Subject: Re: AVHRR Image Mapping Problem
Posted by James Kuyper on Mon, 18 Dec 2006 04:05:46 GMT
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Richard G. French wrote:
...
> If one trusted the data headers from Hubble Space Telescope images as a
> guide to where the spacecraft was actually pointed, one would be up to 10
> pixels off - that's because what's listed in the header is where they
> expected to be pointing, not a reconstructed view of where they were
> actually pointing. The same is true of Cassini images of Saturn. I don't
> know about Earth-pointing satellites, but unless one has done some pretty
> accurate post-image checking, it is not obvious to me that the header
> information for such an image would have anything other than the predicted
> location of the image,

I only know about one instrument (MODIS) on two Earth-pointing satellites (Terra and Aqua), but I'm personally responsible for the geolocation on the MODIS data from those satellites. The file attributes summarizing the location of a granule are just as accurate as the geolocation which is provided in the MOD03 files for every 1km pixel: the RMS error is nominally 50 meters, though we're actually doing a bit better than that, with our smallest pixel size being 250 meters. Except during a maneuver, the actual orientation of the satellite is used, not the planned orientation.

The software I'm responsible for was modified from software for earlier instruments, and has been borrowed as the basis for sofware for the VIIRS instrument on NPP, so I suspect this is not uncommon for earth-pointing satellite imagery.