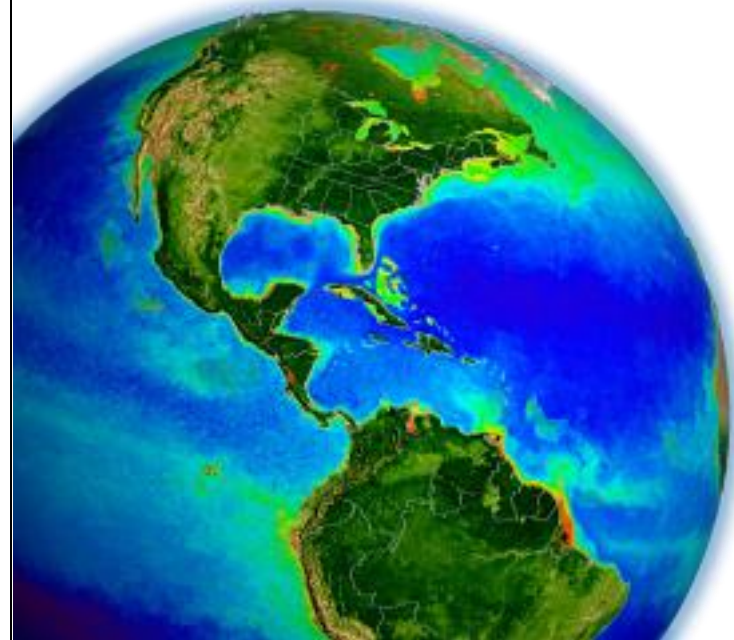


# HICO™ Data at the OB.DAAC



Sean Bailey

NASA Goddard Space Flight Center

07 May 2014

HICO Users Team Meeting

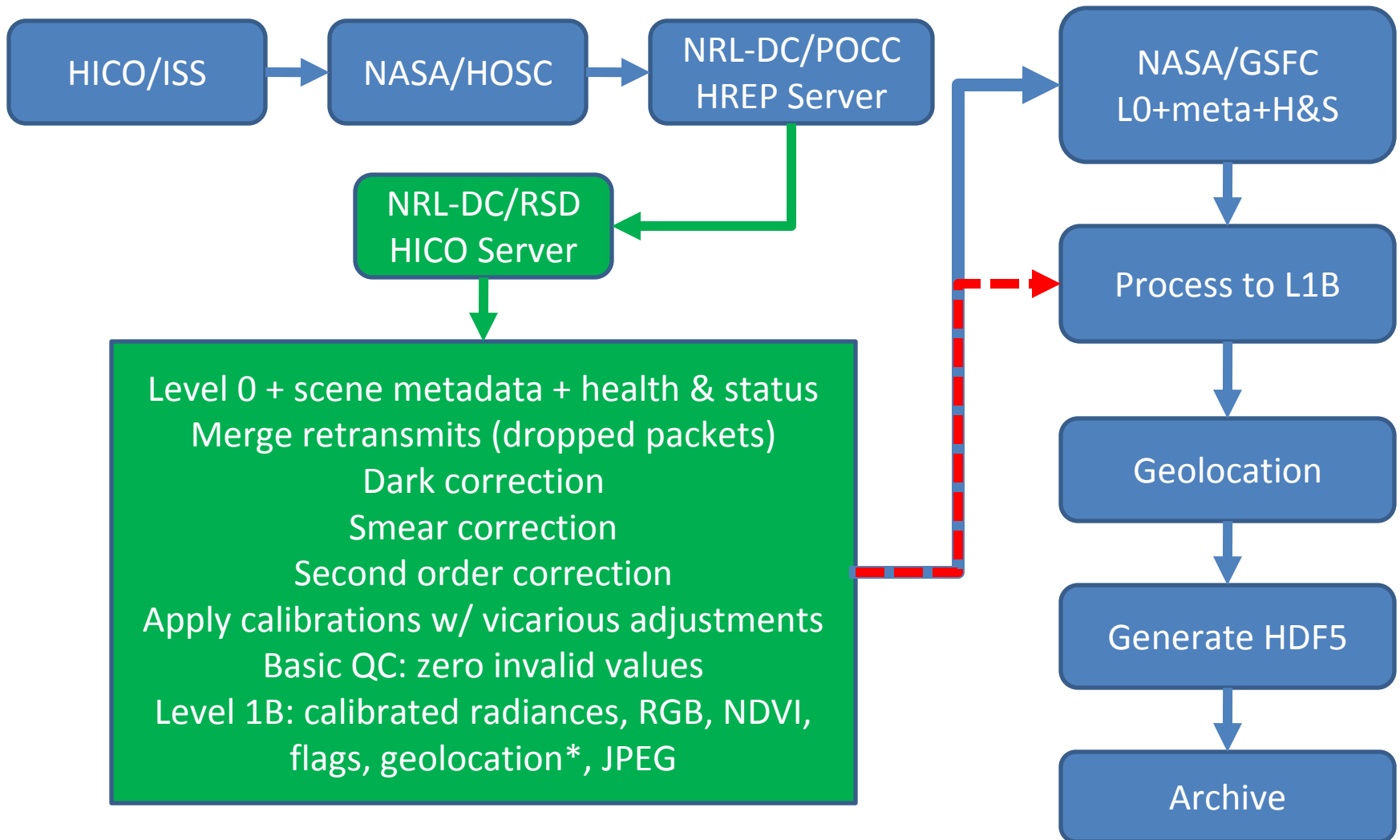
# The OBPG

- Ocean Biology Processing Group provides support for Ocean Color, Sea Surface Temperature and Sea Surface Salinity
  - Primary focus is on Ocean Color
    - Sensor calibration/characterization
    - Data processing
    - Product validation
    - Algorithm development
    - User processing and visualization
