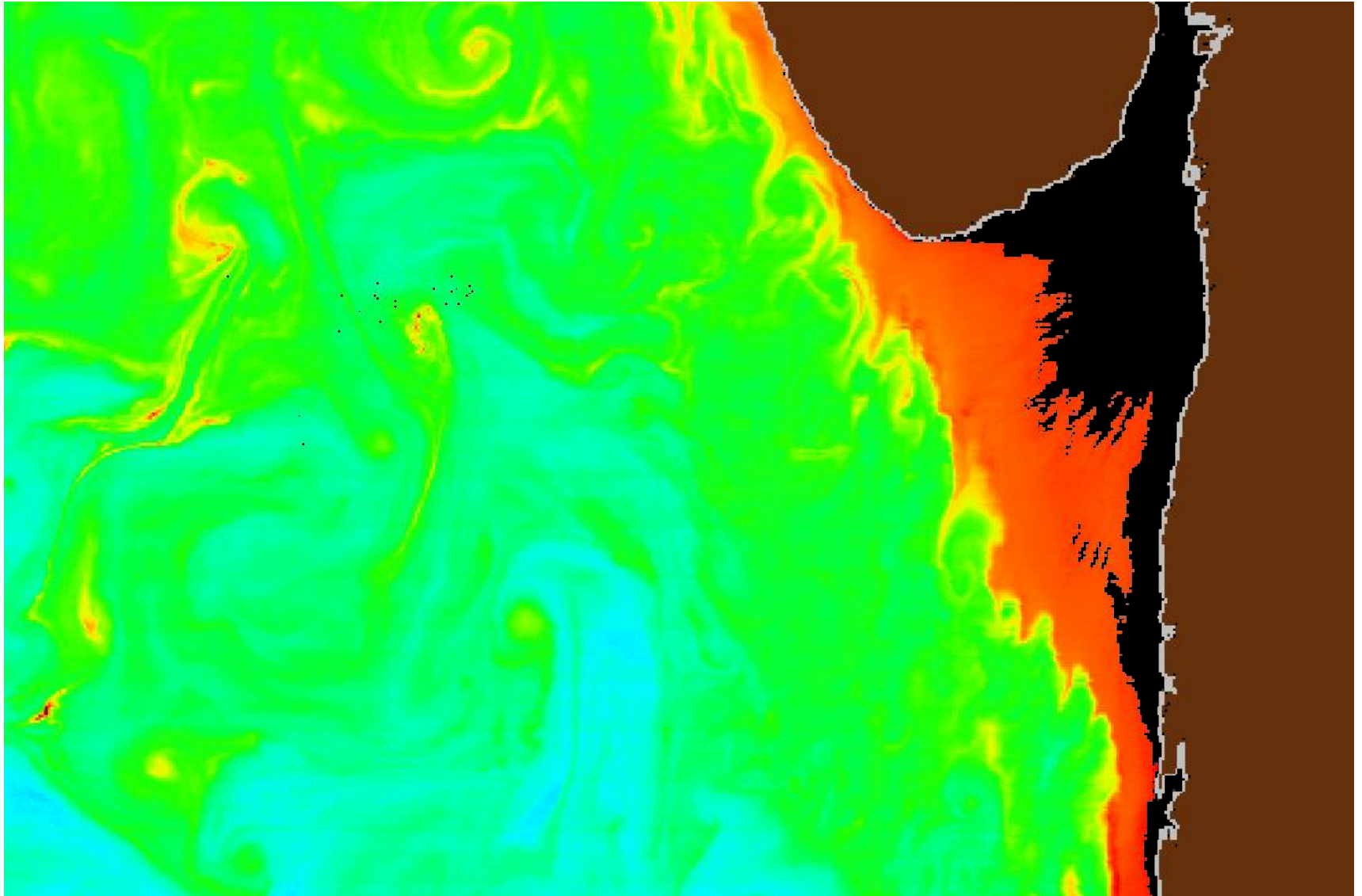


Sean Bailey
05 May 2014
NASA OCRT Meeting

New Since OCRT 2012

- No longer beta!
 - 7.0 released 22 April 2013
 - 7.0.1 released 22 October 2013
 - 7.0.2 released 14 January 2014
- Support for more missions
 - HICO
 - GOCI
- Improvements to the processing GUIs
- Coastline – Land/Water Mask
- Multi-level processor Python script

