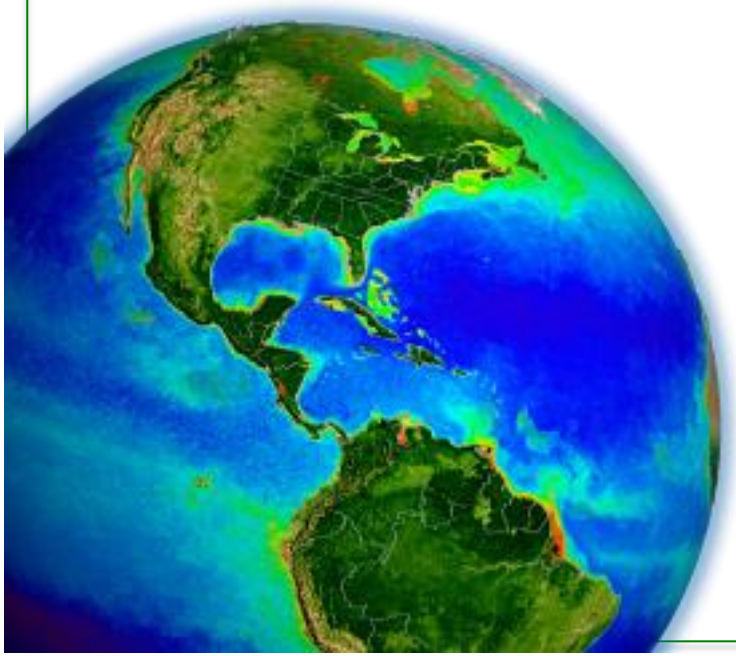


Sean Bailey

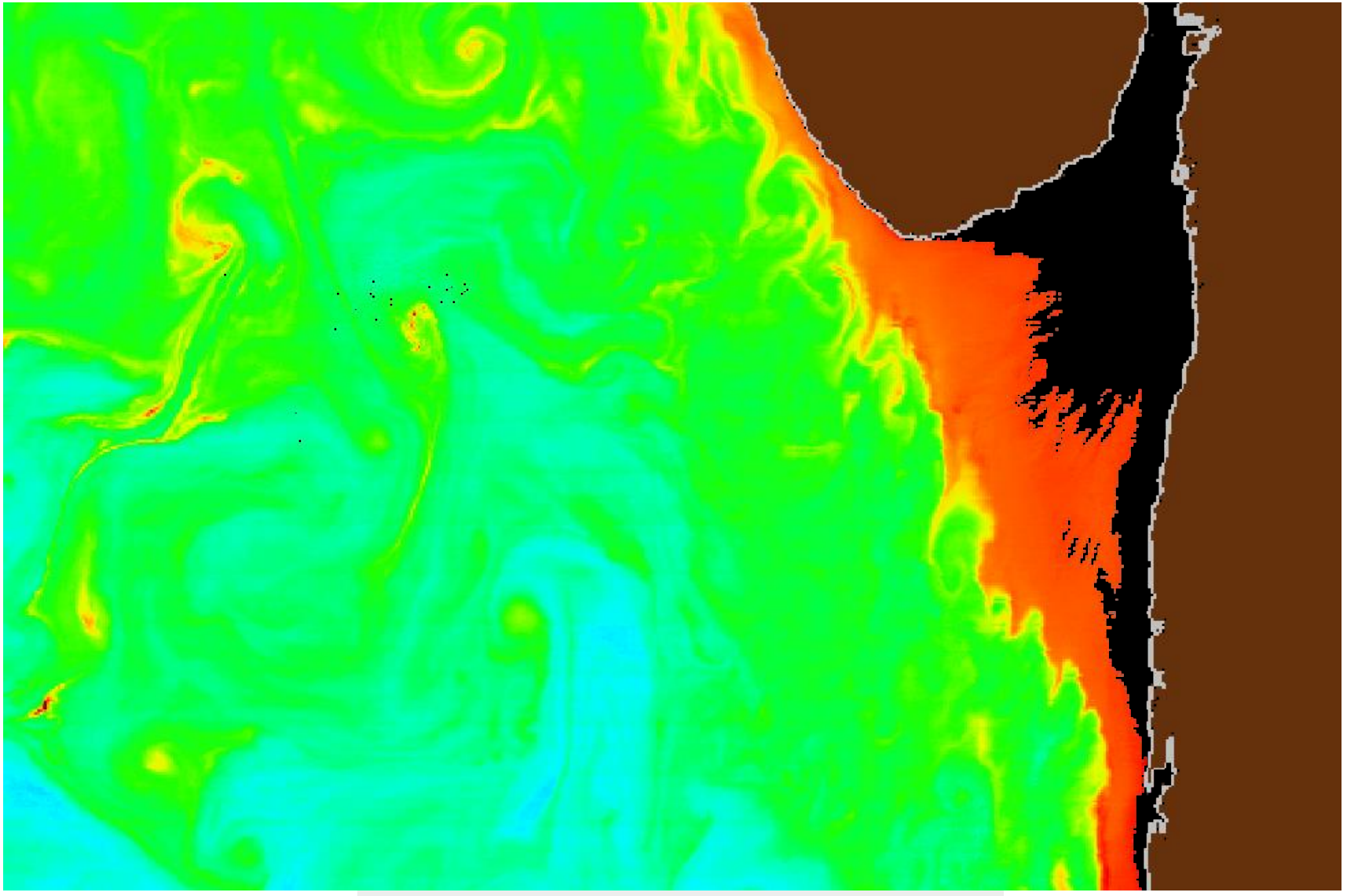
05 May 2014

NASA OCRT Meeting

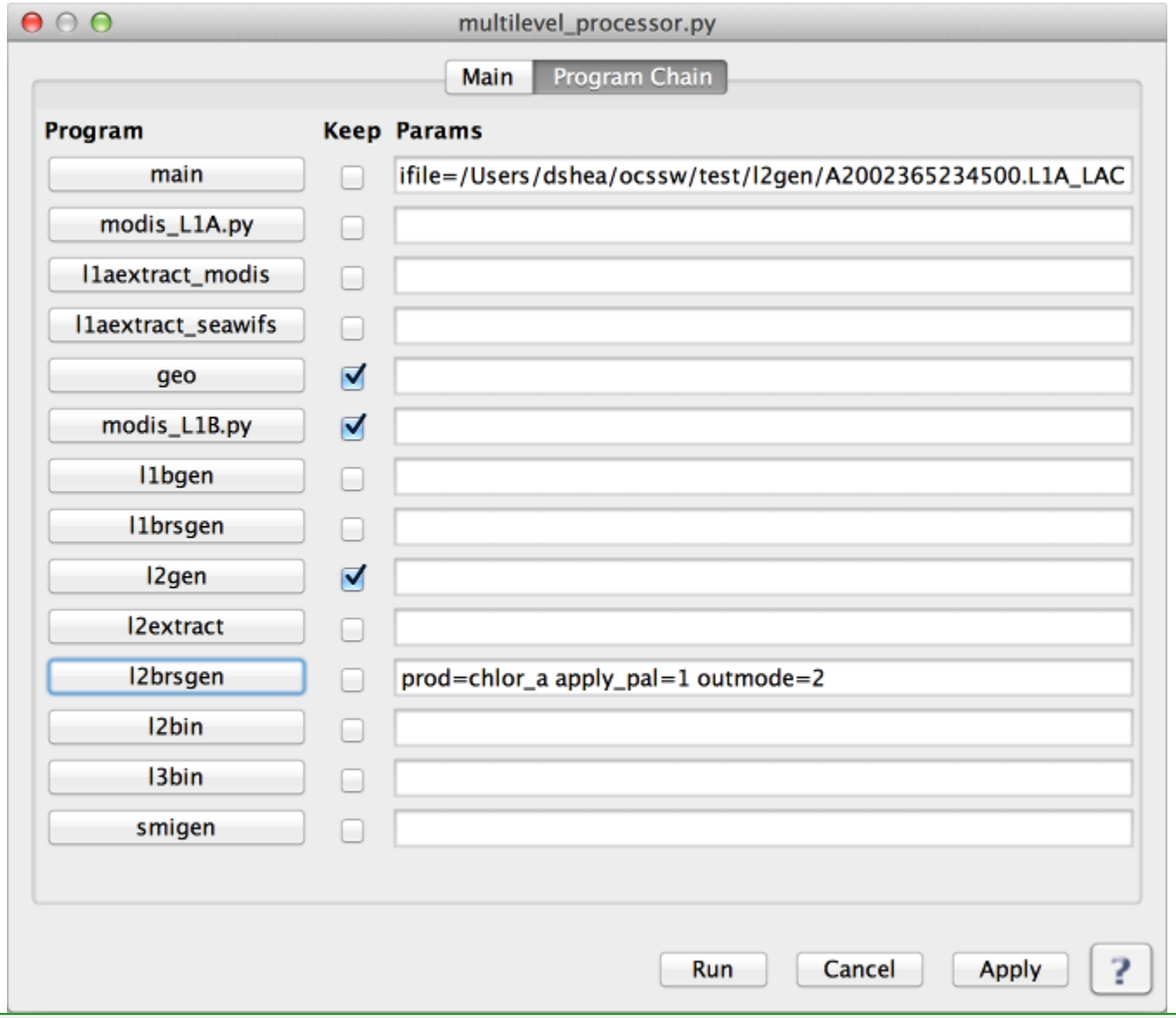
