Subject: Re: Plotting data on orthographic globe projection
Posted by David Fanning on Tue, 28 Feb 2012 21:43:11 GMT
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Sir Loin Steak writes:

> I have some data in a (72,36) array, corresponding to 72 longitudes
> and 36 latitudes. I am wanting to plot them onto a globe, and so have
> used IDLs map_set and contour routines. However, depending upon which
> angle I choose to view the image, there are problems with the filling
> of the contours.
>
> As an example, see the four images at http://www.physics.open.ac.uk/~lsteele/globe.png.
> I have plotted the exact same data in each image, the only difference
> being I changed the value of 'loncentre' in the plotting routine
> below:
>
> ;---------------------------------------
> lat = findgen(36)*180/35-90
> lon = findgen(72)*360/71-180
> latcentre=30
> loncentre=-70
> angle=0
> map_set,latcentre,loncentre,angle,/orthographic,/isotropic
> loadct, 13
> contour,reverse(vapour(*,*,250),2),lon,lat,/overplot,
> levels=findgen(30), /fill
> map_grid, latdel=5, londel=5, glinestyle=0, glinethick=0.5
> ;---------------------------------------
>
> Has anyone used these routines and experienced the same problem? Or
> can anyone suggest any other routines that produce something similar?
> I'm stumped!

I would try using the keyword CELL_FILL instead of FILL.
Not only will these problems probably disappear, but your
color will actually be correct! :-)

http://www.idlcoyote.com/color_tips/fill_colors.html

CELL_FILL should *always* be used to put filled contour
plots on map projections.

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: Plotting data on orthographic globe projection
Posted by Sir Loin Steak on Tue, 28 Feb 2012 21:58:11 GMT
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On Feb 28, 9:43 pm, David Fanning <n...@idlcoyote.com> wrote:
> Sir Loin Steak writes:
>> I have some data in a (72,36) array, corresponding to 72 longitudes
>> and 36 latitudes. I am wanting to plot them onto a globe, and so have
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>
> http://www.idlcoyote.com/color_tips/fill_colors.html
>

> CELL_FILL should *always* be used to put filled contour
> plots on map projections.
>
> 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.")

Brilliant! Thanks a lot David. It's funny how it always turns out to
be something simple. I'll remember to use cell fill from now on!

Liam

Subject: Re: Plotting data on orthographic globe projection
Posted by David Fanning on Tue, 28 Feb 2012 22:33:08 GMT
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Sir Loin Steak writes:

> Brilliant! Thanks a lot David. It's funny how it always turns out to
> be something simple. I'll remember to use cell fill from now on!

Yes, simple and undocumented. This is one of those
things I say--like I used to say "Device,
Decomposed=0"--every chance I get, but it never sinks in,
no matter how many books or articles I write. I happened
to mention it in the presence of some Excelis engineers a
couple of months ago and they looked at me like I was daft.

Let me say it again. If you think colors have meaning,
and should match the values in your colorbar (I realize
this excludes the 2-3 people using the function graphics
colorbar who don't care about any of this), then you
MUST use CELL_FILL instead of FILL when you put filled
contour plots on a map projection. You will get incorrect
results if you do otherwise!

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: Plotting data on orthographic globe projection
Posted by John Coxon on Wed, 29 Feb 2012 11:22:54 GMT
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On 28/02/2012 21:43, David Fanning wrote:
> CELL_FILL should *always* be used to put filled contour
> plots on map projections.

Whenever I have used CELL_FILL it looks like the fill colours were done
by a five-year-old with a highlighter -- is that normal?

--
John Coxon

Subject: Re: Plotting data on orthographic globe projection
Posted by John Coxon on Wed, 29 Feb 2012 11:30:46 GMT
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On 29/02/2012 11:22, John Coxon wrote:
> On 28/02/2012 21:43, David Fanning wrote:
>> CELL_FILL should *always* be used to put filled contour
>> plots on map projections.
>
> Whenever I have used CELL_FILL it looks like the fill colours were done
> by a five-year-old with a highlighter -- is that normal?

Further testing shows that no, it isn't, and I can't even replicate what
I saw to show to you guys (the code it happened in has been changed
substantially since it happened around six weeks ago).

Ah well, at least now I know!

--
John Coxon
http://www.chickensinenvelopes.net/
