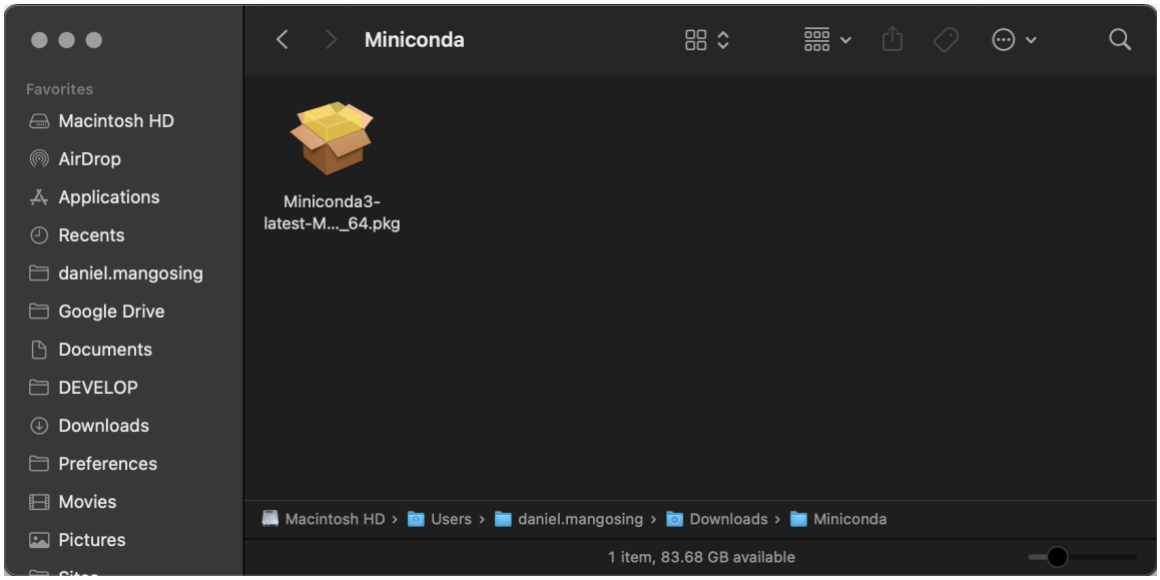
Miniconda for macOS Python Geospatial Installation

