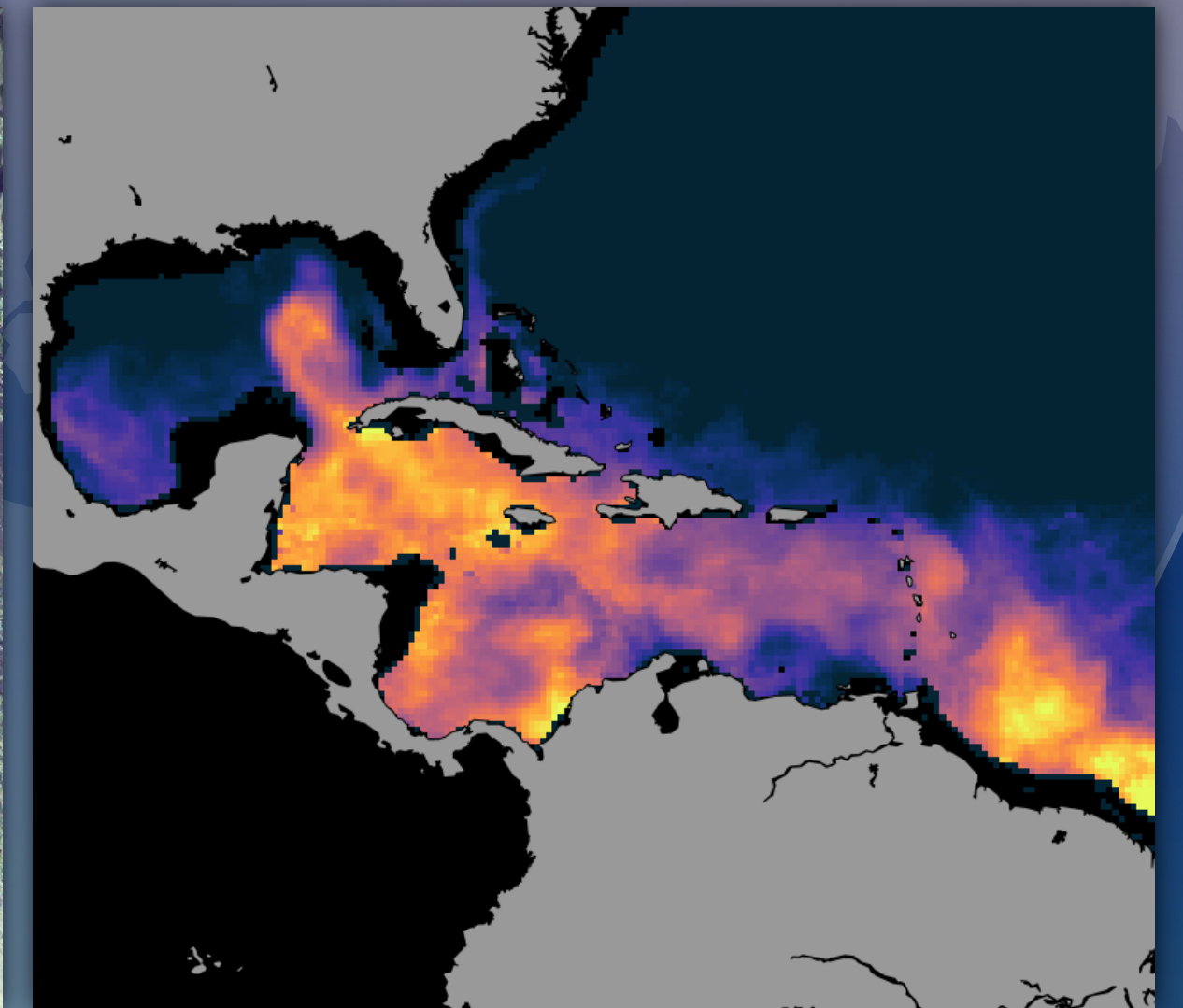
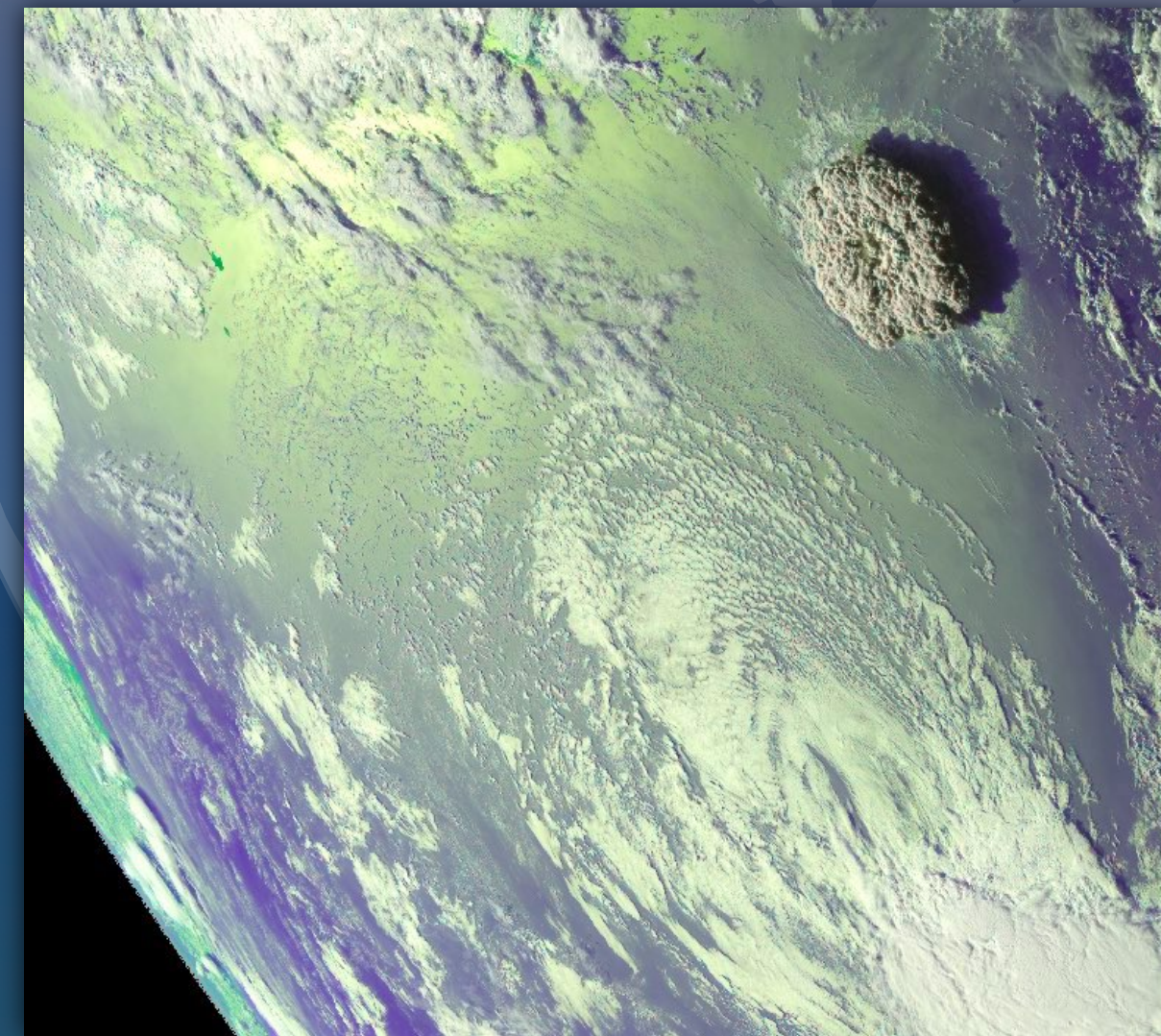