Coastline & Land/Water Mask



Multi-level Processor

multilevel_processor.py

Main Program Chain

Program	Keep	Params
main	<input type="checkbox"/>	ifile=/Users/dshea/ocssw/test/l2gen/A2002365234500.L1A_LAC
modis_L1A.py	<input type="checkbox"/>	
l1aextract_modis	<input type="checkbox"/>	
l1aextract_seawifs	<input type="checkbox"/>	
geo	<input checked="" type="checkbox"/>	
modis_L1B.py	<input checked="" type="checkbox"/>	
l1bgen	<input type="checkbox"/>	
l1brsgen	<input type="checkbox"/>	
l2gen	<input checked="" type="checkbox"/>	
l2extract	<input type="checkbox"/>	
l2brsgen	<input type="checkbox"/>	prod=chlor_a apply_pal=1 outmode=2
l2bin	<input type="checkbox"/>	
l3bin	<input type="checkbox"/>	
smigen	<input type="checkbox"/>	

Run Cancel Apply ?

Version 7.1 - coming your way

- Release to coincide (as closely as possible) with the BEAM 5.0 release and the multi-mission reprocessing (i.e. soon...)
- A new look
 - Updated icons
 - Reorganized menus
- New Features
 - Contour lines
 - Bathymetry
- Support for new netCDF4 files from OBPG
- GUI support for a “new” L3 Bin data access tool - l3bindump

