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
View Forum Message <> Reply to Message

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

~Matt