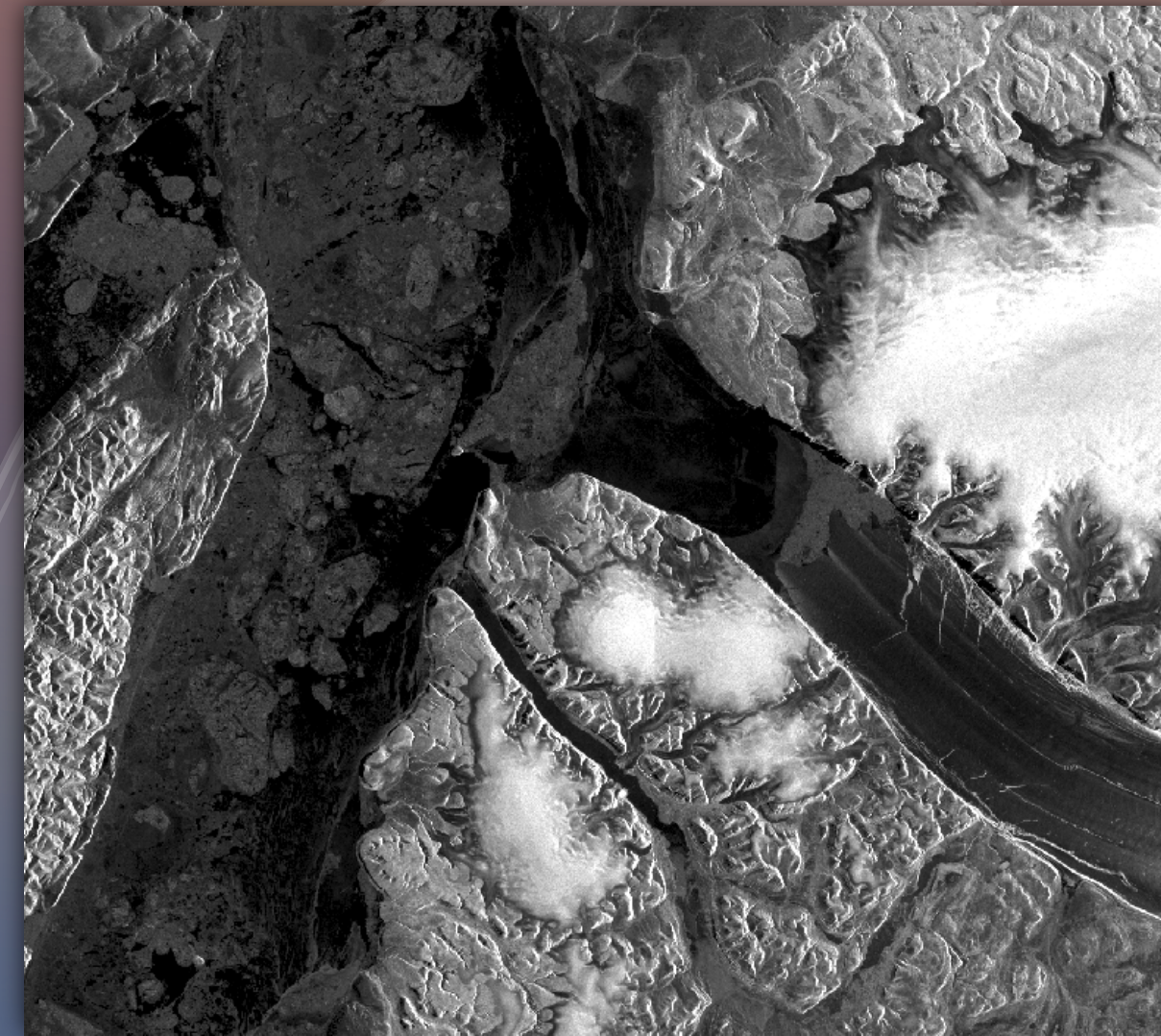


