

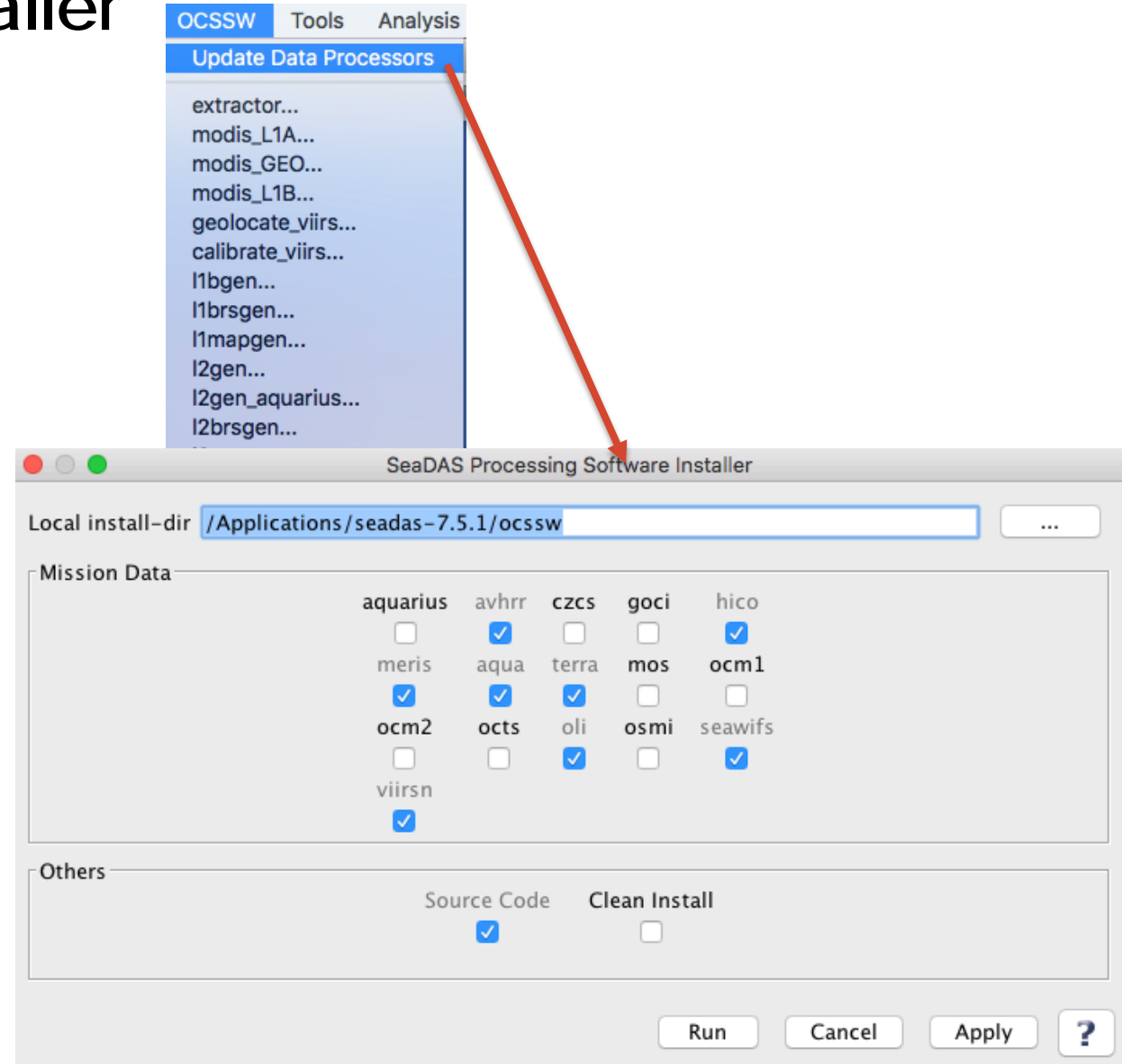
Demonstration: Convert Landsat 8 (OLI) L-1 Data to  
Atmospherically Corrected L-2 Data

# Objective

- Learn to use l2gen to convert Landsat L1 data to Atmospherically corrected L-2 Data

