



- Linux & Mac OS (pre-m1 chip)
 - Full support
- Mac OS (m1 chip)
 - **Cannot run MODIS Level-1 science processors**
- MS Windows
 - **Cannot run directly science processors***
 - Client-server virtual machine options

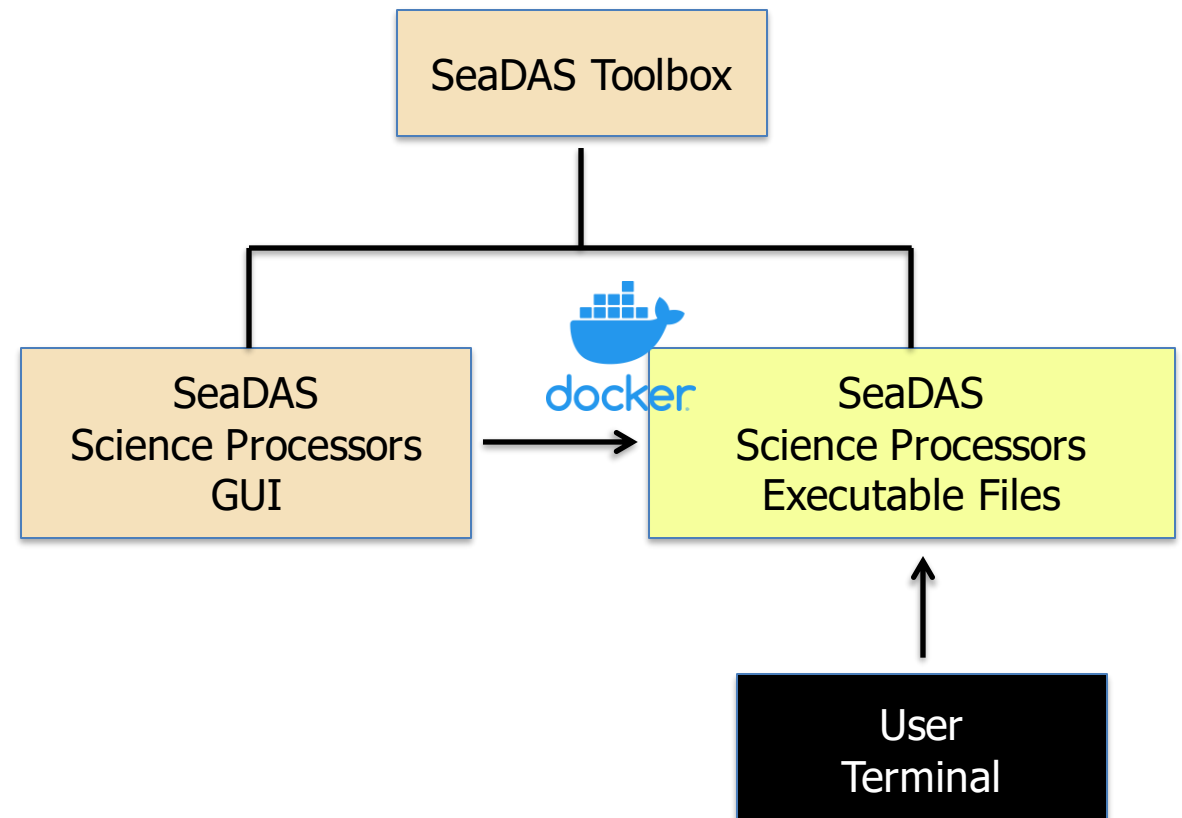
- Linux & Mac OS (pre-m1 chip)
 - Full support
- Mac OS (m1 chip)
 - Full support
- MS Windows
 - Full support