The CoastWatch Utilities 2022 Update

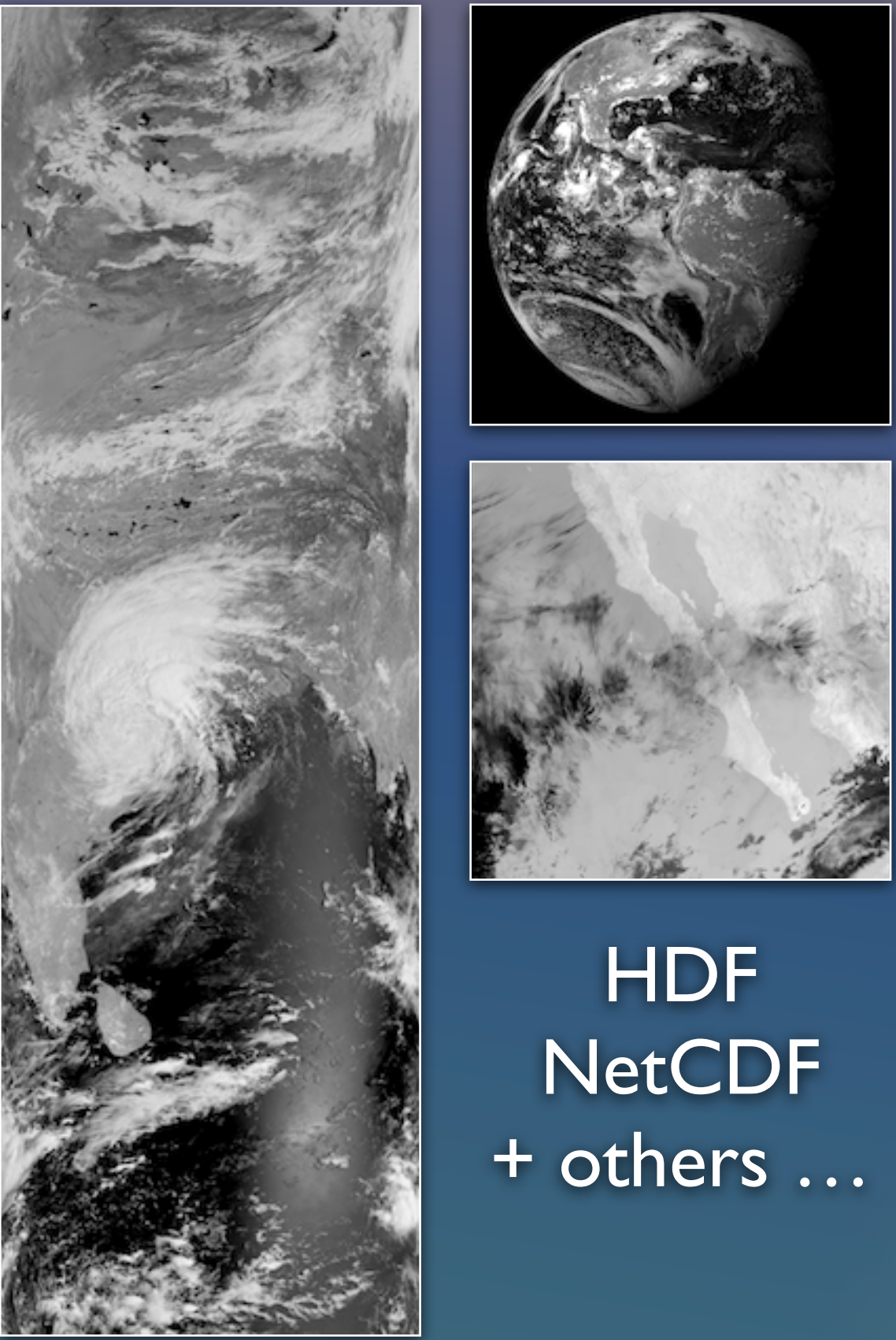
Peter Hollemans

Terrenus Earth Sciences & RIVA Solutions for
NOAA/NESDIS CoastWatch Central Operations

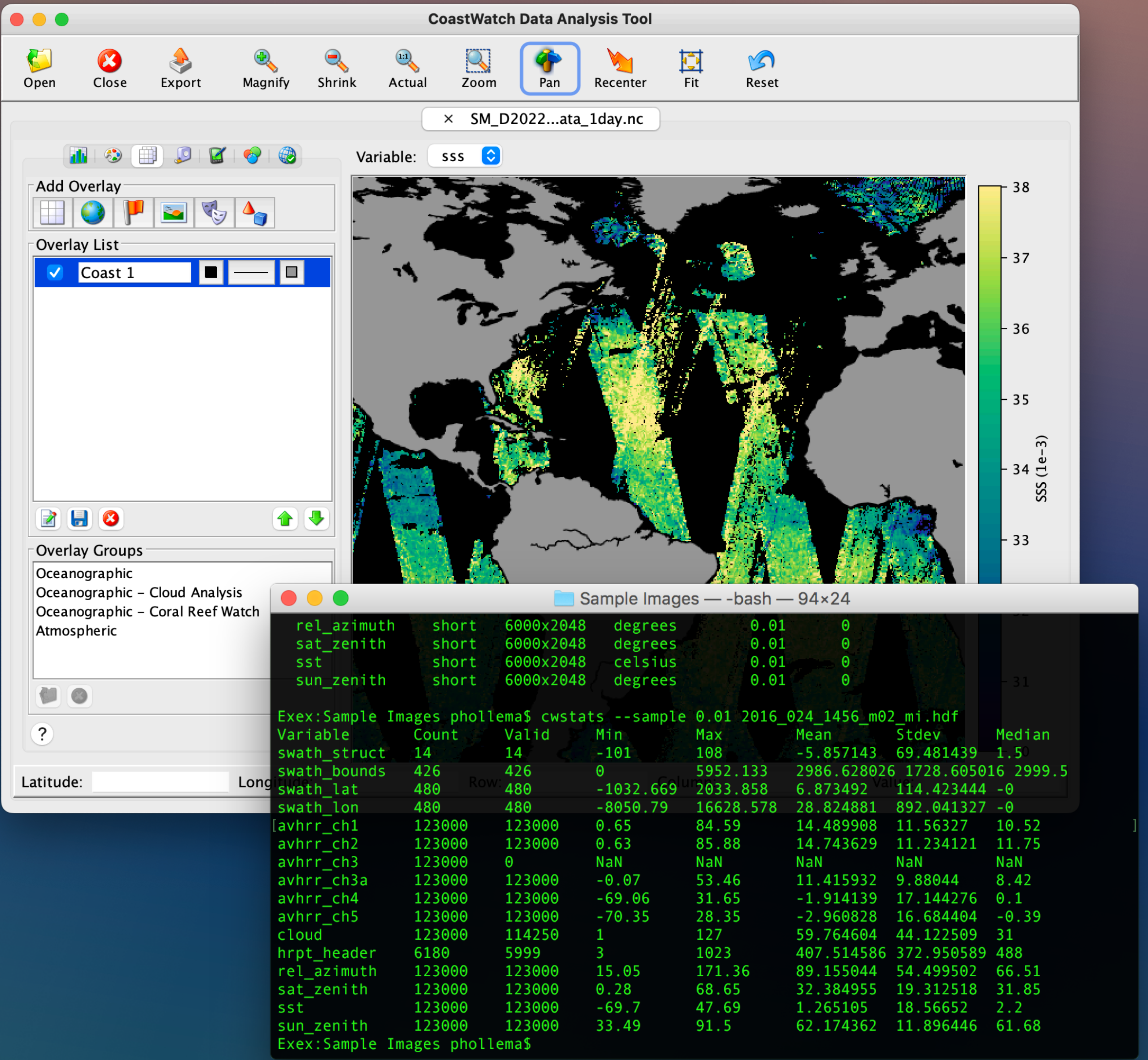
CoastWatch Annual Meeting
NCWCP, College Park, MD, May 2022



The CoastWatch Utilities are designed to process and transform satellite data in useful ways for data producers and users.



