Subject: Re: zonal means
Posted by Craig Markwardt on Wed, 18 Mar 1998 08:00:00 GMT
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Martin Schultz <mgs@io.harvard.edu> writes:
>
> Q: ... And does anyone have an idea why CONGRID screws up ?

First, CONGRID uses a different form of interpolation compared to REBIN. REBIN will find the simple average of array cells that are collapsed, while CONGRID can be set to perform an interpolation. It's not clear to me that these are the same.

Also, CONGRID() has a subtle bug in its implementation, at least from the point of view of a physicist :-) Essentially, CONGRID attempts to interpolate to the pixel *corners*, not their centers. This becomes a problem at the edges of the array; one "extra" row and column appears at the far edges.

At some point the IDL folks tried to fix CONGRID by adding the MINUS_ONE keyword, which removes those extra pieces. Unfortunately that doesn't solve the problem, if you are trying to be precise, since you lose one row and column. RSI support seems to have confirmed my report of this problem.

The proper solution is to interpolate to the pixel centers. I have a modified version of CONGRID on my IDL web page called CMCONGRID,

http://astrog.physics.wisc.edu/~craigm/idl/idl.html

which does just that. CMCONGRID is a drop in replacement for CONGRID. Use it just like CONGRID, except that you also need to set the keyword HALF_HALF to enable the pixel-center interpolation.

Craig

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