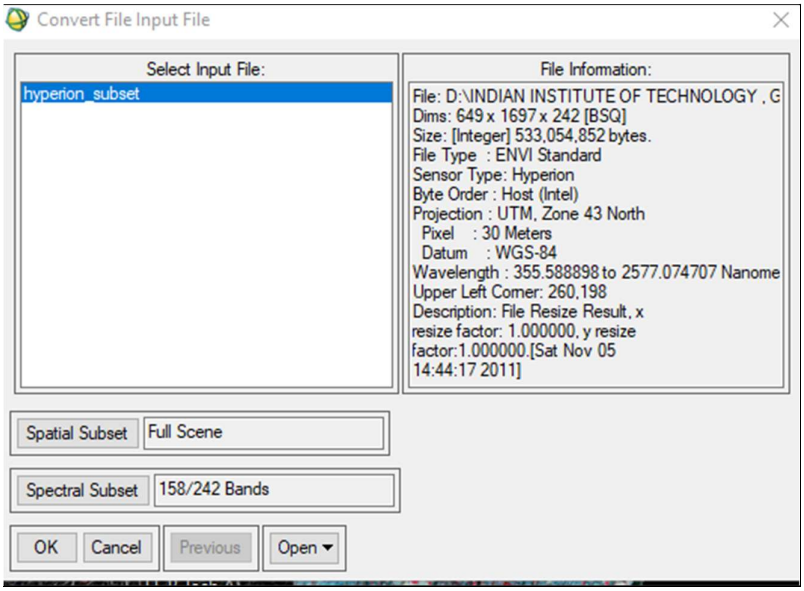
LAB 10 ASSIGNMENT

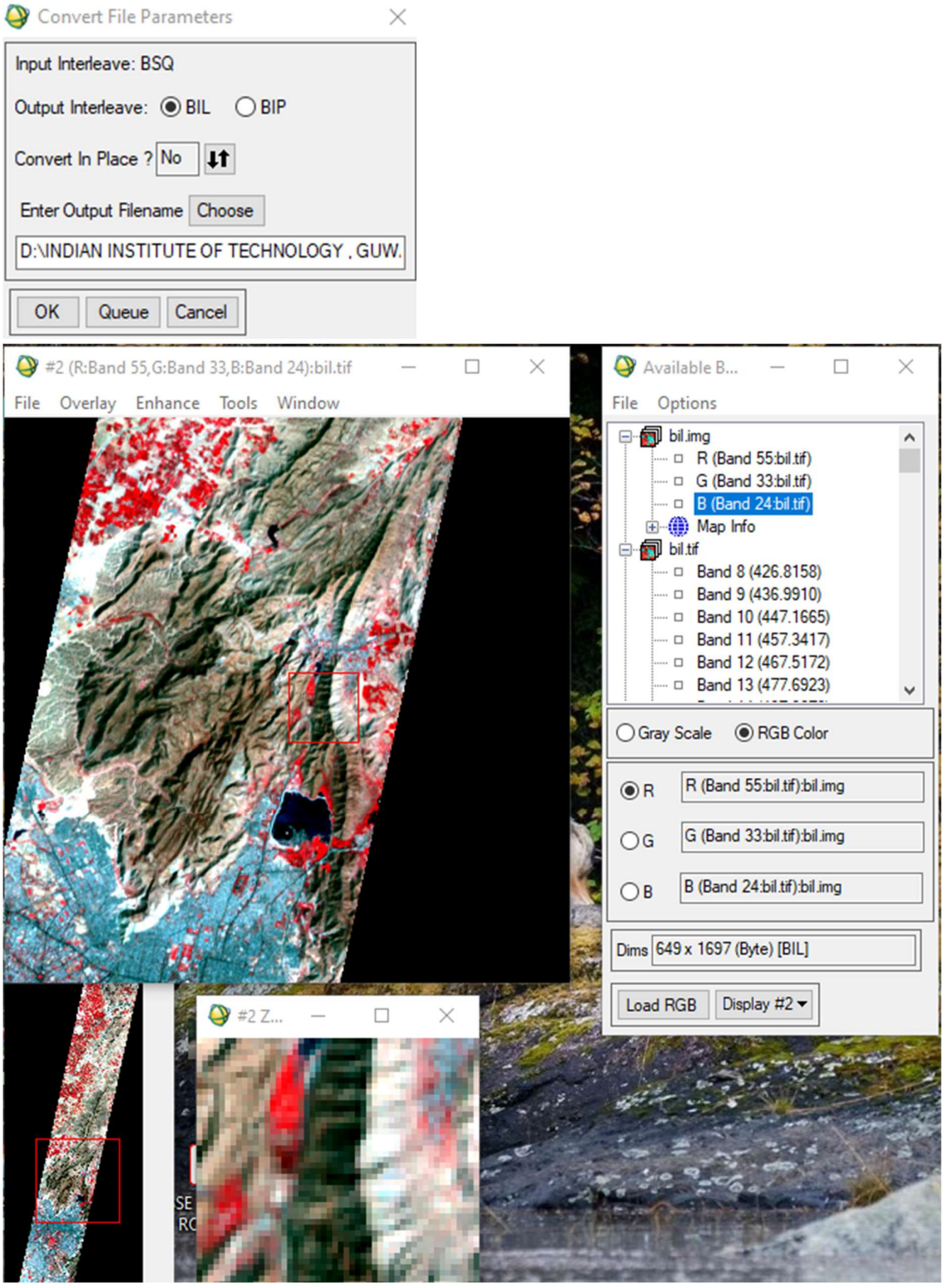