HDF
NetCDF
+ others ...



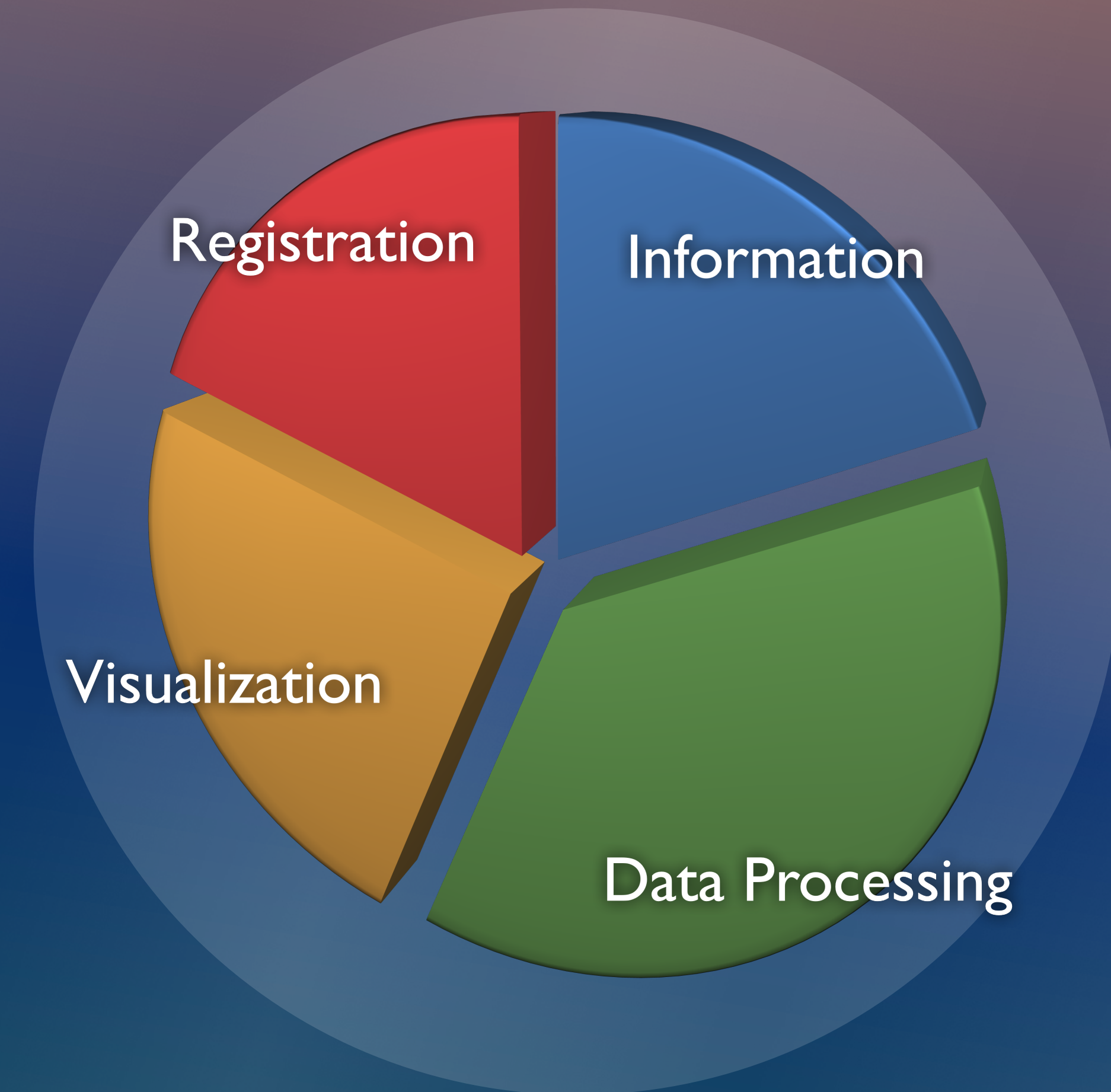
The screenshot shows the CoastWatch Data Analysis Tool interface. The main window displays a map of the Pacific Ocean with a color scale for sea surface salinity (SSS) ranging from 33 to 38. The variable is set to 'sss'. The interface includes a menu bar with options like Open, Close, Export, Magnify, Shrink, Actual, Zoom, Pan, Recenter, Fit, and Reset. Below the menu bar is a toolbar with icons for various functions. The main map area shows a color-coded map of the Pacific Ocean. To the left of the map is a panel with 'Add Overlay' and 'Overlay List' sections. The 'Overlay List' section shows 'Coast 1' selected. Below the map is a terminal window showing the output of a command-line tool.

```
Exex:Sample Images phollema$ cwstats --sample 0.01 2016_024_1456_m02_mi.hdf
Variable      Count  Valid  Min    Max    Mean    Stdev  Median
swath_struct  14     14     -101   108    -5.857143  69.481439  1.5
swath_bounds  426    426    0      5952.133  2986.628026  1728.605016  2999.5
swath_lat     480    480    -1032.669  2033.858  6.873492   114.423444  -0
swath_lon     480    480    -8050.79  16628.578  28.824881  892.041327  -0
[avhrr_ch1   123000 123000  0.65   84.59   14.489908  11.56327   10.52
avhrr_ch2   123000 123000  0.63   85.88   14.743629  11.234121  11.75
avhrr_ch3   123000 0       NaN    NaN     NaN        NaN        NaN
avhrr_ch3a  123000 123000 -0.07   53.46   11.415932  9.88044   8.42
avhrr_ch4   123000 123000 -69.06  31.65   -1.914139  17.144276  0.1
avhrr_ch5   123000 123000 -70.35  28.35   -2.960828  16.684404 -0.39
cloud       123000 114250  1      59.764604  44.122509  31
hrpt_header  6180   5999   3       1023    407.514586  372.950589  488
rel_azimuth  123000 123000  15.05  171.36  89.155044  54.499502  66.51
sat_zenith   123000 123000  0.28   68.65   32.384955  19.312518  31.85
sst         123000 123000 -69.7   47.69   1.265105   18.56652   2.2
sun_zenith   123000 123000  33.49  91.5    62.174362  11.896446  61.68
Exex:Sample Images phollema$
```


