Subject: Re: Geographic Lat/Lon
Posted by d.poreh on Fri, 11 Apr 2008 18:13:13 GMT
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On Apr 11, 7:14 pm, robinson....@gmail.com wrote:
> Dear all,
>
> I was wondering if someone could suggest me how to specify the
> following ENVI information in IDL:
>
> map info = {Geographic Lat/Lon, 1.0000, 1.0000, -130.54072891,
> 40.00000000, 4.8112599312e-003, 4.8112599312e-003, WGS-84,
> units=Degrees}
>
> I need to create lats and lons grids for the "Geographic Lat/Lon"
> projection and they must give me the same geolocation for each pixel
> as ENVI does. I am using IDL 6.3
>
> Thanks
> Robinson

call envi_convert_file_coordinates, fid, X,Y, lat,long (with NO
keyword), which will change your lat-long to the corresponding pixel
row
and column on your image.

Subject: Re: Geographic Lat/Lon
Posted by robinson.inj on Fri, 11 Apr 2008 21:20:50 GMT
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On Apr 11, 1:13 pm, d.po...@gmail.com wrote:
> On Apr 11, 7:14 pm, robinson....@gmail.com wrote:
>
>> Dear all,
>
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>> Thanks

>> Robinson
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> call envi_convert_file_coordinates, fid, X,Y, lat,long (with NO
> keyword), which will change your lat-long to the corresponding pixel
> row
> and column on your image.

Thanks. But I need to use just IDL no ENVI procedures :-(

Subject: Re: Geographic Lat/Lon
Posted by Jean H. on Fri, 11 Apr 2008 21:39:10 GMT
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robinson.inj@gmail.com wrote:
> On Apr 11, 1:13 pm, d.po...@gmail.com wrote:
>> On Apr 11, 7:14 pm, robinson....@gmail.com wrote:
>>
>>> Dear all,
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>>> 40.00000000, 4.8112599312e-003, 4.8112599312e-003, WGS-84,
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>>> projection and they must give me the same geolocation for each pixel
>>> as ENVI does. I am using IDL 6.3
>>> Thanks
>>> Robinson
>> call envi_convert_file_coordinates, fid, X,Y, lat,long (with NO
>> keyword), which will change your lat-long to the corresponding pixel
>> row
>> and column on your image.
>
> Thanks. But I need to use just IDL no ENVI procedures :-(

what do you want to do exactly?

If you are creating an image, you can just put the map info into the
header file... Make sure to properly write the number of col and rows,
add the map info, and your output will be automagically georeferenced!

Jean

Subject: Re: Geographic Lat/Lon
Posted by David Fanning on Fri, 11 Apr 2008 21:59:20 GMT

robinson.inj@gmail.com writes:

> I was wondering if someone could suggest me how to specify the
> following ENVI information in IDL:
>
> map info = {Geographic Lat/Lon, 1.0000, 1.0000, -130.54072891,
> 40.00000000, 4.8112599312e-003, 4.8112599312e-003, WGS-84,
> units=Degrees}
>
> I need to create lats and lons grids for the "Geographic Lat/Lon"
> projection and they must give me the same geolocation for each pixel
> as ENVI does. I am using IDL 6.3

I am WAY out on a limb here (too many margaritas, probably),
but I'm going to guess that this structure tells you that
the "tie-point" associated with the (1,1) pixel (upper-left
pixel in ENVI, I guess) is at (-130.540, 40) in lon/lat,
and that each pixel is scaled at 4.811e-3 in X and Y.
So, starting at the tie point, each pixel has a longitude
of :

```
lons = -130.540 * Indgen(ysize) * 4.811e-3
lats = 40.00 * Indgen(xsize) * 4.811e-3
```

You can make arrays of the appropriate size by matrix
multiplication. Units are in degrees, I would guess.

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Geographic Lat/Lon
Posted by David Fanning on Fri, 11 Apr 2008 22:00:57 GMT

David Fanning writes:

> lons = -130.540 * Indgen(ysize) * 4.811e-3
> lats = 40.00 * Indgen(xsize) * 4.811e-3

Whoops! YSIZE and XSIZE would be reversed, certainly.
I'm going to order another....

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Geographic Lat/Lon
Posted by robinson.inj on Fri, 11 Apr 2008 22:33:06 GMT
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On Apr 11, 5:00 pm, David Fanning <n...@dfanning.com> wrote:
> David Fanning writes:
>> lons = -130.540 * Indgen(ysize) * 4.811e-3
>> lats = 40.00 * Indgen(xsize) * 4.811e-3
>
> Whoops! YSIZE and XSIZE would be reversed, certainly.
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>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Thanks David. But in Geographic lons are like curve lines. Thus the
lon value for the (1,1) pixel will be, in general, different respect
to the (last,1) pixel.

Subject: Re: Geographic Lat/Lon
Posted by David Fanning on Fri, 11 Apr 2008 23:33:26 GMT
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robinson.inj@gmail.com writes:

> Thanks David. But in Geographic lons are like curve lines. Thus the
> lon value for the (1,1) pixel will be, in general, different respect

> to the (last,1) pixel.

Then I suggest there is no possibility of getting where
you want to go from where you are standing. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Geographic Lat/Lon
Posted by jeffnettles4870 on Sat, 12 Apr 2008 22:45:29 GMT
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On Apr 11, 6:33 pm, robinson....@gmail.com wrote:
> On Apr 11, 5:00 pm, David Fanning <n...@dfanning.com> wrote:
>
>> David Fanning writes:
>>> lons = -130.540 * Indgen(ysize) * 4.811e-3
>>> lats = 40.00 * Indgen(xsize) * 4.811e-3
>
>> Whoops! YSIZE and XSIZE would be reversed, certainly.
>> I'm going to order another....
>
>> Cheers,
>
>> David
>> --
>> David Fanning, Ph.D.
>> Fanning Software Consulting, Inc.
>> Coyote's Guide to IDL Programming:http://www.dfanning.com/
>> Sepore ma de ni thui. ("Perhaps thou speakest truth.")
>
> Thanks David. But in Geographic lons are like curve lines. Thus the
> lon value for the (1,1) pixel will be, in general, different respect
> to the (last,1) pixel.

David was correct about what these ENVI header values represent. You
can verify this yourself by opening an image in ENVI that is in the
Geographic Lat/Lon projection (i used the world_dem file that comes
with ENVI) and going to File->Edit ENVI Header. From there select
Edit Attributes and then Map Info... from that pulldown menu. Then
open the corresponding .hdr file for the image you opened in a text

editor. You can match up numbers to the values they represent that way.

Jeff
