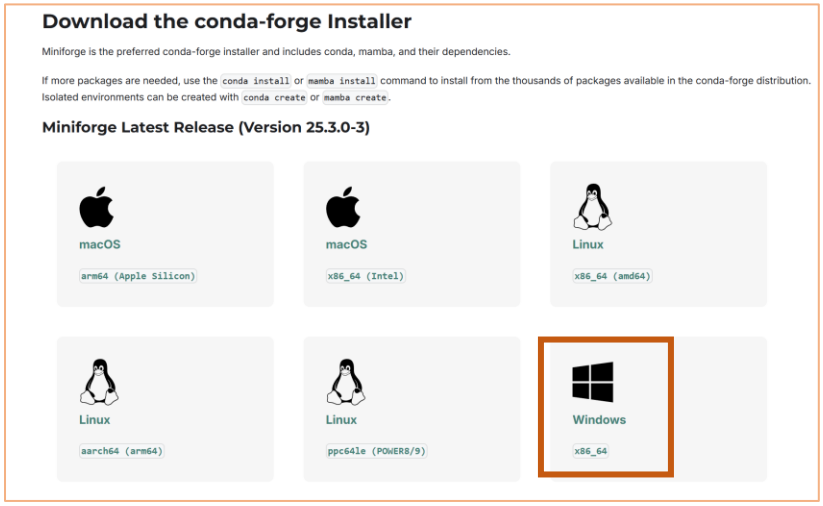
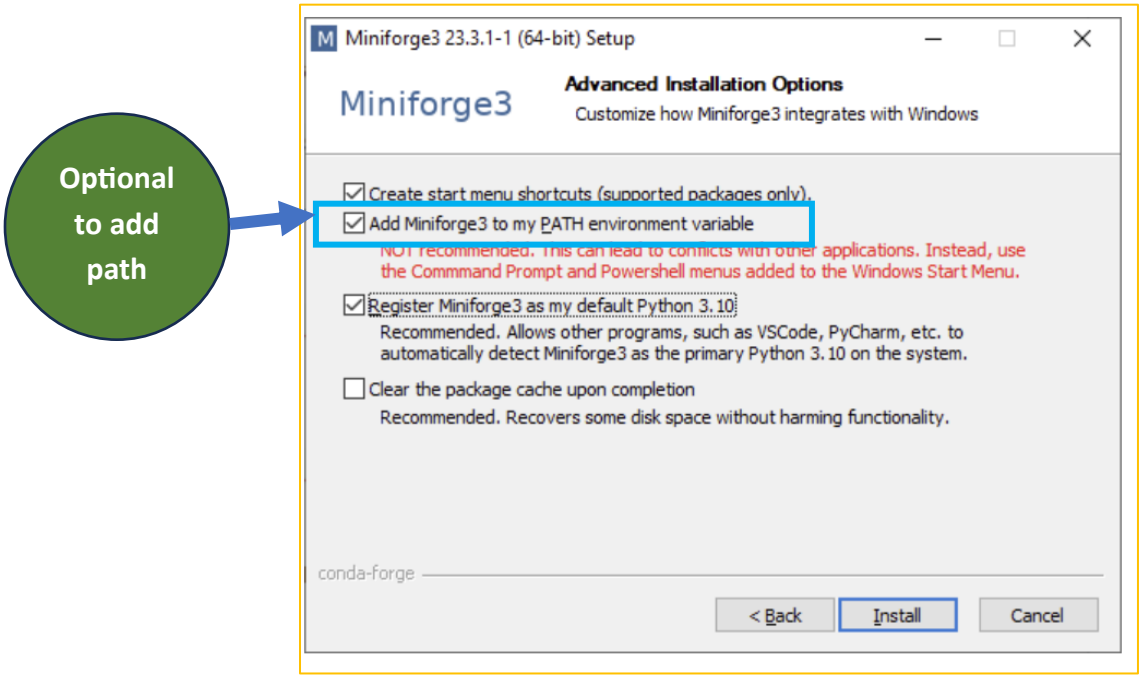
STEPWISE TUTORIAL TO INSTALL ENVIRONMENT FOR PYGIS IN WINDOWS

Step 1: Download miniforge using link below

https://conda-forge.org/download/



Step 2: Install Miniforge;