The software is actively used by a number of groups and forms an essential part of data processing systems.

Use of
functionality

1	CW central operations
2	ACSPO Regional Monitor for SST
3	East & West Coast, Great Lakes
4	Commercial data users
5	NOAA/NESDIS staff (ad hoc)
6	CDAT users (global)



New versions are created twice a year and distributed from the CoastWatch central operations website.

~6-8 month release schedule

Oct 2021	3.7.0
Jun 2022	3.7.1



Windows



Mac

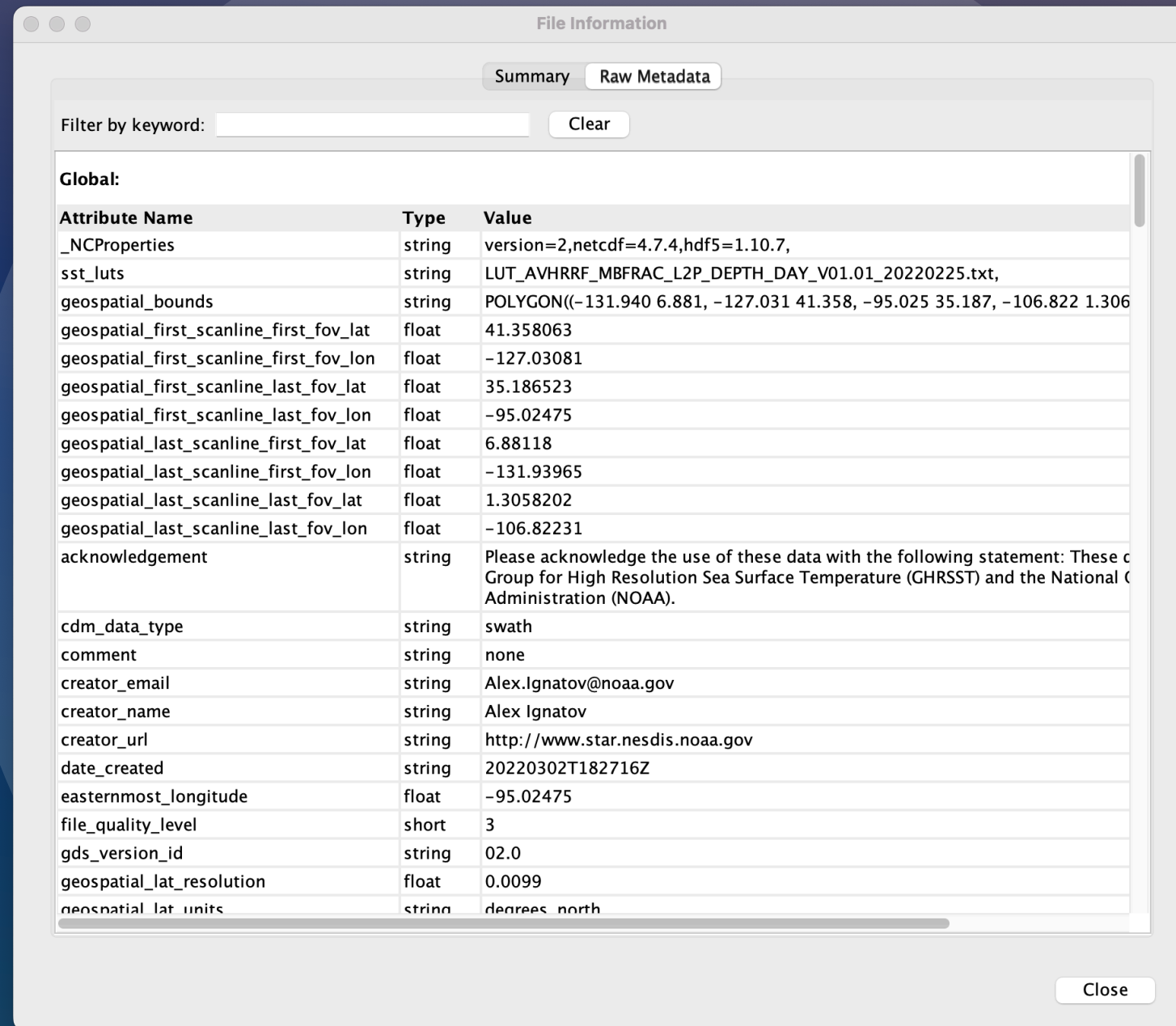


Linux

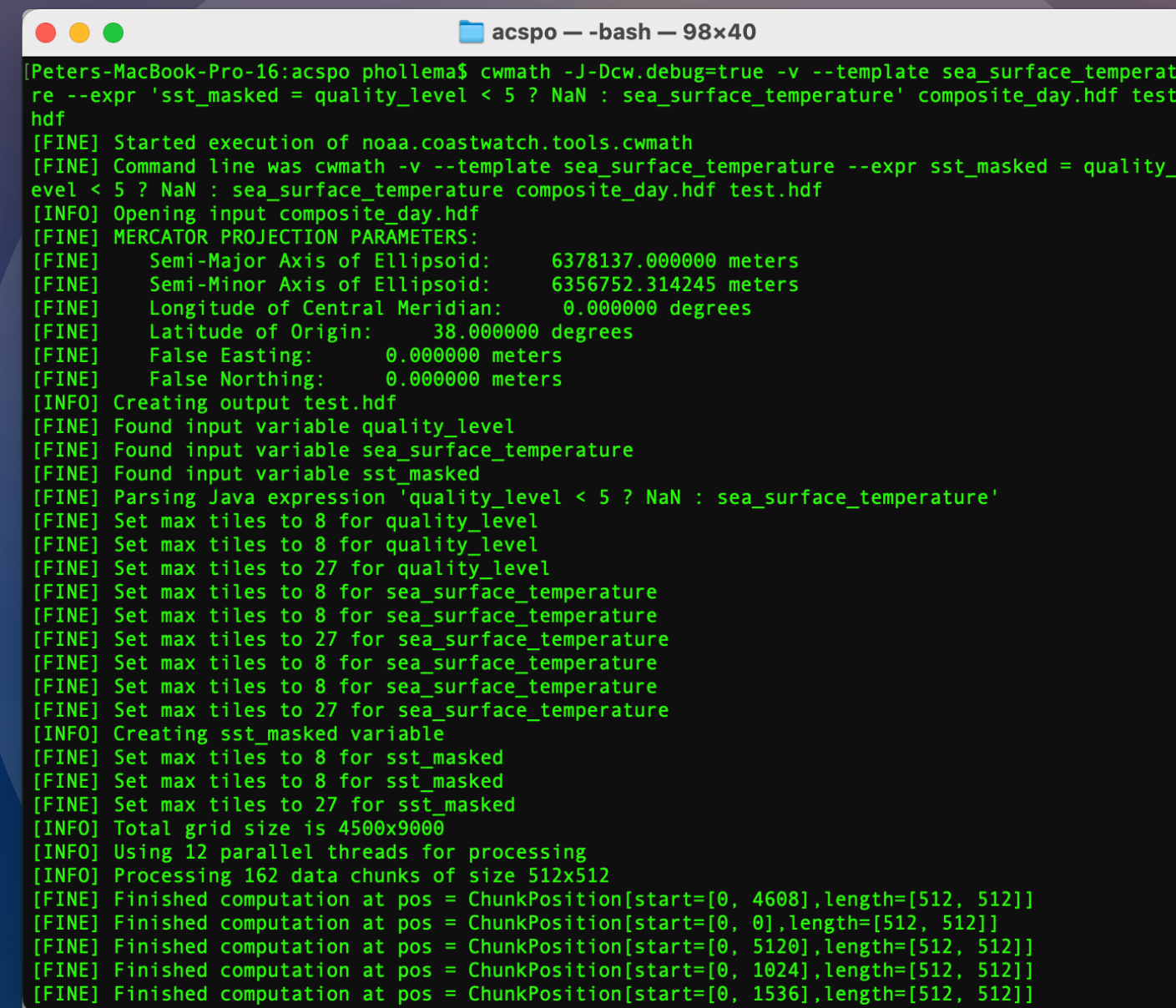
Installable packages: coastwatch.noaa.gov (look in User Resources)

