
Subject: Re: Help converting different data sets into one data set and correcting for mismatch

Posted by [Craig Markwardt](#) on Sat, 03 Jan 2009 03:36:29 GMT

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On Jan 2, 4:56 pm, mbwel...@gmail.com wrote:

> Hello,

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> I have a bit of a dilemma that I was hoping someone could advise me
> on. I have two separate data sets, that are set up slightly
> differently, but show similar data and need to be displayed together.

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> The first data set is of the form array1[6,32400], where positions 0-3
> represent the top, bottom, left and right values of a box with a range
> for top and bottom of -90 to 90 and left to right of 180 to 0. It's in
> latitude and longitude for a hemisphere in 1x1 deg cell sizes. i.e.
> 90,89,180,179...

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> The second data set is the same range for latitude and longitude but
> it is instead a simple ascii grid with each cell position representing
> the latitude and longitude position. i.e. column 0, row 0 =
> 90,89,180,179 from the above example, I think.

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> I need a way to map the second data set to the first data set so that
> I can compare them. The only way I know how to do it right now would be
> very time intensive and this time I don't have right now. The other
> issue (which I'm checking right now) is that they may not be exactly
> one to one and if that's the case, how might one stretch or shrink the
> second cell size in order to make them one to one?

Seems to me you need a reverse-lookup index to your ARRAY1 table. If
you really have 1 degree spatial bins, then why not make a lookup
table that is 180x180?

INDEX = LONARR(180,180)-1

Now fill them with the index values,

II = LINDGEN(npts) ;; npts is number of rows in ARRAY1
INDEX[ARRAY1[1,*],ARRAY1[3,*]] = II

Each cell of INDEX points back to the row number in ARRAY1
corresponding the desired geographic position. If a cell of INDEX
contains -1, then there was no matching row in ARRAY1 to begin with.

Now do as many lookups as you want. For example,

JJ = INDEX[ARRAY2[0,*], ARRAY2[1,*]]

So now ARRAY2[* ,i] matches ARRAY1[* ,JJ[i]] (except of course when JJ[i] is -1)

Another way: If ARRAY1 has all 180x180 entries -- no gaps -- then you could get away with something similar by pre-sorting ARRAY1 so that they are in geographic order.

Craig

Subject: Re: Help converting different data sets into one data set and correcting for mismatch

Posted by [mbweller](#) on Sat, 03 Jan 2009 21:18:18 GMT

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On Jan 2, 7:36 pm, Craig Markwardt <cbmarkwa...@gmail.com> wrote:

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That will indeed be handy, but it turns out I have a much simpler question that is causing me some duress:

How do you plot a simple ascii grid of values spatially? I need to verify the positions by mapping them, otherwise I cannot join the two tables. For instance, I believe that the position of the cell at Column 1, Row 1 corresponds to the cell 90n, 89n, 180w, 179w but cannot be sure until it is mapped. So, I need each cell to correspond to a 1x1 deg lat/lon cell size with columns corresponding to longitude and Rows corresponding to Latitude. Is there a way to do this easily?

~Matt

Subject: Re: Help converting different data sets into one data set and correcting for mismatch

Posted by [Craig Markwardt](#) on Sun, 04 Jan 2009 06:09:24 GMT

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On Jan 3, 4:18 pm, mbwel...@gmail.com wrote:

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You mean, like with PLOT? :-)
