Subject: Re: Gridding-Interpolation of satellite data
Posted by David Fanning on Sun, 22 Feb 2004 00:52:21 GMT
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Matt McCabe writes:

> I always get nervous posting to this site for fear of asking a
> particularly stupid question....well, here goes.

My goodness, you should try *answering* a question if
you want to experience real trepidation. :-)

Let's just say, you have me so shook up now, I can't
even *think* about this question!

Cheers,

David

P.S. Are you *sure* about GRIDDATA not handling missing
data? I see an awful lot of MISSING keywords in the on-line
help.

--
David Fanning, Ph.D.
Fanning Software Consulting
Coyote's Guide to IDL Programming: http://www.dfanning.com/

Subject: Re: Gridding-Interpolation of satellite data
Posted by btt on Mon, 23 Feb 2004 14:05:01 GMT
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Matt McCabe wrote:
> I always get nervous posting to this site for fear of asking a
> particularly stupid question....well, here goes.
>
> I'm using some satellite data and need to regrid the standard EASE
> projection (around 25km resolution) onto a regular grid of my own
> design - a 1/8th degree grid over the US. Previous postings have been
> very helpful in assisting me in this.
>
> I realise GRIDDATA and TRIANGULATE would do this no
> problems...however, I have gaps in the global/continental data from
> the overpasses which are causing me issues. The satellite scans leave
> no-data values (assigned 8888) in between overpasses. However, I don't
> see that GRIDDATA allows me to ignore these areas without affecting
> the interpolated values around the 'edges' (areas between data and

> no-data) i.e. values near the boundary of these, depending on the
> interpolation routine employed, will be affected by the no-data
> values. A post-interpolation mask, while getting rid of most of the
> affected data - will still leave numerous edge effects significantly
> different to the 'true' value.
>
> I thought I might be able to set no-data values to !VALUES.F_NAN - but
> GRIDDATA and TRIANGULATE don't handle this....basically I just want to
> interpolate within those areas that have data and exclude from the
> interpolation values I don't want so I don't significanly influence
> the 'real' data. My aim is not so much to smooth or massage the raw
> data - just regularly grid it.
>
> Have I missed something completely fundamental or is it actually a bit
> tricky.
>
> Thanks in advance,
> Matt

Hi,

I think you want to look into the FAULT_POLYGONS and FAULT_XY keywords.
You should be getting rid of the missing data, before using
GRIDDATA, by using the GRID_INPUT routine with the EXCLUDE keyword set
to the indices of you NODATA values.

Ben

Subject: Re: Gridding-Interpolation of satellite data
Posted by mmccabe on Mon, 23 Feb 2004 20:43:12 GMT
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Ben Tupper <btupper@bigelow.org> wrote in message
news:<c1d1ad$1e5jka$1@ID-189398.news.uni-berlin.de>...

> I think you want to look into the FAULT_POLYGONS and FAULT_XY keywords.
> You should be getting rid of the missing data, before using
> GRIDDATA, by using the GRID_INPUT routine with the EXCLUDE keyword set
> to the indices of you NODATA values.
>
> Ben

Thanks guys (although MISSING wasn't my only problem). GRID_INPUT
certainly assisted, but the trick (as you suggested) was just to get
rid of the missing data completely before doing the triangulation,
using a simple search. I was able to get rid of most of the 'edge'
effects using combinations of SEARCH_ELLIPSE, SECTOR and
EMPTY_SECTORS. The result wasn't too bad. I wanted to affect the data

as little as possible - so limiting the amount of interpolation was a priority.

Thanks to Dan Bergman for a funky little bit of code from way back in 1994!!! that I found in a posting. This is an intuitive (in that I can actually read and understand what it is doing) approach to interpolation - allowed me to customise for my own particular needs.

Cheers,
Matt

Subject: Re: Gridding-Interpolation of satellite data
Posted by eoraptor on Wed, 25 Feb 2004 04:26:21 GMT
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> Thanks to Dan Bergman for a funky little bit of code from way back in
> 1994!!! that I found in a posting. This is an intuitive (in that I can
> actually read and understand what it is doing) approach to
> interpolation - allowed me to customise for my own particular needs.
>
> Cheers,
> Matt

Here's a link to see the interpolation code mentioned above.

http://tinyurl.com/2js92
