Subject: Re: Finding map SCALE given latitude.
Posted by Liam Gumley on Wed, 07 Jul 1999 07:00:00 GMT
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Grady Daub wrote:
> I'm making orbit plots. There will be 2 plots, one each of the north and
> south poles.
>
> MAP_SET,/cont,color=0,-90,0,0,pos=[.1,.75,.9,.90],scale=100e 6
>
> would show you what I mean. (Using a window shaped like a sheet of
> paper.)
>
> Is there an easy (or complicated, for that matter) way to determine the
> SCALE= factor to set for the plot to include only up to a certain
> latitude circle?
>
> What I need is a rectangular box (centered on the pole), about 20
> degrees tall and exactly 90 degrees wide (those in latitude). The data
> will be plotted in a similar box, below the map plot, with the data
> corresponding to the orbit position directly above it.
>
> This all could probably be done with LIMIT= , but, then I'd have to
> worry about aspect ratio's. It seems simpler to make a box with
> POSITION= , then scale the earth until it shows the +/- 45 degrees
> latitude circle at the left/right edges. (top/bottom range doesn't
> really matter.)

When you use the SCALE keyword to MAP_SET, the only things defining the map coverage are the size of your graphics window, and the POSITION keyword if it is used. Consider the following examples:

```
window, /free, xsize=300, ysize=300
map_set, 25, -81, scale=10e6, /cont

window, /free, xsize=600, ysize=600
map_set, 25, -81, scale=10e6, /cont

window, /free, xsize=600, ysize=600
map_set, 25, -81, scale=10e6, /cont, position=[0.1, 0.1, 0.5, 0.5]
```

Notice how in each case, the scale of the map remains exactly the same (Florida is the same size), but the extent of the mapped area changes. So you just need to experiment with window size and POSITION, e.g.

```
window, /free, xsize=714, ysize=924
map_set, -90, 0, scale=50e6, pos=[0.05,0.05,0.95,0.45], /cont
map_grid, /label
```

map_set, 90, 0, scale=50e6, pos=[0.05,0.55,0.95,0.95], /cont, /noerase
map_grid, /label

Cheers,
Liam.

--
Liam E. Gumley
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Subject: Re: Finding map SCALE given latitude.
Posted by Martin Schultz on Wed, 07 Jul 1999 07:00:00 GMT
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Grady Daub wrote:
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> [...]
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> worry about aspect ratio's.

isn't that what the /isotropic keyword in map_set is for?

Martin

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