Cloning your ArcPro environment and installing other packages

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This document explains the procedure to clone your ArcPro Python installation (callled 'environment'). To clone an environment is to create a copy of the original environment in a different path in your computer.You may want to clone your environment if you want to install packages other than the ones automatically installed with ArcPro. ArcPro doesn't allow you to install packages on its original installation environment, which is called `arcgispro-py3`.

You could clone your ArcPro environment within Arcpro by clicking on the Project tab → Python → Manage Environments → Clone Default. However, I DO NOT RECOMMEND THIS METHOD. I had mixed results in the past and found it to be unreliable. I prefer the method explained below.

Click on Windows Start and open Python command prompt. See icon below

Type the command below to create an ArcPro cloned environment named `myenv-py3`. You can change to whatever name you want.

```
conda create -n  myenv-py3 --clone arcgispro-py3
```

Pay attention to the single and double hyphens.
Conda will record all Python files into your user directory path below

```
C:\Users\YourUserName\AppData\Local\ESRI\conda\envs
```

You will need more than **1.3 GB** of available space in your drive to be safe.

Once it's finished copying the files, you will need to activate your clone. Type the following on the prompt `activate myenv-py3`

Packages: I install three packages using different methods (that's how I've had success thus far). First, install basemap. Download the windows installer (wheel file) from the webpage `https://www.lfd.uci.edu/~gohlke/pythonlibs/#basemap`. Download the version that is compatible with your Python version. Mine is Python 3.6 64 bit.

Change directory to where you downloaded your whl file, `cd c:/Users/YourUserName/Downloads` if you saved in the downloads folder.

Then pip install the file `pip install basemap-1.2.0-cp36-cp36m-win_amd64.whl` You may have to update pip. If that's the case, then type `python -m pip install --upgrade pip` and then install basemap.

Second package that I install is the editor Spyder. This one is simpler, just type: `conda install spyder`. Accept all the suggested updates.

Finally, I install package skfuzzy package to do fuzzy analysis. This one is also straightforward. Just type: `pip install scikit-fuzzy`

I like to have a shortcut to Spyder in my desktop and Start Menu.

Navigate to:

`C:\Users\YourUserName\AppData\Local\ESRI\conda\envs\myenv-py3\Scripts`

and right-click spyder.exe → create shortcut. Drag shortcut to desktop. Change name to 'Spyder'

On the desktop icon, right-click → Properties → Change Icon; browse to the same directory above and pick the icon spyder.ico.

Right-click on the icon → Pin to Start

Finally, you have to change to the cloned environment in ArcPro as well. Open an ArcPro project, Project tab → Python → Manage Environments → click to select your cloned environment. Restart ArcPro.