OR

Open Command prompt; and run the code below (copy all at once)

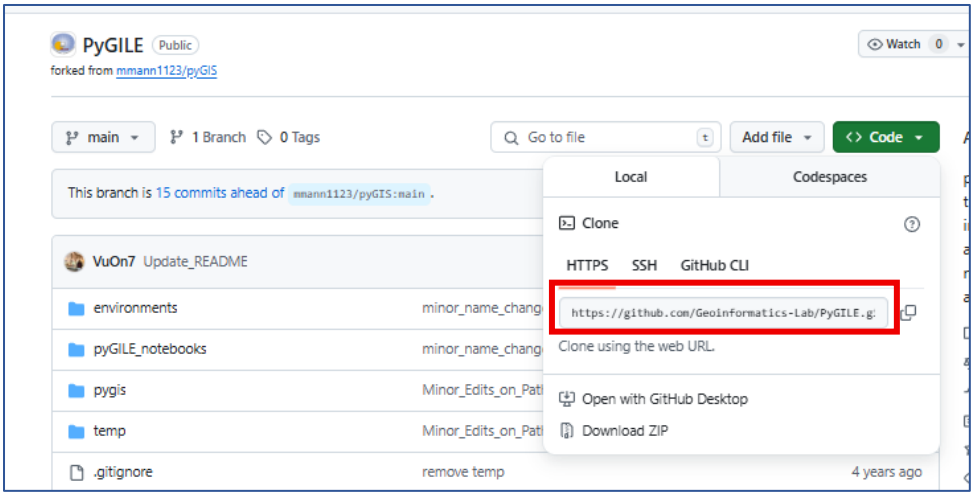
powershell -Command "Invoke-WebRequest -Uri 'https://github.com/conda-forge/miniforge/releases/latest/download/Miniforge3-Windows-x86_64.exe' -OutFile 'Miniforge3-Windows-x86_64.exe'" && start /wait "" Miniforge3-Windows-x86_64.exe /InstallationType=JustMe /RegisterPython=0 /AddToPath=0 /S /D=%UserProfile%\Miniforge3 && %UserProfile%\Miniforge3\Scripts\conda.exe init

Step 3: Clone the repo or download files from Github; [https://github.com/Geoinformatics-Lab/pyGILE]

Here, for this tutorial, it's saved in the folder below "C:\Users\ibhuw\Downloads\pyGILE-main.zip"; unzip it;

There will be a text file inside:

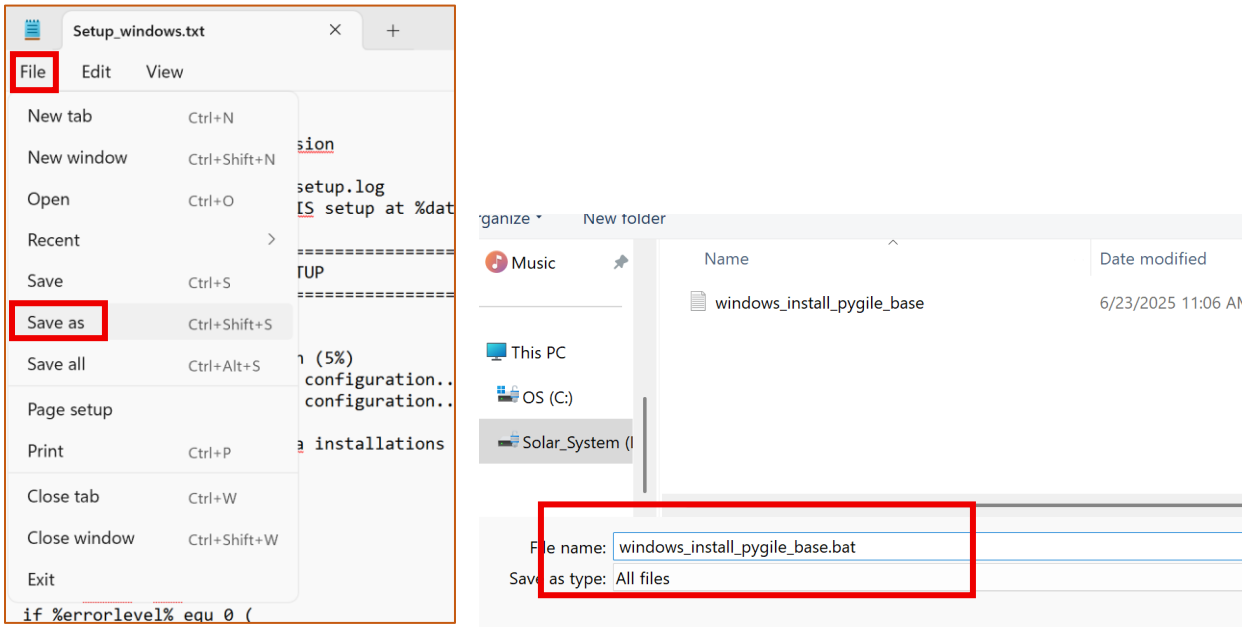
"C:\Users\ibhuw\Downloads\pyGILE-main\setup_files\windows\windows_install_pygile_base.txt"



