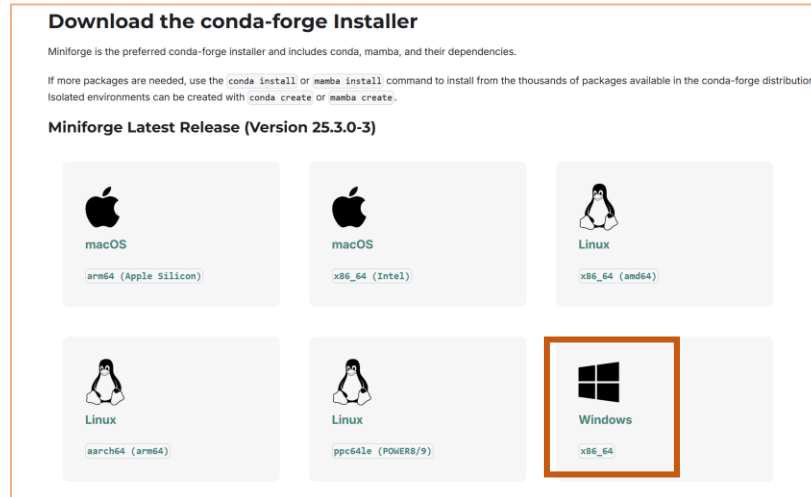


## STEPWISE TUTORIAL TO INSTALL ENVIRONMENT FOR PYGIS IN WINDOWS

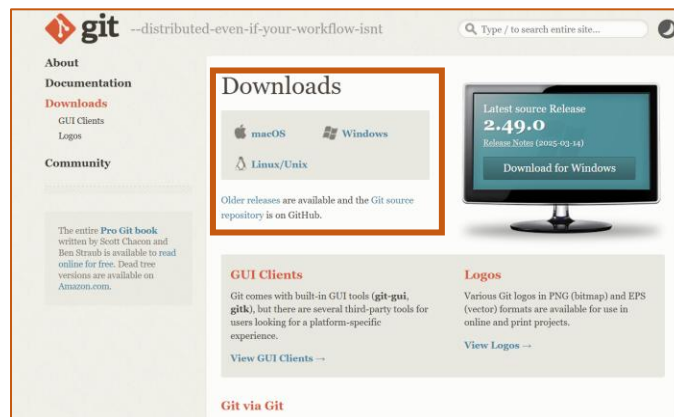
Step 1: Download miniforge using link below

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

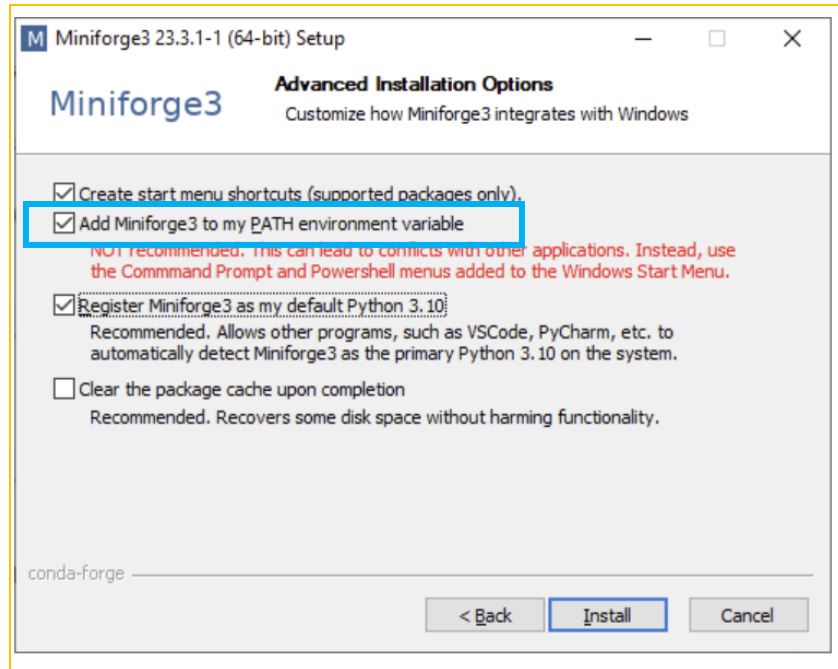


If Git is not installed in the system; download and install using the link below; it will be useful for step 12;

