
Subject: Re: Satellite projection contour plots
Posted by [David Fanning](#) on Wed, 30 Mar 2011 16:37:21 GMT
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Matt writes:

> I'm trying to create a few contour plots on a satellite map
> projection. Mostly they look great, but from some viewing angles (the
> lon/lat that the 'satellite' is over), there seems to be some strange
> artifacts in my eps and png output. For example, I've put a plot up
> here (<http://dl.dropbox.com/u/13779929/h00200.png>) which looks good in
> the tropics, but goes a little crazy at the high-latitudes.

This might be the best you can do these older graphics
commands. They often go a little crazy at high latitudes,
where the math jumbles up at the singularity of the pole.
I'll be interested to see if the new IDL 8 mapping functions
are any better at this.

I note that there is a seminar on this topic at the
IDL user group meeting in Washington, D.C. in a couple
of weeks. I'll see if I can take some notes.

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: Satellite projection contour plots
Posted by [Matt\[3\]](#) on Thu, 31 Mar 2011 18:56:25 GMT
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On Mar 30, 12:37 pm, David Fanning <n...@idlcoyote.com> wrote:

> Matt writes:
>> I'm trying to create a few contour plots on a satellite map
>> projection. Mostly they look great, but from some viewing angles (the
>> lon/lat that the 'satellite' is over), there seems to be some strange
>> artifacts in my eps and png output. For example, I've put a plot up
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>
> 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.")

Thanks David, I think you're right about the math at high latitude.
The problem appears to be less severe if the poles are not visible.
I'd be interested to hear what they say at the D.C. seminar.

Cheers,

Matt

Subject: Re: Satellite projection contour plots
Posted by [David Fanning](#) on Thu, 31 Mar 2011 19:08:43 GMT
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Matt writes:

> Thanks David, I think you're right about the math at high latitude.
> The problem appears to be less severe if the poles are not visible.
> I'd be interested to hear what they say at the D.C. seminar.

I was playing around with contour plots on map projections
a little bit this morning. In my case, I had random X,Y,Z
data that had to be gridded before display. This could NOT
be done properly from the contour command. Instead, I had
to use Triangulate and Trigrd themselves, so I had more
control over the parameter space.

Oddly enough, I got **completely** different results if
I used spherical gridding compared to just normal gridding.

I didn't know what to make of this, since I am not at all familiar with the data I was given. But, I do note that you MUST use CELL_FILL with the contour plot, rather than FILL or you get *exceedingly* strange results.

And even when I got "nice" results, it appeared that the contours did not match at the date line. They appeared to be one contour level off as they came together. I don't know what to make of that, either.

So, I am interested in the D.C. seminar, too. I'll take my data with me. :-)

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: Satellite projection contour plots
Posted by [Matt\[3\]](#) on Mon, 04 Apr 2011 23:29:32 GMT
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On Mar 31, 3:08 pm, David Fanning <n...@idlcoyote.com> wrote:

> Oddly enough, I got *completely* different results if
> I used spherical gridding compared to just normal gridding.
> I didn't know what to make of this, since I am not at
> all familiar with the data I was given. But, I do note
> that you MUST use CELL_FILL with the contour plot, rather
> than FILL or you get *exceedingly* strange results.
>
> And even when I got "nice" results, it appeared that the
> contours did not match at the date line. They appeared to
> be one contour level off as they came together.
> I don't know what to make of that, either.

David,

I only just got around to trying this, but it seems like you're right, using /cell_fill is the answer here! Everything looks OK at the date

line for me too (I've added an extra longitude to my data so that it 'wraps around', but I'm assuming you did this in your plot?).

Thank you very much for your help,

Matt
