Subject: Re: Random problem with Delaunay triangulation - Correction
Posted by ben.bighair on Wed, 12 Sep 2007 13:38:06 GMT
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On Sep 12, 8:14 am, "Haje Korth" <haje.ko...@nospam.jhuapl.edu> wrote:
> Bill,
> what you describe seems to pretty much the story of my life with spherical
> interpolation in IDL. Basically, I can find after some playing around a fix
> for a particular data set only to find that the fix was not universal enough
> and the next interpolation with another data set would blow up again. There
> must be a certain set of underlying rules for the IDL spherical
> interpolation routines. If one would know them, the data set could be
> massaged appropriately to avoid the problem. My experience is though that
> this goes beyond the $64,000 question.So any enlightenment is appreciated
> here.
>
> Haje
>
> "Bill Gallery" <wgall...@aer.com> wrote in message
>
> news:1189547798.290652.299080@b32g2000prf.googlegroups.com.. .
>
>> On Sep 11, 5:15 pm, Bill Gallery <wgall...@aer.com> wrote:
>>> On Sep 11, 3:27 pm, "Haje Korth" <haje.ko...@nospam.jhuapl.edu> wrote:
>
>>>> Bill, here a practical tip: Have you tried to randomly reshuffle your
>>>> input
>>>> data? Does this make a difference? H.
>
>>>> "Haje Korth" <haje.ko...@nospam.jhuapl.edu> wrote in message
>
>>>> news:fc6oi5$ei3$1@aplnetnews.jhuapl.edu...
>
>>>> > Bill,
>>>> > you just hit a nerve with me. I thought I was the only one having
>>>> > those
>
>>> Haje,
>
>>> I did not try reshuffling the input data, but did find a fix.
>>> Originally, the input data had a minimum latitude of 30.0 deg N and
>>> the specified regular grid also had a minimum latitude of 30.0. When
>>> I expanded the input data to have a minimum latitude of 20 deg N, the
>>> error message went away. Apparently you need data outside the area of
>>> interest for the interpolation to be robust.
>
>>> Further experimentation showed that when the minimum latitude of the
>>> input data was 30. deg, the interpolated values at 30 deg for the

>>> cases that did not fail showed large excursions from expected values.
>>> This may be partially due to the nature of the input data, which is
>>> poorly sampled below ~40 deg N (temperature data from the SABER
>>> instrument on the TIMED satellite.)
>
>>> Does anyone has any experience with the relative merits of the
>>> following routines for interpolation on a sphere?
>
>>> 1. qhull and griddata
>
>>> 2. sph_scat.pro
>
>>> 3. triangulate and trigrid
>
>>> Bill
>
>> Correction, expanding the input data did not correct the problem: I
>> got the same message from a different case.
>
>> Puzzled
>
>> Bill Gallery

Hi,

I have not done much with spherical data and interpolation, but I
found the GRID_INPUT routine helpful when using plain-old-flat-earth
gridding. It might be worth running the data through that first.

Cheers,
Ben