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Subject: Re: Latitude/longitude, contours, map\_set, iMap?  
Posted by [David Fanning](#) on Wed, 04 May 2005 02:40:50 GMT  
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jamiesmyth\_uni@yahoo.ca writes:

> I should caveat this by saying I need to plot data on maps about twice  
> a year and every time it is more difficult than I expect it to be.

I suspect most of it is figuring out how to get EMACS installed  
again. :-)

> I have some atmospheric model data for temperature (originally grib data)  
> on a latitude/longitude grid and I'm having quite a difficult time  
> plotting it with the iMap and/or the map\_set routines. The first  
> problem I have is that the longitude data goes from 0-360 degrees. So  
> I have:

>  
> LAT        FLOAT    Array[73]  
> LON        FLOAT    Array[96]  
> PRESSURE    FLOAT    Array[22]  
> TEMPERATURE  FLOAT    Array[73, 96, 22]  
>

> where the latitudes go from -90 to +90 in 2.5 degree steps and the  
> longitudes go from 0 to +360 in 3.75 degree steps. I've read some past  
> messages on how to re-work the longitude to -180 to 180 degrees and  
> have:

>  
> lon\_new = lon - (long(lon)/180L)\*360.0  
>

> Do I have to also alter the temperature array to reflect this change or  
> can I simply plot the data with:

>  
> imap, transpose(data.pv[:,\*,0]), data.lon, data.lat

No, you don't have to change your temperature values.  
They will be fine.

> or

>  
> map\_set, /continents, /mercator, /isotropic  
> contour, transpose(data.pv[:,\*,0]), data.xlon, data.xlat, /overplot,  
> nlevels=12  
>

> The first command brings up a dialog box for the 'gridding wizzard' but  
> when I click ok, nothing happens. The second looks 'more-or-less' ok

- > but there seems to be a gap at 0 degrees. The gap is rather apparent
- > when I fill the contours... Do I need to re-grid or triangulate the
- > data? Is there a quick way to do any of this?

You need to specify the center of your map projection on the MAP\_SET command. Here is an article that explains what the problem is:

[http://www.dfanning.com/tips/map\\_center.html](http://www.dfanning.com/tips/map_center.html)

- > I'd much prefer to use imap here as it makes figures that look much
- > better in powerpoint.

Yeah, well, I don't know anything about iTools. (My tutorials don't seem to be arriving anymore. I don't know why.) But a quick look at a half dozen graphics keywords would probably improve your direct graphic results. In particular, I would have a look at FONT, THICK, CHARTHICK, and maybe CHARSIZE.

- > Any ideas and help would be much appreciated... I'm supposed to be
- > putting these figures (along with some polar stereographic projections)
- > into a talk for thursday! Reaching for brown-paper bag... taking
- > deep-breaths...

Oh, you are almost there! Just a few more minutes. :-)

Cheers,

David

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David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?

Posted by [Kenneth P. Bowman](#) on Wed, 04 May 2005 03:05:07 GMT

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In article <1115172826.358757.121050@z14g2000cwz.googlegroups.com>, "jamiesmyth\_uni@yahoo.ca" <jamiesmyth\_uni@yahoo.ca> wrote:

- > The first
- > problem I have is that the longitude data goes from 0-360 degrees.

That should not be a problem with MAP\_SET. There is no reason to change the coordinates.

> map\_set, /continents, /mercator, /isotropic

This could be a problem, however, as the Mercator projection maps the poles to +/- infinity in the y-direction. You might want to try the cylindrical equidistant projection instead.

```
> contour, transpose(data.pv[:,*,0]), data.xlon, data.xlat, /overplot,
> nlevels=12
>
> The first command brings up a dialog box for the 'gridding wizzard' but
> when I click ok, nothing happens. The second looks 'more-or-less' ok
> but there seems to be a gap at 0 degrees. The gap is rather apparent
> when I fill the contours... Do I need to re-grid or triangulate the
> data? Is there a quick way to do any of this?
```

You just need to copy data on the Greenwich meridian to the "other end" of the data array to make it contiguous, e.g,

```
pdata = TRANSPOSE(REFORM(data.pv[:,*,0]))
CONTOUR, [pdata, pdata[0,*]], [data.xlon, 359.99], data.xlat
```

That should work with either MAP\_SET or iMAP (but I have never used iMAP).

```
> Any ideas and help would be much appreciated... I'm supposed to be
> putting these figures (along with some polar stereographic projections)
> into a talk for thursday! Reaching for brown-paper bag... taking
> deep-breaths...
>
> Thanks
> Jamie
>
```

