
Subject: Basic cgMap and cgMapPlotS tutorial

Posted by [Brian Daniel](#) on Mon, 17 Sep 2012 17:26:32 GMT

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I've never worked much with maps in IDL, so now that I need to, I thought I'd start with the Coyote tools. From the documentation, the cgMapPlotS object seems like exactly what I need, which is to plot specific lat/lons onto a map with continents or other shapefiles on top.

Here's my code:

```
center_lat = 36.099510
center_lon = -5.3362050
latXRange = [35.905270, 36.171590]
lonYRange = [-5.6205900, -5.0512100]

; Create cgMap object
oMap = Obj_New('cgMap', 'UTM', /LatLon_Ranges, $
  Center_Latitude=center_lat,Center_Longitude=center_lon,$
  XRange=latXRange,YRange=lonYRange, /Window,$
  Position=[0.05,0.95,0.05,0.95],Title='cgMap Test',Land_Color='brown')

print, latXRange, lonYRange
```

The above code prints:

```
4669305.1    4713144.8
-801136.78   -722963.25
```

So latRange and lonRange's values were changed, I'm assuming to be in units of meters. center_lat/lon values are unchanged. Then, I attempt to create a cgMapPlotS object to plot the center_lat and center_lon position with a symbol:

```
oMapPlotS = Obj_New('cgMapPlotS', oMap, color='red', Lats=center_lat, Lons=center_lon,
  PSym=1 )
```

I get the following error:

CGMAPPLOTS::INIT--> CGCONTAINER::INIT: Incorrect number of arguments.

The only argument asked of cgMapPlotS is that of a cgMap object, which I provided. What am I missing?

Thanks in advance!

-Brian

Subject: Re: Basic cgMap and cgMapPlotS tutorial

Posted by [David Fanning](#) on Mon, 17 Sep 2012 21:33:48 GMT

Brian J. Daniel writes:

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> I missing?
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Well, this is sort of embarrassing. :-(

This cgMapPlotS program is not suppose to be in the Coyote Library. I had very nice mapping functionality in the Catalyst Library, but it seemed too complicated to me to bring it over to the Coyote Library. I wanted something much simpler there.

Anyway, long story short, this was an experiment that I quickly gave

up on. I don't think I ever really tested the darn thing, because what you found here is clearly a bug that dates back to it's Catalyst origin. It is one of several bugs in the program, I think.

Rather, I turned my attention to making the cgPlotS command work on maps in exactly the same way it worked on normal plots. The cgPlotS command would be called like this:

```
cgPlotS, center_lon, center_lat, PSYM=1, color='red', MAP=oMap
```

Unfortunately, even this wouldn't work with your code, however, as I think you have gotten a bit confused about which direction lats (Y direction) and lons (X direction) go in.

Getting all this sorted out, your code will look like this:

```
center_lat = 36.099510
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latYRange = [35.905270, 36.171590]
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    Center_Latitude=center_lat, Center_Longitude=center_lon, $
    XRange=lonXRange, YRange=latYRange, $
    Position=[0.1,0.1,0.90,0.90], Title='cgMap Test', $
    Land_Color='brown', /Window)
cgPlotS, center_lon, center_lat, PSYM=1, color='red', MAP=oMap, /AddCmd
cgMap_Grid, /Box_Axes, Map=oMap, /AddCmd
```

Note, too, that your "center_lat" and "center_lon" values are not exactly in the center of your map ranges. Thus, your point is not drawn in the center of the map. :-)

Sorry for the confusion. I'll see what I can do to get rid of that strange program.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

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

Subject: Re: Basic cgMap and cgMapPlotS tutorial
Posted by [Brian Daniel](#) on Wed, 19 Sep 2012 19:36:25 GMT
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On Monday, September 17, 2012 1:26:32 PM UTC-4, Brian J. Daniel wrote:

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I missing?
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>
>
> Thanks in advance!
>
> -Brian
```

Whew! I thought I was going crazy. Thanks for the update.
