Subject: Interpolation on a sphere
Posted by dan on Thu, 06 Oct 1994 20:41:36 GMT
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I have some global data which is scarce in some regions and dense in other regions.
I would like to map (interpolate) this data onto a 1x1 degree grid representing
the entire surface of the earth. This seems like such a common task, so I was
wondering if anyone had an IDL routine which would do this. Is there a built in
IDL routine which will do this? Remember, I want to do this on a sphere, not on
a rectangular Mercater projection.
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****
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** Lawrence Livermore National Lab human (510) 423-6765 **

Subject: Re: Interpolation on a sphere
Posted by Kenneth P. Bowman on Mon, 19 Jan 2004 21:13:28 GMT
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In article <bugttk$qo8$1@houston.jhuapl.edu>,
"Haje Korth" <haje.korth@jhuapl.edu> wrote:

Are you sure it's not either a case of too few points or of real
features of the data?

You could try a least-squares fit to spherical harmonics (truncating
appropriately) and then reconstruct a gridded field from the spherical
harmonics.

Ken Bowman

> Now, my problem is that no matter what interpolation method I use, I obtain
> ARTIFACTS (e.g., saw teeth, see attached picture) in the gridded output.
> Does anyone know how get a decent interpolated data set? Am I using the
> right key words? Or should I attempt a completely different approach? Any
> help is appreciated.
>
> Thanks,
> Haje

Subject: Re: Interpolation on a sphere
Posted by Haje Korth on Tue, 20 Jan 2004 13:08:27 GMT
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Ken,
thank you for your input. I (temporarily?) solved the problem by going back
to a combination of TRIANGULATE/TRIGRID, which is essentially SPH_SCAT. From
the functionality of GRIDDATA I thought that this routine will obsolete the
other ones in the future, especially since QHULL is much more stable in
calculating the Delauney triangulation than TRIANGULATE is. As a result, all
artifacts I suffered from before are gone. My problem is that I do not know
whether there is a bug in GRIDDATA or if I used a poor choice of keywords.
Therefore, I cannot report my issues to RSI. But something is definitely
screwy here.....

Greetings,
Haje

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"Kenneth P. Bowman" <kpb@null.com> wrote in message
news:kpb-E20603.14132819012004@news.tamu.edu...
> In article <bugttk$qo8$1@houston.jhuapl.edu>,
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