New Since OCRT 2012

- 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



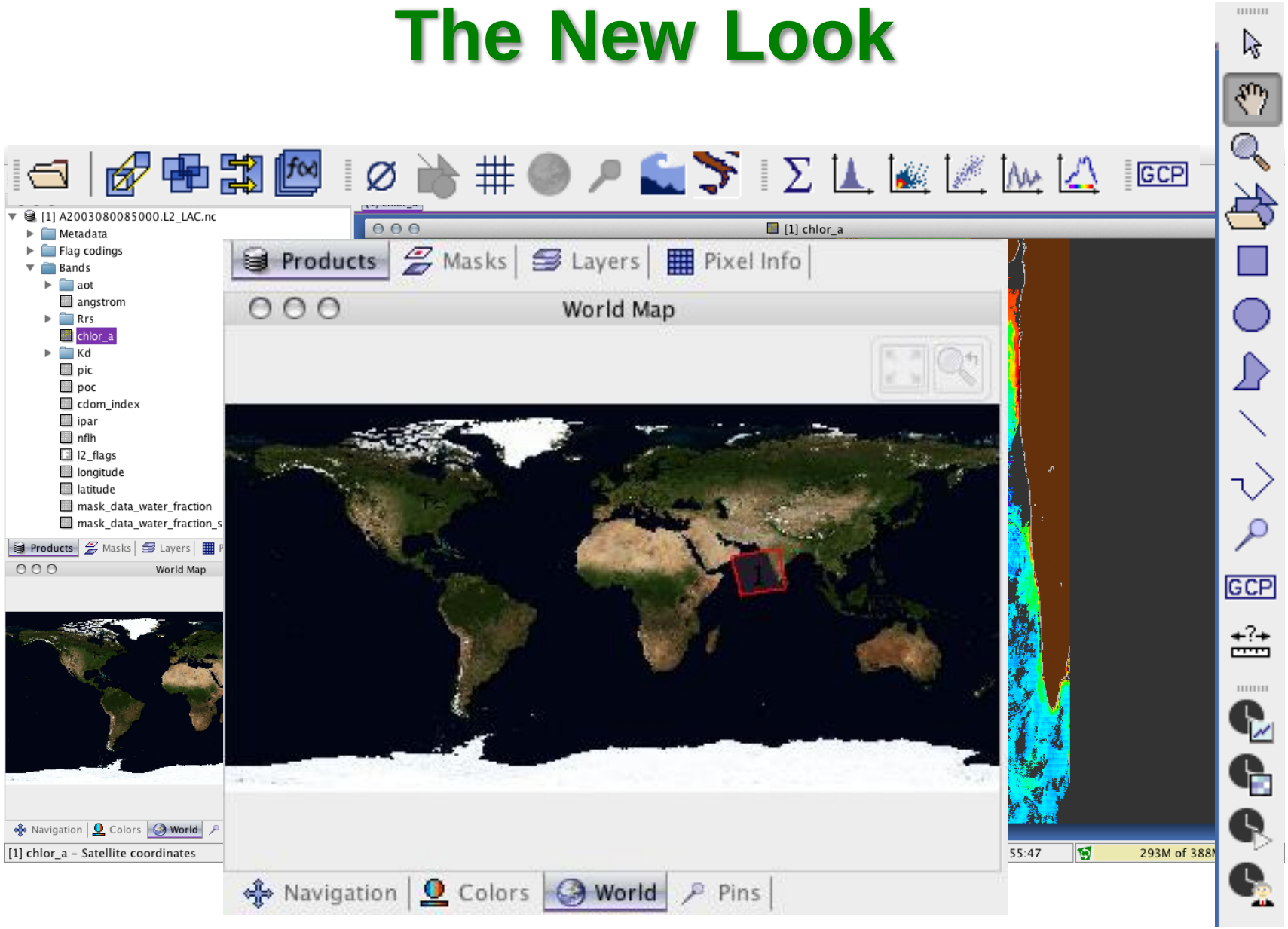
Multi-level Processor



