
Subject: Re: map_set stereographic projection

Posted by peter.albert@gmx.de on Fri, 28 Apr 2006 08:33:21 GMT

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Hi Daniel,

I found it often useful to use the 8-element limit keyword with map_set. You are not restricted to the corners of the mapped region then and have more freedom to choose the "anchor points". Moreover, sometimes the corners aren't actually on earth, in those cases you must use the 8-element vector. It's a bit tricky to get used to, but it's worth trying. Basically, you are specifying 4 points (as lat/lon pairs) anywhere on the left, upper, right and lower boundary of the area. "Anywhere, how's that supposed to work?" Well, it just does. Funny enough.

But then this is probably not the right way for your problem, as you'd like to get the regular lat-lon projection. What you actually need are the lon/lat values for each pixel. With those, you can either project your data in any projection (using e.g. Liam Gumleys IMAGEMAP() routine or our MAP_IMAGE__DEFINE object found at <http://wew.met.fu-berlin.de/idl>).

If you actually want to transform the data itself into regular lon / lat grid, e.g. for pixelwise comparison with other datasets, you might want to use LONLAT2REG(), found on the same website. This routine averages irregularly gridded lon / lat data into any regular lon / lat array.

But now, how do you get the lon/lat values for each pixel?

First try: Ask the data provider. They should have the data. Somewhere. Second try: Download the "proj" software and calculate them yourself. (<http://proj.maptools.org/>). proj is not easy to get started with, but if you have to do map transformations more than once (including, possibly, different ellipsoids), it's well worth every minute spent reading the manual.

I would recommend calculating all map coordinates in map space first (i.e. coordinates being given in x = meters east of greenwich meridian; y = meters from the equator) and use proj to transform those into lat/lon. I have to admit that I only had to deal with sinusoidal projection so far, which was pretty easy, and do not know how to actually approach polar stereographic. But in case you don't get the lat/lon data from the data providers, I would recommend to give proj a good try. And the proj people have a quite helpful mailing list, too...

Best regards,

Peter
