Subject: Re: Finding pixel values of GeoTIFF image based on lat/lon (ENVI and IDL give different results).
Posted by Sobriquet on Tue, 06 Nov 2012 01:05:02 GMT
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David,

Thanks for the reply.

Your suggestion to remove the SPHERE_RADIUS keyword was accurate: removing it makes no difference.

Here is what I got:

Image Value: 3085.77
Nearest Pixel Location (lon/lat):
Longitude: -148.23405 Image X Coord: 805
Latitude: 64.699193 Image Y Coord: 1662

What's interesting is that when I input the lat/lons in ENVI it approximates it to the same values that I get when I enter my original lat/lons (64.7000, -148.23300 // 3122). However, when I input the x,y coordinates into ENVI, I get this

(65.4425, -148.09711726 // 3552.166016),

which is very far from my original location. In fact,when I enter the nearest pixel location lat/lons into Google Earth, it lands ~85km away from my input lat/long.

Now, I know ENVI is not perfect. A quick survey on Google Earth also shows that the approximation of the location I entered is about 100 m off.

I think the problem is that since the resolution of the arrays is very high (100 m), there are a lot of possible matches in the position vectors. Value_Locate is searching through the u and v vectors individually and finding the closest match for each value without taking into account the relationship between the two vectors,i.e., it is not finding the closest u match in relation to the v match that together make the nearest point possible to the input values. As a result, you might get very close u and v individual matches for your input lat/lon that translate into a very off pair of sample/line values in your pixel coordinates.

I hate to be a stickler, but is there a way to establish a relationship between the two position vectors that would help solve the ambiguity?

Thanks again