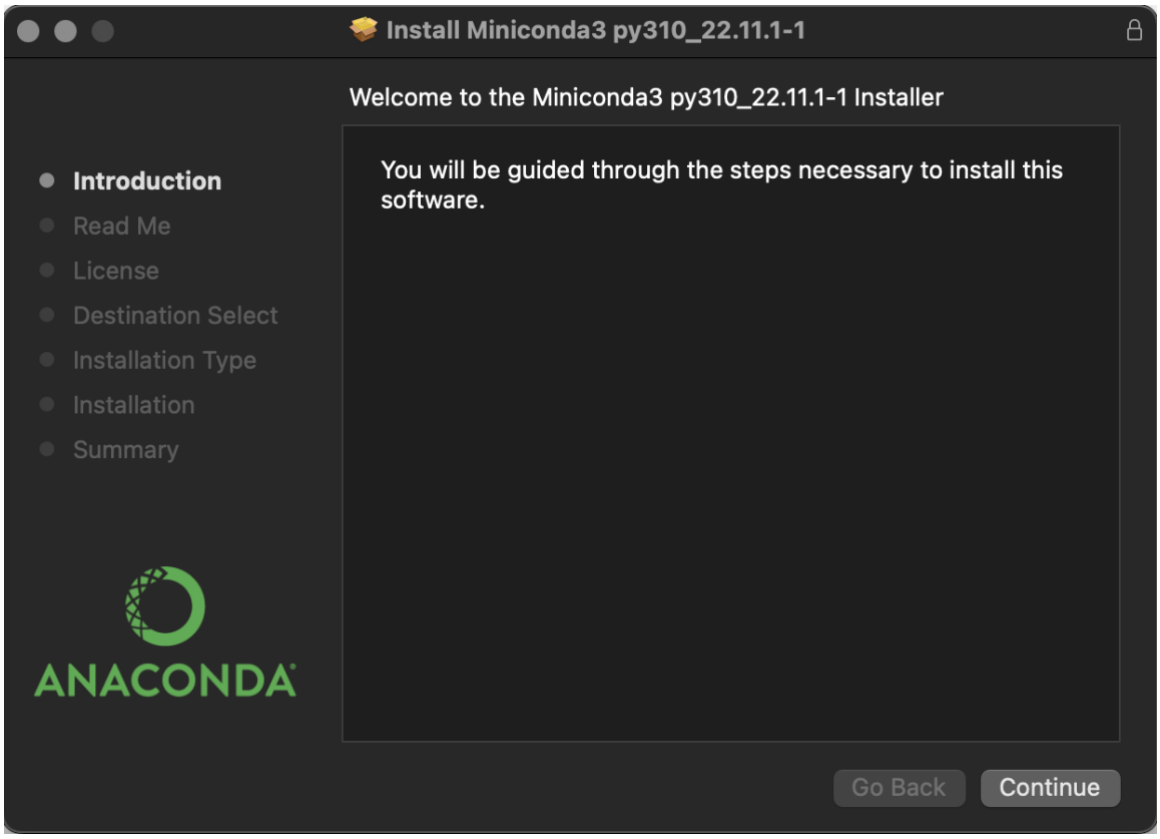
Miniconda Install

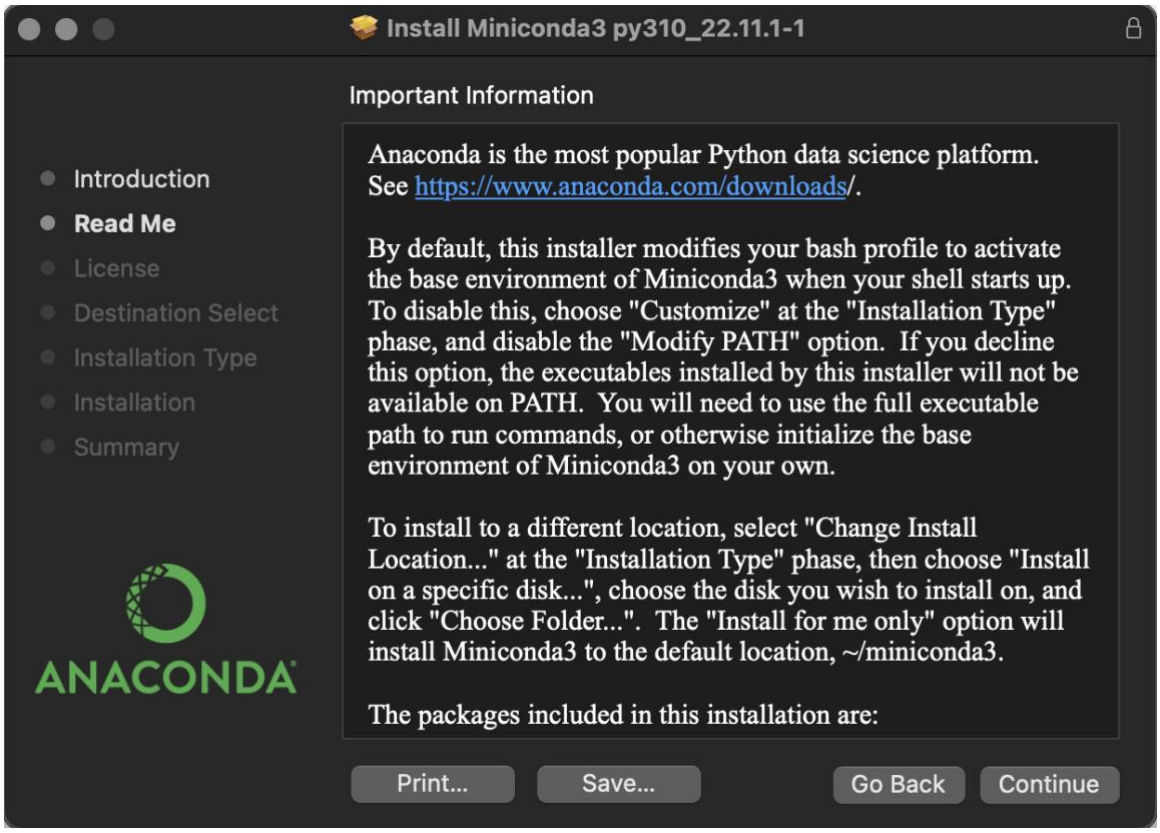
1. Miniconda download: https://docs.conda.io/en/latest/miniconda.html

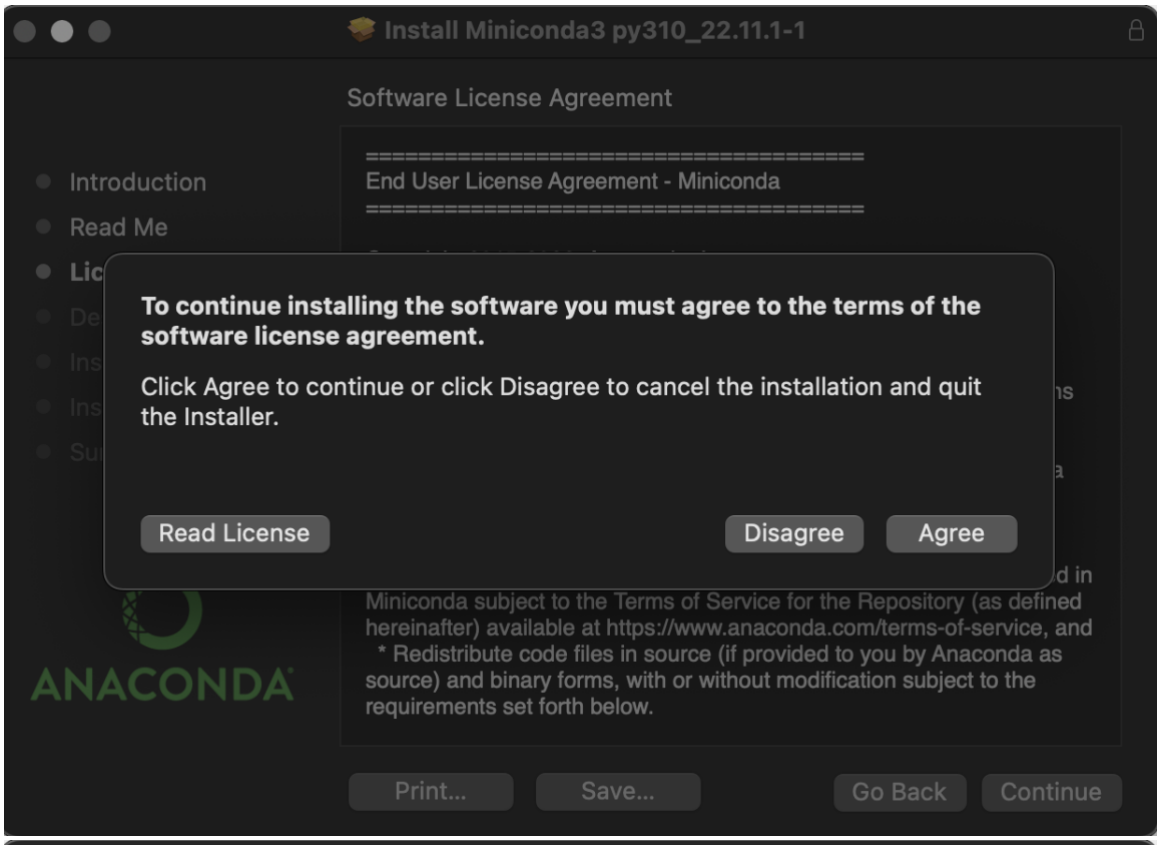
2. Miniconda3 macOS Intel x86 64-bit pkg: https://repo.anaconda.com/miniconda/Miniconda3-latest-MacOSX-x86_64.pkg