CE 593 ADVANCED REMOTE SENSING

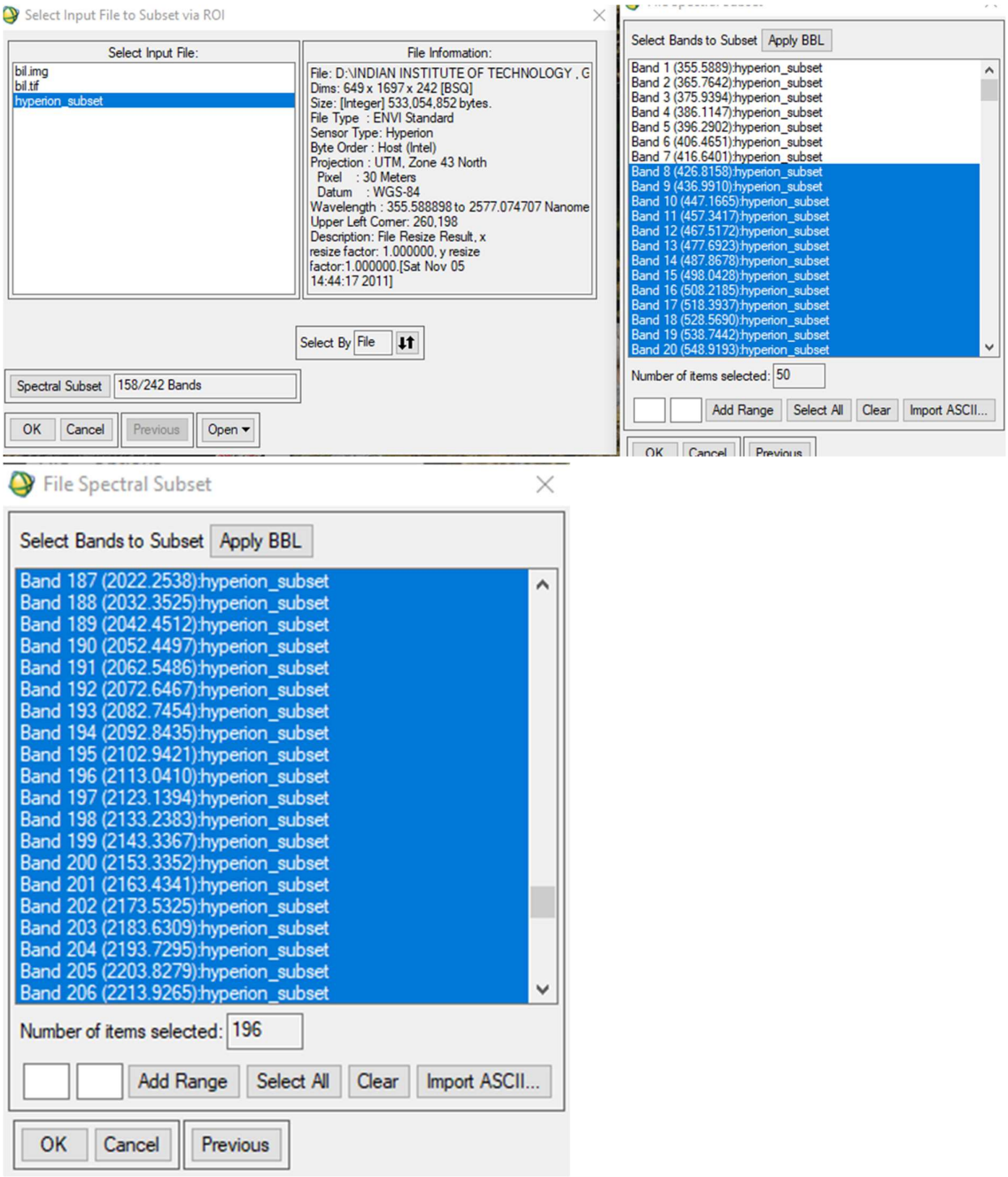
Atmospheric Correction Using Envi (FLAASH)

