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
news:<9636b724.0111131422.3ee72bb4@posting.google.com>...
> 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