
Subject: Re: georeferencing satellite data
Posted by [dmarino](#) on Thu, 05 Dec 2002 20:42:04 GMT
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Olivier-

I think you can set up an affine transform like so:

$$x' = Ax + By + C$$
$$y' = Dx + Ey + F$$

Where,

(x',y') = map location

(x ,y) = column/row in pixels

A = x-scale : dimension of a pixel in X

B,D = rotation terms

E = negative of y-scale, pixel Y dimension

C,F = translation terms: x,y map coordinate
of the center of the upper-left pixel

You may have to do some calcs to get the upper left pixel center, but if you have several points, you should be able to figure out the GSD of those image pixels, and those things should get you there.

Sorry so brief, and good luck!

dmarino
Digitalglobe Inc

Olivier ARCHER <olivier.archer@ifremer.fr> wrote in message
news:<3DED3365.8000701@ifremer.fr>...

> Hi,
> It might be a faq, but i'm in a hurry and didn't find it on google. so ...
>
>
> i'va got a satellite image, and i only got lat/lon for some points. I'd
> would like to get mlat and mlon to be array of the same dimensions of
> the image, containing interpolated lon/lat for each pixel of the image.
>
> so, my dream is:
> georef,image,lon,lat,x,y,m lon=m lon,m lat=m lat
> where image is the image (ie 5000x5000 array)
> lon lat are known position (ie 500 array)
> x and y are respective indice of lon/lat in the image (ie 500 array)
> m lon and m lat are output array for interpolated lon/lat (ie 5000x5000 array)
>
> map_path and map_image doesnt seem to be ok for me.

>
> If someone out there have a such routine
>
> Thanks

Subject: Re: georeferencing satellite data
Posted by [Kelly Dean](#) on Thu, 05 Dec 2002 22:08:28 GMT
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Use IDL's Warp_Tri or Polywarp. I provide some tips on the CIRA IDL tips page.

<http://www.cira.colostate.edu/special/csuidl/IDLremap0.htm>

I use 25 latitude/longitude points over an image to georeference satellite imagery. You only need four GCPs, but depending on the scene, more points help out. 500 may be too much. It takes seconds to run, where MAP_PATCH (also a good IDL routine) will take several minutes. For Map_Patch to work, you need to interpolate the 500 points to 5000 points.

For example

<http://www.cira.colostate.edu/Special/CurrWx/hrpt/NLRGB.htm>

However, if the 25 points do not fit on the image, you'll run into trouble. For example:

<http://www.cira.colostate.edu/Special/CurrWx/hrpt/NMRGB.htm>

In this case, Map_Patch would have worked out better. However, Map_Patch requires a lat/long value for each point.

Kelly Dean
CSU/CIRA

P.S. Check the CIRA site out quickly, I have been given my walking papers and the new webmaster wants to eliminate my HTML work from the CIRA web server, which includes the IDL tips and gallery.

Olivier ARCHER wrote:

> Hi,
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> If someone out there have a such routine
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> Thanks
>
> --
> Olivier

Subject: Re: georeferencing satellite data
Posted by [olivier.archer](#) on Thu, 12 Dec 2002 01:23:16 GMT
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Kelly Dean wrote:

> Use IDL's Warp_Tri or Polywarp. I provide some tips on the CIRA IDL tips page.
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> webmaster wants to eliminate my HTML work from the CIRA web server, which includes the
> IDL tips and gallery.

>
>
>

Thanks Kelly,

it works nice, The real test will be done when i'll work over pole.
And what about your page at CIRA? it is usefull infomation ... the pages
will be moved or removed ? do i have to mirror then to have them in the
future ?

merci

--

Olivier
