GEONETCast Delivering Environmental Data to Users Worldwide



Tutorial - Converting GNC-A HDF-EOS files to GeoTIFF using a Graphical Interface

In GEONETCast-Americas broadcast there are HDF-EOS files provided by NOAA-NESDIS.

They are from different satellites (Metop-A/B, NOAA-15/18/19, DMSP) and instruments (AMSU-A, MHS and SSM/I). Some are received daily and some several times a day.

You may find the description of these files in the GEONETCast Americas product list.

With them you can retrieve information about Rain Rate, Ice Water Path, Snow, Snow Water equivalent, Snow Fall Rate, Total Precipitable Water, Cloud Liquid Water, Surface Temperature, 23.8 GHz Emissivity, 31.4 GHz Emissivity, 50.3 GHz Emissivity and Sea Ice in a global scale.

Please find below a procedure to convert these HDF-EOS files to our well known **GeoTIFF** format using a graphical interface (command line operations are possible but is not covered in this tutorial).

1-) First of all, download a sample of the "**METOP-A - MSPPS AMSU-A Daily Product"** from February 23 at the following link:

https://www.dropbox.com/s/tqfv8dm3ekh52c1/PRD.AADM.M2.D15054?raw=1

(you may find all the HDF-EOS products at the **"incoming/NOAA-NESDIS"** folder in your GEONETCast-Americas stations).

Move the downloaded file to your preferred folder (in this example "C:\VLAB").

2-) Go to the following link and download the "**HEG**" (**H**DF-**E**OS to **G**eoTIFF) software provided by NASA for your preferred OS: <u>http://newsroom.gsfc.nasa.gov/sdptoolkit/HEG/HEGDownload.html</u> (in this procedure, we used the Windows 32-bit version and the zip file name is "**hegWINv2.12 32.zip**")

3-) Unzip the file in your preferred folder (in this example "C:\HEG").

4-) After unzipping it, double click on **"install.bat"**. A DOS command prompt will be opened and will ask **"Do you wish to proceed with the HEG installation? [y/n]**". Type **"y"** and click enter.

5-) Now the software will ask **"Enter the HEG full directory path:"**. Enter the directory path where you unzipped the downloaded file.

IMPORTANT: When the software asks for a directory, AWAYS replace each backslash '\' with a forward slash '/'.

In this example, I typed "c:/HEG" and clicked enter. The software will ask: "Proceed with install into c:/HEG? [y/n]". Type "y" and click enter.

6-) Now the software will ask "**Please enter the path to your Java bin directory:**" (there must be a recent java package installed!).

In this procedure, the java bin folder is located at "C:\Program Files\Java\jre7\bin", so we used "C:/Program Files/Java/jre7/bin" and clicked enter.



© INPE - National Institute for Space Research - Brazil - 2015



7-) Now the software will ask "Please enter a username used internally by HEG (e.g. SHARON):". Enter your name or anything you want and click enter.

8-) Now the software will ask "Press the Enter key to create HEGToll.bat for this installation". Click enter. Finally, the software will ask "Press the Enter key to finish the HEG installation". Click enter again. The HEG software is installed!

9-) Double click in the **"HEGToll.bat"** located at **"C:/HEG/HEG_Win/bin"** to execute the software (remember that the directory in red is to one you first unzipped the download file!).

Hdf-Eos to GIS Conversion Tool (HEG) - Version 2	.12	
File Tool Help		
Input File	Object Info:	Accepted List
Objects:		
Fields		
		Remove Save Clear
	Output File Name:	Internove Save Clear
Selected	Browse	lect output file name
	Output File Type: GeoTIFF	
	Resampling Type: Bilinear	
	Projection: Geographic	
Band: Dim 4: Dim 5: Dim 6:	Subsample? O Yes O No	
Spatial Subset: Lat-Long	Edit Parameters SP Zone	
Field Image for	Pixel Sizes Unit:	
Subset Selection Default Corners	Pixel Size X:	
Latitude Longitude	Pixel Size Y:	
UL Corner:	Accept	Run
LR Corner:		

Figure 1: HEG software main window

10-) Click on "File" -> "Open" -> "HDF-EOS", choose the sample file you downloaded in step 1 (PRD.AADM.M2.D15054) and click "Open".

In the **"Fields"** list, click on **"Acs_Tsfc"** (which corresponds to the Land Surface Temperature - METOP-A Ascending Passes from 02/23/2015) and click on the button with the **blue narrow pointing down**...







Hdf-Eos to GIS Conversion Tool (HEG) - Version 2.								
File Tool Help								
Input File	C:\VLAB\PRD.AADM.M2.D15054							
Objects: AMSUA_OGrid								
Fields								
Asc_Sice								
Des_Sice								
Asc_Tsfc								
Des_Tsfc								
Asc_Emis23								
Des_Emis23								

Figure 2: Selecting the Surface Temperature field

...click on the "Accept" button ...

Output File Type: GeoTIFF	•				
Resampling Type: Bilinear					
Projection: Geographic					
Subsample? 🔾 Yes 🖲 No					
Edit Parameters SP Zone					
Pixel Sizes Unit: Decimal Degrees					
Pixel Size X: 0.5					
Pixel Size Y: 0.5					
Accept					

Figure 3: Accepting the conversion parameters

...and then click on the "Run" button.

GEONETCast Delivering Environmental Data to Users Worldwide



Accepted List							
AMSUA_OGrid -> Asc_Tsfc							
Remove Save Clear							
Run							

Figure 4: Running the conversion

A new window will show up and say "Job completed...."

CPU time = 0.7 seconds. Elapsed time = 0.0 seconds. ************************************	
Job completed	
	Clear Close Kill

Figure 5: HEG software processing log

Congratulations! You have converted the HDF-EOS file to GeoTIFF!

The newly created GeoTIFF will be called "**PRD.AADM.M2_AMSUA_OGrid.tif**" and will be located at "**C:/VLAB**" (or where you first moved the sample).



© INPE - National Institute for Space Research - Brazil - 2015





11-) Open the GeoTIFF with your favorite GIS (for example, following the ILWIS GeoTIFF tutorial).



Figure 6: HEG software processing log