**HICO - Hyperspectral Imager for the Coastal Ocean data availability:**

We have been working with the folks at Washington's Naval Research Laboratory's Coastal and Ocean Remote Sensing Branch on the process of providing access to all the publicly available data collected by HICO (Hyperspectral Imager for the Coastal Ocean) which has been flying on board the International Space Station since 2009.  We are happy to report that the data are now beginning to become available for distribution starting with data collected in 2013.   We expect that the historical data (2009 - 2012) to be processed and made available within the next few weeks.  Examples of how one can search, browse and downloadHICO data from the OceanColor Web's multi-mission browser.  By making the data available via this common interface, cross-mission searches are possible for all the ocean color data sets that we support.  -The Ocean Biology Processing Group

Under the terms of the agreement reached between NASA, the Office of Naval Research and the Naval Research Laboratory, access to the HICO data will ***require simple registration with the EOSDIS User Registration Services*** (URS). Prospective users need to obtain an account with URS before they will be able to download HICO data from the OceanColor Web:  <https://earthdata.nasa.gov/urs/register>

**Data Specifications**

See the following link for detailed specifications of HICO data. Note there are two file format versions of this data. We will be using the NASA format.

<http://hico.coas.oregonstate.edu/datasets/datacharacteristics.shtml#NASA>

NASA/SeaDAS Processing of HICO Data is Currently Limited to a Small Subset of the Full Hyperspectral Set.

There are 128 wavelengths in the Level-1B file. When processed using the current implementation of SeaDAS, only 16 Bands and these bands have not been precisely calibrated so you with a lot of discretion… See a few comments below from the Ocean Color Forum…

*“Currently, our L2 processing (SeaDAS) code treats HICO as if it was a multi-spectral sensor with the MERIS band set. The current version of l2gen distributed with SeaDAS will process HICO as such.  However, no effort has been made to assess the calibration (particularly the NIR calibration) and it is likely that scenes will fail  to produce valid retrievals without modifications to the sensor gains and/or processing options. Our ultimate plan is to modify the l2gen code to properly handle the full hyper-spectral data set of HICO. Once that has been done we will focus on addressing the calibration and processing option issues*.”  -The Ocean Biology Processing Group

*“While l2gen can process MERIS, it does not produce the ESA MERIS L2 products, but rather, it produces the NASA L2 products.  HICO has 128 bands, but l2gen only reads in the set that correspond to the MERIS wavelengths.  You do not need to modify l2prod for l2gen to process HICO.  We've not calibrated HICO, or even done anything more than  confirm it will process to L2, so bear in mind we are not standing behind any L2 result....yet.    Modifying l2gen to take full advantage of the HICO hyperspectral band set is on our queue of things to do.  It will require quite a number of code modifications, as l2gen was designed around multi-spectral instruments.”  -*The Ocean Biology Processing Group

Right now our processing code only reads in the following wavelengths:

Lambda(1) = 413

Lambda(2) = 443

Lambda(3) = 490

Lambda(4) = 510

Lambda(5) = 560

Lambda(6) = 620

Lambda(7) = 665

Lambda(8) = 681

Lambda(9) = 709

Lambda(10) = 754

Lambda(11) = 762

Lambda(12) = 779

Lambda(13) = 865

Lambda(14) = 885

Lambda(15) = 900

Until we add better handling of hyper spectral sensors, you are limited to these wavelengths for HICO Processing.*-*The Ocean Biology Processing Group

*When we first started working with these data, the coordinates were often off by tens of kilometers.  Since then the* ***HICO*** *experts have improved the geolocation considerably, but it is still not good to within a pixel.*

*My understanding is that it is very difficult to get accurate attitude information for the* ***HICO*** *sensor which is mounted on the large and somewhat flexible International Space Station whose star trackers and other attitude determination devices are not necessarily close to the* ***HICO*** *sensor mount point.*

*I will have to defer to the* ***HICO*** *team for more specific information about the current state of* ***HICO*** *geolocation. -* The Ocean Biology Processing Group