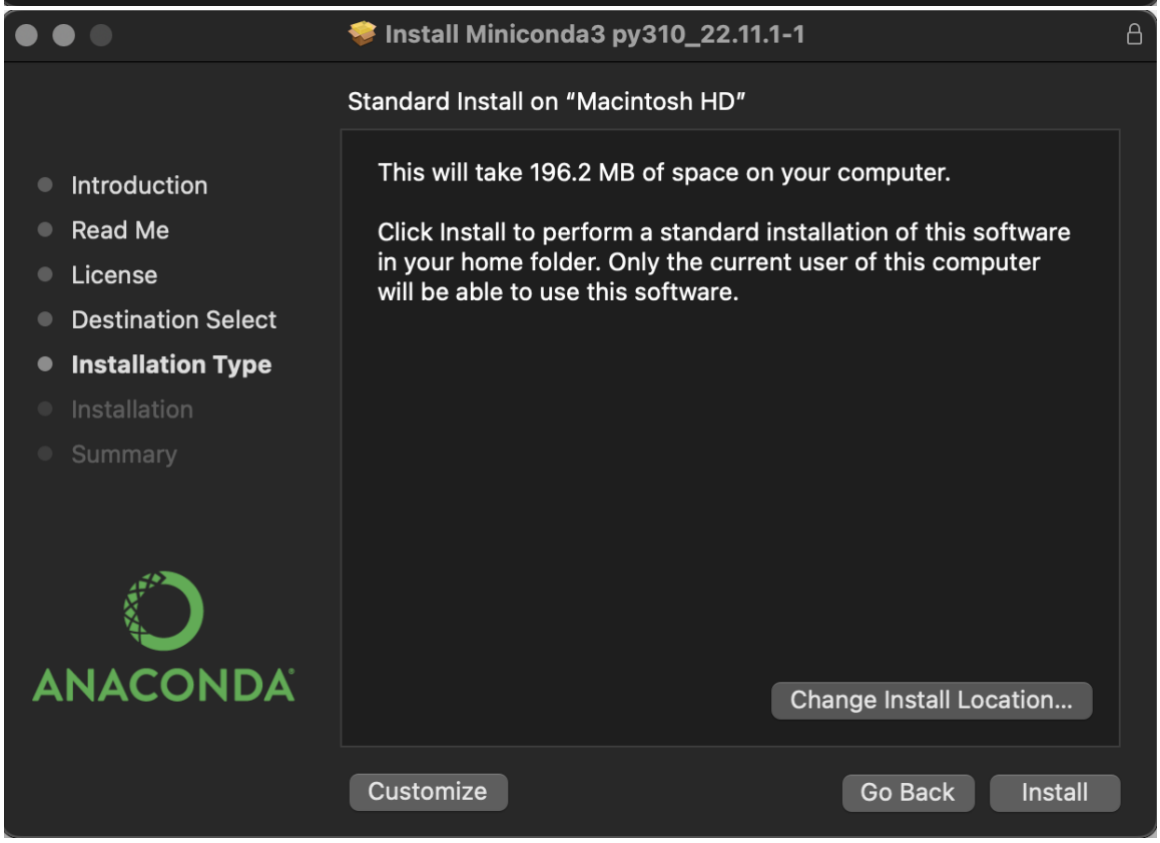
3. Double-click `Miniconda3-latest-MacOSX-x86_64.pkg` to start the installation:

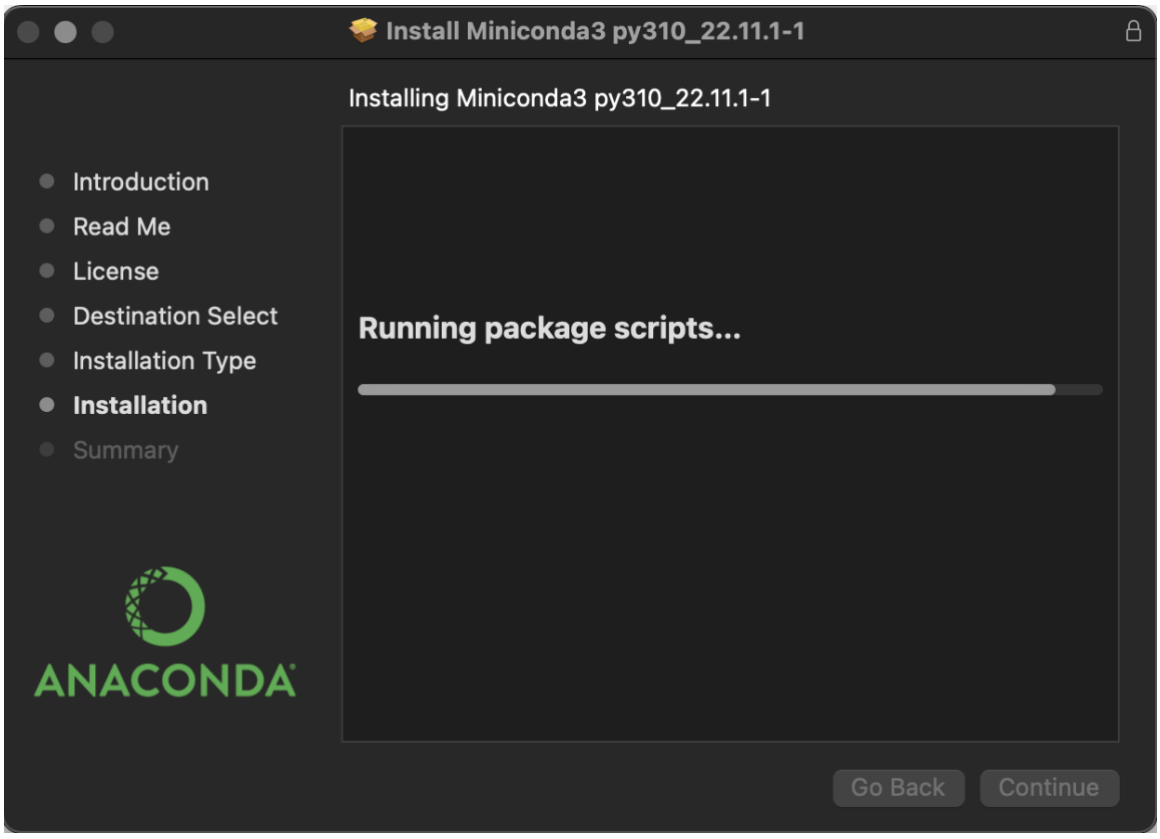


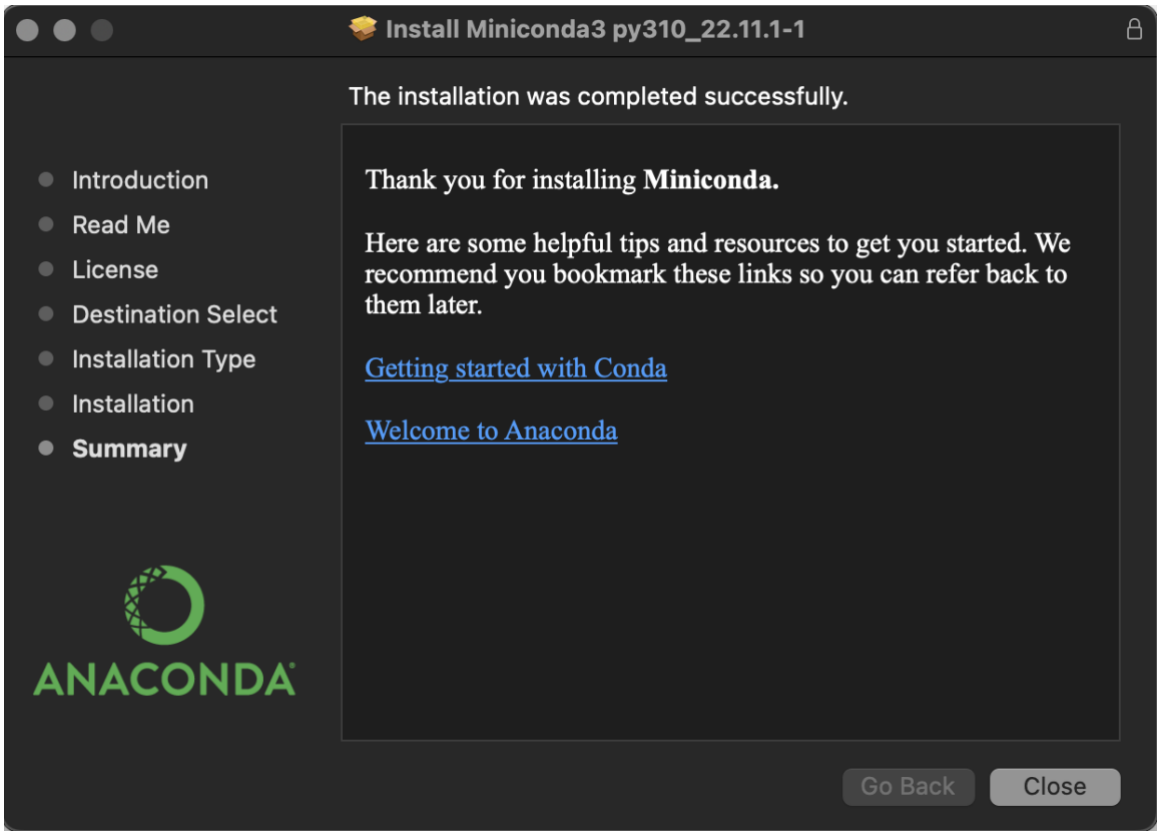

Install Miniconda3 py310_22.11.1-1
Welcome to the Miniconda3 py310_22.11.1-1 Installer
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
You will be guided through the steps necessary to install this software.
ANACONDA
Go Back
Continue


Install Miniconda3 py310_22.11.1-1
Important Information
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
Anaconda is the most popular Python data science platform.
See https://www.anaconda.com/downloads/.
By default, this installer modifies your bash profile to activate the base environment of Miniconda3 when your shell starts up. To disable this, choose "Customize" at the "Installation Type" phase, and disable the "Modify PATH" option. If you decline this option, the executables installed by this installer will not be available on PATH. You will need to use the full executable path to run commands, or otherwise initialize the base environment of Miniconda3 on your own.
To install to a different location, select "Change Install Location..." at the "Installation Type" phase, then choose "Install on a specific disk...", choose the disk you wish to install on, and click "Choose Folder...". The "Install for me only" option will install Miniconda3 to the default location, ~/miniconda3.
The packages included in this installation are:
ANACONDA
Print...
Save...
Go Back
Continue


Install Miniconda3 py310_22.11.1-1
Software License Agreement
Introduction
Read Me
Lic
De
Ins
Ins
Su
End User License Agreement - Miniconda
To continue installing the software you must agree to the terms of the software license agreement.
Click Agree to continue or click Disagree to cancel the installation and quit the Installer.
Read License
Disagree
Agree
Miniconda subject to the Terms of Service for the Repository (as defined hereinafter) available at https://www.anaconda.com/terms-of-service, and
* Redistribute code files in source (if provided to you by Anaconda as source) and binary forms, with or without modification subject to the requirements set forth below.
ANACONDA
Print...
Save...
Go Back
Continue


Install Miniconda3 py310_22.11.1-1
Standard Install on "Macintosh HD"
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
This will take 196.2 MB of space on your computer.
Click Install to perform a standard installation of this software in your home folder. Only the current user of this computer will be able to use this software.
Change Install Location...
ANACONDA
Customize
Go Back
Install


Install Miniconda3 py310_22.11.1-1
Installing Miniconda3 py310_22.11.1-1
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
Running package scripts...
ANACONDA
Go Back
Continue


Install Miniconda3 py310_22.11.1-1
The installation was completed successfully.
Introduction
Read Me
License
Destination Select
Installation Type
Installation
Summary
Thank you for installing Miniconda.
Here are some helpful tips and resources to get you started. We recommend you bookmark these links so you can refer back to them later.
Getting started with Conda
Welcome to Anaconda
ANACONDA
Go Back
Close