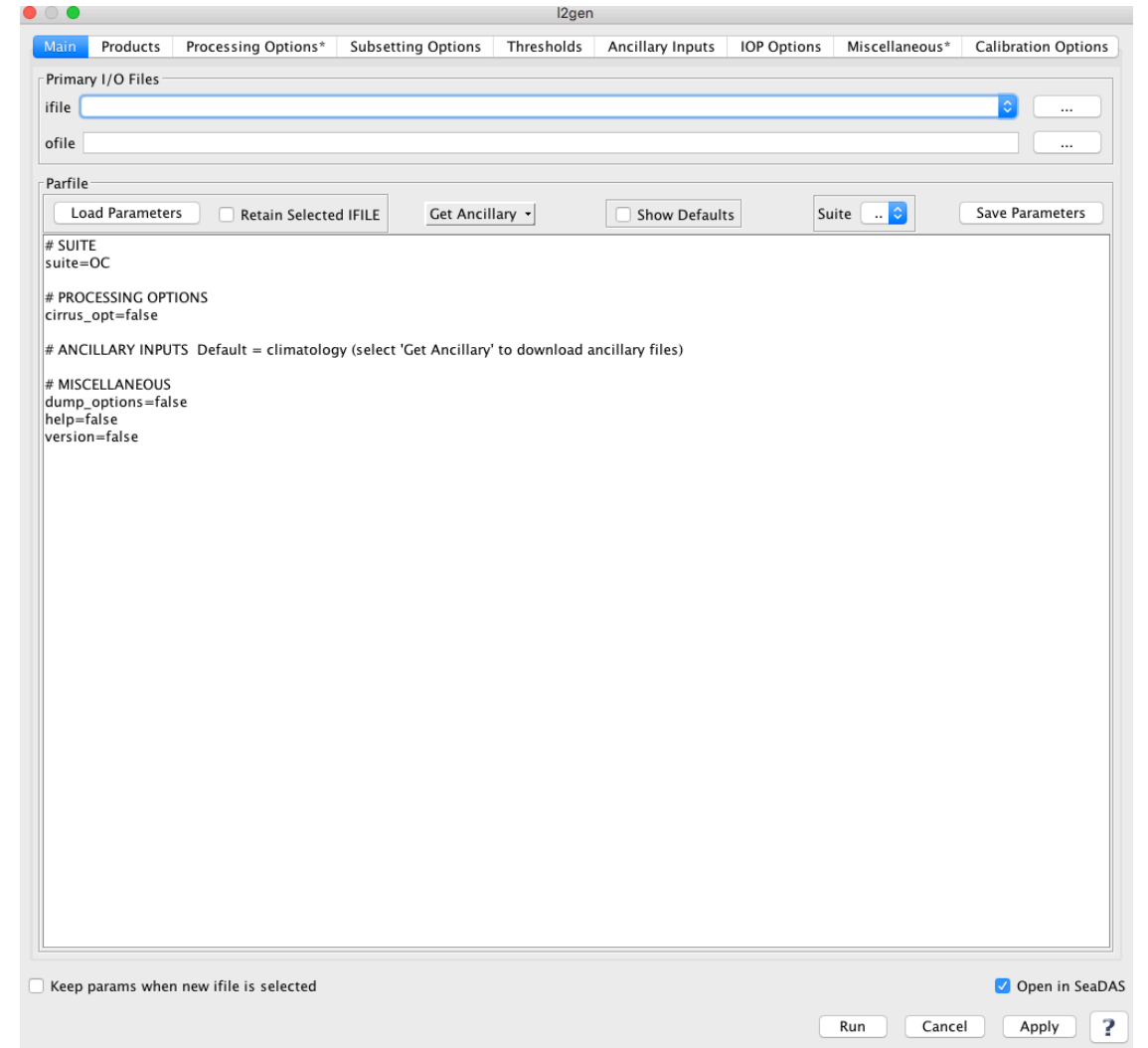
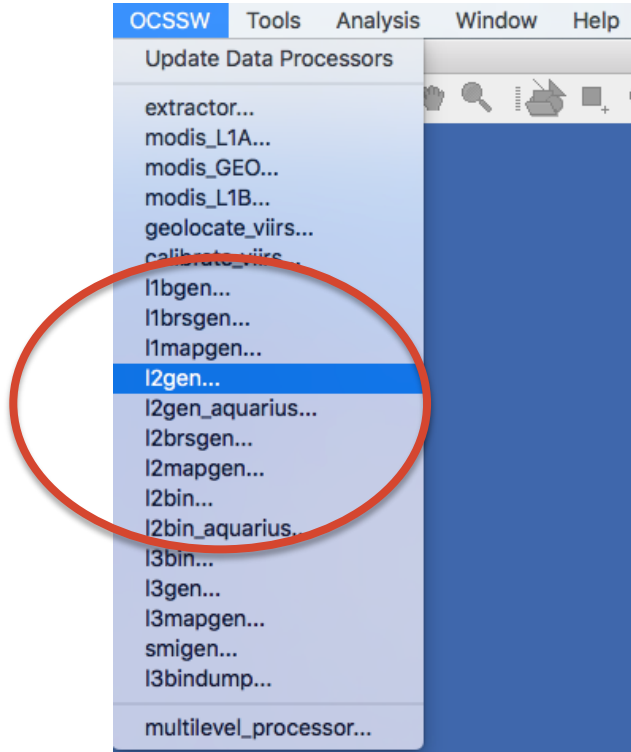
# SeaDAS Processing Software Installer

