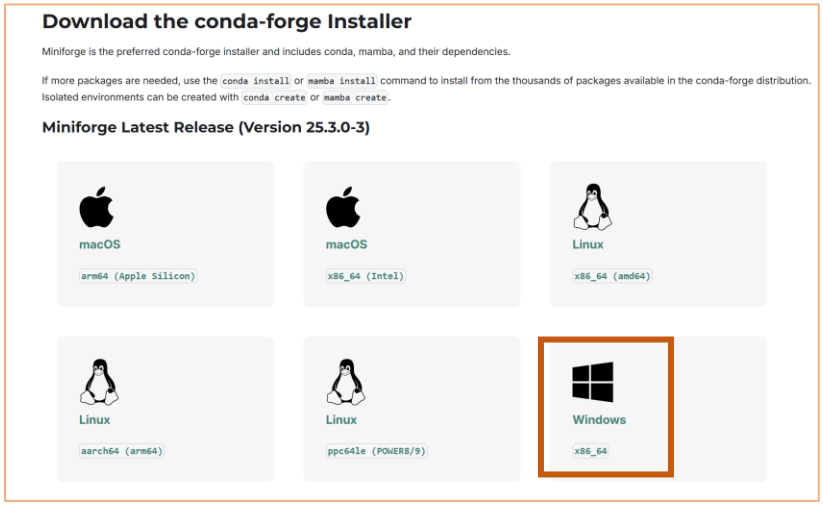
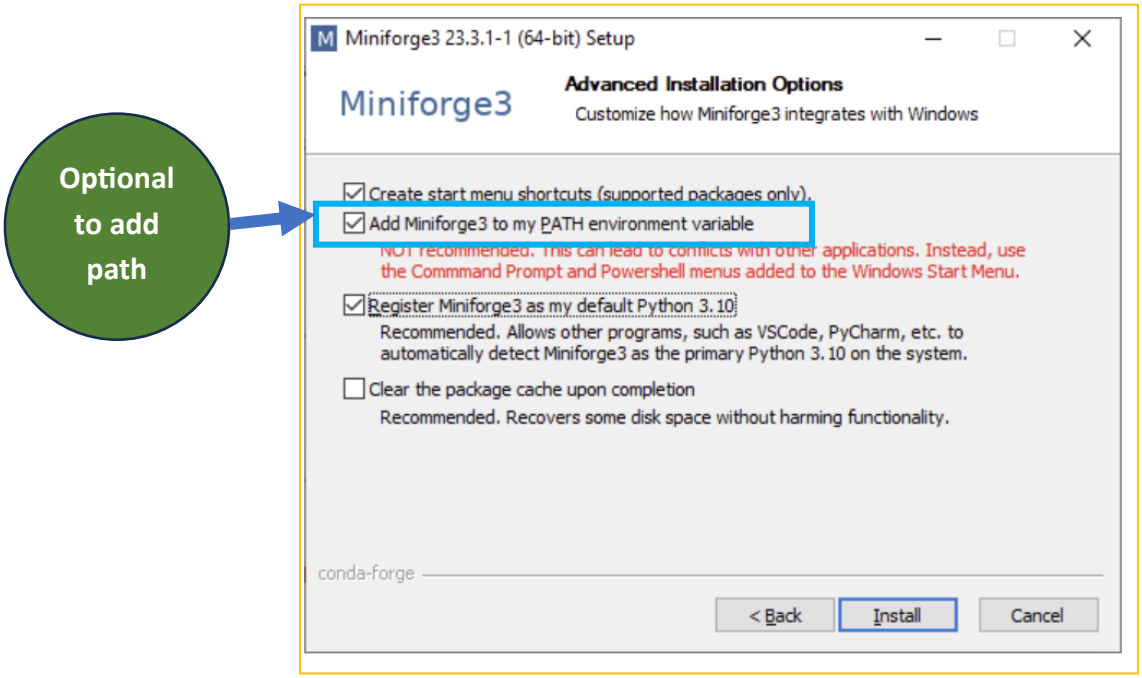
STEPWISE TUTORIAL TO INSTALL ENVIRONMENT FOR PYGIS IN WINDOWS

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)