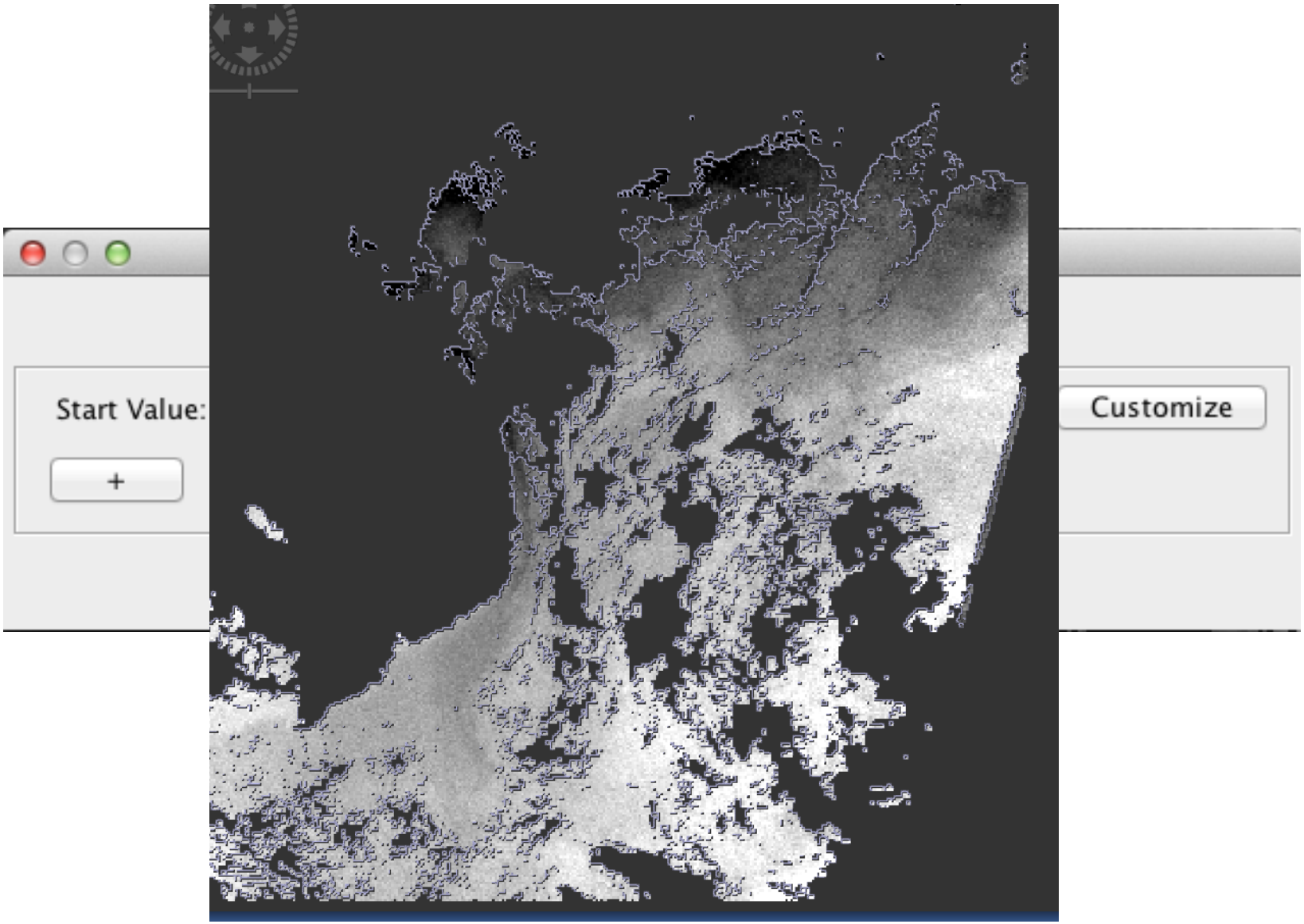
Version 7.1 - coming your way

- 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

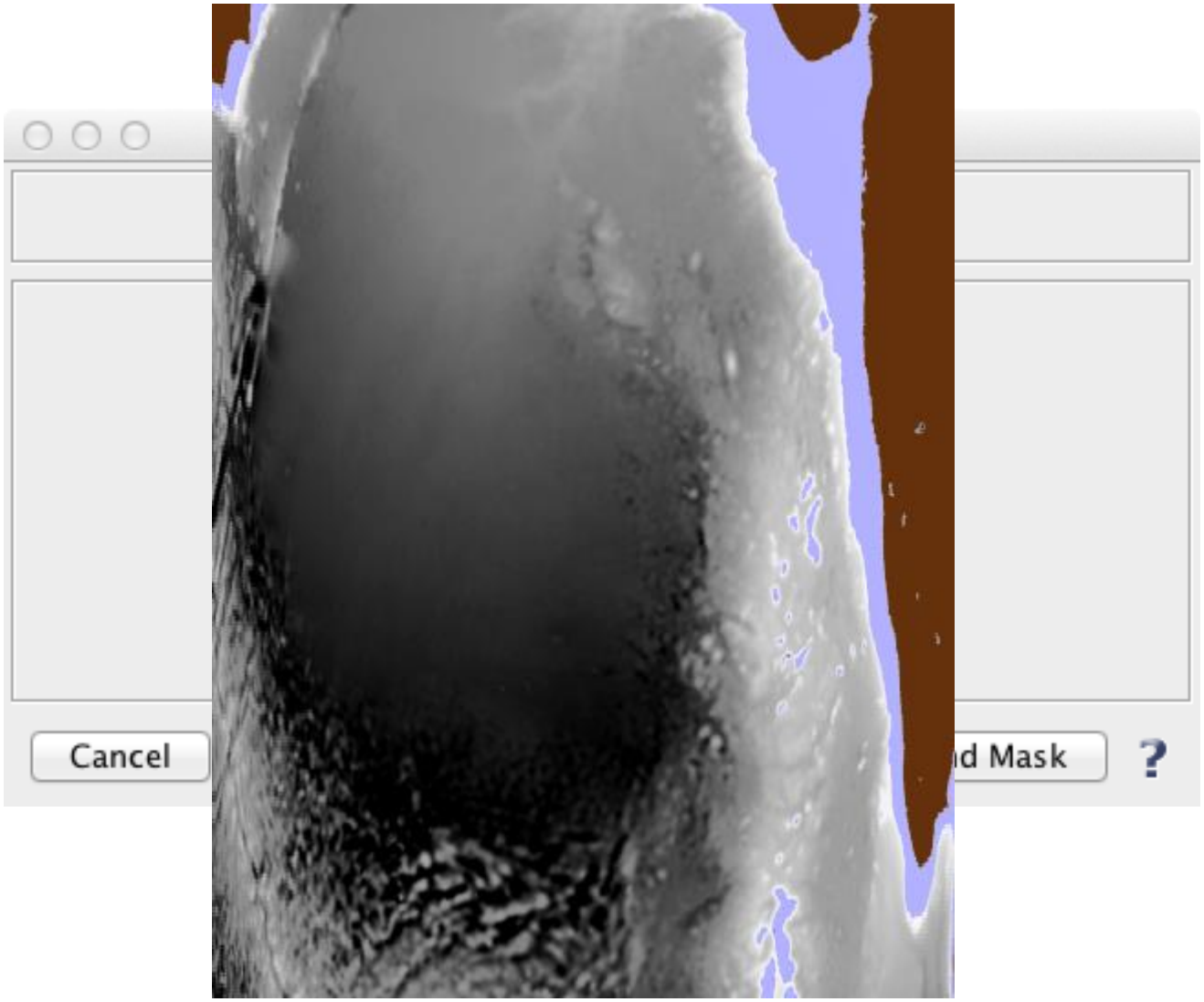
The New Look


[1] A2003080085000.L2_LAC.nc
Metadata
Flag codings
Bands
aot
angstrom
Rrs
chlor_a
Kd
pic
poc
cdom_index
ipar
nflh
l2_flags
longitude
latitude
mask_data_water_fraction
mask_data_water_fraction_s
Products
Masks
Layers
Pixel Info
World Map
[1] chlor_a
Navigation
Colors
World
Pins
[1] chlor_a – Satellite coordinates
GCP

