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Subject: Re: Finding pixel values of GeoTIFF image based on lat/lon (ENVI and IDL give different results).

Posted by [DavidF\[1\]](#) on Mon, 05 Nov 2012 18:15:41 GMT

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Sobriquet writes:

> I have ~700 GeoTIFF images of dimensions around 4000x4000. I have the lat/long coordinates of 9 points from which I need to extract information. The images are projected on the Albers Conical Equal Area projection. I need to find the closest pixel value (sample, line image coordinates) that matches the lat/lon pairs. I previously used the approach described here: [http://www.idlcoyote.com/map\\_tips/pixel\\_to\\_ll.html](http://www.idlcoyote.com/map_tips/pixel_to_ll.html)

>

> However, I was unable to find a matching pair of lat/long in both arrays or convert the closest match between the two to pixel coordinates.

Humm. I'm not sure you are following the approach described in that article, because I see no evidence in your code that you are reversing your TIFF image in Y, etc., etc.

If I were going to do this I *would* follow the approach in the article, exactly, up to the point where I had the two vectors `uvec` and `vvec`. Then, I would convert the point (presumably in lat/lon) you want to find into projected meter values and find the image index with `Value_Locate`, like this:

```
pt_lon = -148.23300
```

```
pt_lat = 64.7000
```

```
xy = Map_Proj_Forward(pt_lon, pt_lat, Map_Structure=Albermap)
```

```
pt_x = xy[0]
```

```
pt_y = xy[1]
```

```
xindex = Value_Locate(uvec, pt_x)
```

```
yindex = Value_Locate(vvec, pt_y)
```

```
Print, 'Image Value: ', image[xindex,yindex]
```

```
ll = Map_Proj_Inverse(uvec[xindex], vvec[yindex], Map_Structure=Albermap)
```

```
Print, 'Nearest Pixel Location (lon/lat): '
```

```
Print, ' Longitude: ', ll[0], ' Image X Coord: ', xindex
```

```
Print, ' Latitude: ', ll[1], ' Image Y Coord: ', yindex
```

I wouldn't use the `SPHERE_RADIUS` keyword in `Map_Proj_Init` either. I can't tell if it is hurting you, but it can't be doing you any good. :-)

Cheers,

David

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