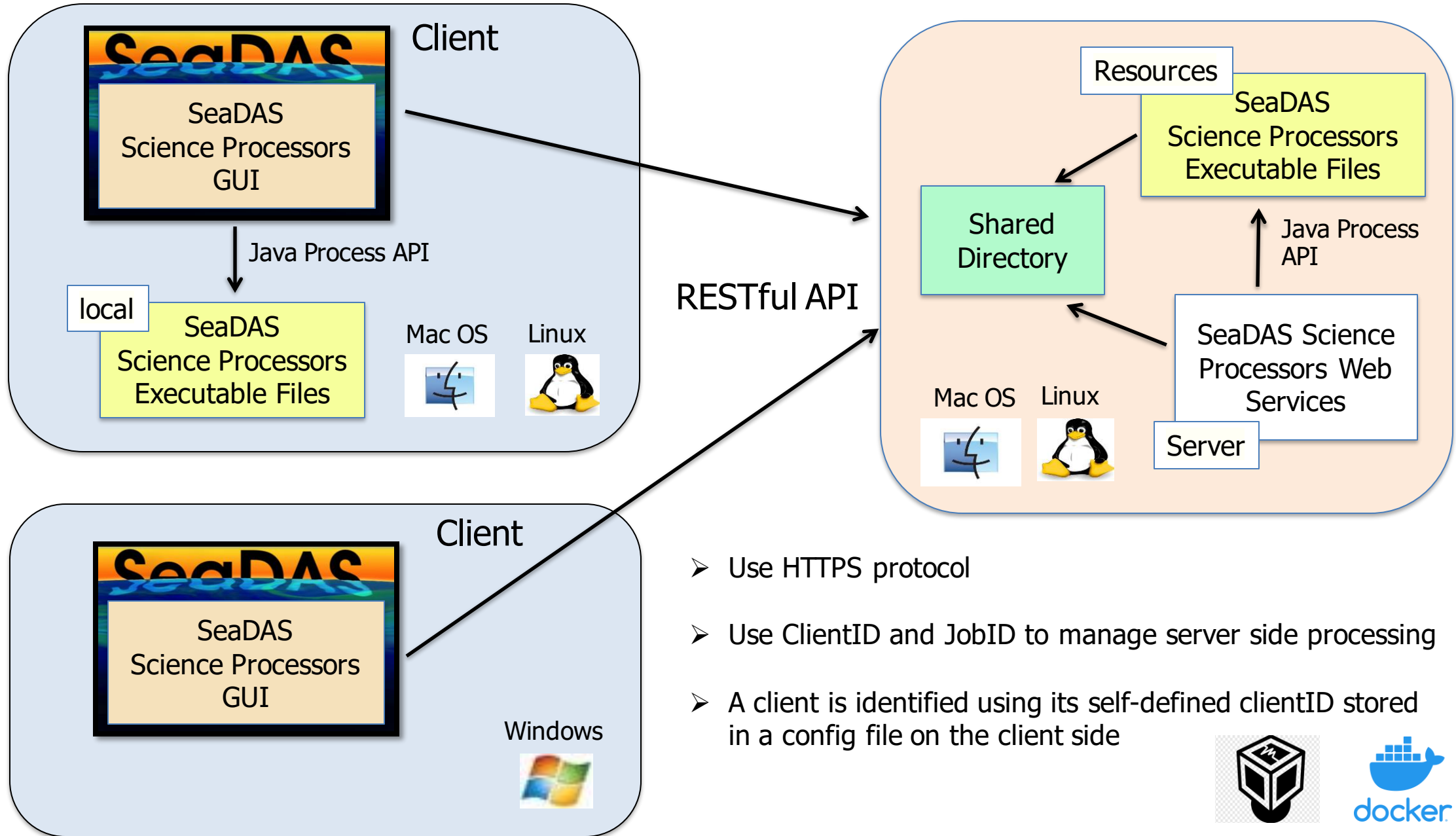
Science Processors GUI

- Graphic user interface written in:
 - Java
- Communication with SeaDAS Science Processors executable files
 - Directly execute the processors using Java Process API
 - Send processor parameters through webservices to dedicated server