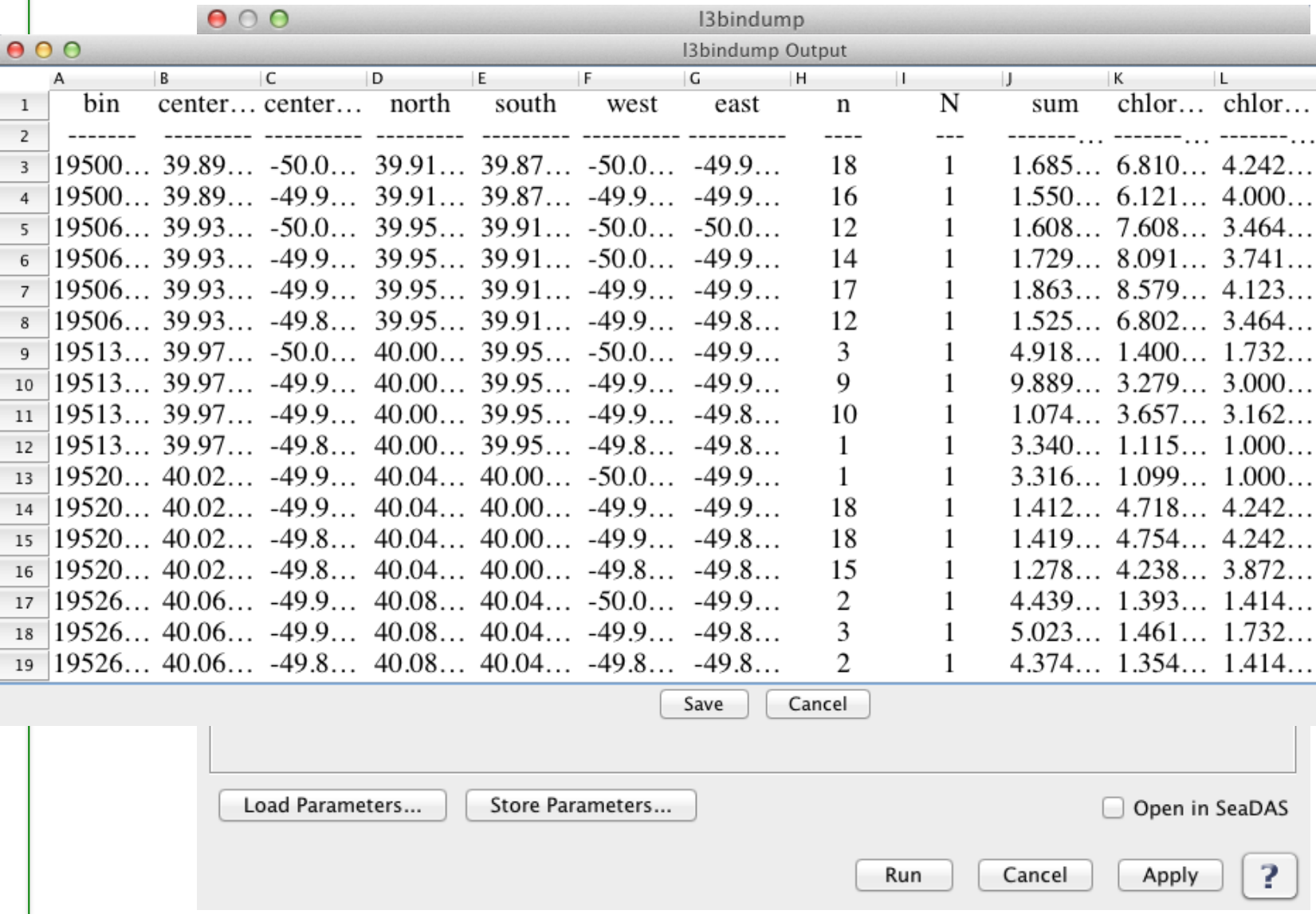
Contour Lines



Bathymetry



L3bindump



	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

Video Tutorials

- Hosted on YouTube in an OBPG 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 Processiors -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