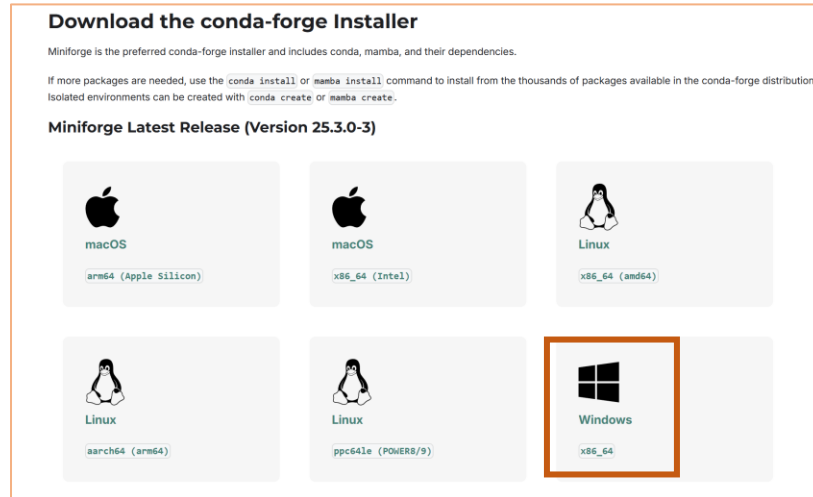


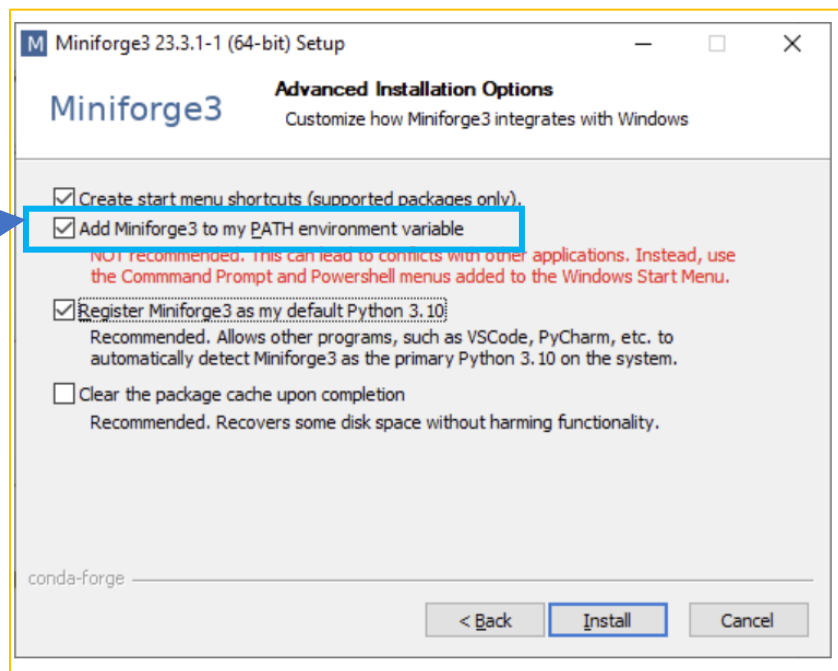
STEPWISE TUTORIAL TO INSTALL ENVIRONMENT FOR PYGIS IN WINDOWS

Step 1: Download miniforge using link below

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



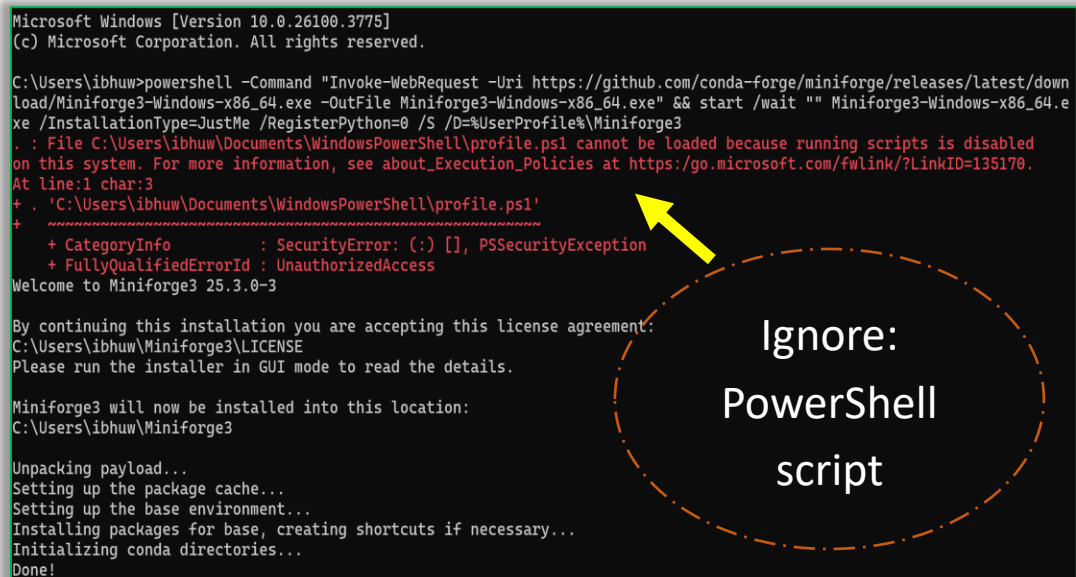
Step 2: Install Miniforge;