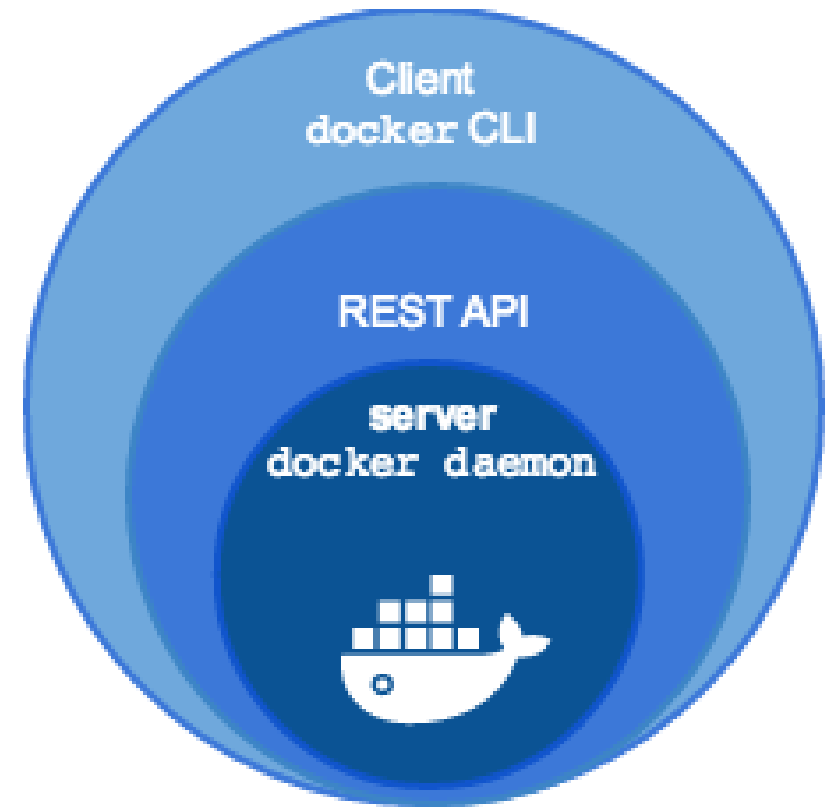
Science Processors Executable Files

- Command line interface tools written in:
 - C
 - C++
 - Python
- Receives parameters, options, flags and prints output messages on the terminal



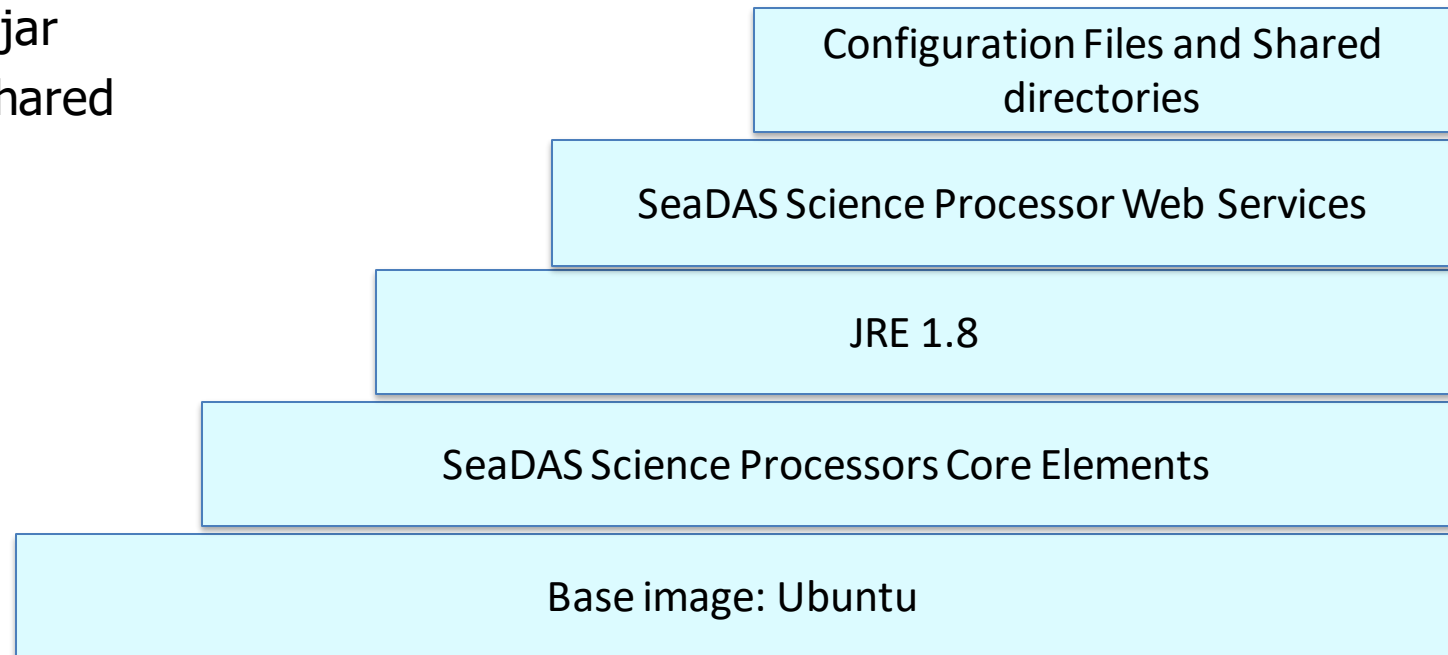


- What is Docker?
 - Software framework for building, running, and managing containers on servers
 - Uniform wrapper around a software package
 - Similar to shipping real containers
- Advantages of Docker
 - Simplifies configuration
 - Facilitates application isolation
 - Improves resource sharing (multi-tenancy)
 - Rapid deployment



➤ Content

- .netrc
- jre1.8.0_321
- ocsw
- ocsw.dbocswserver.config
- seadas-ocswserver.jar
- seadasClientServerShared