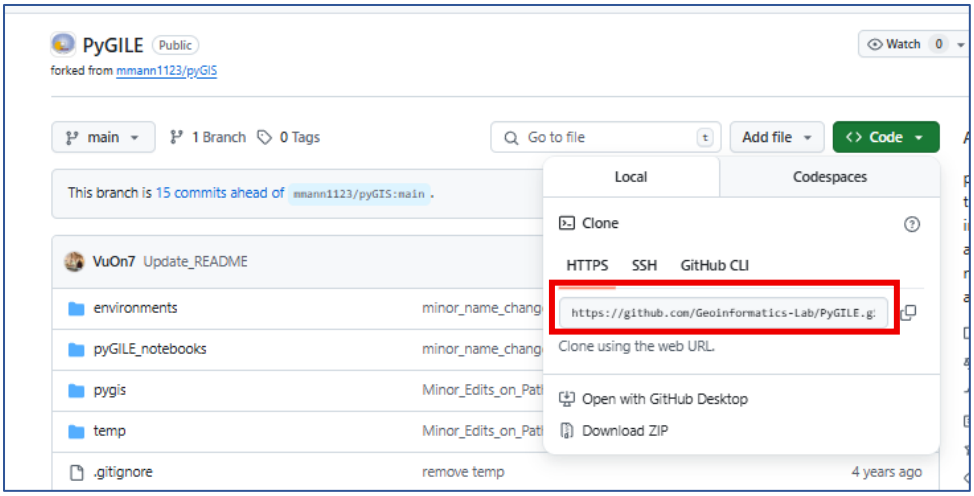
powershell -Command "Invoke-WebRequest -Uri 'https://github.com/conda-forge/miniforge/releases/latest/download/Miniforge3-Windows-x86_64.exe' -OutFile 'Miniforge3-Windows-x86_64.exe'" && start /wait "" Miniforge3-Windows-x86_64.exe /InstallationType=JustMe /RegisterPython=0 /AddToPath=0 /S /D=%UserProfile%\Miniforge3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

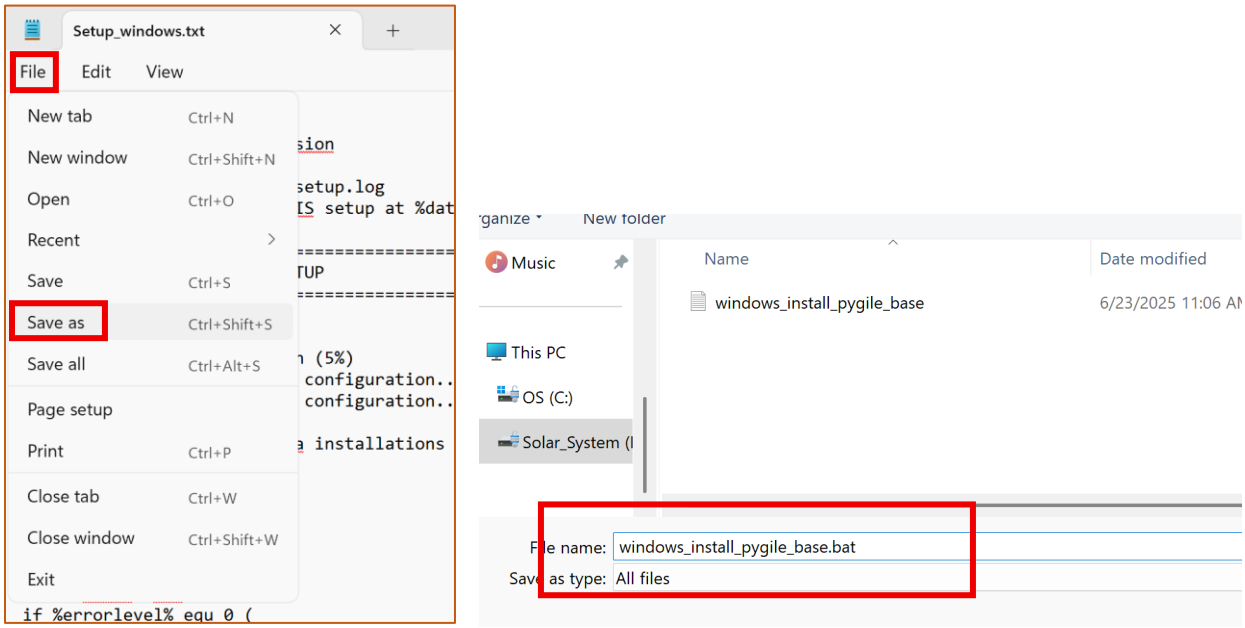
"C:\Users\ibhuw\Downloads\pyGILE-main\setup_files\windows\windows_install_pygile_base.txt"



