
Subject: Re: Display and Navigate Image in IDL 8.2
Posted by [David Fanning](#) on Fri, 07 Sep 2012 15:23:33 GMT
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alx writes:

>> I can display an image. And I can set up a proper map
>> projection with the Map_Proj_* routines. I just can't
>> use the two together in a graphics window!
>
> Yes, I guess that you can !
> If you got an image from Google which is properly rectified, you do not need for any further map
projection, as far as the axis labeling is in meter/kilometer.

OK, I can see how to do this:

```
limit = [-84.7500, -180.000, 84.7500, 180.000]
mapStruct = Map_Proj_Init('mercator', /gctp, $
    ellipsoid='wgs 84', limit=limit)
cm = map_proj_forward(-105.100, 40.600, map=mapStruct)
xcenter = cm[0,0]
ycenter = cm[1,0]
Print, 'XCenter: ', xcenter
Print, 'YCenter: ', ycenter
metersPixel = cgGoogle_MetersPerPixel(12)
Print, 'meters per pixels: ', metersPixel
xrange = [xcenter - (300*metersPixel), xcenter+(300*meterspixel)]
yrange = [ycenter - (300*metersPixel), ycenter+(300*meterspixel)]
Print, 'X Range: ', xrange
print, 'Y Range: ', yrange

s = Size(googleImage, /DIMENSIONS)
xscale = Abs(xrange[1] - xrange[0]) / s[1]
yscale = Abs(yrange[1] - yrange[0]) / s[2]
Print, 'X Scale: ', xscale
Print, 'Y Scale: ', yscale
x = (Findgen(s[1])*xscale) + xrange[0] + (xscale/2)
y = (Findgen(s[2])*yscale) + yrange[0] + (yscale/2)
obj = Image(googleImage, x, y, DIMENSIONS=[700,700], Margin=0.1)
```

> If now you want axes graduated in longitude/latitude, you only need
for a projection tool in order to manage the scaling which is (slightly
in your case) not linear.

My point is that my image is LINEAR!! It is gridded, as ALL of my
satellite images are, onto a projected meter scale. I wish to fit a
map projection to the image, not fit the image to a map projection.
There is a very big difference here!

> I suppose that 'map_proj_init'/'map_proj_inverse' is what you can use.

Exactly. I can set up the map projection with Map_Proj_Init and I can use Map_Proj_Inverse to convert lat/lon space to projected meter space. Now, I can draw symbols, lines, etc. on top of my image. What I can NOT draw on top of my image are map annotations!!

> Then you can add axes with the proper labeling. This is likely what MAP_PROJECTION is doing for you in the IMAGE function! Isn't it ?

Are you suggesting I give up on the Map function and use the Axis function to create my map annotations?

> Maybe what I say is pure non-sense, because I am not a specialist of mapping.
> I am just a scientist who *needs* for clever and efficient programming tools,
> what IDL still is, I guess, in spite of some irritating and
> uncorrected lack for a serious (i.e. usable) documentation.

It has been my experience that there are scientists in the world who care more about something "looking" right than actually "being" right. This is what I meant by suggesting that maybe the function graphics system is made for this type of scientist and not for professional programmers. But, having something that is "almost" right is going to bite someone someday. And, anyway, IDL has the tools to do this correctly. Why not just use them? The documentation, such as it is, gives no indication that this wouldn't be possible.

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>

Sepore ma de ni thui. ("Perhaps thou speakest truth.")