Open source: github.com/phollemans/cwutils

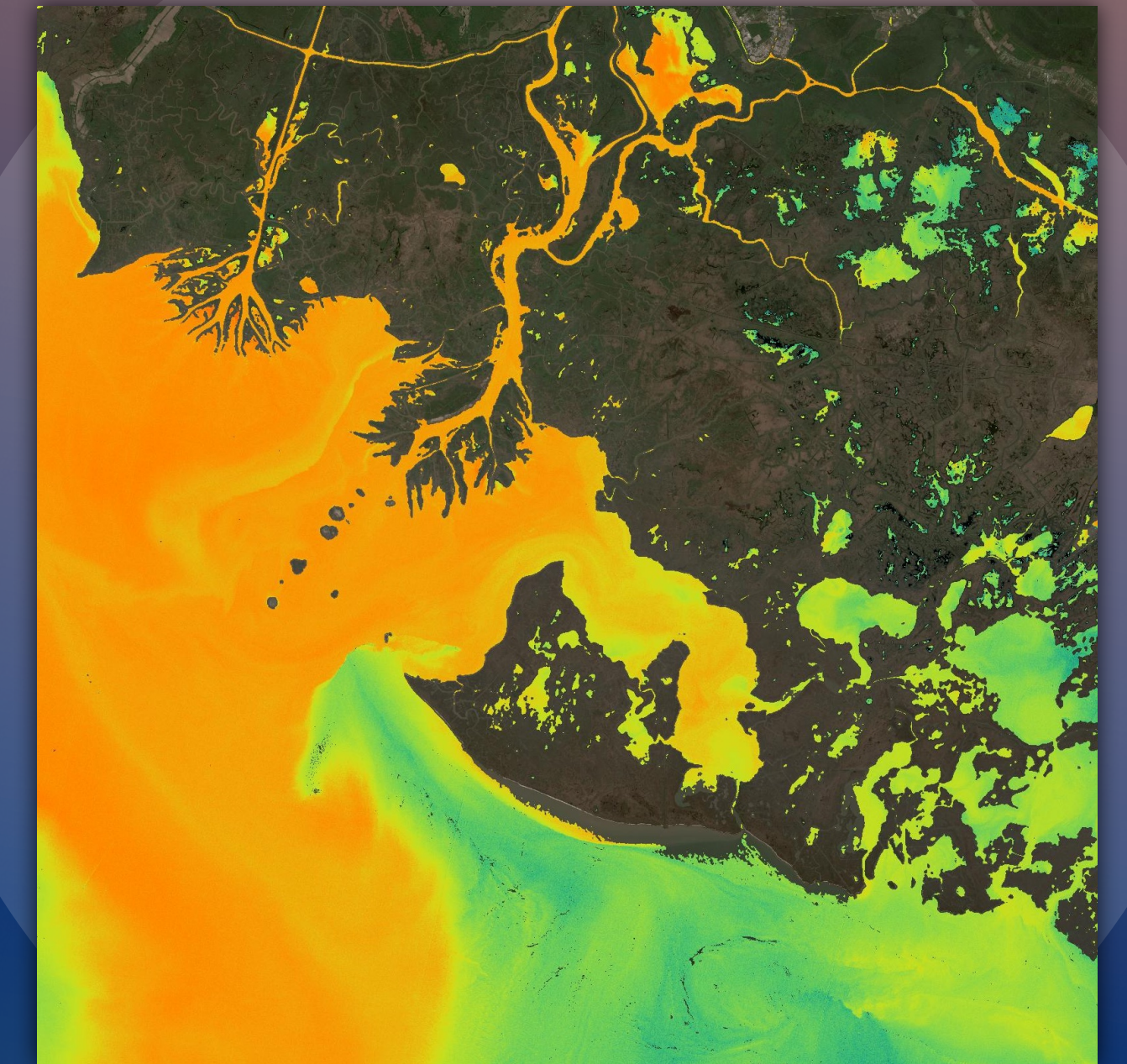
The next release will include a number of useful improvements.



Metadata search



Multithreaded data processing control



Hybrid mode rendering

Also: Java VM updates, bug fixes, documentation updates

Demo