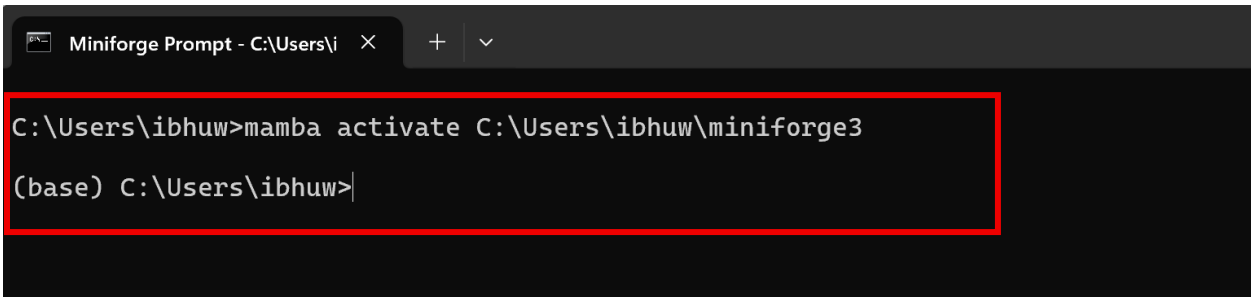
Step 4: Open the "windows_install_pyGILE_base.txt" and save as "windows_install_pygile_base.bat"; change save file type as "All files"; SAVE IN THE SAME FOLDER where windows_install_pygile_base.txt is present. (*CHECK image below*)

E.g.

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

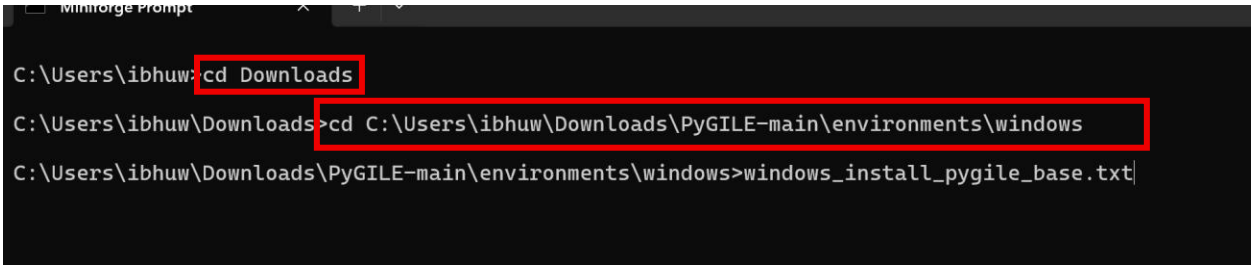


Step 5: Now search for "miniforge prompt" from Start in windows; and open "miniforge prompt"; something like this appears *(see image below)*



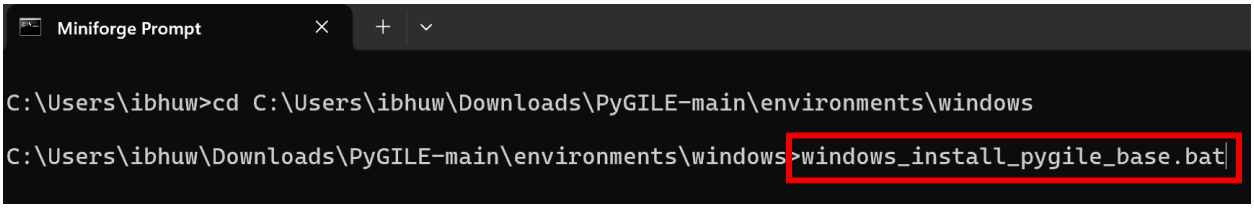
Step 6: NOTE: cd to the directory of containing "windows_install_pygile_base.bat" and then type the name of the file;

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" and "pygile_installation.log" will be created alongside the installation to check for issues and installations.