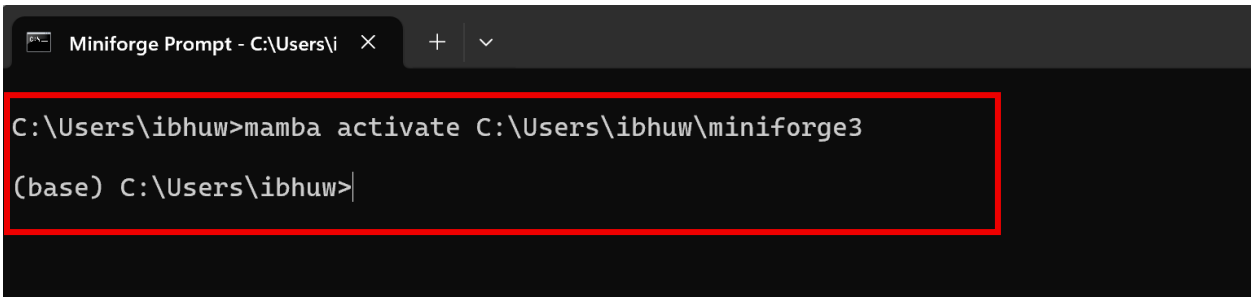
Step 4: Open the "windows_install_pyGILE_base.txt" and save as "windows_install_pygile_base.bat"; change save file type as "All files"; SAVE IN THE SAME FOLDER where windows_install_pygile_base.txt is present. (*CHECK image below*)

E.g.

"C:\Users\ibhuw\Downloads\pyGILE-main \environments\windows\windows_install_pygile_base.bat"

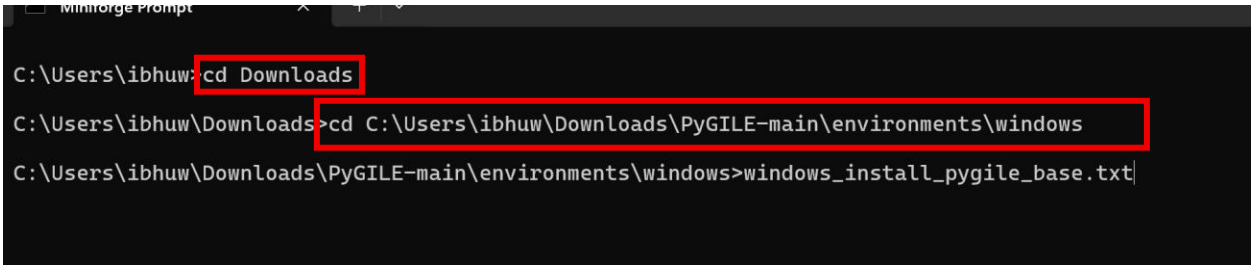


Step 5: Now search for "miniforge prompt" from Start in windows; and open "miniforge prompt"; something like this appears *(see image below)*