FLAASH (Fast Line-of-sight Atmospheric Analysis of Spectral Hypercubes) is an atmospheric correction tool that removes atmospheric effects from hyperspectral and multispectral data to retrieve accurate surface reflectance.

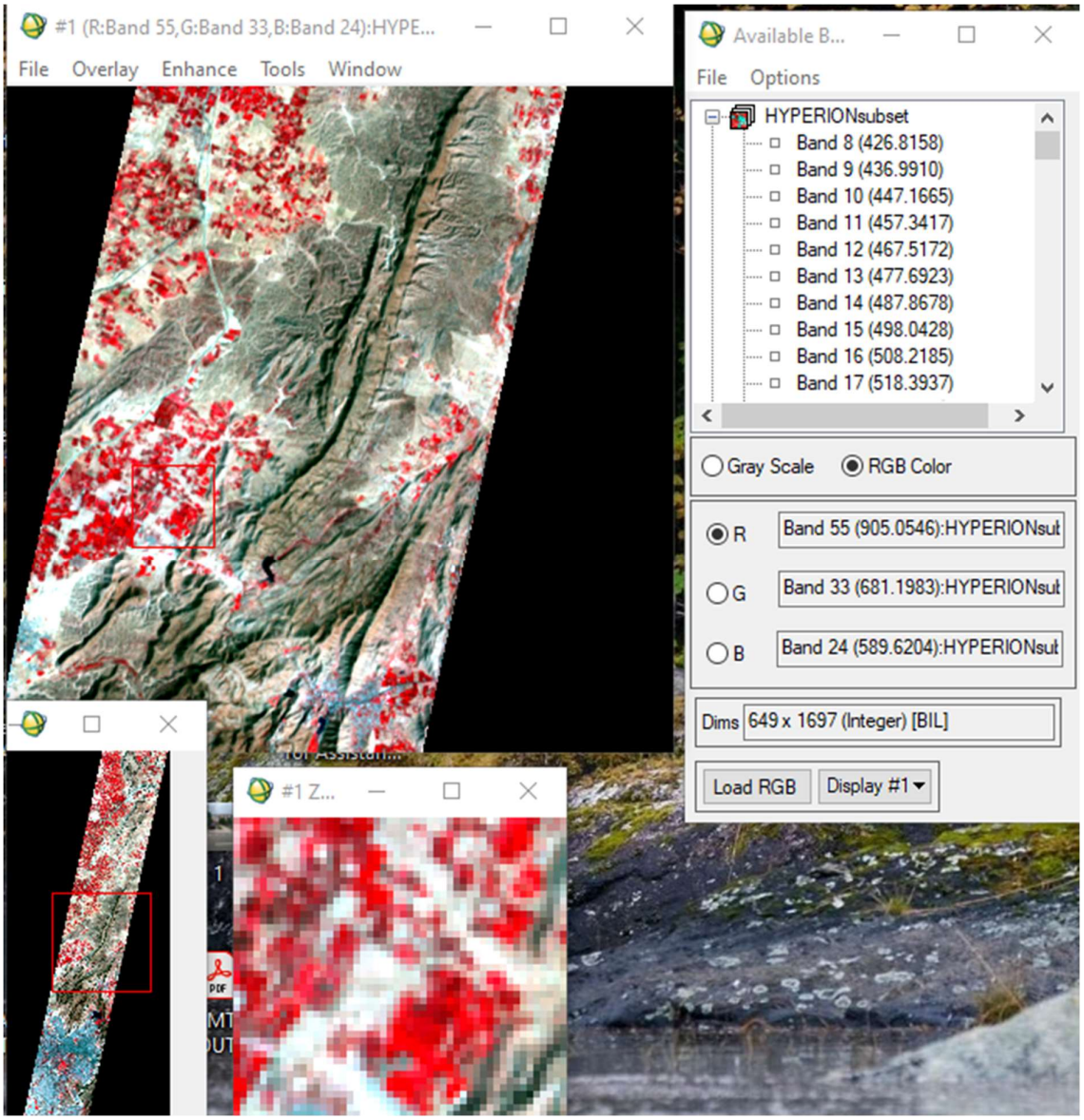




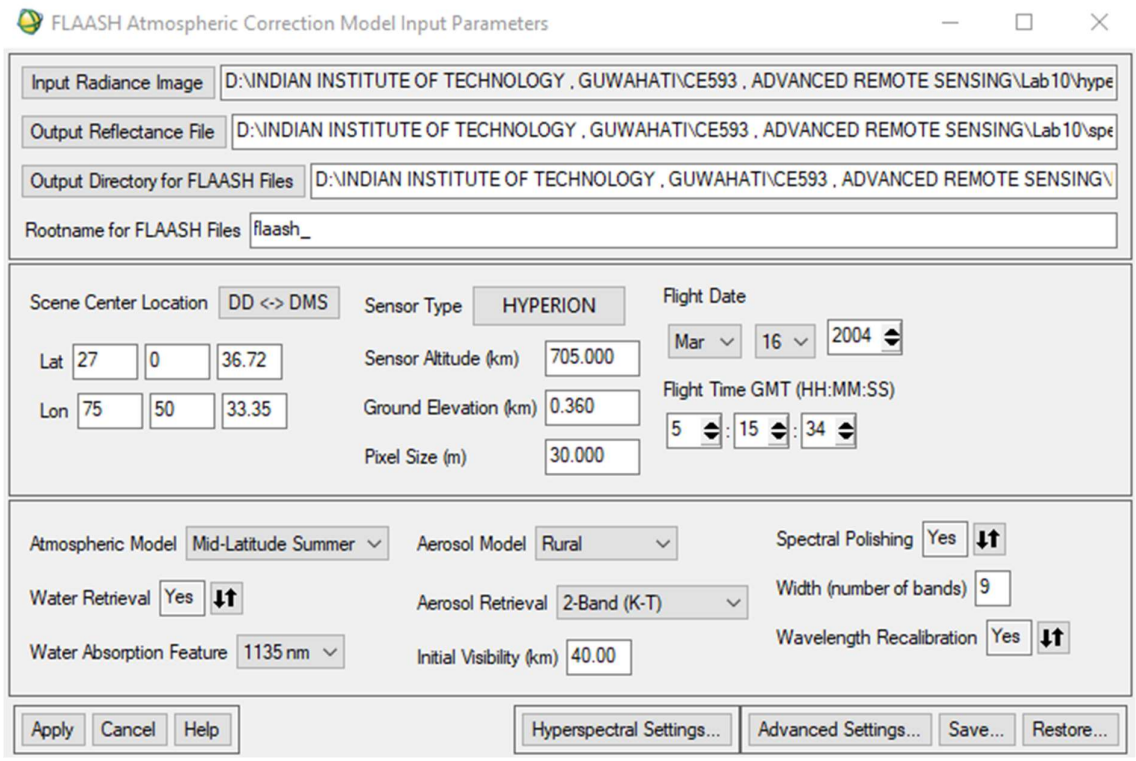

Convert File Parameters
Input Interleave: BSQ
Output Interleave: BIL BIP
Convert In Place ? No
Enter Output Filename Choose
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUW.
OK Queue Cancel
#2 (R:Band 55,G:Band 33,B:Band 24):bil.tif
File Overlay Enhance Tools Window
Available B...
File Options
bil.img
R (Band 55:bil.tif)
G (Band 33:bil.tif)
B (Band 24:bil.tif)
Map Info
bil.tif
Band 8 (426.8158)
Band 9 (436.9910)
Band 10 (447.1665)
Band 11 (457.3417)
Band 12 (467.5172)
Band 13 (477.6923)
Gray Scale RGB Color
R R (Band 55:bil.tif):bil.img
G G (Band 33:bil.tif):bil.img
B B (Band 24:bil.tif):bil.img
Dims 649 x 1697 (Byte) [BIL]
Load RGB Display #2
#2 Z...