1. Download and install OCSSW
2. On the top bar click on **OCSSW** > **Update Data Processors**
3. Click on **Run**



# I2gen

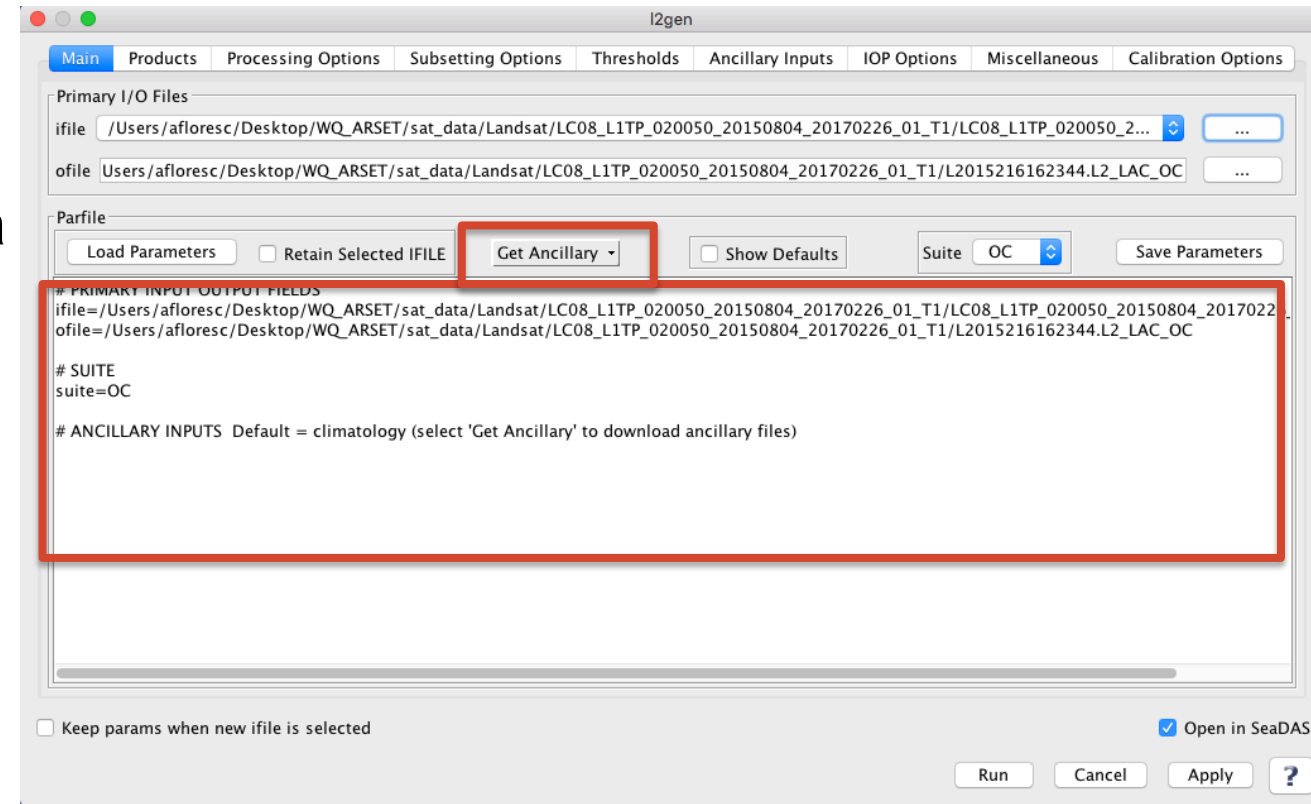
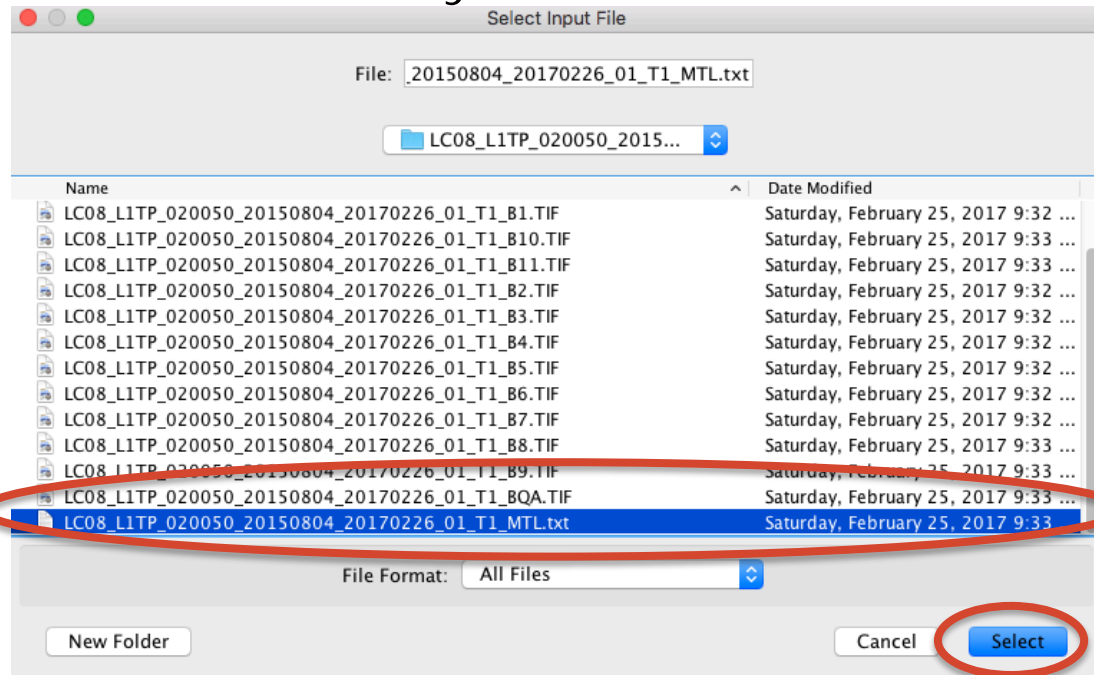
## 5. Process a L1 file to L2





