

SEAScope installation manual for macOS

The main component of SEAScope is a viewer application whose capabilities can be extended using an optional Python module.

The Python module enables interactive features in the viewer: it allows you to extract data as serialized Python objects (pickle format) or produce plots by clicking on buttons in the user interface.

It also provides an API to control the viewer (even remotely, over the network) using scripts or notebooks.

Other SEAScope-related subjects are covered by documents available on the SEAScope website:

- User manual for the viewer and the Python package:
https://seascope.oceandatalab.com/docs/seascope_user_manual_20190703.pdf
- Intermediate Data Format definition, general concept and glossary:
https://seascope.oceandatalab.com/docs/idf_specifications_1.2.pdf

Requirements

Viewer

Aside from a consumer-grade computer with a 3D graphics card, the SEAScope viewer requires **OS X Mavericks** (10.9) or newer.

Python package

The Python package for SEAScope comes in two flavors:

- a lightweight version which provides only the API for writing your own scripts.
- a full version which contains both the API and the processing tools for extractions and transects.

The lightweight version requires:

- Python 2.7 or 3.x
- flatbuffers (<https://pypi.org/project/flatbuffers/>)

In addition to these dependencies, the full version also requires:

- pyproj (<https://pypi.org/project/pyproj/>)
- numpy (<https://pypi.org/project/numpy/>)
- matplotlib (<https://pypi.org/project/matplotlib/>)
- scipy (<https://pypi.org/project/scipy/>)

Installation

Viewer

The SEAScope application has a small memory footprint (around 32 megabytes).

Simply open the SEAScope disk image (seascope-viewer-20190628.dmg) and drag SEAScope to the Applications folder.

The installation of the SEAScope viewer is complete. Easy :)

"Import to SEAScope" droplet

In the SEAScope disk image you will also see an "Import to SEAScope" droplet. This droplet allows you to easily add data bundles to your SEAScope workspace. Just copy it to wherever you like on your computer, if you want to use it.:

Python package

The preferred way to install the SEAScope Python package is to use the "pip" command.

Retrieve the package on the SEAScope website:

```
pip download --no-deps "https://seascope.oceandatalab.com/python/seascope-python-0.2.162.tar.gz"
```

Then,

- for the lightweight version of the package, run:

```
pip install ./seascope-python-0.2.162.tar.gz
```

- for the full version of the package, use:

```
pip install "./seascope-python-0.2.162.tar.gz[processor]"
```

In order to avoid version conflicts between Python packages, we recommend to use virtual environments.

Python package (alternative)

If you are not accustomed to virtualenv and pip, you can use the following procedure to install both pip, virtualenv and the SEAScope "full" package as a user (no root permissions required).

Choose a path where the SEAScope package and its dependencies will be installed. This path is referred to as <INSTALL_DIR> in the following examples:

```
curl -fsSL "https://seascope.oceandatalab.com/tools/python_install_macos.sh" \  
| sh -s -- <INSTALL_DIR>
```

Please note that this one-liner is provided as a convenience, but the best practice would be to download the script, then check its content and only execute it if you are sure it won't harm you computer.

Then, in order to load the environment and have access to its contents, use:

```
source <INSTALL_DIR>/env/bin/activate
```

Troubleshooting

FAQ

Issues which have already been solved are documented on the SEAScope website, you can consult them at the following address: <https://seascope.oceandatalab.com/faq.html>

Compatibility

The SEAScope viewer has been tested on **macOS Mojave** (10.14).
It should also work on **OS X Mavericks** (10.9) or newer.

Contact us

For any question, comment or bug report, please send an email to seascope@oceandatalab.com

You can also post a message in the SEAScope forum <https://forum.oceandatalab.com/seascope>

In order for issues to be solved quickly, bug reports must contain the system diagnostic report.
To generate a system diagnostic report:

1. Open the Terminal app (found in /Applications/Utilities)
2. Copy and paste the following:

```
system_profiler -detailLevel mini -xml > ~/Desktop/system_report.spx
```

3. Hit the return key
4. The generated system diagnostic report is located on your desktop under the name «system_report.spx» (the «.spx» part might be hidden on your system)