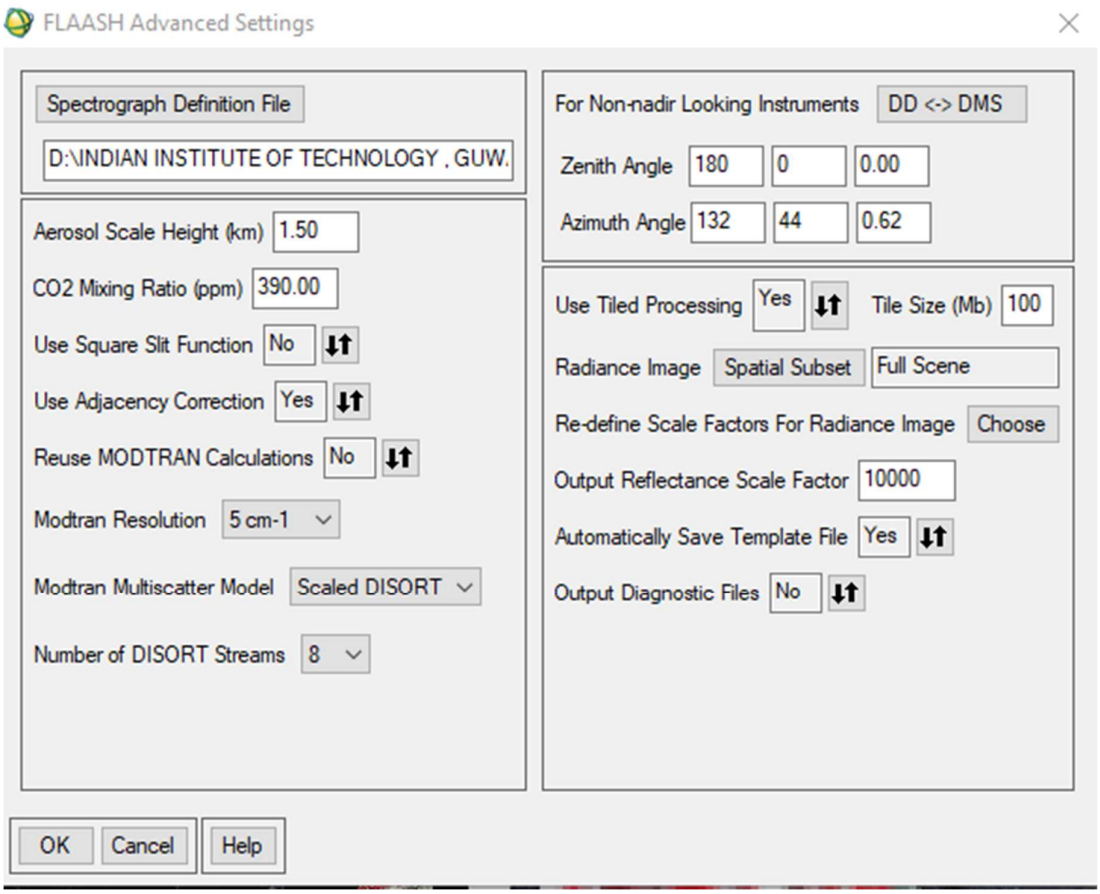


Out of 242 bands of Hyperion data, only 198 are calibrated [band 8 to 57 (VIS-VNIR) and band 77 to 224 (SWIR)]. Due to overlap between focal planes of VNIR and SWIR (band 77 & band 78), only 196 bands are unique.


#1 (R:Band 55,G:Band 33,B:Band 24):HYPE...
File Overlay Enhance Tools Window
Available B...
File Options
HYPERIONsubset
Band 8 (426.8158)
Band 9 (436.9910)
Band 10 (447.1665)
Band 11 (457.3417)
Band 12 (467.5172)
Band 13 (477.6923)
Band 14 (487.8678)
Band 15 (498.0428)
Band 16 (508.2185)
Band 17 (518.3937)
Gray Scale
RGB Color
R
Band 55 (905.0546):HYPERIONsut
G
Band 33 (681.1983):HYPERIONsut
B
Band 24 (589.6204):HYPERIONsut
Dims
649 x 1697 (Integer) [BIL]
Load RGB
Display #1
#1 Z...

Parameters


FLAASH Atmospheric Correction Model Input Parameters
Input Radiance Image
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAHATI\CE593 , ADVANCED REMOTE SENSING\Lab10\hype
Output Reflectance File
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAHATI\CE593 , ADVANCED REMOTE SENSING\Lab10\spe
Output Directory for FLAASH Files
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUWAHATI\CE593 , ADVANCED REMOTE SENSING\
Rootname for FLAASH Files
flaash_
Scene Center Location