<https://git-scm.com/downloads>



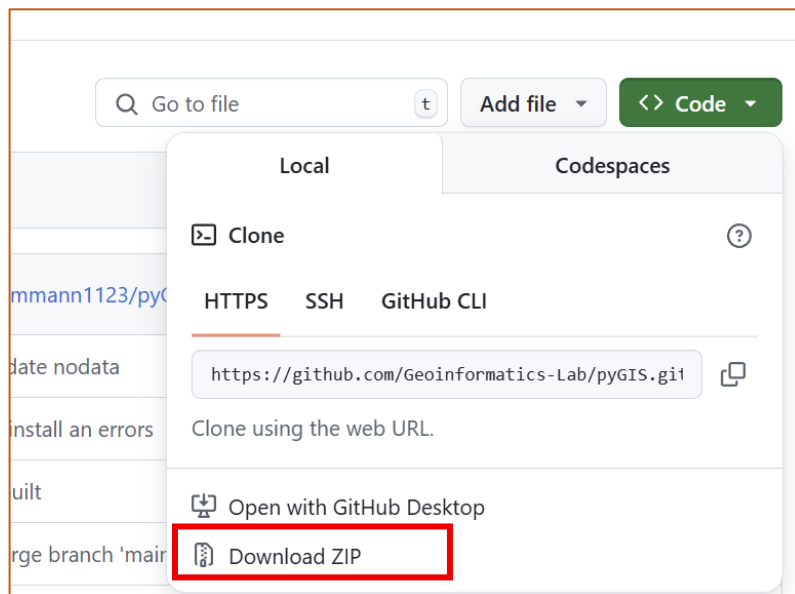
Step 2: Install Miniforge (NOTE: during installation, CHECK the option to ADD PATH;



Step 3: Download files from github; Here, for this tutorial, it's saved in the folder below  
"C:\Users\ibhuw\Downloads\pyGIS-main.zip"; unzip it;

There will be a text file inside:

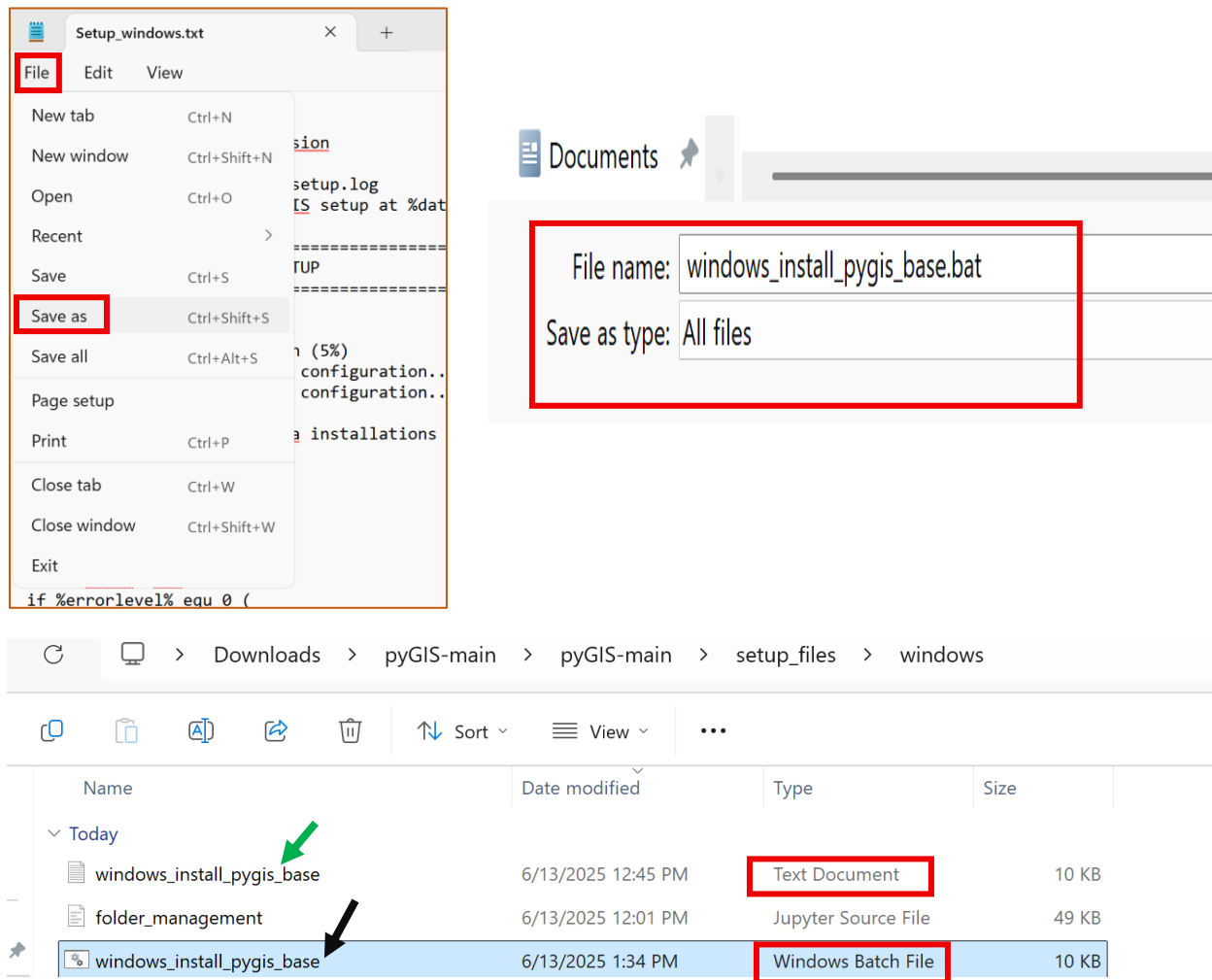
"C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup\_files\windows\windows\_install\_pygis\_base.txt"