    - User support
- OBPG will eventually provide the full range of support to HICO™

# NASA Archives HICO

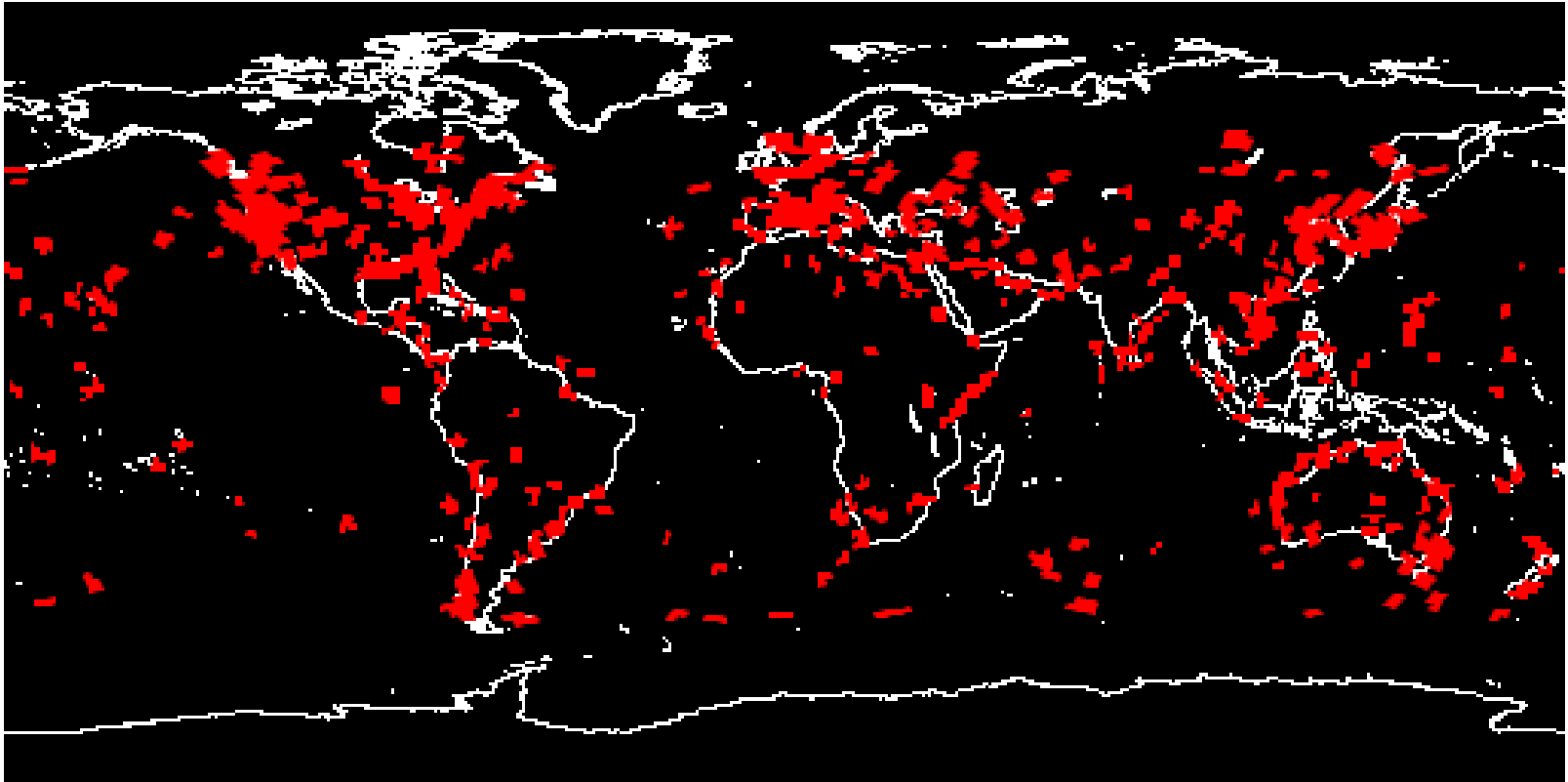
- January 2013
  - NASA began funding continued collection and processing of HICO data
  - The OB.DAAC was identified as the appropriate archive for the data
  - The OB.DAAC and NRL-DC began a collaboration for the automated data transfer
- April 2013
  - HICO support added to SeaDAS
- June 2013
  - ONR approved the release of the historical HICO data to NASA