# L2gen configuration

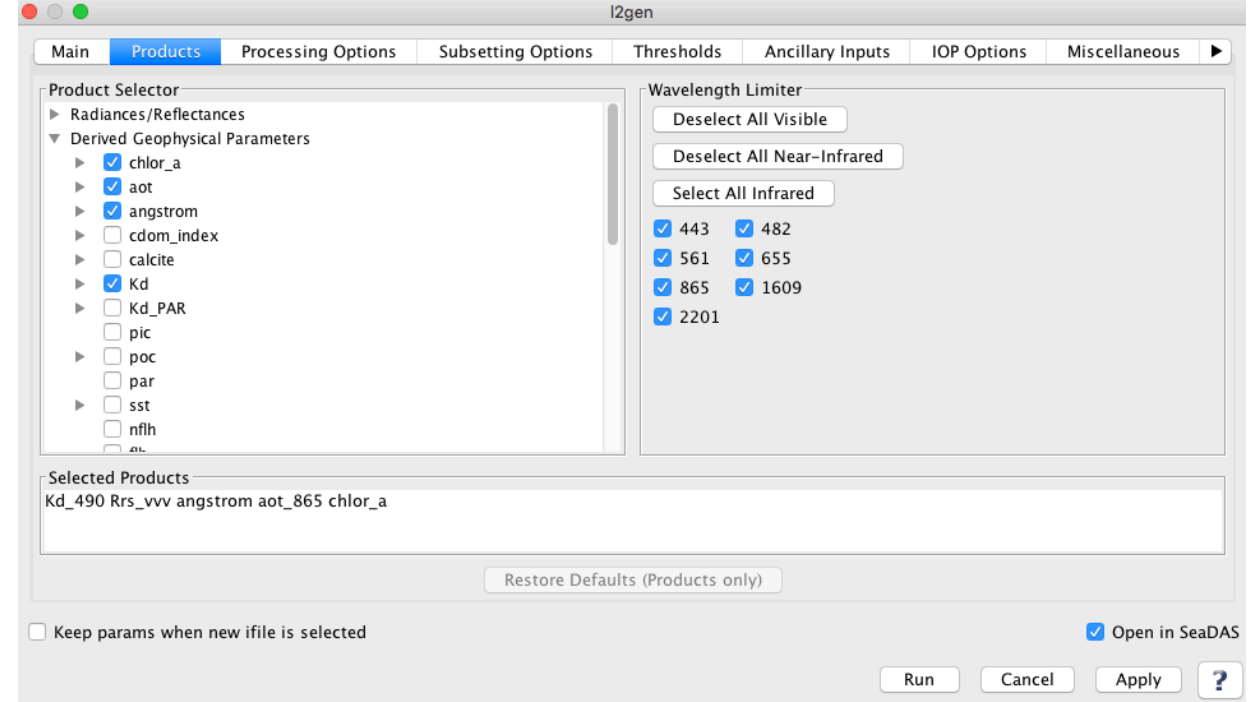
7. In Main tab:
8. **ifile** = Input file = Landsat 8 Metadata file: **\*\*\_MTL.txt**
9. Check that no error are shown in main window
10. Get Ancillary data



# L2gen configuration

## Products

11. To check the parameters that will be produced