Update conda

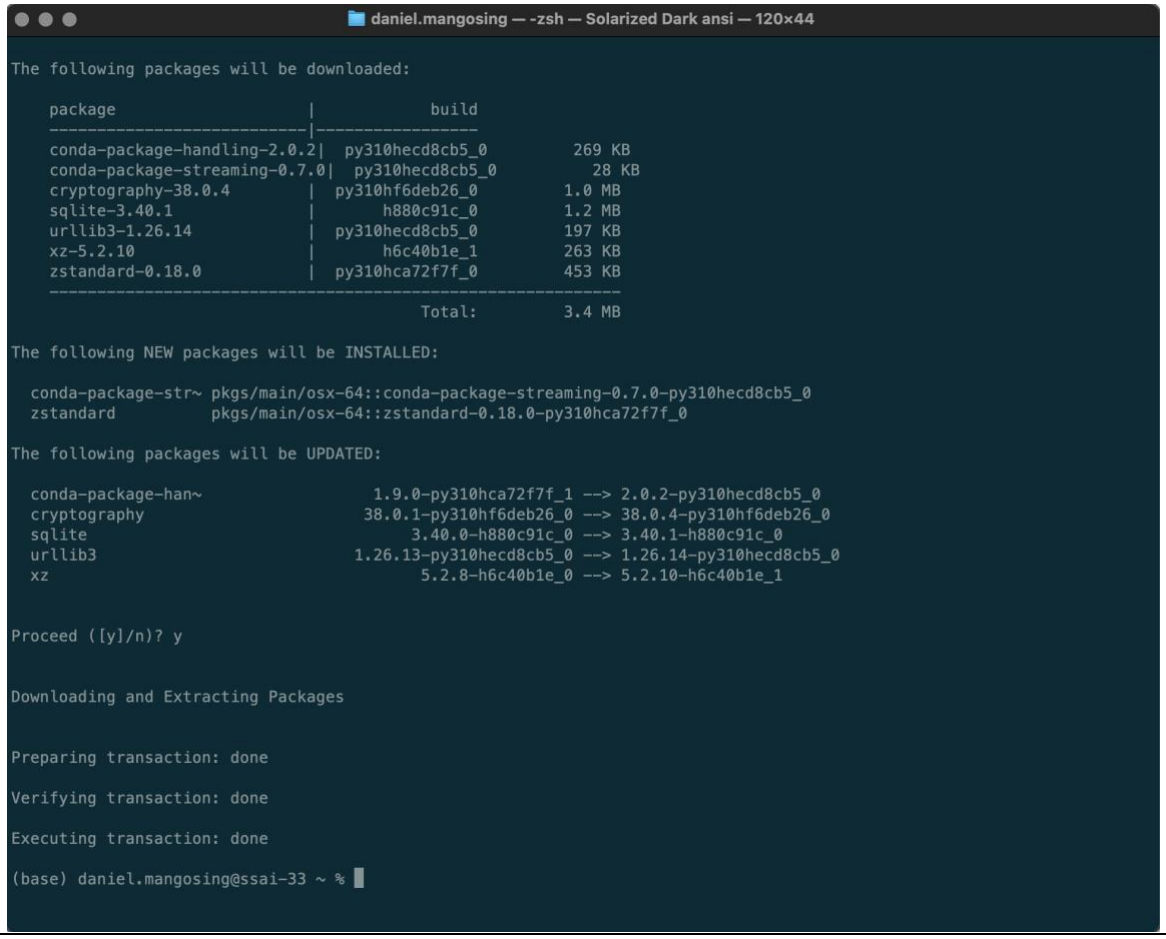
1. Press ⌘-Space Bar, and type:
   `Terminal⏎`

   to launch the `Terminal.app`

2. Clear any *conda* package cache. At the Terminal prompt, type:
   `rm -rf ~/Library/Caches/conda`

3. At the Terminal prompt, type:
   `conda update conda`

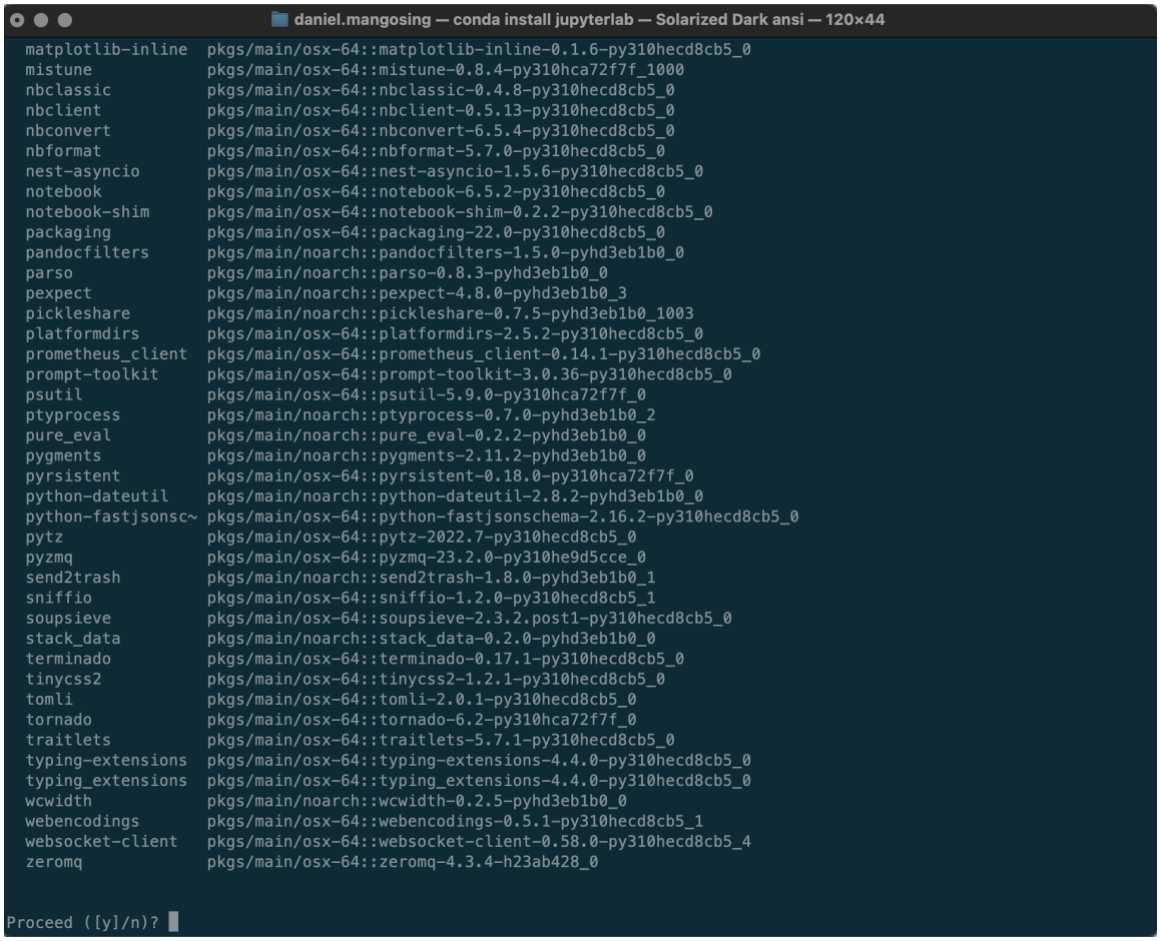
4. The *conda update* command will identify packages for conda that need to be updated. Type '`y`' to proceed with the package updates.



