Subject: Re: Another triangulate/griddata question
Posted by ben.bighair on Thu, 03 Mar 2011 00:55:59 GMT
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On 3/2/11 2:56 PM, Barry Lesht wrote:
> I have a problem that I thought would be easy to solve using griddata
> as David Fanning did in his tip (http://www.idlcoyote.com/code_tips/
> usegriddata.html). As input I have some 2D data arrays (can be either
> 512x512 or 1024x1024) with a longitude and latitude value associated
> with each element. I want to output data arrays that represent sub-
> regions of the input arrays in a particular map projection. Being sub-
> regions, the output arrays are smaller than the input arrays. I know
> the dimensions of the output arrays (xSize,ySize) as well as their
> geographic limits (limits) and geographic position
> (xStartDeg,yStartDeg) of the lower left corner.
>
> Following David's example, I do the following:
>
> mapStruct = MAP_PROJ_INIT('CYLINDRICAL', LIMIT=limit)
> xy = MAP_PROJ_FORWARD(lons, lats, MAP_STRUCTURE=mapStruct)
> x = REFORM(xy[0,*], xIn, yIn) ; xIn, yIn
> based on input array size
> y = REFORM(xy[1,*], xIn, yIn)
> ;
> ; Get the x, y coordinates of the ouput array southwest corner
> ;
> llxy = MAP_PROJ_FORWARD(xStartDeg, yStartDeg, MAP_STRUCTURE=mapStruct)
> xStart=llxy[0]
> yStart=llxy[1]
> ;
> TRIANGULATE, x, y, triangles, TOLERANCE=1.0
> griddedData = GRIDDATA(x,y,wtmp,/NEAREST_NEIGHBOR,
> TRIANGLES=triangles, DIMENSION=[xSize,ySize], MISSING=nan,
> START=[xStart,yStart])
>
> This fails with the error: % GRIDDATA: Value of Triangle index is out
> of allowed range.
>
> I'm not sure why this is happening. Could it be because some of the
> triangles that are defined in the triangulate step are completely
> outside the domain of the defined subregion? If so, is there a way
> around this? Thanks.

Hi,

As a starting point it is always good to run your points through
GRID_INPUT before sending them along to GRIDDATA. There isn't anyway to
be sure that this solves things but it is a simple thing to try.

Cheers,
Ben