
Subject: Re: Indices ?

Posted by [sdj](#) on Thu, 02 Dec 2004 18:01:23 GMT

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OK, so let me explain what I need to do and why I think that the aforementioned information is necessary. Please excuse me if this message is a tad long...

I have two satellite sensors giving me SST values on two different grids:

sensor1 is 4320 lon points by 2160 lat points

sensor2 is 4096 lon points by 2048 lat points

I need to interpolate the sensor1 data onto the sensor2 grid. To do this I have found via this newsgroup a useful routine written way back in 1994 by Dan Bergmann: `interp_sphere.pro`

The `interp_sphere.pro` routine is called in the following way:

```
IDL> grid = INTERP_SPHERE(lat,lon,data)
```

where

lat: The latitudes on the grid where interpolated values are desired (in degrees)

lon: The longitudes on the grid where interpolated values are desired (in degrees)

data: An array (3,ndata) where ndata is the number of data points, and can be any number larger than N.

each row of data should contain a longitude, a latitude, and a value to be interpolated.

Therefore in my case:

```
lat => (lat_sensor2[valid_lat_s2])
```

```
lon => (lon_sensor2[valid_lon_s2])
```

```
data =>
```

```
(lat_sensor1[valid_lat_s1],lon_sensor1[valid_lon_s1],data_sensor1[valid])
```

My problem lies in finding the correct indices for the 1d arrays. i.e

the indices: 'valid_lat_s2' ; 'valid_lon_s2' ; 'valid_lat_s1' ;

'valid_lon_s1'

The valid index for the `data_sensor1` array is easy enough to find:

```
valid = where(data_sensor1 NE land)
```

If have a `grid_sensor2` array which acts as a land/sea mask, how can I get the

'valid_lat_s2' and 'valid_lon_s2' indices ?

And finally returning to my original post, how do I relate the 'valid' indices of the `data_sensor1` array to the 'valid_lat_s1' and

'valid_lon_s1' of the lat_sensor1 and lon_sensor1 arrays ?

I hope I have managed not to confuse you too much. I realize that I might be just complicating my life, but I would rather hope that I might be almost there...

Again thanks very much for your help.

Best Regards,
Pepe

David Fanning wrote:

> George N. White III writes:

>

>> David gave one approach. I sometimes find it helpful, e.g,

>> to apply criteria such as "lon > 0.5*lat", to create

>> arrays with all rows(lon)/columns(lat) the same:

>>

>> lon=b#transpose(1+lonarr(y))

>> lat=(1+lonarr(x))#transpose(c)

>

> Oh, that's a good idea. Although I'm still not clear

> what you *do* with the information. :-)

>

> Cheers,

>

> David

>

> --

> David Fanning, Ph.D.

> Fanning Software Consulting, Inc.

> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>