Installing *JupyterLab*

1. In the Terminal prompt, type:
   ```
   conda install jupyterlab
   ```

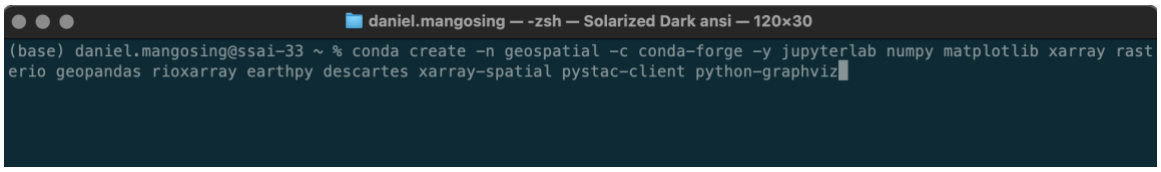
2. Type '`y`' to proceed with the *JupyterLab* installation.



Create *geospatial* environment (installing packages required for the *Introduction to Geospatial Raster and Vector Data with Python* Lesson)

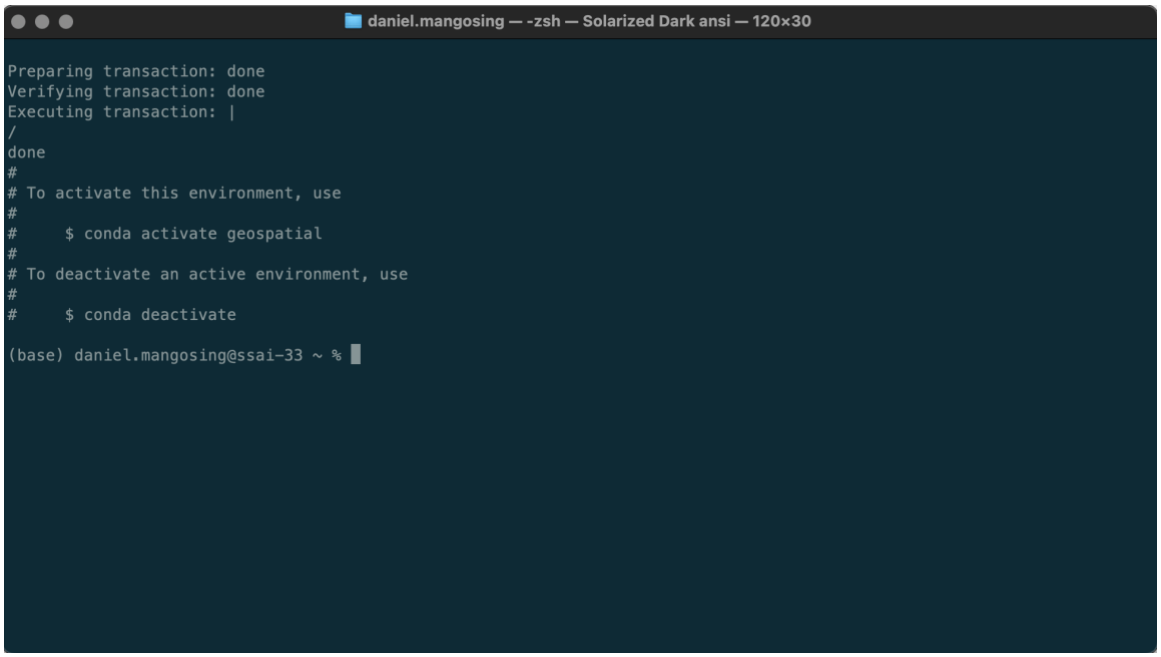
1. In the Terminal prompt, type (this should be all on one line):

```
conda create -n geospatial -c conda-forge -y jupyterlab numpy
matplotlib xarray rasterio geopandas rioxarray earthpy descartes
xarray-spatial pystac-client python-graphviz
```



2. The conda will evaluate the current environment and determine which packages need to be installed. *This may take more than a few minutes*.

3. After installation, you will be presented with instructions on how to activate and deactivate the *geospatial* environment:



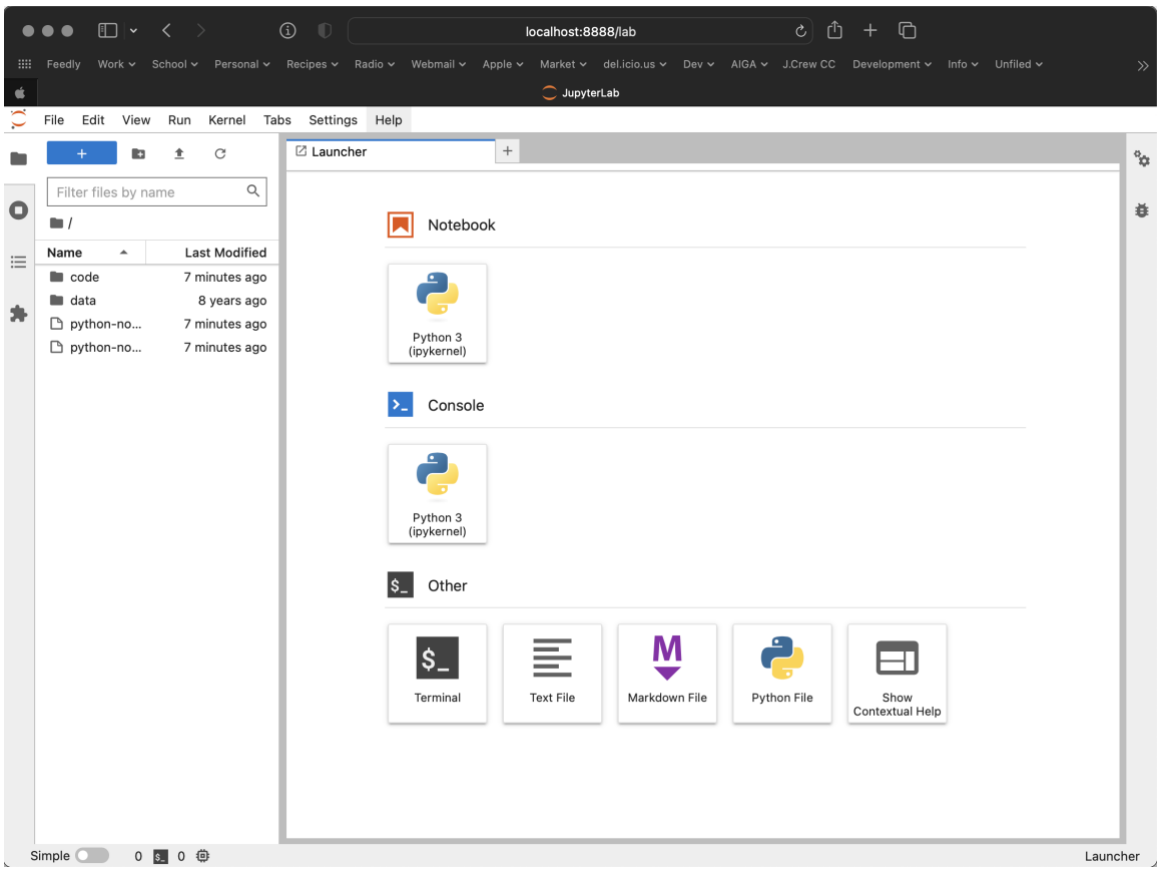
Activating the *geospatial* environment and launching *JupyterLab*

