
Subject: envi_convert_file_coordinates

Posted by [woods1](#) on Mon, 03 Aug 2009 16:17:47 GMT

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Hi,

i have with envi. i try to convert the lat/lon coordinates to Pixel values, but my results are negative and big.

this is my program:

the number of samples are 36800 and the number of lines are 57600.

Pro news, ego

```
filename = envi_pickfile(title = 'DeMarine-DEKO')
if(filename eq "")then return
```

```
envi_open_file, filename, r_fid=De_fid
```

```
envi_file_query, De_fid, ns=ns, nl=nl, nb=nb, pos=pos,$
dims=dims, data_type=type, sname=sname
```

```
dims = [-1L, 0, ns-1, 0, nl-1]
```

```
pos = lindgen(nb)
```

```
map_info = envi_get_map_info(fid =De_fid)
print, map_info
```

```
proj_u = map_info.proj; Auszug Projektion von Struktur $ MAP
proj_dd = envi_proj_create(/geographic);Projektion fuer lat/lon
Daten
```

```
proj_aa = envi_proj_create(/utm, zone= 37, /south, datum=8,
units=meters )
```

```
xf = [0, ns-1]
yf = [0, nl-1]
```

```
; Establish file coordinate system
fwest_p=1; NW corner of file is 0,0
fnorth_p=1; NW corner of file is 0,0
feast_p=fwest_p+ns
fsouth_p=fnorth_p+nl
; Establish map coordinate system
fxcent_p=map_info.mc[0]; UTM coordinates defined from center
```

```

fycent_p=map_info.mc[1]; UTM coordinates def. from center
fxcent_u=map_info.mc[2]
fycent_u=map_info.mc[3]
xpysz_u=map_info.ps[0]
ypysz_u=map_info.ps[1]
fwest_u=fxcent_u+(long(fwest_p-fxcent_p)*xpysz_u)
feast_u=fxcent_u+(long(feast_p-fxcent_p)*xpysz_u)
fnorth_u=fycent_u+(long(fycent_p-fnorth_p)*ypysz_u)
fsouth_u=fycent_u+(long(fycent_p-fsouth_p)*ypysz_u)

print, 'fxcent_p:',fxcent_p      ; the result is 0.00000000
print, 'fycent_p:',fycent_p      ; the result is 0.00000000
print, 'fxcent_u:',fxcent_u      ; the result is 296999.38
print, 'fycent_u:',fycent_u      ; the result is 5039000.6
print, 'fwest_u:',fwest_u        ; the result is 297000.63
print, 'feast_u:',feast_u        ; the result is 343000.63
print, 'fnorth_u:',fnorth_u      ;-----is
5038999.4
print, 'fsouth_u:',fsouth_u      ;-----is 4966999.4

;convert map coordinate boundaries to DD
envi_convert_projection_coordinates,[fxcent_u,feast_u,fxcent_u,
feast_u], $

[fsouth_u,fsouth_u,fycent_u,fycent_u],proj_aa,fcornerx_dd,fcornery_dd,proj_dd

print,fcornerx_dd    ; the latitude is :36.405251
36.992822    36.434432    37.015407
print,fcornery_dd    ; the longitude is :-45.423007
-45.434850    -44.775521    -44.787101

envi_convert_file_coordinates, De_fid, xmap, ymap, fcornerx_dd,
fcornery_dd
print, xmap    ; -237635.84    -237635.85    -237635.32
-237635.33
print, ymap    ; 4031171.4    4031170.9    4031171.4
4031170.9

```

i think xmap and ymap are false, but i don't where is the error.
my intention is to convert to pixel values.

please, can somebody help me.

thanks
end

Subject: Re: envi_convert_file_coordinates
Posted by [Jean H.](#) on Tue, 04 Aug 2009 18:54:07 GMT
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Hi,

I believe you are using the wrong variable... Your map is in UTM (not too clear though) but you use it as if it was DD...

```
>     envi_open_file, filename, r_fid=De_fid
```

open the file

```
>     map_info = envi_get_map_info(fid =De_fid)
```

get the map info

```
>     fxcent_p=map_info.mc[0]; UTM coordinates defined from center
```

you say it is in UTM

```
>     envi_convert_file_coordinates, De_fid, xmap, ymap, fcornery_dd,  
> fcornerx_dd
```

You use the fid of the file, so you are converting from UTM to pixel coordinates (by the way "pixel value" refers to the content of the pixel, not its coordinates). However, you are not using UTM coordinates but geographic ones... So basically, you are converting coordinates that are within 180m of the equator and from the central meridian of your UTM zone.

Jean