Step 4: Open the “windows\_install\_pygis\_base.txt” and save as “windows\_install\_pygis\_base.bat”; change save file type as “All files”; **SAVE IN THE SAME FOLDER** where windows\_install\_pygis\_base.txt is present. (CHECK image below)

E.g.

" "C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup\_files\windows\windows\_install\_pygis\_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_pygis_base.bat`” and then type the name of the file;

Here, the files are downloaded in “Downloads” folder;

Also, **be mindful** if (base) is showing or not in your miniforge prompt;

```
Miniforge Prompt - C:\Users\i  X + v
C:\Users\ibhuw>mamba activate C:\Users\ibhuw\miniforge3
(base) C:\Users\ibhuw>cd C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows
(base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows>
```

Step 7: Check the directory of installation; directory containing “`windows_install_pygis_base.bat`”; a log file named “`pygis_base_setup.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_pygis_base.bat`”

```
(base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\window.>windows_install_pygis_base.bat
```

Check the progress as the installation continues: BE PATIENT AND keep an eye on the log file “`pygis_base_setup.log`” generated on the same folder

"C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup\_files\windows\pygis\_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, PyKrig
✓ 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 “pygis\_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 pygis\\_base”](#) in same miniforge prompt.

After activating the environment, pip install:

**“pip install numpy\_groupies sklearn\_xarray sympy”**

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

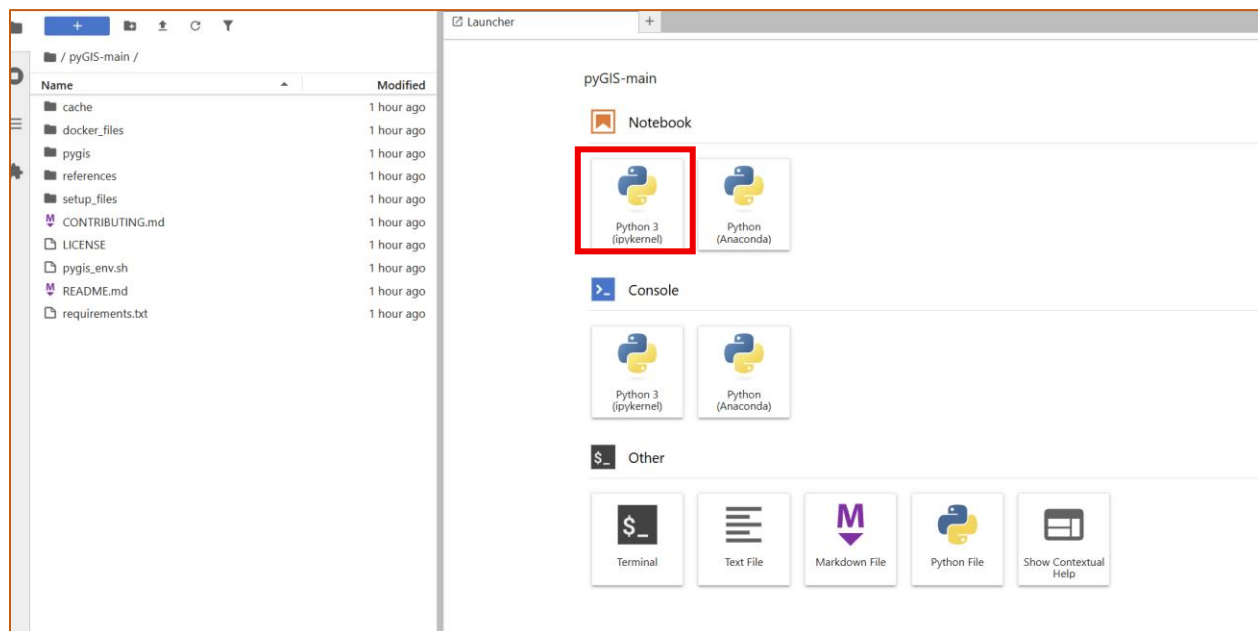
```
(base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows>conda deactivate
C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows>mamba activate pygis_base
(pygis_base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows>pip install numpy_groupies sklearn_xarray
```

