Subject: Re: fun with nonlinearity and COLORBAR
Posted by David Fanning on Thu, 21 Oct 2010 19:35:45 GMT
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Jeremy Bailin writes:

> I'm looking for advice on a plot I'm making that uses David's COLORBAR
> routine. The problem is that the mapping between color index in the
> image and data value is quite non-linear - and not a simple
> transformation, either (it's generated via histogram equalization).
>
> There are a few ways I can imagine having it look. So first, from an
> aesthetics (and ease-of-understanding) standpoint, which would be
> best?
> 1. The colorbar has one line for each color index, and is annotated
> using 6 evenly-spaced divisions, but the numbers marking those
> divisions are not evenly distributed.
> 2. The colorbar has one line for each color index, the annotations
> are evenly spaced in *value*, but are spaced unevenly along the color
> bar.
> 3. The colorbar is annotated using 6 evenly-spaced divisions that
> have evenly-spaced numbers, and the colors within the color bar vary
> (i.e. the mapping between row up the color bar and color index is no
> longer linear).
>
> The second question is implementation. I can achieve #1 very easily
> using COLORBAR. I think that in order to do #2, I would need to
> essentially roll my own version of COLORBAR that changes the
> annotation locations - are there any shortcuts that would let me use
> the existing routine? To do #3, my best idea is to regenerate a new
> (non-linearly altered) color table, and then use the existing COLORBAR
> routine. Any caveats with that, or any easier ways to do it?
>
> Alternatively, what other ideas do people have for conveying this kind
> of information?

If you are talking about six discrete colors, I would use
the discrete color bar, DCBAR.

I have implemented something like number 1, equally spaced
divisions, with non-linear values, using FSC_Colorbar (new
name!) in this article:

http://www.dfanning.com/map_tips/precipmap.html

I had to use a tick formatting function to do it correctly.

Cheers,

David

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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")
