Subject: Simple method to display an ENVI image on a map?
Posted by BillG on Tue, 08 Apr 2014 20:51:38 GMT
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Folks,

I have an ENVI "image" (actually a digital elevation map with an ENVI header). I want to display it on as an image on a projected map, then add other stuff on the map. The image is on a UTM grid and that is how I want it displayed. Is there a ***simple*** sequence of IDL commands that will get the map projection parameters from the ENVI header, reproject the image and display the map?

Here is the ENVI header: (D. Fanning FYI: this is a dem of High Park, CO after the fire of 2012)

```
ENVI
description = {
  NEON AIG lidar first return elevation [Sat Nov 30 16:27:00 2013]}
samples = 44125
lines   = 30954
bands   = 1
header offset = 0
file type = ENVI Standard
data type = 4
interleave = bsq
sensor type = Unknown
byte order = 0
map info = {UTM, 1.000, 1.000, 446881.000, 4513309.000, 1.0000000000e+000,
1.0000000000e+000, 13, North, WGS-84, units=Meters}
coordinate system string =
{PROJCS["UTM_Zone_13N",GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984
",SPHEROID["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich
",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Transverse_Mercator
"],PARAMETER["False_Easting",500000.0],PARAMETER["False_Northing
",0.0],PARAMETER["Central_Meridian",-105.0],PARAMETER["Scale_Factor
",0.9996],PARAMETER["Latitude_Of_Origin",0.0],UNIT["Meter ",1.0]]}
wavelength units = Unknown
data ignore value = 0.00000000e+000
band names = {
 elevation}
```

Cheers,

Bill Gallery

Subject: Re: Simple method to display an ENVI image on a map?
Posted by David Fanning on Tue, 08 Apr 2014 22:04:40 GMT

Bill Gallery writes:

>
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> wavelength units = Unknown
> data ignore value = 0.00000000e+000
> band names = {
> elevation}
>
> Cheers,
>
> Bill Gallery

Is there a "***simple****" sequence!? No. We are talking about map projections here. :-)

This looks like 1 meter resolution imagery to me, so I would probably do something like this:

```
xrange = [446881.0D, 446881.0D + 44125.0D]
yrange = [4513309.0D - 30954.0D, 4513309.0D]
mapCoord = cgMap('UTM', Zone=13, Ellipsoid='WGS 84', $
    Center_Lon=-105, XRange=xrange, YRange=yrange)
cgDisplay, 900, 900, Aspect=image
mapCoord -> Draw
cgImage, image
```

Then, I'd plot on the image. If I was using lat/lon values, I'd be sure to pass the map coordinate object to do the conversion from lat/lon to x/y space:

```
cgPlotS, lon, lat, PSYM=2, Map=mapCoord
```

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")
