
Subject: Filled Contour Colors on Maps Incorrect
Posted by [David Fanning](#) on Wed, 26 Sep 2001 03:00:03 GMT
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Folks,

I have a feeling you map guys are not going to like this post. :-(

Here is a filled-contour-on-a-map-projection problem that has been giving me nightmares.

I wish to put a filled contour plot on a cylindrical map projection. I've read all the articles on that Coyote site about filled contours and I am aware of all the pitfalls. I have created my own contour intervals, and I know exactly which colors I am using for my filled contours.

I follow the recommended procedure. I create a map projection with Map_Set. I add the filled contour command by specifying the data and the vectors of latitude and longitude and I use the Contour command with the OVERPLOT keyword set. But...

The colors are not right. I know this for two reasons. First, I have used exactly the same data set with the GrADS software and produced a contour plot that has the same contour intervals, but is colored differently. Second, I have confirmed that the data is identical in both the GrADS and IDL programs.

If you are interested in seeing the output, you can find it here:

http://www.dfanning.com/test/contour_fill_bug.html

You can also download from this page an IDL save file containing the data and an IDL main-program that will create the plots for you.

To confirm that something screwy is going on, I have created filled contour plots in two different ways. (This data is also shown on the link above.) First, I have created a filled contour plot without a map projection. In other words, instead of overplotting the contour plot on a map projection, I have just created a contour plot. The contours are identical (as I expect since the data

is identical), but the colors are different and are what I expected from the GrADS plot.

Second, to confirm that it is overplotting on a map projection that is the problem, I create a filled contour plot by first drawing a contour plot with no data and then overplotting the filled contours. Again, the data colors are identical to both the GrADS plot and to the normal contour plot.

So, what gives with map projections?

It appears to me that filled contour plots fill in colors from one level to another differently on map projections than they do normally. Has anyone seen this before? Note that my data runs from -2.0 to 1.75 and that it appears the data about the 0.0 level is the one that is especially screwy.

I'm running IDL 5.4 on Windows 2000.

Cheers,

David

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