12. Check Radiances/Reflectances
13. Check Derived Geophysical Parameters
14. We will use default selections



# L2gen configuration

## Processing Options

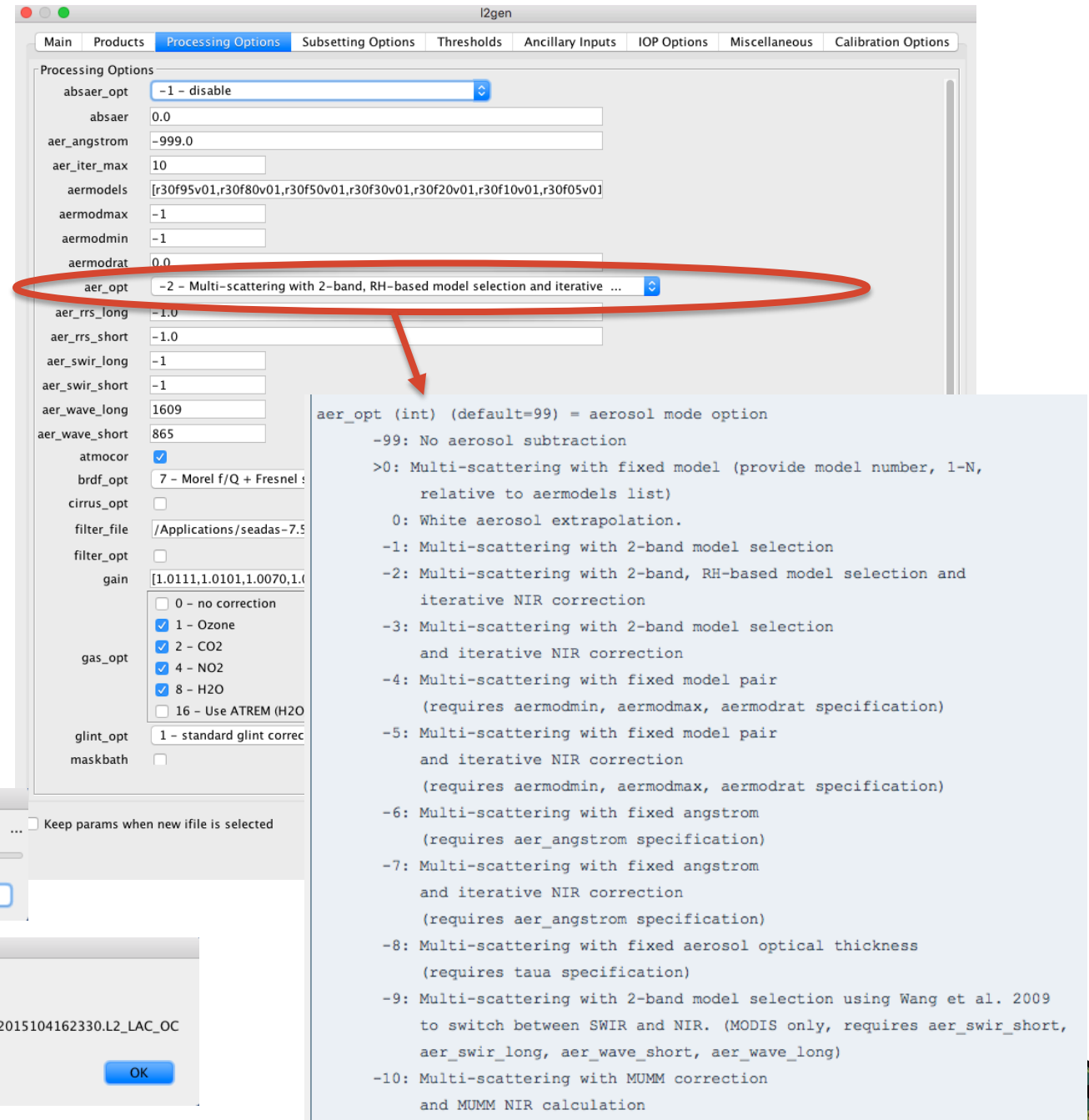
15. If image contains high Chl-a concentration (e.g. algal bloom event, high turbidity)

