
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:

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

>

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>

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

>

>>> Hello,

>

>>> 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.

>

>>> 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...

>

>>> 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.

>

>>> 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
>
> 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?

You mean, like with PLOT? :-)