1. In the Terminal prompt, type:
   ```
   conda activate geospatial
   ```

2. You will be returned to the Terminal prompt, but notice that the prompt is prepended with **`(geospatial)`**

3. Launch *JupyterLab* from the Terminal prompt by typing:
   ```
   jupyter lab
   ```

4. This will launch *JupyterLab* in a browser window:



5. Click on the `Python 3` icon under the *Notebook* section to start an interactive *Jupyter Notebook* session.

6. You are now ready to proceed with the Programming with Python or Introduction to Geospatial Raster and Vector Data with Python Software Carpentry Lessons.

Installing code and data files for the *Programming with Python* Lesson

1. In the Terminal prompt, change the directory to your Desktop by typing:
   `cd ~/Desktop`

2. Download `python-novice-inflammation-data.zip` and `python-novice-inflammation-code.zip`:

https://swcarpentry.github.io/python-novice-inflammation/data/python-novice-inflammation-data.zip
https://swcarpentry.github.io/python-novice-inflammation/code/python-novice-inflammation-code.zip

3. Create a folder called `swc-python` on your Desktop.

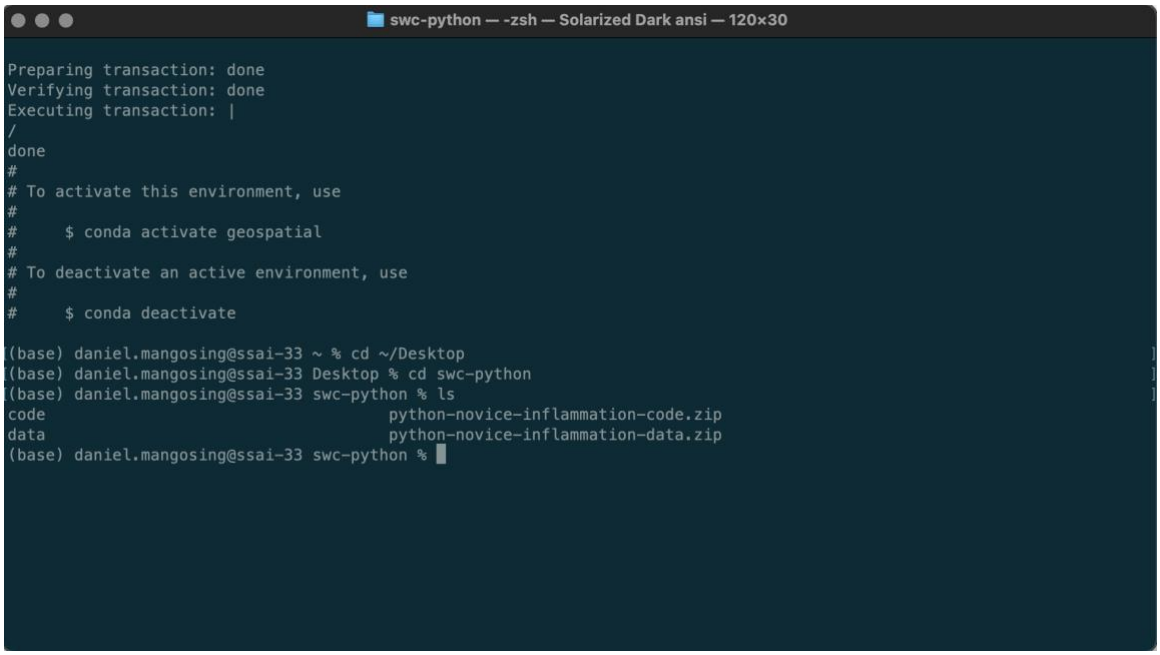
4. Move downloaded files to `swc-python`.

Unzip the files.

