Water Vapor Samples Exploration

Hey Varun,

Rather than attach some files here, I’ll point you to how you can get them yourself!  First, if you go to <https://earth.jpl.nasa.gov/emit/data/data-portal/coverage-and-forecasts/> and select any scene, and then go to the info tab on the left (or look at the links on the top), you’ll find a reference to both L1B Radiance, and L2A Mask – you’ll want both.

The water vapor you want is the second to last band in the mask (H2O (g cm-2)).  You can quickly convert these files to envi format (from netcdf) using <https://github.com/emit-sds/emit-utils/> (see reformat.py).  You can convert to orthorectified (from the raw instrument format) using the –orthorectify flag.   The script will work on both radiance and the mask.

For radiance, a good consideration for an initial data transformation would be to convert radiance to top-of-atmosphere reflectance, basically using the solar zenith angle and spectral irradiance to normalize the signal.  This is an easy calc….you can see it done here: <https://github.com/emit-sds/emit-sds-l2a/blob/4c2774ed5f7c2192a0654efa57ac042e2c04ced0/make_emit_masks.py#L79> (rho is what you’re after), and the relevant data (irradiance file) and subroutines (sunpos) are all available within the isofit package.

Once you’re logged onto the EMIT system, you’ll have bulk access to all L1B and mask files in envi format…so don’t worry about mass downloading things, just grab what you’re interested in to take a look and get used to things.