
Subject: Separating land and ocean data in IDL
Posted by [siumtesfai](#) on Fri, 10 Jul 2015 19:33:22 GMT
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Hello all,

I have climate model output data in IDL sav file format and NCDF file.

Dimension of the data

Sz=size (DATA)

longitude= sz(1) : 0-360 degree

latitude = Sz(2) : -90S to 90N

pressure = Sz(3) : 1000hPa to 10hPa

time = Sz(4) : 1979 to 2005

The data is global. I can extract regions . For example , North america domain by restricting my longitude and latitude. That is easy. I would use "Where" command

E.g lat=where(latitude GE lat1 and latitude LT lat2)
lon =where(longitude GE lon1 and longitude LT lon2)

DATA1=data(lon,lat,*,*)

My question is how can you extract only data at the continental north america over land. I am not interested in analyzing data over the oceans (i.e North Pacific and Atlantic)

Waiting for your suggestion.

Thank you for you help

Best regards

Subject: Re: Separating land and ocean data in IDL
Posted by [siumtesfai](#) on Sat, 11 Jul 2015 05:47:17 GMT
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Hello all,

Any suggestion on my question . Please I need your help . If the question is not clear, please also let me know

Best regards

On Friday, July 10, 2015 at 3:33:25 PM UTC-4, siumt...@gmail.com wrote:

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>
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Subject: Re: Separating land and ocean data in IDL
Posted by [shilosh](#) on Sun, 12 Jul 2015 07:42:39 GMT
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Take a look at David Fanning's example here:
http://www.idlcoyote.com/map_tips/seamask.html#NEWTECHNIQUES

Shilo

Shilo Shiff
Department of Geography and Environment
Bar-Ilan University

Subject: Re: Separating land and ocean data in IDL
Posted by [Phillip Bitzer](#) on Mon, 13 Jul 2015 16:13:03 GMT
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On Saturday, July 11, 2015 at 12:47:21 AM UTC-5, siumt...@gmail.com wrote:

> Hello all,
>
> Any suggestion on my question . Please I need your help . If the question is not clear, please
also let me know
>
> Best regards
>

Have you tried Google-ing to see if someone has some sort of example that might help you?

(It's out there! David's is a good place to start, but there are others.)

Subject: Re: Separating land and ocean data in IDL
Posted by [siumtesfai](#) on Thu, 16 Jul 2015 21:28:22 GMT
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On Friday, July 10, 2015 at 3:33:25 PM UTC-4, siumt...@gmail.com wrote:

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>

> Thank you for you help

>

> Best regards

Thank you for your direction on my solution

I know now that there are functions to extract landmass only data

I have the following question though. Suppose you have surface data from ncep. Data= (144,73,795)

```
restore,'ncep.sav'
```

```
sz=size(data)
```

```
lon=sz(1)
```

```
lat=sz(2)
```

```
time=sz(3)
```

```
Domain = extract_region( data,region='NAMERICA', lon=lon, lat=lat )
```

```
land = LAND_MASK( /NAMERICA,lat=lat,lon=lon,Limit=[-170,30,-50,75],resolution= [2.5,2.5])
```

```
end
```

I checked the dimension of the result

```
Domain= Array[49, 17, 795]
```

```
land = Array[48, 18]
```

So, I have mismatch in the array size from my domain and land .

Any suggestion on how to fix the problem

I should have both Domain and land to have the same array size in order to extract landmass data from original data as follow

```
landmass=fltarr(49,17,795)
```

```
FOR i=0,48 do begin
```

```
  FOR j=0,16 do begin
```

```
    x=reform(land(i,j))
```

```
    y=where(x GT 0 )
```

```
if y(0) GE 0 then begin
  landmass(i,j,*)=Domain(i,j,*)
endif else begin
  landmass(i,j,*)=1E20
endelse
ENDFOR
```

Best regards