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_errors.log", "pygile_installation.log" generated on the same folder; such as:

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

```
============================================================
     ENHANCED PYGILE BASE ENVIRONMENT INSTALLER
============================================================

Starting installation at Thu 06/26/2025 11:24:53.82
Log file: pygile_installation.log
Error log: pygile_errors.log

[1/30] Searching for conda installation... [3%]
Found conda - using for installation
[1.5/30] Cleaning conda cache for fresh installation... [5%]
Cache cleaned for consistent package versions
[2/30] Cleaning up existing environment... [7%]
Environment cleanup completed
[3/30] Creating pygile_base environment with Python 3.10... [10%]
Done: Base environment created
[4/30] Installing NumPy with compatibility constraint... [13%]
Done: NumPy <2 installed for compatibility
[5/30] Installing core geospatial libraries with version pins... [17%]
Done: Core geospatial libraries with version pins
```

AFTER SUCCESSFUL INSTALLATION; SCREEN SIMILAR TO THIS WILL APPEAR

```
SUCCESS: Core PyGILE environment ready for use

============================================================
                    HOW TO USE YOUR ENVIRONMENT
============================================================

TO START WORKING:
1. conda deactivate    (if you see 'base' in your prompt)
2. conda activate pygile_base
3. jupyter lab

DAILY USAGE:
1. Open Anaconda Prompt / Miniforge Prompt
2. conda activate pygile_base
3. jupyter lab

INSTALLED CORE TOOLS:
- Python 3.10 with compatibility settings
- GeoPandas for vector data analysis
- Rasterio for raster data processing
- NumPy, Pandas, SciPy for data science
```

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;

or activate new env in conda itself "conda activate pygile_base"; BOTH SHOULD WORK!!

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

DON'T GET CONFUSED "MAMBA AND CONDA ARE THE SAME THING"

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)

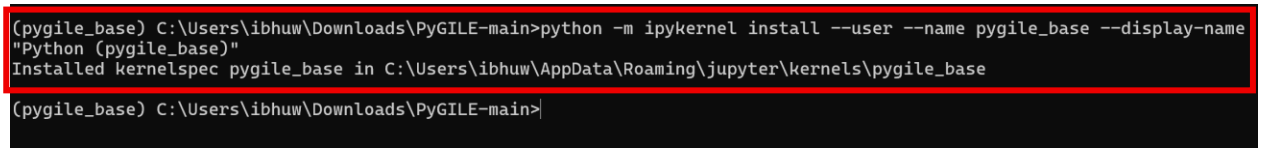
Step 10: ipykernel for Jupyter

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)"



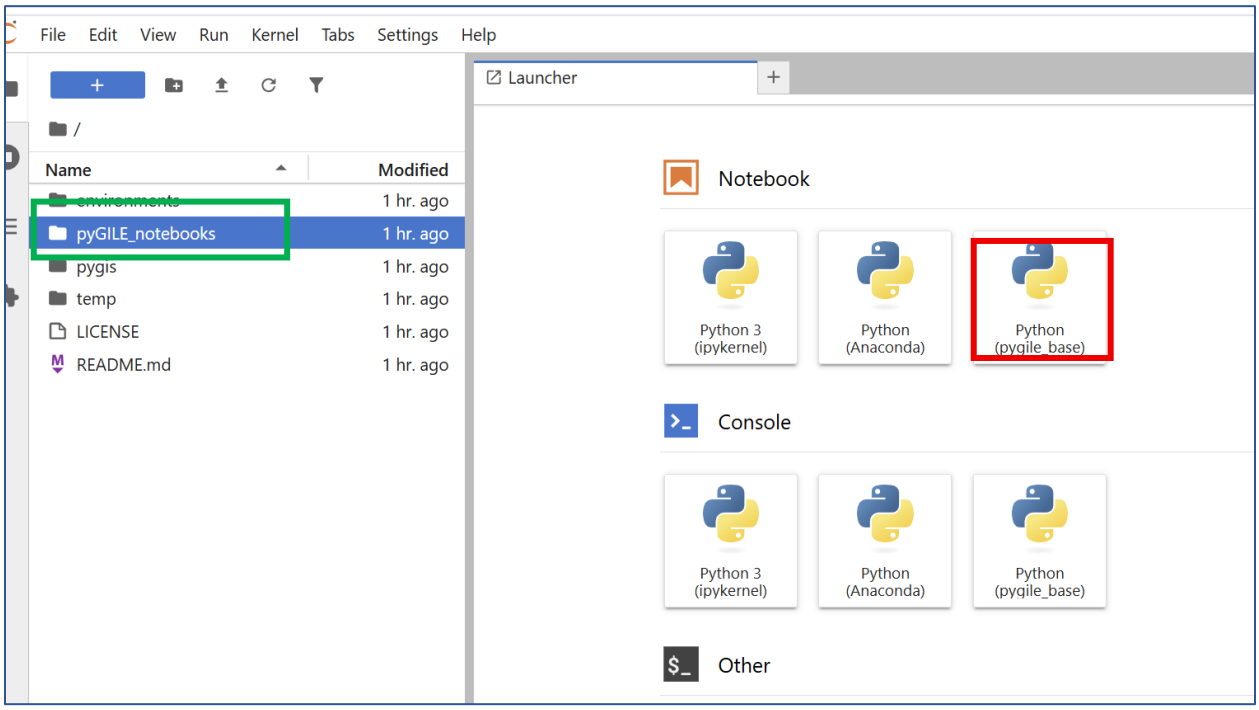
Step 11: return back to pygis-main (cd..)