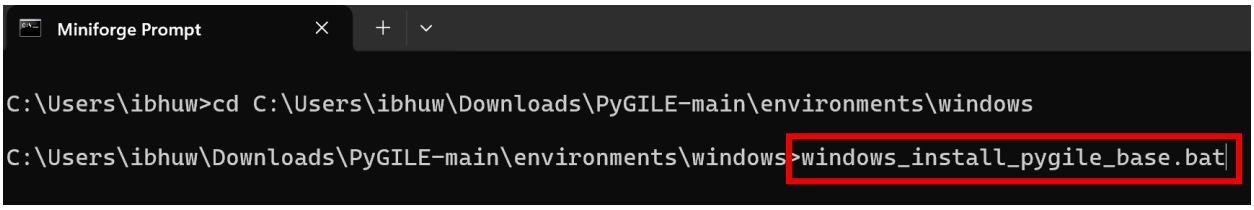
Step 6: NOTE: cd to the directory of containing "windows_install_pygile_base.bat" and then type the name of the file;

Here, the files are downloaded in "Downloads" folder; (base) showing or not; installation will not be affected;



Step 7: Check the directory of installation; directory containing "windows_install_pygile_base.bat"; a log file named "pygile_errors.log" will be created alongside the installation to check for issues.

Step 8: Install the batch file by typing the name of the file "windows_install_pygile_base.bat"



Check the progress as the installation continues: BE PATIENT AND keep an eye on the log file "pygile_base_setup.log" generated on the same folder

"C:\Users\ibhuw\Downloads\pyGILE-main\ environments\windows\pygile_base_setup.log"

```
PYGIS BASE ENVIRONMENT - COMPLETE INSTALLATION
============================================================
Log file: pygis_base_setup.log

Using mamba for package management

(5%) Creating pygis_base environment with Python 3.10...
(10%) Installing core geospatial foundation...
(15%) Installing scientific computing stack...
```

AFTER SUCCESSFUL INSTALLATION; SCREEN SIMILAR TO THIS WILL APPEAR

```
============================================================
   PYGIS BASE ENVIRONMENT INSTALLATION COMPLETE
============================================================
Setup completed at Fri 06/13/2025 14:38:17.06

NEXT STEPS:
1. mamba activate pygis_base
2. jupyter lab

INSTALLED PACKAGES INCLUDE:
✓ Core GIS: GDAL, PROJ, GEOS, Shapely, PyProj, Fiona, GeoPandas, Rasterio
✓ Scientific: NumPy, Pandas, SciPy, Matplotlib, Seaborn, Scikit-learn
✓ Geospatial: Census, Contextily, EarthPy, GeoPlot, OSMnx, US, PyKrige
✓ Visualization: Folium, MapClassify, Plotly, Bokeh
✓ Data: xarray, netcdf4, h5py, zarr
✓ Web Mapping: geemap, leafmap, ipyleaflet, localtileserver
✓ Remote Sensing: GeoWombat, rio-cogeo, rioxarray, STAC tools
✓ Earth Engine: earthengine-api, geeaddons
✓ Development: Jupyter Lab, ipywidgets
✓ Meta: pygis package with all dependencies

This environment supports the ENTIRE pygis.io curriculum

Press any key to continue . . .
```

Step 9: After successful installation of the environment "pygile_base";

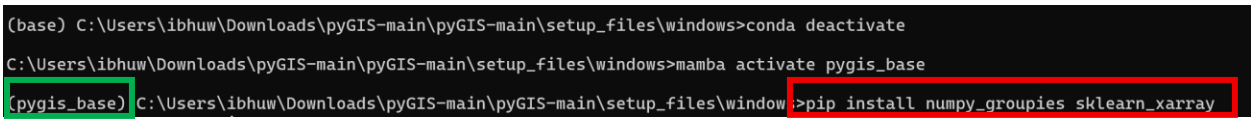
before activating the newly created environment, type "conda deactivate"; (base) will be removed now from the front;

then, activate the newly created environment using "mamba activate pygile_base" in same miniforge prompt.

After activating the environment, pip install:

“pip install numpy_groupies sklearn_xarray sympy”

A correctly activated environment will have “pygile_base” written at the front (see the green rectangle)



