**Processing Level-1 (Collection-1) Landsat-8 and Sentinel-2 Imagery in NASA SeaDAS**

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NASA SeaDAS 8.2 set up

1. Download SeaDAS installer here: https://seadas.gsfc.nasa.gov/downloads/

Execute this shell script on command line (Mac: terminal)

Here’s how:

cd /Users/username/Documents/ #location of the installer script

chmod 777 ‘seadas\_8.2.0\_mac\_installer.sh’

./ seadas\_8.2.0\_mac\_installer.sh

1. The SeaDAS installer will pop up. Go through the steps. Make sure you create a new folder as your directory for SeaDAS (I called mine Seadas\_8.2 in Documents). The download contains many folders- you want them all in the same place.
2. On the SeaDAS GUI, navigate to the toolbar. Under SeaDAS-OCSSW, select Configure OCSSW location. Make sure “local” is selected, and select the folder associated with ocssw under your seadas folder (eg. …/Seadas\_8.2/ocssw).
3. SeaDAS-OCSSW > Install/Update OC processors
   1. Select sensors of interest (OLI for Landsat-8, you will install Sentinel-2 later on the command line)
   2. Hit Apply, then Run

Processing set up

cd /Users/username/Documents/ Seadas\_8.2/ocssw

/Users/username/Documents/Seadas\_8.2/bin/gpt #run gpt command

export OCSSWROOT=/Users/username/Documents/Seadas\_8.2/ocssw/

source OCSSW\_bash.env; ./bin/install\_ocssw -t V2022.0 --msis2a --msis2b --src –oli #msi is sentinel-2 sensor, oli is landsat-8

General notes:

* Please note: the following processing code removes the landmask in SeaDAS and implements Sentinel-2 gains. Subsetting the region (as done here) may increase the accuracy of atmospheric correction, and it will decrease processing time. Strongly recommended.
* We set up an “image” folder in the ocssw folder, which contains subfolders corresponding to the sensor and year.
* Code won’t work if there are spaces in the pathnames. Please revise.

Sentinel-2A Processing Code

cd /Users/username/Documents/Seadas\_8.2/ocssw/images/S2A/2021

for f in \*.SAFE; do f2=${f%.\*}.manifest.safe.L2; l2gen ifile=$f/manifest.safe ofile=/Users/ username /Documents/Seadas\_8.2/ocssw/images/S2A/2021/$f2 north=37.729198 south=37.084875 east=-75.595402 west=-76.045972 maskland=0 land=/Users/ username /Documents/Seadas\_8.2/ocssw/share/common/landmask\_null.dat vcal\_opt=1 gain=[0.9841,0.988,1.0079,1.00841,1.0091,1.0201,0.9801,1.0,1.0,1.0,1.0,1.0] ; done

Sentinel-2B Processing Code

cd /Users/username/Documents/Seadas\_8.2/ocssw/images/S2B /2021/

for f in \*.SAFE; do f2=${f%.\*}.manifest.safe.L2; l2gen ifile=$f/manifest.safe ofile=/Users/ username /Documents/Seadas\_8.2/ocssw/images/S2B /2021/$f2 north=37.729198 south=37.084875 east=-75.595402 west=-76.045972 maskland=0 land=/Users/username /Documents/Seadas\_8.2/ocssw/share/common/landmask\_null.dat vcal\_opt=1 gain=[1.0027,0.9996,1.0143,1.0054,1.0334,1.0406,0.9808,1.0,1.0,1.0,1.0,1.0] ; done

Landsat-8 Processing Code

cd /Users/username/Documents/Seadas\_8.2/ocssw/images/L8 /2021/

for f in \*\_MTL.txt; do f2=${f%.\*}.L2\_LAC\_OC; l2gen ifile=$f ofile=/Users/ username /Documents/Seadas\_8.2/ocssw/images/L8 /2021/$f2 north=37.729198 south=37.084875 east=-75.595402 west=-76.045972 land=/Users/ username/Documents/Seadas\_8.2/ocssw/share/common/landmask\_null.dat maskland=0; done