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
```



```
Microsoft Windows [Version 10.0.26100.3775]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\ibhuw>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.e  
xe /InstallationType=JustMe /RegisterPython=0 /S /D=%UserProfile%\Miniforge3  
. : File C:\Users\ibhuw\Documents\WindowsPowerShell\profile.ps1 cannot be loaded because running scripts is disabled  
on this system. For more information, see about_Execution_Policies at https://go.microsoft.com/fwlink/?LinkID=135170.  
At line:1 char:3  
+ . 'C:\Users\ibhuw\Documents\WindowsPowerShell\profile.ps1'  
+ ~~~~~  
+ CategoryInfo          : SecurityError: (:) [], PSSecurityException  
+ FullyQualifiedErrorId : UnauthorizedAccess  
  
Welcome to Miniforge3 25.3.0-3  
  
By continuing this installation you are accepting this license agreement:  
C:\Users\ibhuw\Miniforge3\LICENSE  
Please run the installer in GUI mode to read the details.  
  
Miniforge3 will now be installed into this location:  
C:\Users\ibhuw\Miniforge3  
  
Unpacking payload...  
Setting up the package cache...  
Setting up the base environment...  
Installing packages for base, creating shortcuts if necessary...  
Initializing conda directories...  
Done!
```

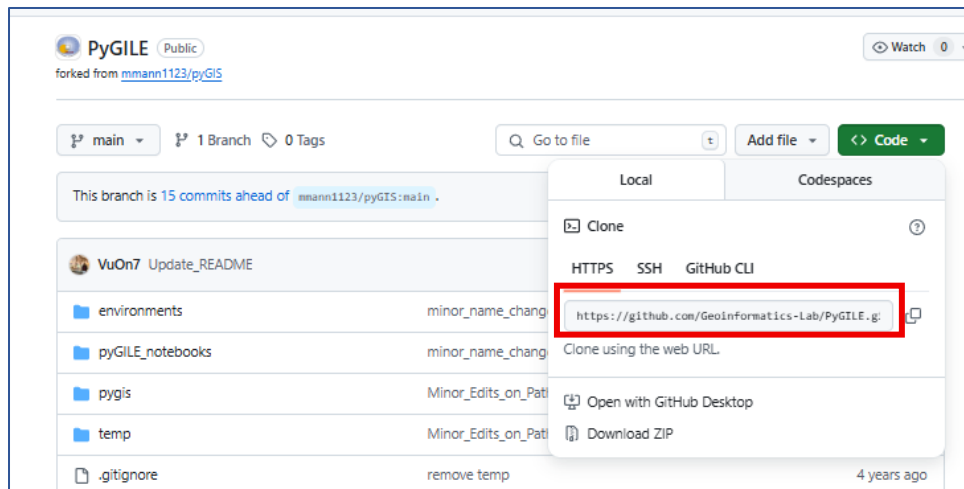
Step 3: Clone the repo or download files from Github; [https://github.com/Geoinformatics-Lab/pyGILE]

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:

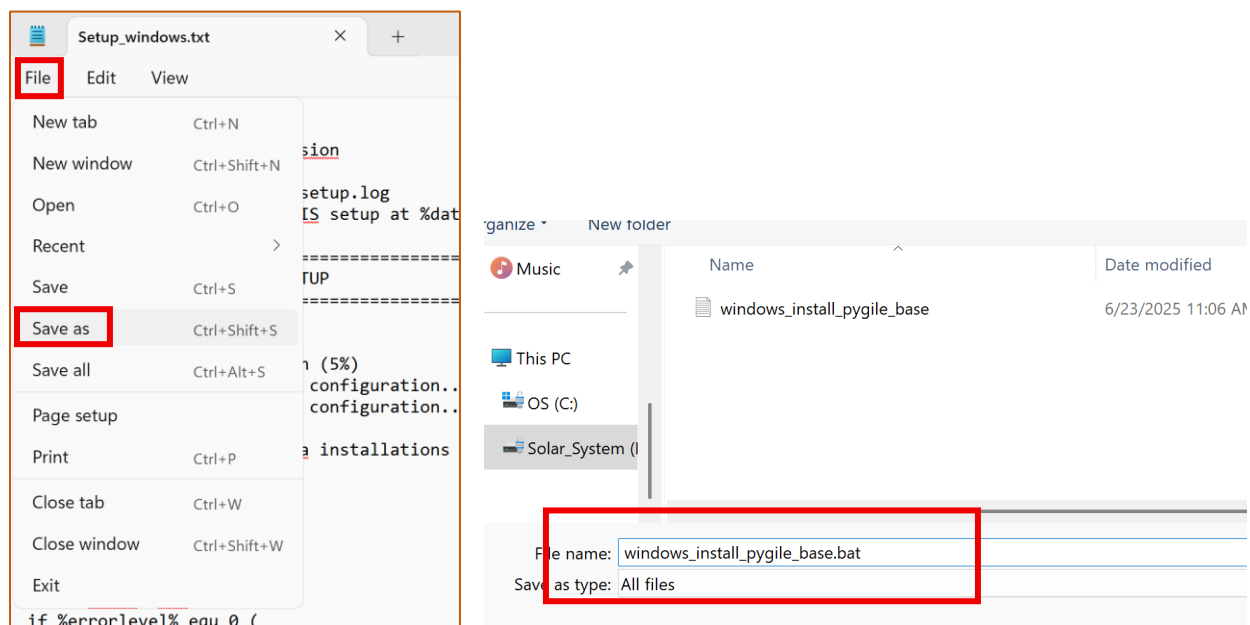
"C:\Users\ibhuw\Downloads\pyGILE-main\setup_files\windows\windows_install_pygile_base.txt"



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)

```
Miniforge Prompt - C:\Users\i  X + v
C:\Users\ibhuw>mamba activate C:\Users\ibhuw\miniforge3
(base) C:\Users\ibhuw>
```

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;

```
Miniforge Prompt  X + v
C:\Users\ibhuw>cd Downloads
C:\Users\ibhuw\Downloads>cd C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows
C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>windows_install_pygile_base.txt|
```

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”**

```
Miniforge Prompt  X + v
C:\Users\ibhuw>cd C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows
C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>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!!

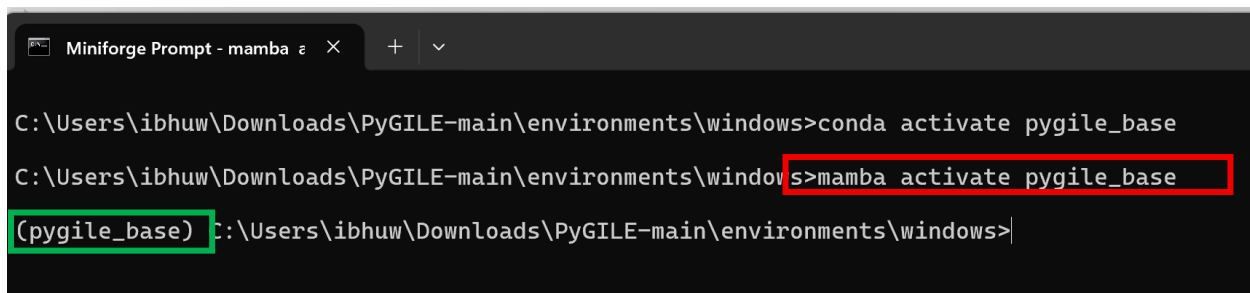
then, activate the newly created environment using “mamba activate pygile_base” in same miniforge prompt.

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)



```
Miniforge Prompt - mamba ε × + v
C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>conda activate pygile_base
C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>mamba activate pygile_base
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>
```

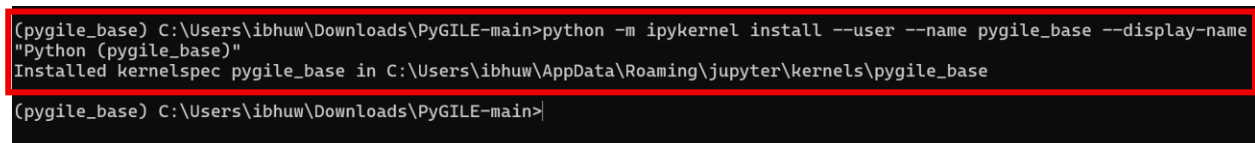
Step 10: ipykernel for Jupyter

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)"