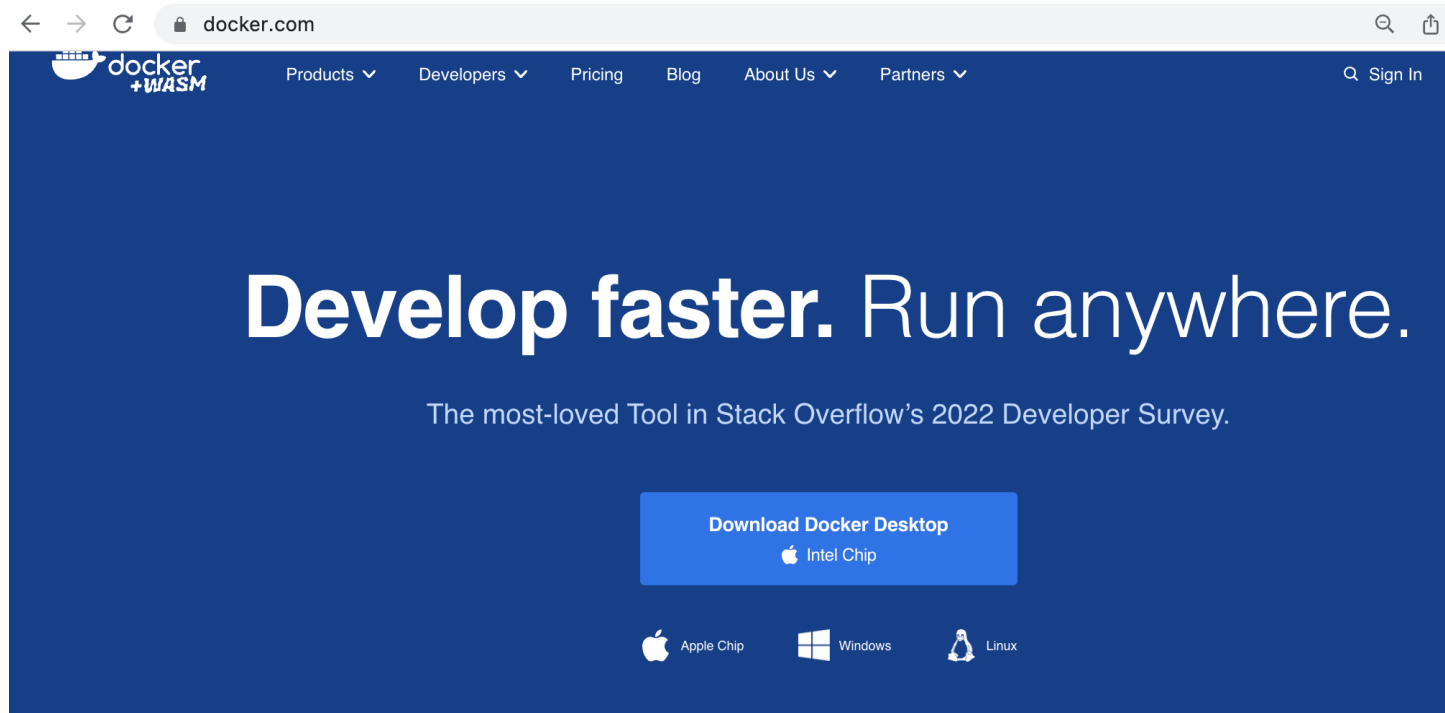


Objectives:

- Install Docker Desktop
- Install SeaDAS Science Processor Docker image
- Install SeaDAS
- Run SeaDAS science processors with Docker image

Docker & Client Server Help: https://seadas.gsfc.nasa.gov/client_server

- Download Docker installer: <https://www.docker.com>
 - Installation guide: <https://docs.docker.com/install>



