
Subject: Re: ENVI_CONVERT_FILE_COORDINATES returning negative values
Posted by [Jeff N.](#) on Fri, 11 May 2007 13:42:59 GMT

[View Forum Message](#) <> [Reply to Message](#)

On May 11, 1:00 am, hanneli...@yahoo.co.uk wrote:

> Hi everyone, I'm a new ENVI/IDL user and hope to get some help here
>
> I am attempting to extract 3x3 pixel windows from MODIS images using
> lat/long coordinates. To do this I have
> -created two variables containing the latitude and longitude of the
> area I want to extract
> - opened the relevant image file (which has a related .hdr file with
> the map info of the image)
> - used the command [ENVI_CONVERT_FILE_COORDINATES, fid, XF, YF,
> xcoord, ycoord] to change from lat/long coordinates to pixel values
> (the xcoord= -35.406368 and ycoord=149.80322, XF and YF output was
> -30954 and -34019 respectively)
> - used the XF and YF output values to extract the 3x3 pixel window
> e.g.
> Output[0] = xcoord
> Output[1] = ycoord
> Output[2] = floor(XF)
> Output[3] = floor(YF)
> ; set the extent of the image you want to extract
> dims = [-1, Output[2]-1, Output[2]+1, Output[3]-1, Output[3]+1]
> ; retrieve the pixels
> data = ENVI_GET_DATA(fid=fid, dims=dims, pos=1)
>
> The XF and YF values that are generated are negative and much larger
> than the lines and samples of the image (7451x9580), so I am obviously
> doing something wrong.
>
> The location is in the Southern hemisphere, so the latitude that I
> provided has a negative value (e.g. -35) - I'm sure that is not the
> problem though.
>
> Could it be that the header information of the image is not read
> properly when the file is opened? Is there a way of displaying the map
> info saved in the header when the IDL program is run to check if it is
> read correctly? Or am I on the wrong track?
>
> I would really appreciate any pointers.
> Hannelie

I'm unfamiliar with MODIS data, and also not particularly knowledgeable with map projections in general, but I have an idea I'll share nonetheless :) My gut feeling is that your MODIS data are have had some sort of map projection applied. This would mean that the map

information stored in the file are not geographic coordinates (lat/lon's), but instead are the coordinates of whatever projection your data are in. You might want to check the documentation for MODIS data to verify this. But your statement that the coordinates ENVI_CONVERT_FILE_COORDINATES is giving you is much larger than the input image dimensions hints at some sort of map projection to me. If this is true, after your call to ENVI_CONVERT_FILE_COORDINATES you can then make a call to ENVI_CONVERT_PROJECTION_COORDINATES to get your lat/lon values.

Hope that helps,
Jeff

Subject: Re: ENVI_CONVERT_FILE_COORDINATES returning negative values
Posted by [Jean H.](#) on Fri, 11 May 2007 15:36:15 GMT

[View Forum Message](#) <> [Reply to Message](#)

> (the xcoord= -35.406368 and ycoord=149.80322, XF and YF output was
> -30954 and -34019 respectively)

shouldn't it be x = 149.80322 and y = -35.406368 ???

The returned pixel coords values would make sense if you made this inversion!

Jean

Subject: Re: ENVI_CONVERT_FILE_COORDINATES returning negative values
Posted by [James Kuyper](#) on Fri, 11 May 2007 17:11:19 GMT

[View Forum Message](#) <> [Reply to Message](#)

hanneliebx@yahoo.co.uk wrote:

> Hi everyone, I'm a new ENVI/IDL user and hope to get some help here
>
> I am attempting to extract 3x3 pixel windows from MODIS images using
> lat/long coordinates. To do this I have

All of the MODIS product files have a prefix which is called an ESDT, which starts with "MOD" for Terra, or "MYD" for Aqua products, or "MCD" for the combined Terra/Aqua products. What is the ESDT on the product files you are looking at?

Subject: Re: ENVI_CONVERT_FILE_COORDINATES returning negative values

Posted by [hannelieb](#) on Sun, 13 May 2007 23:19:47 GMT

[View Forum Message](#) <> [Reply to Message](#)

On May 12, 1:36 am, "Jean H." <jghas...@DELTHIS.ucalgary.ANDTHIS.ca> wrote:

>> (the xcoord= -35.406368 and ycoord=149.80322, XF and YF output was
>> -30954 and -34019 respectively)

>

> shouldn't it be x = 149.80322 and y = -35.406368 ???

>

> The returned pixel coords values would make sense if you made this

> inversion!

>

> Jean

YES! thank you for pointing that out. Such a simple mistake that I kept overlooking the obvious :-). My code works perfectly now and returns the correct location.

Thanks to everyone who took the time to reply, I really appreciate it.

Hannelie