DD <-> DMS
Lat 27 0 36.72
Lon 75 50 33.35
Sensor Type
HYPERION
Sensor Altitude (km) 705.000
Ground Elevation (km) 0.360
Pixel Size (m) 30.000
Flight Date
Mar 16 2004
Flight Time GMT (HH:MM:SS)
5 : 15 : 34
Atmospheric Model
Mid-Latitude Summer
Aerosol Model
Rural
Spectral Polishing
Yes
Water Retrieval
Yes
Aerosol Retrieval
2-Band (K-T)
Width (number of bands)
9
Water Absorption Feature
1135 nm
Initial Visibility (km)
40.00
Wavelength Recalibration
Yes
Apply
Cancel
Help
Hyperspectral Settings...
Advanced Settings...
Save...
Restore...


FLAASH Advanced Settings
Spectrograph Definition File
D:\INDIAN INSTITUTE OF TECHNOLOGY , GUW.
Aerosol Scale Height (km) 1.50
CO2 Mixing Ratio (ppm) 390.00
Use Square Slit Function
No
Use Adjacency Correction
Yes
Reuse MODTRAN Calculations
No
Modtran Resolution
5 cm-1
Modtran Multiscatter Model
Scaled DISORT
Number of DISORT Streams
8
For Non-nadir Looking Instruments
DD <-> DMS
Zenith Angle 180 0 0.00
Azimuth Angle 132 44 0.62
Use Tiled Processing
Yes
Tile Size (Mb)
100
Radiance Image
Spatial Subset
Full Scene
Re-define Scale Factors For Radiance Image
Choose
Output Reflectance Scale Factor
10000
Automatically Save Template File
Yes
Output Diagnostic Files
No
OK
Cancel
Help

Atmospheric Correction Result