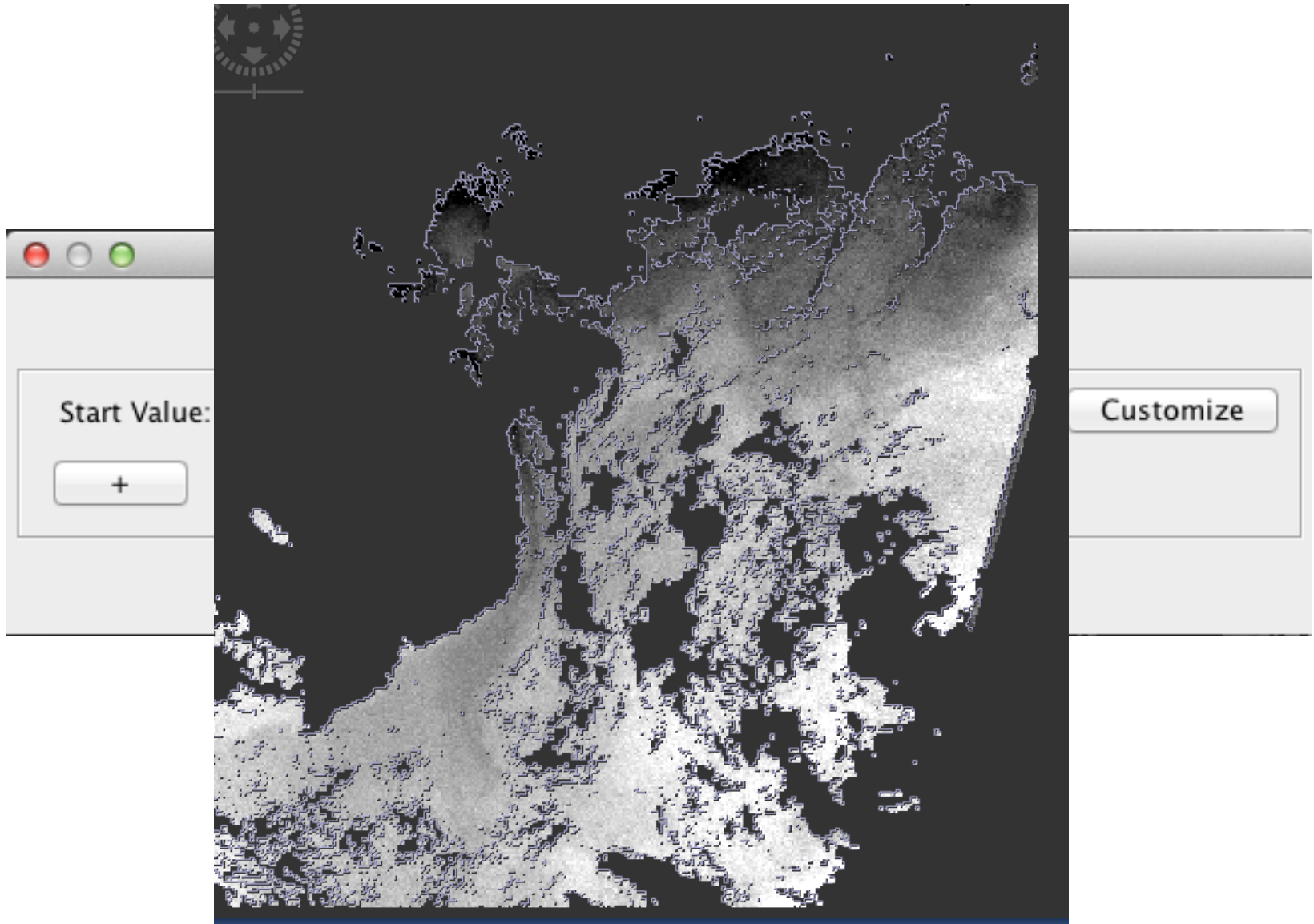
The New Look

The image displays a GIS software interface with the following components:

