
Subject: GRIDDATA woes

Posted by [ben.bighair](#) on Mon, 03 Mar 2008 02:57:27 GMT

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Hi All,

I have been having a problem similar to this one... <http://tinyurl.com/2spe3v>

The solution to the problem in the above posting was to use GRID_INPUT to filter and reorder the data *before* calling QHULL and GRIDDATA.

That doesn't seem to be the case this time as I faithfully perform these steps. However, the error message indicates that it is something similar is going on.

The big picture is that I have an irregular grid (actually it is regular in longitude but irregular in latitude) that I want to interpolate onto a regular grid. I have assembled a mockup of the situation in this procedure...

http://www.tidewater.net/~pemaquid/counterclockwise_fail.pro

The error message when the above is run is ...

```
SeaDAS> z=counterclockwise_fail()
% GRIDDATA: Triangle 5 not in counterclockwise order.
% GRIDDATA: Triangle 6 not in counterclockwise order.
% GRIDDATA: Triangle 7 not in counterclockwise order.
% GRIDDATA: Triangle 17 not in counterclockwise order.
% GRIDDATA: Triangle 30 not in counterclockwise order.
% GRIDDATA: Triangle 31 not in counterclockwise order.
% GRIDDATA: Triangle 34 not in counterclockwise order.
% GRIDDATA: Triangle 40 not in counterclockwise order.
% GRIDDATA: Triangle 42 not in counterclockwise order.
% GRIDDATA: Triangle 49 not in counterclockwise order.
```

I have tried changing the values in the code to double. That results in a similar set of errors but for a different set of triangles.

```
% GRIDDATA: Triangle 4 not in counterclockwise order.
% GRIDDATA: Triangle 5 not in counterclockwise order.
% GRIDDATA: Triangle 6 not in counterclockwise order.
% GRIDDATA: Triangle 16 not in counterclockwise order.
% GRIDDATA: Triangle 33 not in counterclockwise order.
% GRIDDATA: Triangle 35 not in counterclockwise order.
% GRIDDATA: Triangle 36 not in counterclockwise order.
% GRIDDATA: Triangle 39 not in counterclockwise order.
% GRIDDATA: Triangle 42 not in counterclockwise order.
% GRIDDATA: Triangle 45 not in counterclockwise order.
```

Bah!

I have seen a number of messages on the newsgroup about interpolation from an irregular grid to a regular one. None appear to address the issues around gridding on a sphere. I don't think I can use anything as simple as INTERPOLATE since the input array is sampled at irregular intervals.

So how is this kind of interpolation supposed to be done?

Thanks!

Ben

** Structure !VERSION, 8 tags, length=76, data length=76:

```
ARCH      STRING  'ppc'
OS        STRING  'darwin'
OS_FAMILY STRING  'unix'
OS_NAME   STRING  'Mac OS X'
RELEASE   STRING  '6.3'
BUILD_DATE STRING  'Mar 23 2006'
MEMORY_BITS INT    32
FILE_OFFSET_BITS
           INT      64
```