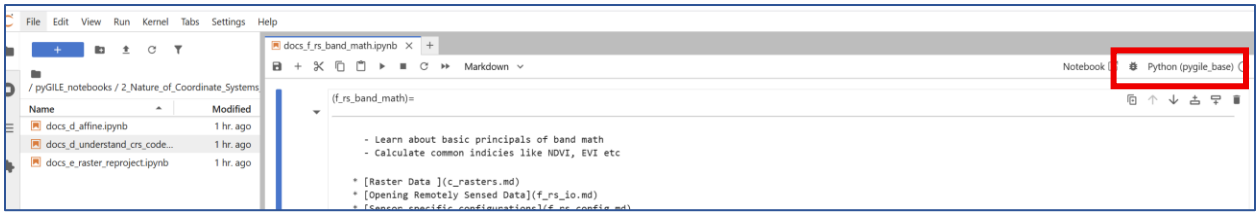
```
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>cd ..\..

(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>
```

Step 12: Type "jupyter lab"; press enter; (wait 10-15 secs)

```
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>jupyter lab
[I 2025-06-26 13:17:23.720 ServerApp] jupyter_lsp | extension was successfully linked.
[I 2025-06-26 13:17:23.725 ServerApp] jupyter_server_terminals | extension was successfully linked.
[I 2025-06-26 13:17:23.733 ServerApp] jupyterlab | extension was successfully linked.
[I 2025-06-26 13:17:23.743 ServerApp] notebook | extension was successfully linked.
[I 2025-06-26 13:17:24.022 ServerApp] notebook_shim | extension was successfully linked.
```

Step 13: A launcher window will pop up on your browser; click python3 (ipykernel (pygile_base)





REGULAR USAGE

Open miniforge prompt,

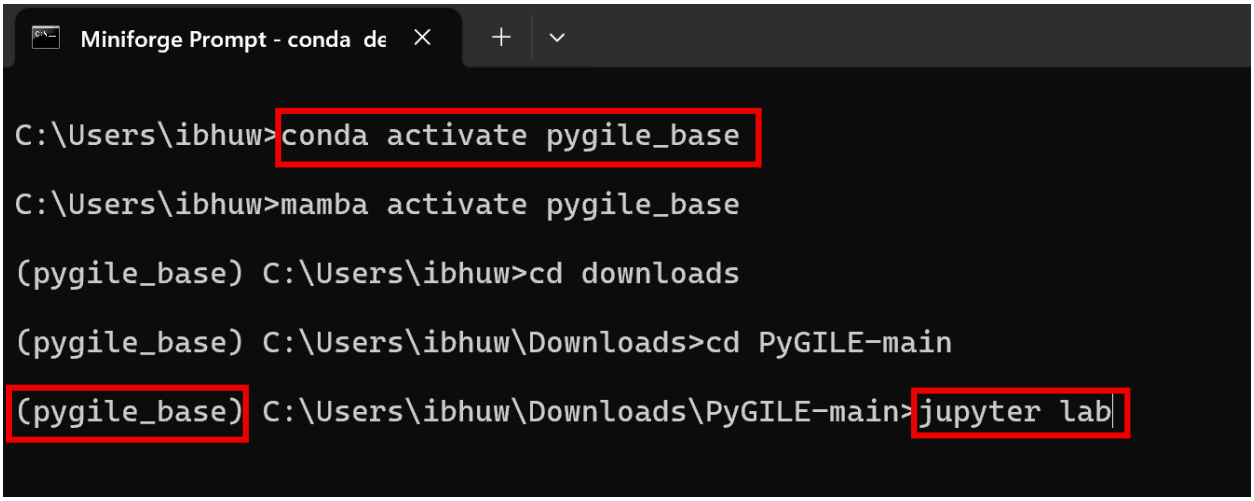
first, deactivate conda,

or activate newly formed env in coda first using conda activate pygile_base

then mamba activate pygile_base

then cd into the download folder of pyGIS-main;

then run jupyter lab



ENJOY_CODING!!

ENJOY_LEARNING!!