# The Flow of Data



A refined processing is initiated when NRL-DC provides an updated ISS time offset

# HICO™ Data Holdings - OB.DAAC



- Over **8100 HICO scenes** acquired since 15 October 2009 are currently archived and available
  - New files received and available within 3 days of acquisition\*
- \* a 2 day embargo is imposed on the data prior to distribution by NRL-DC to OB.DAAC

# HICO™ Data Access

The **entire** HICO™ data collection provided to NASA is available publicly to users registered with the Earth Observing System Data Information System User Registration Service\*

<https://earthdata.nasa.gov/urs/register>

<http://oceancolor.gsfc.nasa.gov/SUPPORT/register.html>

\*URS is separate from the OceanColor Web registration

# HICO™ Data Distribution

- Initial effort began in Feb 2013
- Full access began in July 2013
  - 4375 HICO scenes distributed as of Feb 2014
  - 25 countries
  - 199 users\*

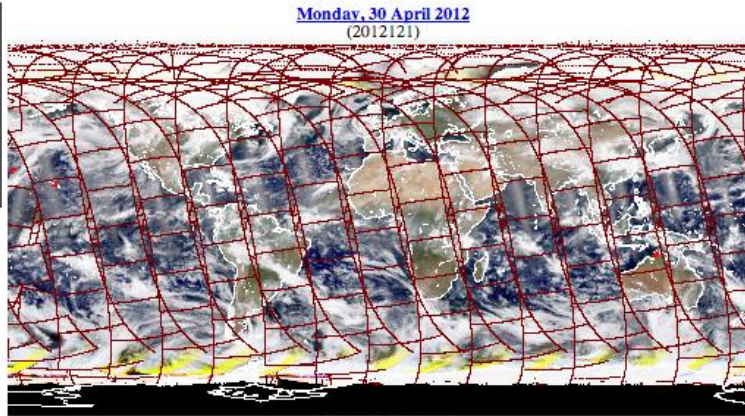
# OceanColor Web Visual Browser



TC CHL SST SST4

Comment Help

<b>SeaWiFS</b> <input type="checkbox"/> GAC <input type="checkbox"/> MLAC <input checked="" type="checkbox"/> VIIRS (NPP)	<b>MODIS</b> <input checked="" type="checkbox"/> Aqua <input checked="" type="checkbox"/> Terra <input type="checkbox"/> OCTS (ADEOS)	<b>MERIS</b> <input type="checkbox"/> RR <input type="checkbox"/> FRS <input checked="" type="checkbox"/> HICO (ISS) <input type="checkbox"/> CZCS (Nimbus-7)	Select <input checked="" type="checkbox"/> Day <input type="checkbox"/> Night
--	--	---	---



Select one or more regions:

- GulfOfCarpentaria
- GulfOfMexico
- GulfOfStLawrence
- Hainan
- HawaiiMain8
- HawaiiNorthwest
- Hispaniola
- HudsonBay
- Iceland
- Indonesia
- Jamaica

or specify boundary coordinates or a single location:

N:   
 W:   E  
 S:

Find swaths

Radius (km) about map click or about typed-in location:

72  
 400  
 800  
 1200  
 1500

Select swaths containing (at least):

any part  
 25 %  
 50 %  
 75 %  
 all

Select only scenes having in situ matchups.



