Subject: Map image with a sparse array
Posted by whdaffer on Fri, 21 Jan 2000 08:00:00 GMT
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Hi;

I have the following problem. I have an array of geographically colocated data (0.5 by 0.5 degree grid) that is the result of averaging all 253 swaths of one cycle of Topex data into this grid. Topex data has a small (3 or maybe 10km) swath, so the majority of the grid location (65%) are 'bad' in the sense that those grid elements contain no averaged data.

I want to display this by mapping it using map_set/map_image. The old method simply 'tv'd the image to the screen and then finessed applying the continents/grid lines to the image. A bit of a boondogle, and not very upgradeable.

The problem is that there seems to be no way to tell map_image (and map_patch too) that certain data (the 'bad' data value) should be excluded from whatever averaging/bilinear-interpolation/nearest-neighbor-chosing method is used and the 'mapped' image has places that are clearly corrupted by the presence of the bad data. The problem is ameliorated by use nearest neighbor rather than bilinear interpolation (i.e. bilinear=0) and I am setting compress=0, so that the inverse transformation is done on each pixel. Also, I've started out with a window set to the size of the input data array and with map_set,position=[0.,0,1,1] so that the mapping coordinate system occupies the entire window. These remedies I hit upon thinking that they would minimize the damage, and they have done that, but when I compare my results with the older, more 'pristine' but vastly less portible, upgradeable, maintainable method, there are big differences.

The 'missing' keyword just sets elements outside the range input via the 'min' and 'max' keywords and those outside of the mapping coordinates to the bad value, it doesn't allow one to exclude data from the averaging/interpolation/chosing method.

Will I have to hack map_image? Or go back to the old way?

William