```
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>python -m ipykernel install --user --name pygile_base --display-name "Python (pygile_base)"
Installed kernelspec pygile_base in C:\Users\ibhuw\AppData\Roaming\jupyter\kernels\pygile_base
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>
```

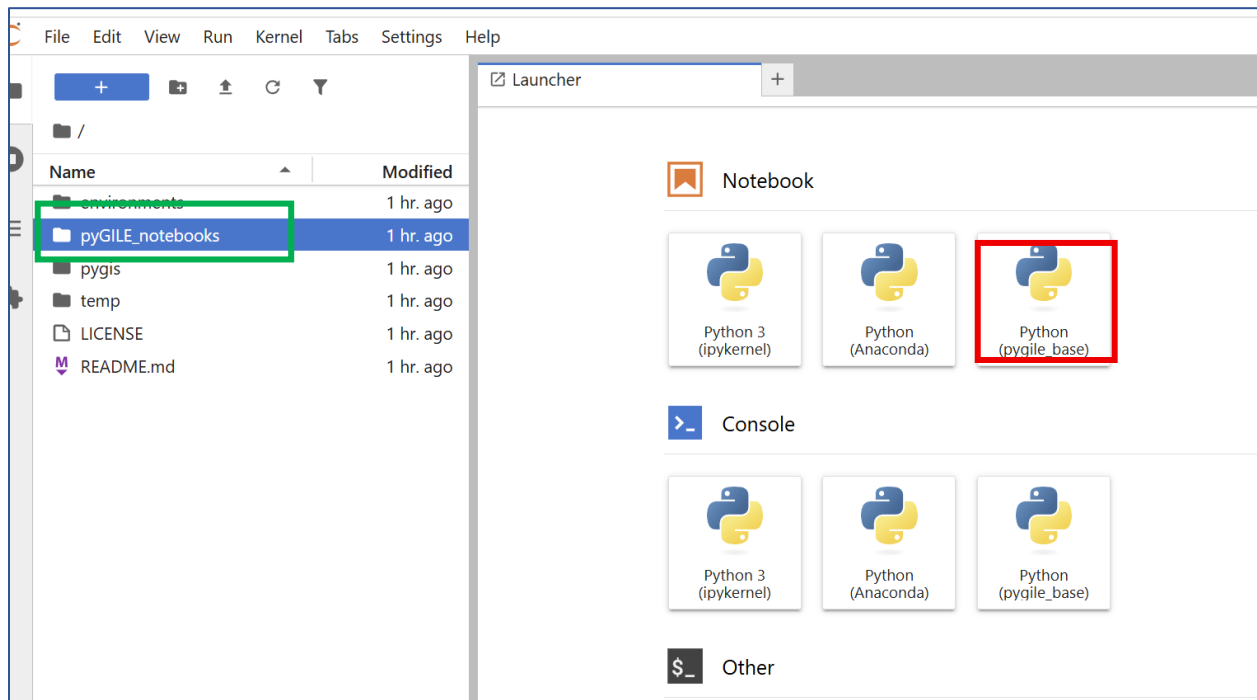
Step 11: return back to pygis-main (cd..)

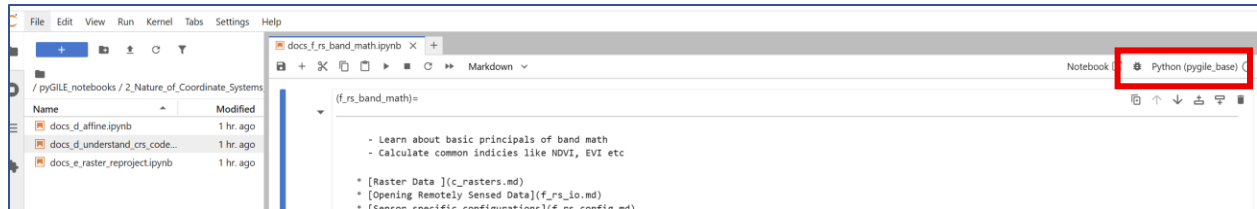
```
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main\environments\windows>cd ../../  
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>
```

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

```
Miniforge Prompt - conda de X + v

C:\Users\ibhuw>conda activate pygile_base
C:\Users\ibhuw>mamba activate pygile_base
(pygile_base) C:\Users\ibhuw>cd downloads
(pygile_base) C:\Users\ibhuw\Downloads>cd PyGILE-main
(pygile_base) C:\Users\ibhuw\Downloads\PyGILE-main>jupyter lab
```

ENJOY_CODING!!

ENJOY_LEARNING!!