Consider changing **aer\_opt** parameter:

Options **-99**, **-6** and **-8**

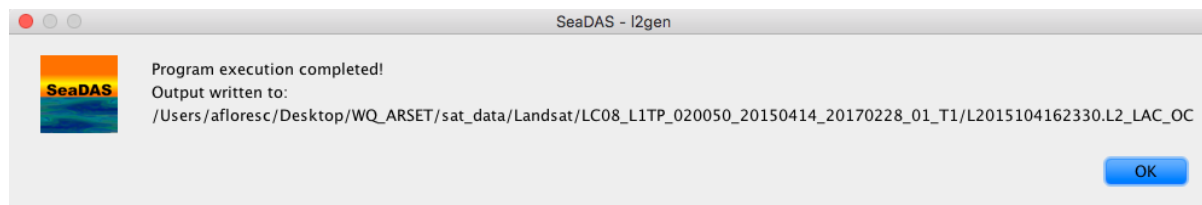
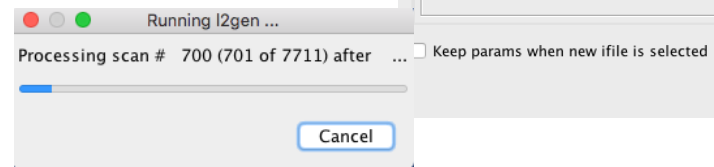
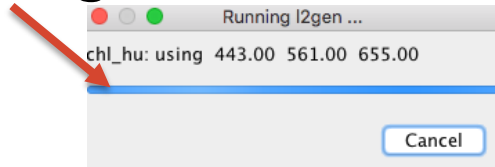
Can be tested

16. Run I2gen



**aer\_opt (int) (default=99) = aerosol mode option**

- 99: No aerosol subtraction
- >0: Multi-scattering with fixed model (provide model number, 1-N, relative to aermodels list)
- 0: White aerosol extrapolation.
- 1: Multi-scattering with 2-band model selection
- 2: Multi-scattering with 2-band, RH-based model selection and iterative NIR correction
- 3: Multi-scattering with 2-band model selection and iterative NIR correction
- 4: Multi-scattering with fixed model pair (requires aermodmin, aermodmax, aermodrat specification)
- 5: Multi-scattering with fixed model pair and iterative NIR correction (requires aermodmin, aermodmax, aermodrat specification)
- 6: Multi-scattering with fixed angstrom (requires aer\_angstrom specification)
- 7: Multi-scattering with fixed angstrom and iterative NIR correction (requires aer\_angstrom specification)
- 8: Multi-scattering with fixed aerosol optical thickness (requires taua specification)
- 9: Multi-scattering with 2-band model selection using Wang et al. 2009 to switch between SWIR and NIR. (MODIS only, requires aer\_swir\_short, aer\_swir\_long, aer\_wave\_short, aer\_wave\_long)
- 10: Multi-scattering with MUMM correction and MUMM NIR calculation

