
Subject: mapping/interpolation from one irregular grid to another (different) irregular grid.

Posted by [Paul Van Delst\[1\]](#) on Tue, 24 Jan 2012 21:04:57 GMT

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Hey there folks,

I have a colleague who wants to map/interpolate data from one satellite sensor's footprint to another. The data is defined in terms of pixel vs scan line which means the lat/lon grid (which is how the sensor FOVs are matched) for each is quite irregular. He has performed loops over individual elements to do the interpolation, but as you would expect, this is very slow in IDL. We need to speed it up (a lot).

Do any of the gurus out there have advice on how to do this sort of thing? Information on irregular-to-regular grid transformation is quite plentiful (e.g. IDLCoyote has an article on it), but I can't find anything on irregular-to-a_different_irregular.

My first thought would be to put both on a common regular grid, do the matchup/interpolation, and then somehow use histogram with the reverse_indices trick to get the matched data back to the irregular grid (as detailed in JD's histogram tutorial on idlcoyote.com).

Does any of this make sense? I wanted to poll the IDL users out there that may have done this before recommending my colleague embark on a a potential fruitless endeavour.

cheers,

paulv
