Subject: Re: ENVI Navigating GeoTiff Image Incorrectly?
Posted by David Fanning on Wed, 26 Oct 2011 21:33:26 GMT
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David Fanning writes:

> I don't have ANY idea how to explain this descrepancy,
> except to say I *know* my values are correct and I know
> the values I am getting from ENVI are wrong. I conclude
> that ENVI is navigating this GeoTiff image incorrectly
> which is causing me a great deal of distress when I try
> to match these ENVI values! :-)

By the way, this is ENVI 4.5 we are using to check these
values and IDL 7.1.2.

Cheers,

David

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

Subject: Re: ENVI Navigating GeoTiff Image Incorrectly?
Posted by devin.white on Thu, 27 Oct 2011 09:44:22 GMT
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To get a better idea of what ENVI's actually doing, I'd use
ENVI_CONVERT_FILE_COORDINATES instead of relying on what you see in
the Pixel Locator or Cursor Location/Value tools. File coordinates
should be supplied to that procedure as zero-based numbers, so you'll
be able to do a direct comparison to your approach.

On Oct 26, 5:33 pm, David Fanning <n...@dfanning.com> wrote:
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> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
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> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: ENVI Navigating GeoTiff Image Incorrectly?
Posted by David Fanning on Thu, 27 Oct 2011 14:43:01 GMT
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Devin White writes:

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> ENVI_CONVERT_FILE_COORDINATES instead of relying on what you see in
> the Pixel Locator or Cursor Location/Value tools. File coordinates
> should be supplied to that procedure as zero-based numbers, so you'll
> be able to do a direct comparison to your approach.

OK, I tried this approach this morning, and for this
UTM projection, the ENVI numbers are just totally
screwy. I'll see if I can put a sample image together
that demonstrates the problem.

I presume this is one reason ENVI moved to the ESRI
map projection code in what? ENVI 4.7?

Cheers,

David

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

Subject: Re: ENVI Navigating GeoTiff Image Incorrectly?

Hi David,

I think the problem could be that your tiff image does not use the upper left corner of the tie point pixel as the reference. To make sure that pixel coordinates refer to the center of the pixel as in the ENVI convention, I do the following (assuming there is no rotation):

```
ok = QUERY_TIFF(myTiff, imginfo, GEOTIFF= mapinfo)
psz=mapinfo.ModelPixelSCALETAG[0] ; pixel size
x0= mapinfo.ModelTiePointTag[3] - mapinfo.ModelTiePointTag[0]*psz
y0= mapinfo.ModelTiePointTag[4] + mapinfo.ModelTiePointTag[1]*psz
```

ModelTiePointTag[0:1] indicate whether the coordinates of the tie point refer to:
(1)the upper left corner of the pixel
  (and in this case ModelTiePointTag[0:1]=[0,0]);
(2) the center of the pixel (ModelTiePointTag[0:1]=[0.5,0.5]); or
(3) the lower left corner of the pixel
(ModelTiePointTag[0:1]=[0,0.5])

See if your ModelTiePointTag[0:1]=[0,0]. If not, you were wrongly assuming that the geotiff coordinates referred to the upper left corner of the tie point pixel. This might not be necessarily be the case.

Cheers

Guillermo