I can never make MAP\_GRID work right with cylindrical equidistant projections, so send me an e-mail and I'll send you a routine that draws gridlines correctly. (k-bowman\_AT\_tamu.edu ... replace the \_AT\_)

Ken Bowman

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?  
Posted by [wmconolley](#) on Wed, 04 May 2005 19:15:22 GMT  
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jamiesmyth\_uni@yahoo.ca <jamiesmyth\_uni@yahoo.ca> wrote:  
> TEMPERATURE FLOAT Array[73, 96, 22]

This wouldn't be UKMO model data? 73x96 is familiar... if so, use the

pp-routines.

-W.

--

William M Connolley | [wmc@bas.ac.uk](mailto:wmc@bas.ac.uk) | <http://www.antarctica.ac.uk/met/wmc/>  
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself  
I'm a .signature virus! copy me into your .signature file & help me spread!

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?  
Posted by [jamiesmyth\\_uni@yahoo](mailto:jamiesmyth_uni@yahoo). on Wed, 04 May 2005 19:32:55 GMT  
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pp-routines????

Where can one find these? The data is not UKMO data but it was written out to look just like it ;)

Many thanks to both David and Ken for their suggestions! They were both very helpful. For what it is worth, iMap works ok, but it is way too slow for this. Likewise, I need to be able to script up 9 plots per page (aka !p.multi) and this seems to be impossible with iMap. I can change the 'Layout' in the GUI but there doesn't appear to be any way to do this in a script? I searched in vain for scripts that use iMap.

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?  
Posted by [Ken Mankoff](#) on Wed, 04 May 2005 19:51:56 GMT  
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On Wed, 4 May 2005, [jamiesmyth\\_uni@yahoo.ca](mailto:jamiesmyth_uni@yahoo.ca) wrote:

> Likewise, I need to be able to script up 9 plots per page (aka  
> !p.multi) and this seems to be impossible with iMap. I can  
> change the 'Layout' in the GUI but there doesn't appear to be any  
> way to do this in a script? I searched in vain for scripts that  
> use iMap.

I never managed to get iMap working with a !p.multi-ish setup. But a hack that I have used that works OK is to produce your multiple images, open them all together, and then print them as a multi-page document. The print dialog lets you put multiple pages on one sheet. Then, print to PDF and convert the PDF to whatever image format you want.

-k.

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<http://spacebit.dyndns.org/>

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?

Posted by [Chris\[2\]](#) on Wed, 04 May 2005 21:55:55 GMT

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In iMap you can use the VIEW\_GRID and VIEW\_NEXT keywords to do multiple plots per window.

-Chris  
RSI

<jamiesmyth\_uni@yahoo.ca> wrote in message  
news:1115235175.314631.140600@z14g2000cwz.googlegroups.com...  
> pp-routines????  
>  
> Where can one find these? The data is not UKMO data but it was written  
> out to look just like it ;)  
>  
> Many thanks to both David and Ken for their suggestions! They were  
> both very helpful. For what it is worth, iMap works ok, but it is way  
> too slow for this. Likewise, I need to be able to script up 9 plots  
> per page (aka !p.multi) and this seems to be impossible with iMap. I  
> can change the 'Layout' in the GUI but there doesn't appear to be any  
> way to do this in a script? I searched in vain for scripts that use  
> iMap.  
>

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Subject: Re: Latitude/longitude, contours, map\_set, iMap?

Posted by [wmconnolley](#) on Fri, 06 May 2005 08:58:07 GMT

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jamiesmyth\_uni@yahoo.ca <jamiesmyth\_uni@yahoo.ca> wrote:  
> pp-routines????

> Where can one find these? The data is not UKMO data but it was written  
> out to look just like it ;)

If its written out to look like pp-data, you might be able to use them.  
Your data is pp-data if... the files end in .pp; they consist of 64  
words header followed by the data (making them 28304 bytes long for a std  
field); if <http://www.antarctica.ac.uk/met/wmc/pp/pp2txt.f> will read them.

If thats true, you can probably get the pp-routines, which will read, write, plot and do arithmetic and any number of other things to them. Mail me if so.

-W.

--

William M Connolley | [wmc@bas.ac.uk](mailto:wmc@bas.ac.uk) | <http://www.antarctica.ac.uk/met/wmc/>  
Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself  
I'm a .signature virus! copy me into your .signature file & help me spread!

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