NEON tutorial pre-requisites

If this is your first time installing Python on your machine (Windows/Mac/Linux), we recommend installing the Anaconda distribution. Anaconda is a Python distribution that provides an easy-to-use platform for data science and machine learning. It has many pre-installed packages and tools commonly used in these fields, and it also has a package manager that makes it easy to install and manage dependencies and packages. As of this tutorial, the current version of Anaconda comes pre-loaded with Python 3.11.7.

If you have an older version of Python already installed and do not wish to upgrade it, face issues with the Anaconda installation, or have limited memory/space on your machine, you can run the Python code on Google Colab. Google Colaboratory is a free online cloud-based Jupyter Notebook environment that allows us to run your Python code without installing anything on your local machine. It does not matter which computer you have, its configuration, and how ancient it might be. You can still use Google Colab! All you need is a Google account and a web browser. Colab also lets you link your cloud-based Python code to your Google Drive, where you can host your datasets. As of this tutorial, the current version of Colab runs Python 3.10 in the background. All packages used in this tutorial have been tested for Python versions 3.10 and 3.11, and using a previous version might cause issues with running the packages.

Although not required for this tutorial, we recommend downloading and installing the latest version of QGIS to visualize raster and vector data easily. Unlike ArcGIS, which requires a license and works only on Windows, QGIS is free and works on Windows, Mac, and Linux. If you have an older version of QGIS installed on your machine, we recommend you upgrade it to the latest version, as the new version can also ingest lidar point cloud data.