URSC 689

Research Log for replicating Juptyer Notebook Example

April 27, 2020

Working in class to replicate Jupyter Notebook - Wayne is having problems reprojecting pandas dataframe

open anaconda prompt
change directory
g:
G:\Team Drives\URSC689_S2020\WorkInClass\WorkNPR

My jupyter notebook launches in Internet Explorer need to switch to chrome

http://localhost:8888/?token=07cab6a7c4f353457ea8afe68e327d9ef5adfc4ca2c968b0

Trying to map 1990 Block Group Data
G:\Team Drives\URSC689_S2020\Projects\ANDRST\SourceData\data2.nhgis.org\florida_1990\nhgis0006_shapefile_tl2000_120_blck_grp_1990\

trying to map FL_12025_blck_grp_1990.shp in python

source data file is not in the right projection

major headache trying to get NHGIS shapefile in the EPSG 3857 projection
Tried to use to_crs in geopandas but this did not successfully change the geometry column

Tried to make the change in the projection in QGIS but still have the same issue….

Currently this is a fail. Not sure how to get geopandas to tranform the crs from
https://www.nhgis.org/support/faq#projected_coordinate_system
Esri's USA Contiguous Albers Equal Area Conic projection
to Open Street Map Lat Lon

https://geopandas.readthedocs.io/en/latest/projections.html

It looks like EPSG 3857 is not the right CRS, the documentation suggests that it is correct but the Geometry column is not in Lat Lon
When I convert to EPSG 4269 the Geometry column changes to Lat Lon and the folium map works.

https://gis.stackexchange.com/questions/48949/epsg-3857-or-4326-for-googlemaps-openstreetmap-and-leaflet

https://gis.stackexchange.com/questions/27493/is-nad-83-the-same-as-epsg4326

EPSG: 4269 uses a coordinate system (Lat, Lon) on the surface of a sphere with the NAD83 datum tracking with the north american plate.

EPSG: 4326 uses a coordinate system (Lat, Lon) on the surface of a sphere with the WGS84 datum tracking the center of mass of the earth. Open Street Map and Google Earth use 4326.

EPSG: 3857 uses a coordinate system PROJECTED from the surface of the sphere or ellipsoid to a flat surface.

```
success… map works with correct projection

URSC689_MinimumStepstoMapShapefile_2020-04-27T1130.html
```

April 20, 2020

```
Replicating IN-CORE example for mapping using Jupyter Notebook
Copy folder
Posted\IN-CORE.JupyterNotebookExamples.RosenheimN.Students_2020-03-02\
to
WorkInClass\WorkNPR\IN-
CORE.JupyterNotebookExamples.RosenheimN.Students_2020-03-02\

Open Anaconda Prompt
update conda
conda update conda
```

```
(base) C:\Users\nathanael99>conda update conda
Collecting package metadata (current_repodata.json): done
Solving environment: done


==> WARNING: A newer version of conda exists. <==
  current version: 4.8.1
  latest version: 4.8.3

Please update conda by running

    $ conda update -n base -c defaults conda



## Package Plan ##

  environment location: C:\Users\nathanael99\AppData\Local\Continuum\anaconda3

  added / updated specs:
    - conda


The following packages will be downloaded:

    package                    |            build
    ---------------------------|-----------------
    backports.weakref-1.0.post1|py37hc8dfbb8_1001           8 KB  conda-forge
    conda-4.8.3                |   py37hc8dfbb8_1         3.1 MB  conda-forge
    conda-package-handling-1.6.0|   py37h702c6c1_2         691 KB  conda-forge
    future-0.18.2              |   py37hc8dfbb8_1         732 KB  conda-forge
    python_abi-3.7             |          1_cp37m           4 KB  conda-forge
    pywin32-ctypes-0.2.0       |py37hc8dfbb8_1001          38 KB  conda-forge
    sympy-1.4                  |           py37_0         9.7 MB  conda-forge
    vs2015_runtime-14.16.27012 |       hf0eaf9b_0         2.2 MB  conda-forge
    ------------------------------------------------------------
                                           Total:        16.4 MB

The following NEW packages will be INSTALLED:

  python_abi         conda-forge/win-64::python_abi-3.7-1_cp37m

The following packages will be UPDATED:

  backports.weakref                    1.0.post1-py37_1000 --> 1.0.post1-py37hc8dfbb8_1001
  conda                      pkgs/main::conda-4.8.1-py37_0 --> conda-forge::conda-4.8.3-py37hc8dfbb8_1
  conda-package-han~                   1.6.0-py37h2fa13f4_1 --> 1.6.0-py37h702c6c1_2
  future                                  0.18.2-py37_0 --> 0.18.2-py37hc8dfbb8_1
  pywin32-ctypes                       0.2.0-py37_1000 --> 0.2.0-py37hc8dfbb8_1001

The following packages will be SUPERSEDED by a higher-priority channel:

  sympy                                          pkgs/main --> conda-forge
  vs2015_runtime                                 pkgs/main --> conda-forge


Proceed ([y]/n)?
```

Need to activate environment but I forget the name of the last enviroment I made

Google search - conda list environments

conda info --envs conda info -e

Google search - conda list environments

wrong command try
https://docs.conda.io/projects/conda/en/4.6.0/_downloads/52a95608c49671267e40c689e0bc00ca/conda-cheatsheet.pdf

```
conda env list
```

```
(base) C:\Users\nathanael99>conda env list
# conda environments:
#
base                  *  C:\Users\nathanael99\AppData\Local\Continuum\anaconda3
py37                     C:\Users\nathanael99\AppData\Local\Continuum\anaconda3\envs\py37
pyincore20200121         C:\Users\nathanael99\AppData\Local\Continuum\anaconda3\envs\pyincore20200121


(base) C:\Users\nathanael99>
```

```
activate environment
conda activate pyincore20200121

change directory

g:
cd G:\Team Drives\URSC689_S2020\WorkInClass\WorkNPR\

launch jupyter notebook

switch to Google Chrome
```

Students attempts to replicate jupyter notebook

```
Jin tried to launch jupyter notebook from his ananconda prompt.
His operating system uses korean language and he had to copy and paste
the text from the file explorer in order to get the prompt to change
directory.
```

Notes for assignment 3

```
Make summary of assignment
  - include example of using estimates out command in stata to make
    summary stats
  - include example of creating a figure in stata
  - example of spatial data exploration - either using jupyter notebook
    examples or GIS software with good research log
```

Workflow research log template {ctrl-alt-h}

Heading level 1 {alt-1}

```
Normal text {ctrl-n}
```

Heading level 2 {alt-2}

```
Normal text follows by default.
```

Heading level 3 {alt-3}

```
Normal text follows by default.
```

Heading level 4 {alt-4}

Normal text follows by default.

Heading level 5 {alt-5}

Normal text follows by default.

Output in 10 point font {alt-0}

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
```

Output in 9 point font {alt-9}

```
         1         2         3         4         5         6         7         8
123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
```