Subject: Another triangulate/griddata question
Posted by BLesht on Wed, 02 Mar 2011 19:56:17 GMT
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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.