Step 10: ipykernel for Jupyter

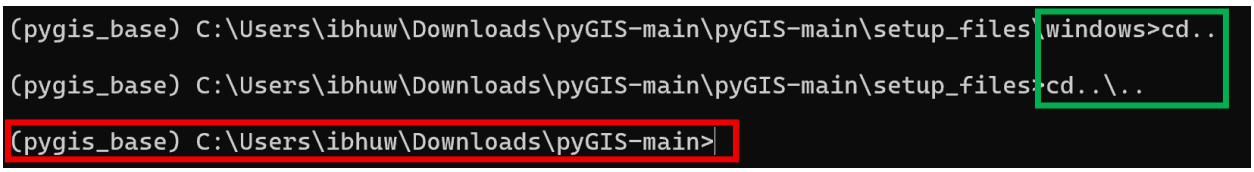
Install ipykernel to make your environment available in Jupyter

conda install ipykernel

Register your current environment with Jupyter

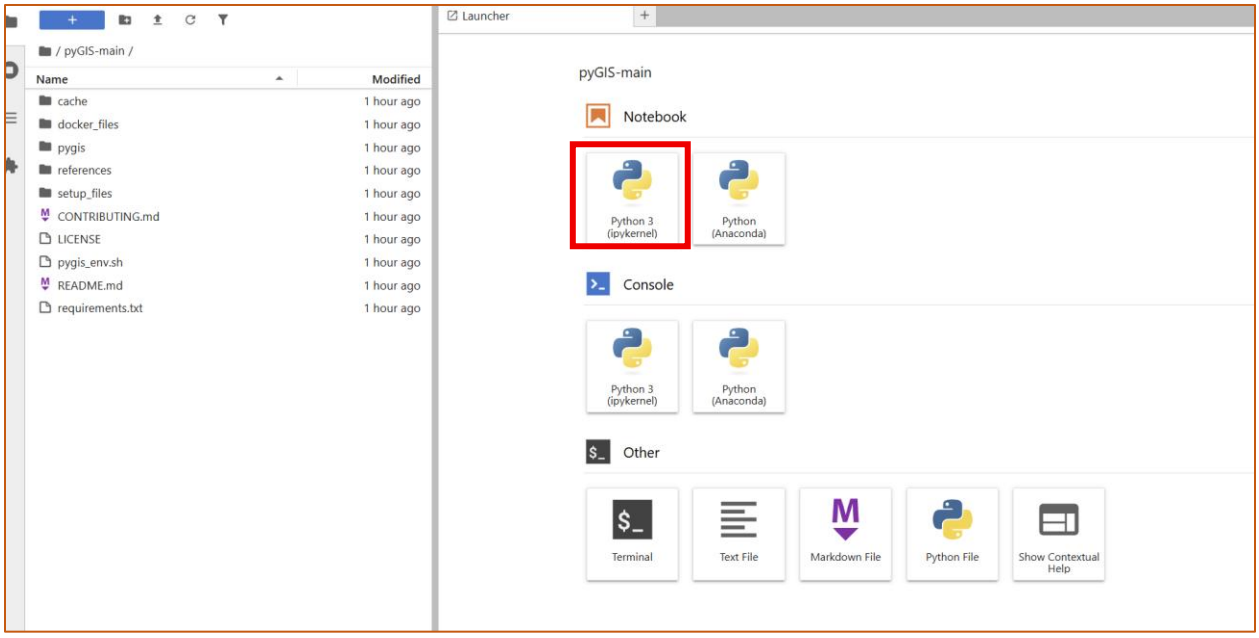
python -m ipykernel install --user --name pygile_base --display-name "Python (pygile_base)“

Step 10: return back to pygis-main (cd..)



Step 11: Type “jupyter lab”; press enter; (wait 10-15 secs)

Step 12: A launcher window will pop up on your browser; click python3 (ipykernel (pygile_base)



REGULAR USAGE

Open miniforge prompt, first, deactivate conda, then mamba activate pygis_base then cd into the download folder of pyGIS-main; then run jupyter lab

```
(base) C:\Users\ibhuw>conda deactivate

C:\Users\ibhuw>mamba activate pygis_base

(pygis_base) C:\Users\ibhuw>cd C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main

(pygis_base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main>jupyter lab
[I 2025-06-13 16:38:09.770 ServerApp] jupyter_lsp | extension was successfully linked.
[I 2025-06-13 16:38:09.770 ServerApp] jupyter_server_proxy | extension was successfully linked.
[I 2025-06-13 16:38:09.786 ServerApp] jupyter_server_terminals | extension was successfully linked.
[I 2025-06-13 16:38:09.817 ServerApp] jupyterlab | extension was successfully linked.
```

ENJOY_CODING!!

ENJOY_LEARNING!!