
Subject: Re: Map Projection

Posted by [David Fanning](#) on Tue, 22 Oct 2013 18:15:20 GMT

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Morgan Silverman writes:

> Thank you for the explanation. I'm still not sure how to determine what the ellipsoid should be though. I used 19 in my code based on one of your gallery examples but I don't know if that would be correct. I'm plotting model back-trajectories over the map.

```
>
> mapCoord = Obj_New('cgmap', 'Equirectangular', Ellipsoid=19, Limit=limit, $
>   xrange=xrange, yrange=yrange, /latlon_ranges, center_lon=centerlon, position=pp)
> mapCoord -> Draw
> cgMap_Grid, map=mapCoord, /box
> cgMap_Continents, map=mapCoord, /continents, /countries, /usa
> cgplots, lon_1500(index), lat_1500(index), map=mapCoord
```

The ellipsoid you choose should be the same ellipsoid that was used to determine the latitude and longitude values data you are working with. If you don't know and/or can't find out, then you have to default to something "sensible". This is typically WGS84 for any data collected by satellites in the past, say, 20 years, and Spherical if you really don't have the foggiest idea. Some map projections only allow spherical datums. Others allow whatever datum you choose to use.

I've never seen the ellipsoid set by anyone using Map_Set, which makes it extremely easy to use. The downside, of course, (aside from using extremely old map software) is that the results aren't all that accurate. If you are working with global maps, or even maps the size of the United States, clamoring for accurate results can be used as an accurate prediction of an anal personality. Some people just like scientific work to be RIGHT. Other people ascribe to the "close enough" rule. It's really whatever works for you. :-)

Cheers,

David

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

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