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Subject: Re: Geometric mismatch using cgImage and cgDrawShapes

Posted by [Jonas Ardo](#) on Sat, 03 Oct 2015 19:10:33 GMT

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Thanks for suggestions (and for providing cg\*).

Removing /KEEP\_ASPECT\_RATIO and Position don't make a big difference

(<http://postimg.org/image/7gthbxqfh/>).

Adding

cgMap\_Continents, /ADDCMD, MAP\_STRUCTURE=mapCoord, Color='red', /hires,  
LINESTYLE=3, THICK=2, /COUNTRIES, /COASTS

show that my own shape file line up with the vectors drawn by cgMap\_Continents but the image is still geometrically off.

The datum of the image use is from MODIS (a sphere with radius = 6371007.181) and can perhaps be the source of the

error? Don't know if this is a standard supported datum or if there are any IDL-ENVI differences in handling geometry?

Regards

/Jonas

Code used:

pro mapmap

compile\_opt idl2

e = ENVI(/HEADLESS)

file1 = 'D:\forskning\2015\MOD09A1\XPP\Senegal\MEAN\_NPP\_SENEGAL.img'

raster1 = e.OpenRaster(file1)

meannpp = raster1.GetData()

cgWindow

shapefile = 'D:\forskning\2015\MBOW\_etal\Brandt\data\Senegal\_long\_rot.sh p'

mapCoord = Obj\_New('cgMap', 'SINUSOIDAL', LIMIT=[11, -18, 18, -11], \$

CENTER\_LATITUDE=0, CENTER\_LONGITUDE=0, \$

FALSE\_EASTING=0, FALSE\_NORTHING = 0, SPHERE\_RADIUS=6371007.181 )

mapCoord -> AddCmd

cgloadct,53, /Window, /Addcmd

cgImage, meannpp, /ORDER, /WINDOW, MINVALUE=1, maxvalue=2000, MapCoord=mapCoord,  
/addcmd

cgDrawShapes, shapefile, Colors='black', MapCoord=mapCoord, /projected\_XY, /AddCmd

cgMap\_Continents, /ADDCMD, MAP\_STRUCTURE=mapCoord, Color='red', /hires,

LINESTYLE=3, THICK=2, /COUNTRIES, /COASTS

cgMap\_Grid, LatDel = 1.0, LonDel = 1.0, /Box\_Axes, Color='blue', \$  
Map\_Structure=mapCoord, /AddCmd

END

On 02/10/2015 23:47, David Fanning wrote:

> Jonas Ardo writes:

>

>> I have shape file (covering Senegal) in Sinusoidal projection I like to overlay on an image with the same projection.

>> Plotting the shape file only using cgDrawShapes works fine

(<http://postimg.org/image/8ax6pgm3x/>) but when first using

>> cgImage to draw an image with the shape file on top, the data sets don't line up correctly and there is a geometric

>> mismatch ( <http://postimg.org/image/s796ijbjj/>).

>> The image and the shape file fit perfectly when displayed using ENVI.

>>

>> What have I missed in order to get a good geometric match between the shape file and the image?

>

> A couple of things, I think. First, it doesn't look to me like your

> image and your map have the same aspect ratio. So, because you keep the

> aspect ratio of your image, it doesn't fit properly into the map

> projection. Second (and possibly related to the first), you use the

> POSITION keyword on your map, but neglect to use it for your image. I

> would remove the KEEP\_ASPECT keyword and use the POSITION keyword

> itself. Or, more likely, I would create a window with the aspect ratio

> of the image, since you say it has been created with a map projection.

>

> Also, don't do this:

>

>     Color=cgColor('blue')

>

> on Coyote Graphics commands. Just do this:

>

>     Color='blue'

>

> Only use cgColor if you are trying to get "normal" IDL commands to

> behave properly. This will avoid problems for people who are still using

> the indexed color model.

>

> Cheers,

>

> David

>

>

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Jonas Ardö  
Lund University, Sweden

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