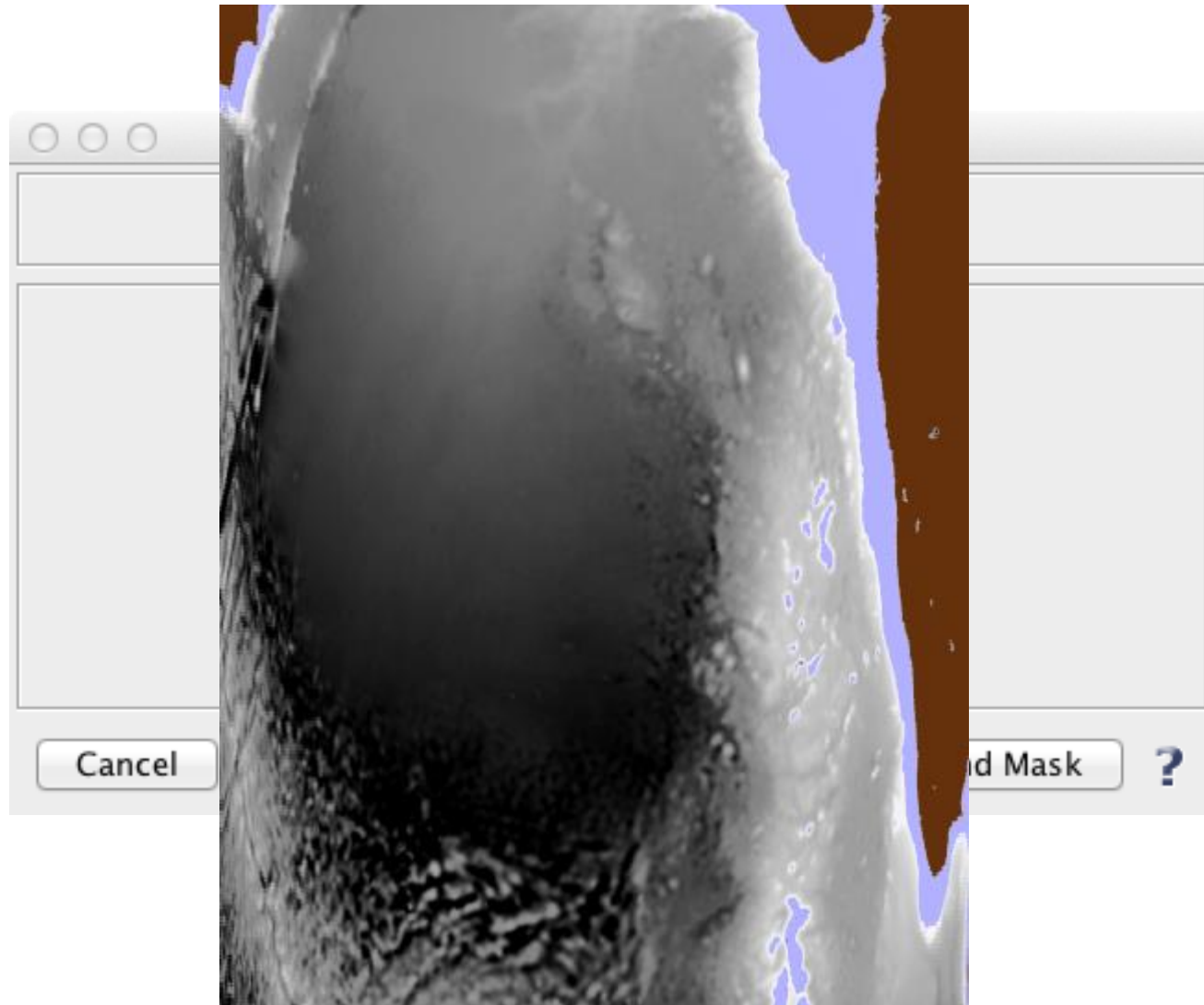
- Top Toolbar:** A horizontal row of icons for file operations (folder, copy, paste), navigation (compass, hand), and analysis (grid, zoom, plot).
- Left Panel:** A tree view showing a project structure:
 - [1] A2003080085000.L2_LAC.nc
 - Metadata
 - Flag codings
 - Bands
 - aot
 - angstrom
 - Rrs
 - chlor_a (highlighted)
 - Kd
 - pic
 - poc
 - cdom_index
 - ipar
 - nflh
 - l2_flags
 - longitude
 - latitude
 - mask_data_water_fraction
 - mask_data_water_fraction_s

- Main View:** A "World Map" window showing a satellite-style map of the world. A red square highlights a region in the Indian Ocean. Below the map is a "Pixel Info" panel.
- Right Panel:** A vertical toolbar with various icons for map interaction and data visualization, including a "GCP" (Ground Control Point) icon.
- Bottom Panel:** A navigation and display control bar with icons for "Navigation", "Colors", "World", and "Pins".
- Status Bar:** At the bottom right, it shows "55:47" and "293M of 388M".