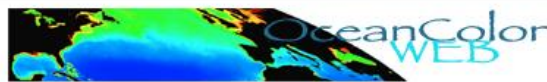
of the area of interest.

Display results 10 at a time.

Reconfigure page

2000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2002	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2004	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2006	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2009	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2010	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2013	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

March 2012							April 2012							May 2012						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7			1	2	3	4	5
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
25	26	27	28	29	30	31	29	30						27	28	29	30	31		





# OceanColor Web Visual Browser

Ocean Color Brows

oceancolor.g

TC CHL

TC CHL SST SST4

T2012120213500.L0\_LAC 302,191,270 bytes  
 T2012120213500.L1A\_LAC 228,756,327 bytes  
 T2012120213500.L2\_LAC\_OC 43,132,485 bytes  
 T2012120213500.L2\_LAC\_SST 20,457,612 bytes

(The above hyperlinks point to [http2-compressed HDF files](#). Documentation on these products can be found [HERE](#).)

[Select this scene](#)

Quasi True Color Chlorophyll Sea Surface Temperature (11 μ)

Comment Help

Comment Help

Sunday, 29 April 2012

2012120

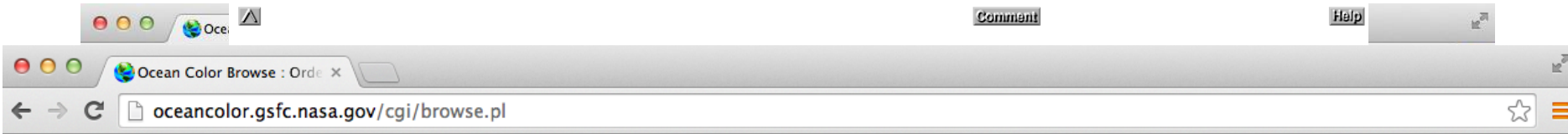
Search Criteria  
 Time Period: April 2012 (daytime)  
 Sensors: VIIRS(NPP) and Terra and HICO(ISS) and Aqua  
 Scenes must have coincident in situ data.  
 Area of Interest: HawaiiMain8

Percentage of AOI that swaths must include: 0  
 Number of swaths: 8th of 87 swaths

In Situ Data Records						
Date	Time	Latitude	Longitude	Cruise	Wavelength	Name Value
29 Apr 2012	20:55:42 UT	20.8117	-157.185	moby249	410	Rrs 0.0136085
					412	Rrs 0.0136085
					443	Rrs 0.00993905
					486	Rrs 0.00687897
					488	Rrs 0.00687897
					490	Rrs 0.00687897
					510	Rrs 0.003357
					520	Rrs 0.00258334
					531	Rrs 0.00225328
					547	Rrs 0.00157612
					551	Rrs 0.00157612
					555	Rrs 0.00143376
					560	Rrs 0.00132564
					565	Rrs 0.00122053
					665	Rrs 0.00011038
					667	Rrs 0.00011038
					670	Rrs 0.0001122
					671	Rrs 0.0001122
					678	Rrs 0.0001144
					413	Rrs 0.0136085
					681	Rrs 0.0001144

Name	Meaning	Units
Rrs	remote sensing reflectance	1 / sr

# OceanColor Web Visual Browser



You are about to order the following 87 files from the Ocean Color Data Processing System.

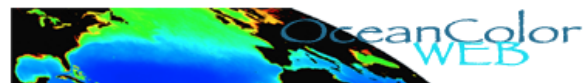
Since you did not request extraction or parameter subsetting, or since those services were denied for this order (because it contains Level-0 data or HICO data), when you click 'Submit order' you will receive a listing of file URLs which you may download immediately.

