Subject: How to add tie point information for ENVI in IDL?
Posted by envi35@yahoo.ca on Tue, 10 Jun 2008 16:14:31 GMT
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Hi, I'm really confused about the coordinates in ENVI and IDL, can somebody give me some clues? I'm trying to set up ENVI header files for some data using ENVI_PROJ_CREATE and ENVI_MAP_INFOR_CREATE, and output each of the data file to an standard ENVI format file with ENVI_WRITE_ENVI_FILE. I have all the information I need: dimension ns*nl, projection name and parameters, pixel size, and a tie point for the UPPER LEFT CORNER of the UPPER LEFT CELL.

It works fine when I added these information directly into ENVI. I need to process many data files, so I made an idl code as following to batch process all the data.

```
Pro test
 compile_opt idl2
 envi, /restore_base_save_files
 envi_batch_init

image = fltarr(1024, 1024)
openr, 1, 'mydata.dat'
readu, 1, image
close, 1

;polar stereographic projection

 params=[6371200.0, 6371200.0,60.0000, -80.0000,0.0,0.0]

  name='ps_idl'
  proj=envi_proj_create(type=31,name=name,params=params)

;set the pixel size and tie point

  ps=[23684.997, 23684.997]

  mc=[0d,0,-12126597.0,12126840.0]

  ns=1024
  nl=1024

 map_info=envi_map_info_create(mc=mc,ps=ps,proj=proj)

 envi_write_envi_file,image,data_type=4,nb=1, $
 ns=ns, nl=nl, map_info=map_info,r_fid=fid, $
 out_name='test.img'
```

envi_batch_exit

end

The code works. But when I opened the output test.img in ENVI and compared the map coordinates to those I got directly from ENVI, they were off somewhat. So I googled the relevant postings here and finally realized that because the tie point is for the upper left corner of the upper left cell, which is the way ENVI choose for referring pixel coordinates, but in IDL, the coordinates referring to the center of a pixel (am I right about this?). So I thought I just need to adjust the mc=[0d,0,-12126597.0,12126840.0] to mc=[-0.5d,-0.5,-12126597.0,12126840.0]. However, the output test.img are off more than the output using mc=[0d,0...]. I have no idea why this is happening. Could somebody help me?

Many thanks,
Jenny