Subject: re-warping an image file
Posted by glinka on Tue, 13 Nov 2001 22:22:46 GMT
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I have received Ikonos 4.9m imagery from an outside source, and the corresponding mosaic overlayed horribly. I have divided up the one image into five separate files and collected ground control points to correspond with a Landat 7 scene. I am wondering if the warping that was done initially will confound the re-warping of the image, and what problems I can expect to encounter (if any). Is there possibly a better way of doing this?

Hoping for any advice or direction,
Thanks,
Kristen

Subject: Re: re-warping an image file
Posted by Logan Lindquist on Wed, 14 Nov 2001 20:27:48 GMT
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Kristen,

"Kristen" <glinka@rmc.ca> wrote in message
news:9636b724.0111131422.3ee72bb4@posting.google.com...
> I have received Ikonos 4.9m imagery from an outside source, and the

Sounds classified. See any Afghan camels? I am not sure what the Ikonos data looks like. I would assume that it comes to you broken up into seperate images. A couple questions.

I am not sure of the spec's on Ikonos and Landsat [not Landat ?? right] but I think that Ikonos is higher res and Landsat is lower. From this assumption, you are trying to take a higher res Ikonos and overlay it with lower res Landsat images. Taking higher res to lower res you are going to run into matching problems. I do not know if this is the warping that you are talking about?

I wouldn't think that the images are exactly the same, probably taken from different angles and the satellites having different optics would all lead to problems with aligning them. If you could overlay a temporary grid pattern that matched to the Longitude and Latitude in the area, with apporate sub ticks allowing for micro positioning between the images.

If you could identify a major land mass or object on land, which you knew the Longitude and Latitude of then overlaying the grid wouldn't be a major problem [I would think].

Hope this helps,

Logan Lindquist

Subject: Re: re-warping an image file
Posted by cjengo on Fri, 16 Nov 2001 14:15:40 GMT
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Kristen,
It really depends on what has already been done to the images. The geometry of Ikonos imagery is inherently more complex than Landsat. Landsat is a line scanner, so terrain distortion is relatively easy to fix. Ikonos is a push-broom that looks forward, backward, and side-to-side so that it can collect multiple swaths of a study area during a single overpass. And, because of its high resolution, it is difficult in most places to find a DEM with high enough resolution to do an accurate orthorectification.

We normally georectify Ikonos data using the rational functions embedded in the NITF header. These describe (to fairly high precision) the orbital model of the satellite during data collection, and places the imagery pretty darn close to the right spot on the ground. This also corrects for most geometry effects, except, of course, for terrain distortion.

In some instances we've tried to tie Ikonos to Landsat. In short, it doesn't work well. Terrain distortion in Ikonos can be any which way, whereas it is consistent in Landsat. We also believe there are some unresolved internal geometry artifacts caused by the optics.

How was your Ikonos data resampled? Single or multiple order polynomial? Nearest neighbor or cubic convolution? If it was based on an affine, warping again won't be too bad. If you do multiple cubic type resamples, you'll blur the image considerably. Too many nearest neighbor resamples, and it'll look awfully jagged. Best bet would be to get ahold of the raw data, if possible, and do it correctly from the start. Good luck!

Chris

glinka@rmc.ca (Kristen) wrote in message
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> Kristen