You may wish to save the next page as a text file and use it as input to a [web downloading program](#) (e.g. wget, cURL)

V2012122002724.L1A_NPP.tar	A2012116233000.L1A_LAC	T2012108211000.L1A_LAC	V2012101002047.L1A_NPP.tar	T2012096204500.L1A_LAC
A2012121234500.L1A_LAC	V2012116224001.L1A_NPP.tar	V2012107234919.L1A_NPP.tar	A2012100233000.L1A_LAC	V2012096001424.L1A_NPP.tar
V2012121224624.L1A_NPP.tar	A2012116002500.L1A_LAC	A2012107233500.L1A_LAC	V2012100224112.L1A_NPP.tar	A2012095231000.L1A_LAC
H2012121205112.L1B_ISS	V2012115225856.L1A_NPP.tar	T2012107202500.L1A_LAC	V2012100223947.L1A_NPP.tar	T2012095214000.L1A_LAC
T2012121204000.L1A_LAC	T2012115211500.L1A_LAC	V2012106002710.L1A_NPP.tar	T2012100202000.L1A_LAC	A2012095000500.L1A_LAC
V2012120230519.L1A_NPP.tar	V2012113233647.L1A_NPP.tar	A2012105234500.L1A_LAC	A2012100002500.L1A_LAC	V2012094225344.L1A_NPP.tar
A2012120230500.L1A_LAC	T2012113212500.L1A_LAC	V2012105224735.L1A_NPP.tar	V2012099230007.L1A_NPP.tar	V2012094225219.L1A_NPP.tar
T2012120213500.L1A_LAC	V2012112235542.L1A_NPP.tar	T2012105204000.L1A_LAC	V2012099225842.L1A_NPP.tar	T2012094205500.L1A_LAC
A2012120000000.L1A_LAC	A2012112235500.L1A_LAC	A2012104000000.L1A_LAC	T2012099211500.L1A_LAC	A2012093232500.L1A_LAC
V2012119232415.L1A_NPP.tar	T2012112204500.L1A_LAC	V2012103232401.L1A_NPP.tar	A2012098234000.L1A_LAC	A2012093232000.L1A_LAC
T2012119205000.L1A_LAC	V2012112001437.L1A_NPP.tar	T2012103205000.L1A_LAC	V2012098231903.L1A_NPP.tar	V2012093231240.L1A_NPP.tar
V2012118234310.L1A_NPP.tar	A2012111231000.L1A_LAC	V2012102234256.L1A_NPP.tar	V2012098231737.L1A_NPP.tar	T2012093215000.L1A_LAC
A2012118231500.L1A_LAC	T2012111214000.L1A_LAC	A2012102231500.L1A_LAC	T2012098203000.L1A_LAC	A2012093002000.L1A_LAC
T2012118214500.L1A_LAC	A2012109232500.L1A_LAC	T2012102214500.L1A_LAC	V2012097233633.L1A_NPP.tar	A2012093001500.L1A_LAC
A2012118001000.L1A_LAC	V2012109231128.L1A_NPP.tar	A2012102001000.L1A_LAC	T2012097212500.L1A_LAC	V2012092233135.L1A_NPP.tar
V2012118000205.L1A_NPP.tar	T2012109215000.L1A_LAC	V2012102000151.L1A_NPP.tar	V2012096235528.L1A_NPP.tar	V2012092233010.L1A_NPP.tar
T2012117210500.L1A_LAC	A2012109002000.L1A_LAC	T2012101210500.L1A_LAC	A2012096235500.L1A_LAC	T2012092211000.L1A_LAC
V2012117002101.L1A_NPP.tar	V2012108233024.L1A_NPP.tar			

The total volume of the above files (in the compressed form in which they are stored in our archive) is **22,001,481,870** bytes.

Submit order



- Require my email confirmation for early file deletion.
- Notify me when my data have been deleted from the staging area.

Review order

# HICO™ Data in SeaDAS

- SeaDAS support for HICO data includes:
  - Display and analysis
  - Processing
    - Current Level-2 code does not support the full hyper-spectral resolution of HICO
    - HICO data are treated as a 15-band multi-spectral instrument with a band set based on that of the MERIS instrument.
- Extensive radiative transfer simulations have already been carried-out to produce the HICO-specific hyperspectral aerosol and Rayleigh tables needed for atmospheric correction which will be required for hyper-spectral processing.
- We believe that the steps that we have taken will enable the much broader ocean color research community to use a familiar tool (SeaDAS) for generation, display, and analysis of ocean color products from HICO.