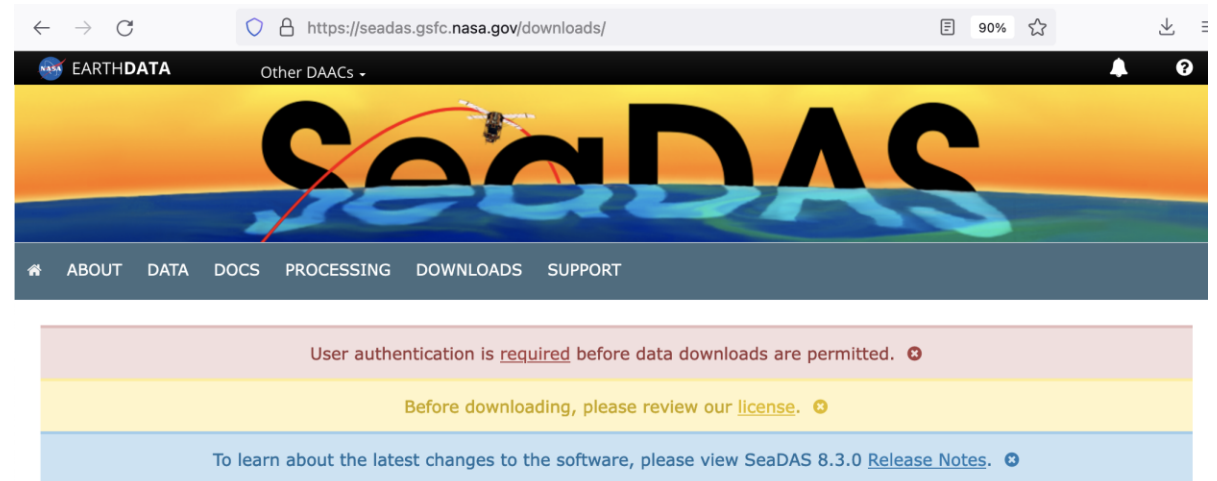


- Make sure Docker Desktop is running
- Create two directories in your home directory
 - ocsw
 - seadasClientServerShared
- Needs ~/.netrc file in home directory (needs Earthdata Login account)
- Execute the following command from a regular terminal on Mac OS (or for Windows execute from Power Shell's command line):

```
docker run -v $HOME/ocsw:/root/ocsw -v  
$HOME/seadasClientServerShared:/root/seadasClientServerShared -p 6400:6400 -p  
6402:6402 -p 6403:6403 -t seadas/ocsw-run:1.0
```




- Download SeaDAS installer: <https://seadas.gsfc.nasa.gov/downloads>
 - Choose installer (based on your operating system)
- Launch the installer on your computer
- Launch SeaDAS application



SeaDAS Installers and Source Code

Visualization Installers

Filename	Version	Size
seadas_8.3.0_windows64_installer.exe	8.3.0	494 MB
seadas_8.3.0_mac_installer.sh	8.3.0	616 MB
seadas_8.3.0_linux64_installer.sh	8.3.0	638 MB



- Configure SeaDAS science processor location
- Install Hawkeye mission
- Download Hawkeye Level-1 data file from OB.DAAC data repository
- Run processor "geolocate_hawkeye" (generates a geofile)
- Run processor "L2gen" (generates a Level-2 file)
- Display image of the resultant Level-2 file



- Docker & Client Server: https://seadas.gsfc.nasa.gov/client_server
- Earthdata Forum: <https://forum.earthdata.nasa.gov/app.php/tag/SeaDAS>



- SeaDAS Website: <https://seadas.gsfc.nasa.gov>
- Ocean Color Website: <https://oceancolor.gsfc.nasa.gov>
- OB.DAAC Website: <https://www.earthdata.nasa.gov/eosdis/daacs/obdaac>

- SeaDAS Downloads & Release Notes
 - Latest Downloads: <https://seadas.gsfc.nasa.gov/downloads>
 - All downloads and release notes: <https://seadas.gsfc.nasa.gov/history>
- Docker & Client Server: https://seadas.gsfc.nasa.gov/client_server
- Operating System Requirements: <https://seadas.gsfc.nasa.gov/requirements>
- Tutorials:
 - Help pages (available in both application and web): <https://seadas.gsfc.nasa.gov/help>
 - Video Tutorials: https://seadas.gsfc.nasa.gov/tutorials/video_tutorials
 - * Production of video tutorials to resume this year
- Data: <https://oceancolor.gsfc.nasa.gov>
 - Level-2 File Browse (by location, time constraints, mission) * Revision planned
 - Level-3 File Browse (time constraints, mission) * Revision planned
 - File name search (supports wild cards)
 - Direct file access (in an unwinding folder system)
- Forum: <https://forum.earthdata.nasa.gov/app.php/tag/SeaDAS>



Aynur Abdurazik – SeaDAS lead developer

Donald Shea - SeaDAS processors lead developer

Daniel Knowles – SeaDAS developer, SeaDAS instruction

Bing Yang – SeaDAS developer, SeaDAS processors developer

Sean Bailey - DAAC Manager

Alicia Scott - Deputy DAAC Manager

Guoqing Wang - DAAC Scientist

OBPG (NASA's Ocean Biology Processing Group) – many scientists and algorithm developers