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

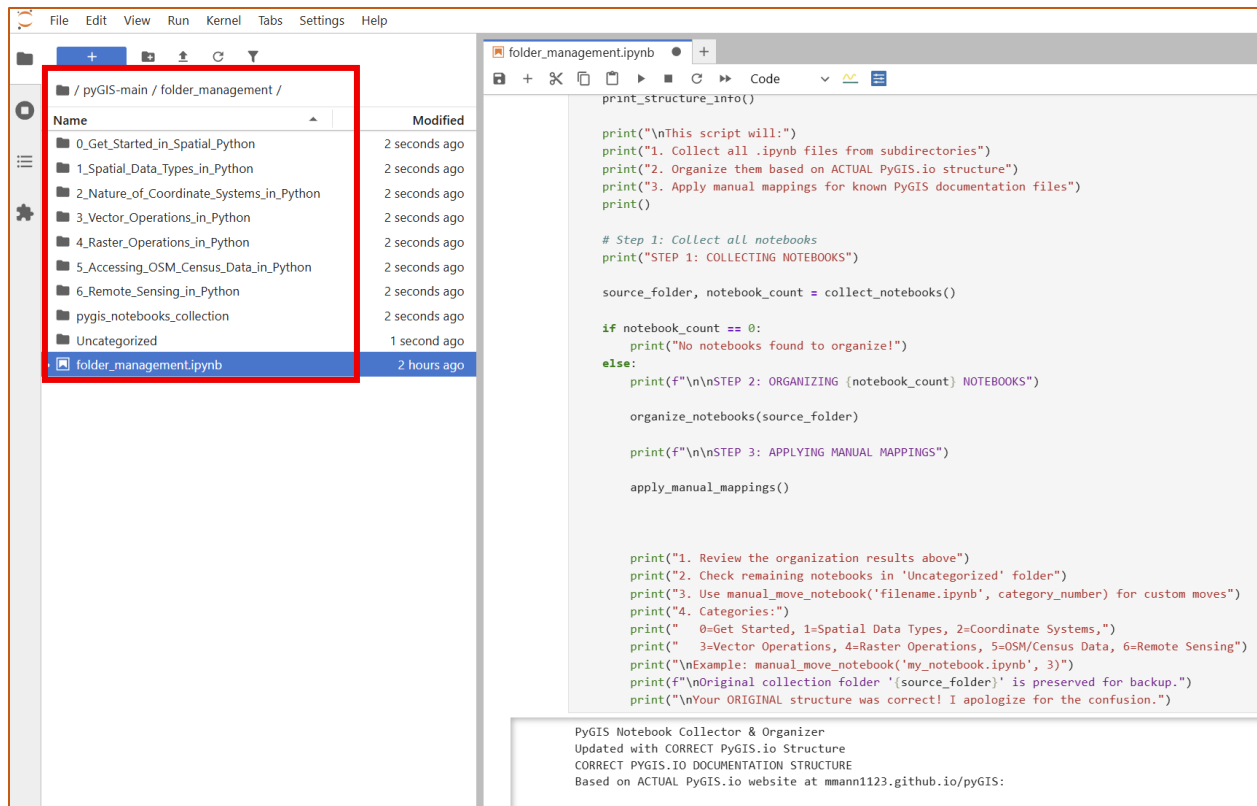
```
(pygis_base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files\windows>cd..
(pygis_base) C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\setup_files>cd..\..
(pygis_base) C:\Users\ibhuw\Downloads\pyGIS-main>
```

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)



Inside pygis\_main; "C:\Users\ibhuw\Downloads\pyGIS-main\pyGIS-main\folder\_management\folder\_management.ipynb"; load this into python launcher and this will create the folders with all notebooks inside as per the pygis instruction manual in the same folder.



## 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!!