Contour Lines



Bathymetry



L3bindump

l3bindump
l3bindump Output

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	bin	center...	center...	north	south	west	east	n	N	sum	chlor...	chlor...	mean	stdev
2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	19500...	39.89...	-50.0...	39.91...	39.87...	-50.0...	-49.9...	18	1	1.685...	6.810...	4.242...	0.39739	0.05242
4	19500...	39.89...	-49.9...	39.91...	39.87...	-49.9...	-49.9...	16	1	1.550...	6.121...	4.000...	0.38750	0.05549
5	19506...	39.93...	-50.0...	39.95...	39.91...	-50.0...	-50.0...	12	1	1.608...	7.608...	3.464...	0.46442	0.06572
6	19506...	39.93...	-49.9...	39.95...	39.91...	-50.0...	-49.9...	14	1	1.729...	8.091...	3.741...	0.46214	0.05383
7	19506...	39.93...	-49.9...	39.95...	39.91...	-49.9...	-49.9...	17	1	1.863...	8.579...	4.123...	0.45190	0.06412
8	19506...	39.93...	-49.8...	39.95...	39.91...	-49.9...	-49.8...	12	1	1.525...	6.802...	3.464...	0.44043	0.05100
9	19513...	39.97...	-50.0...	40.00...	39.95...	-50.0...	-49.9...	3	1	4.918...	1.400...	1.732...	0.28399	0.01705
10	19513...	39.97...	-49.9...	40.00...	39.95...	-49.9...	-49.9...	9	1	9.889...	3.279...	3.000...	0.32964	0.02699
11	19513...	39.97...	-49.9...	40.00...	39.95...	-49.9...	-49.8...	10	1	1.074...	3.657...	3.162...	0.33981	0.01456
12	19513...	39.97...	-49.8...	40.00...	39.95...	-49.8...	-49.8...	1	1	3.340...	1.115...	1.000...	0.33402	0.00000
13	19520...	40.02...	-49.9...	40.04...	40.00...	-50.0...	-49.9...	1	1	3.316...	1.099...	1.000...	0.33163	0.00000
14	19520...	40.02...	-49.9...	40.04...	40.00...	-49.9...	-49.9...	18	1	1.412...	4.718...	4.242...	0.33290	0.02035
15	19520...	40.02...	-49.8...	40.04...	40.00...	-49.9...	-49.8...	18	1	1.419...	4.754...	4.242...	0.33456	0.01148
16	19520...	40.02...	-49.8...	40.04...	40.00...	-49.8...	-49.8...	15	1	1.278...	4.238...	3.872...	0.33016	0.02135
17	19526...	40.06...	-49.9...	40.08...	40.04...	-50.0...	-49.9...	2	1	4.439...	1.393...	1.414...	0.31389	0.00803
18	19526...	40.06...	-49.9...	40.08...	40.04...	-49.9...	-49.8...	3	1	5.023...	1.461...	1.732...	0.29001	0.02041
19	19526...	40.06...	-49.8...	40.08...	40.04...	-49.8...	-49.8...	2	1	4.374...	1.354...	1.414...	0.30935	0.01072

Save Cancel

Load Parameters... Store Parameters... Open in SeaDAS

Run Cancel Apply ?

Video Tutorials

- Hosted on YouTube in an OBP channel under the NASA Goddard channel
- 5-minute (or less) snippets
- Basic file (product) load and display
 - view product info
 - color manipulation
 - pixel info
 - Session Management
- Export data
 - GeoTIFF, HDF5, netCDF, flat binary (DIMAP), CSV, Shapfile, Google KML, Image formats
- View/create masks
 - Add coastline/landmask
 - create masks from data/flags
 - add geometries
- Statistics; Histogram; Scatterplot; Profile
- Band Math
- Create Filtered Bands
- Collocation Tool
- Spatial Subset Tool
- Point Data
 - Pins
 - Vector data import
 - Correlative data (ShipTrack)
 - Pixel Extraction
- Mosaic Tool
- Navigation
 - Ground Control Points
 - Attach geo-coding
- Data Processors -one per program
- Image Analysis
 - K-Means Cluster Analysis
 - EM Cluster Analysis
 - Spectral Unmixing
 - Time-series Analysis
- OPeNDAP tool
- Graph Processing Tool

What the future will bring

- Client/Server Processing
 - Allow local SeaDAS to run processing on a remote server
 - Provide capability for processing on Windows
- Python API for extending SeaDAS (well, BEAM, too – this is part of the BEAM 5 base)

The ESA Sentinel Toolbox... and how it will affect SeaDAS

- One software, three toolboxes
 - one for each Sentinel mission
 - SeaDAS would be a fourth “toolbox”
- Common source code version control and code repositories for core program
- Common plug-in repositories
- Common installer software
- Common software distribution channels

...and thanks! go out to ...

- The SeaDAS Irregulars
 - Aynur Abdurazik
 - Matt Elliot
 - Danny Knowles
 - Don Shea
- The BEAM developers at Brockmann Consult, Hamburg, Germany

An Example Tutorial