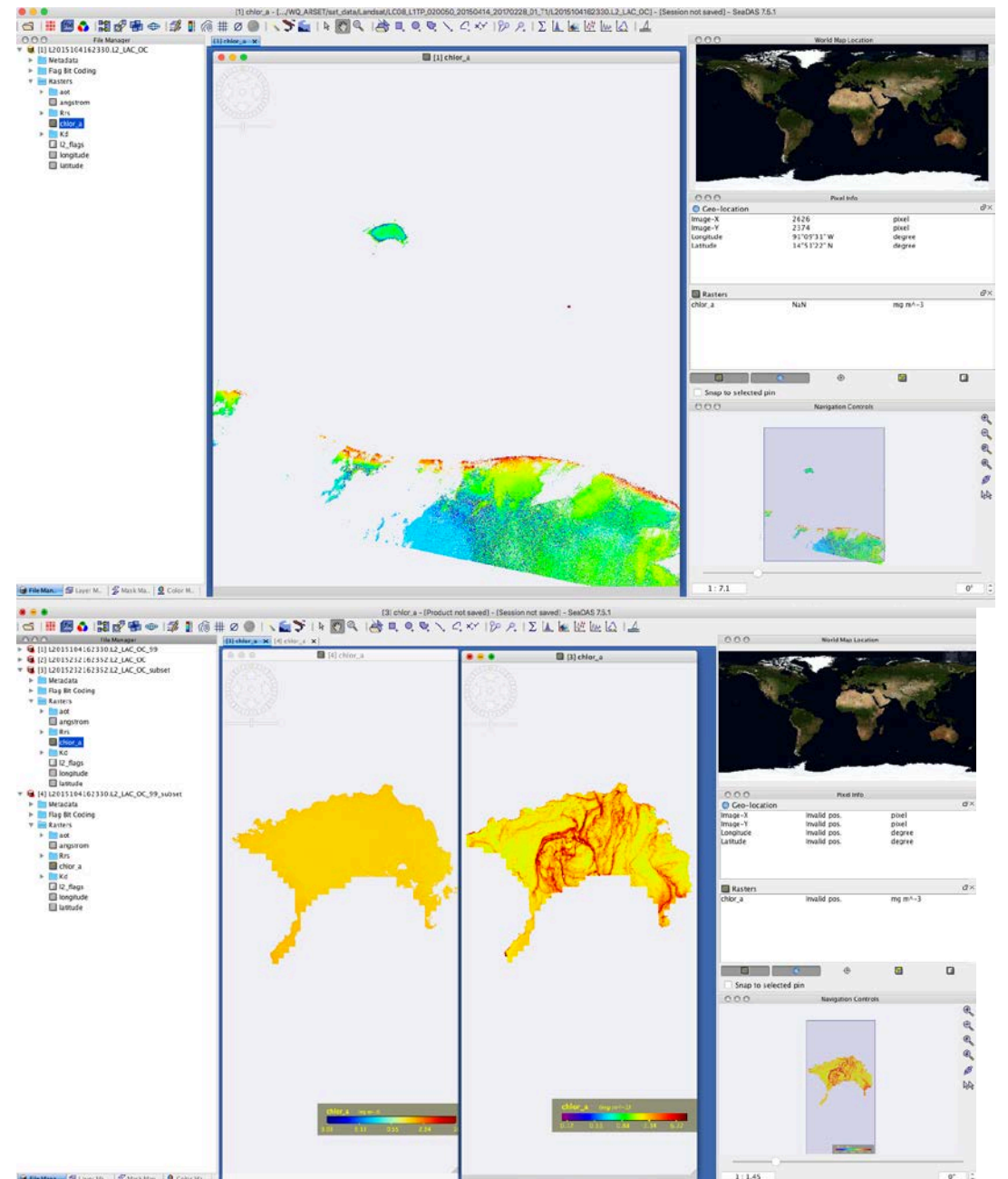


# Open I2gen results

## 17. Load **Chl\_a** result

- Zoom to the area of interest (Lake Atitlan in at the center of the image)
- Add land mask
- Change the color palette range to “Set from Band Data”
- You can click on the color box and pick other colors from the drop-down menu

## 18. Next, select the **CHLFAIL** mask and change the color to see the locations where data are missing







Thank You