Satellite Photogrammetry HW3 — 11 Feb 2011

copy files from memory stick; also on ftp://ftp.ecn.purdue.edu/bethel

- p001.tif (worldview 1 scene over campus)
- wv1.eph
- wv1.att
- velocity aberration corr. m

See support files for this image on course web page
See QB product guide on web page (similar to WV1) for description of coordinate systems and support data.

Perform steps per schedule for points 1014, 1025 see HW3 from photo1, 2010 for locations.

1014: ϕ 40°-25'-18".54015 E 506890.328 (m, UTM-16)
λ -86-55-07.59694 N 4474579.625
h 154.932 (m)

1025: ϕ 40°-25'-42.72779 E 507205.922
λ -86-54-54.17372 N 4475325.697
h 156.161

Schedule: hand in – beginning of class:

mon 2/13 1. observed l_is for both points, camera view vectors (unitized)
wed 2/15 2. line time, ephemeris indices, interpolate $X_t Y_t Z_t$, $q_i q_j q_k q_s$ (note order)
fri 2/17 3. ECF view vectors (unitized)

<skip atm. refr. correction>
<skip vel. aberr. correction>

mon 2/21 4. intersect with "inflated" ellipsoid at h, to get XYZ
wed 2/23 5. convert to ϕ, λ & E, N (utm-16), discrepancy from GCP $\begin{pmatrix} dE \\ dN \end{pmatrix} = \begin{pmatrix} E_{comp} - E_{GCP} \\ N_{comp} - N_{GCP} \end{pmatrix}$
mon 2/28 6. go back to step 3 and repeat, this time including 2 sys. err. corrections. Get discrepancy vector.

<NEXT: we will put all of this into a function "I2G">