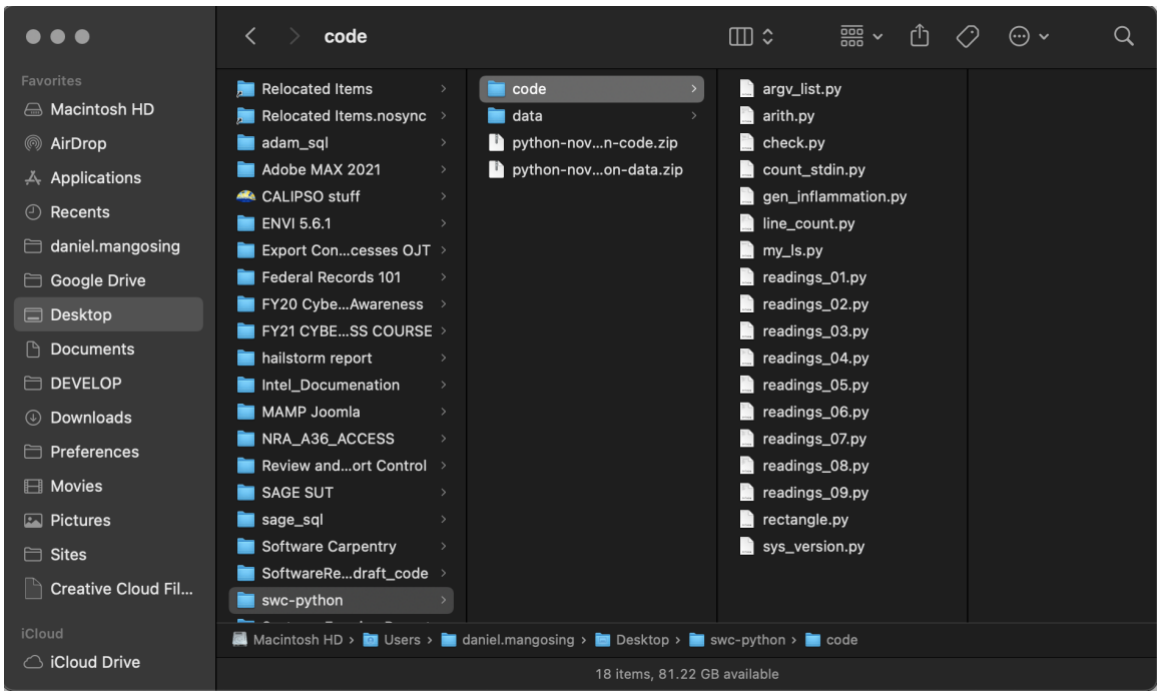
You should see two folders, `data` and `code`, in the `swc-python` directory on your Desktop.

5. In the Terminal prompt, change to the working directory by typing:
   `cd swc-python`

6. In the Terminal prompt. list directory to verify directory structure is correct by typing:
   `ls`



7. You can also verify the directory structure in the macOS Finder window:



Launching the *Programming with Python or Introduction to Geospatial Raster and Vector Data with Python* Lesson Software Carpentry lessons

1. Ensure that you have downloaded the Python code and data required for this lesson. Refer to the section on **Installing code and data files for the *Programming with Python* Lesson** for installation instructions.

2. In the Terminal prompt, change the directory to your Desktop by typing:

```
cd ~/Desktop/swc-python
```

3. In the Terminal prompt, type:

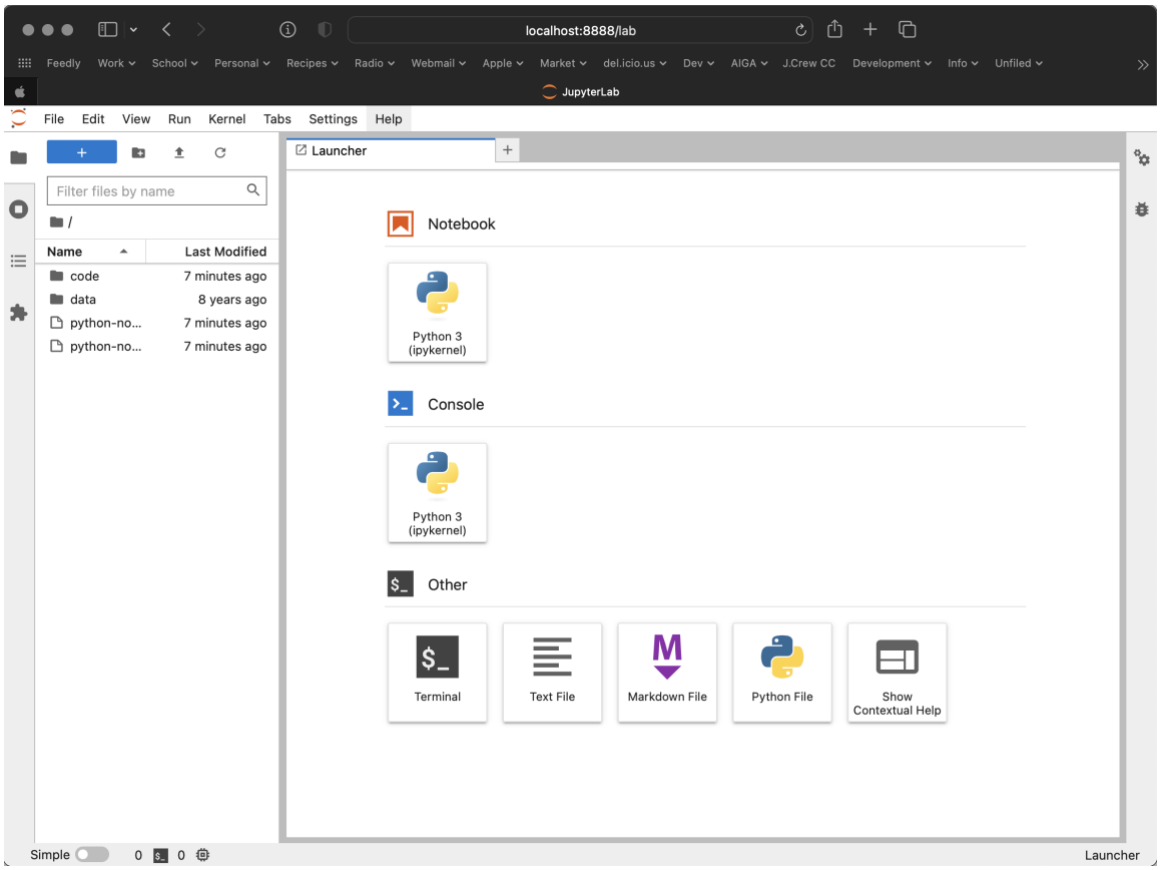
```
conda activate geospatial
```

4. You will be returned to the Terminal prompt, but notice that the prompt is prepended with **`(geospatial)`**

5. Launch *JupyterLab* from the Terminal prompt by typing:

```
jupyter lab
```

6. This will launch *JupyterLab* in a browser window:



7. Click on the `Python 3` icon under the *Notebook* section to start an interactive *Jupyter Notebook* session.

8. You are now ready to proceed with the Programming with Python or Introduction to Geospatial Raster and Vector Data with Python Software Carpentry Lessons.