IndividualAssignmentDataExploration

October 18, 2020

```
[1]: import geopandas as gpd
```

```
[2]: council = gpd.read_file('../../data/MetroStations/lacitycouncildistrict(2012).
     ↪shp')
```

```
---------------------------------------------------------------------------
CPLE_OpenFailedError                      Traceback (most recent call last)
fiona/_shim.pyx in fiona._shim.gdal_open_vector()

fiona/_err.pyx in fiona._err.exc_wrap_pointer()

CPLE_OpenFailedError: Unable to open ../../data/MetroStations/
↪lacitycouncildistrict(2012).shx or ../../data/MetroStations/
↪lacitycouncildistrict(2012).SHX. Set SHAPE_RESTORE_SHX config option to YES t ↪
↪restore or create it.

During handling of the above exception, another exception occurred:

DriverError                               Traceback (most recent call last)
<ipython-input-2-e2859c6a73b2> in <module>
----> 1 council = gpd.read_file('../../data/MetroStations/
↪lacitycouncildistrict(2012).shp')

/opt/conda/lib/python3.8/site-packages/geopandas/io/file.py in ↪
↪_read_file(filename, bbox, mask, rows, **kwargs)
     94
     95        with fiona_env():
---> 96            with reader(path_or_bytes, **kwargs) as features:
     97
     98                # In a future Fiona release the crs attribute of features ↪
↪will

/opt/conda/lib/python3.8/site-packages/fiona/env.py in wrapper(*args, **kwargs)
    398        def wrapper(*args, **kwargs):
    399            if local._env:
--> 400                return f(*args, **kwargs)
    401            else:
    402                if isinstance(args[0], str):
```

1

```
/opt/conda/lib/python3.8/site-packages/fiona/__init__.py in open(fp, mode,
↪driver, schema, crs, encoding, layer, vfs, enabled_drivers, crs_wkt, **kwargs
    254
    255             if mode in ('a', 'r'):
--> 256                 c = Collection(path, mode, driver=driver, encoding=encoding
    257                                layer=layer, enabled_drivers=enabled_drivers
↪**kwargs)
    258             elif mode == 'w':


/opt/conda/lib/python3.8/site-packages/fiona/collection.py in __init__(self,
↪path, mode, driver, schema, crs, encoding, layer, vsi, archive,
↪enabled_drivers, crs_wkt, ignore_fields, ignore_geometry, **kwargs)
    162             if self.mode == 'r':
    163                 self.session = Session()
--> 164                 self.session.start(self, **kwargs)
    165             elif self.mode in ('a', 'w'):
    166                 self.session = WritingSession()


fiona/ogrext.pyx in fiona.ogrext.Session.start()


fiona/_shim.pyx in fiona._shim.gdal_open_vector()


DriverError: Unable to open ../../data/MetroStations/lacitycouncildistrict(2012
↪shx or ../../data/MetroStations/lacitycouncildistrict(2012).SHX. Set
↪SHAPE_RESTORE_SHX config option to YES to restore or create it.
```

[3]:
```
yes
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-3-084d24bbed96> in <module>
----> 1 yes

NameError: name 'yes' is not defined
```

[4]:
```
council = gpd.read_file('../../data/MetroStations/lacitycouncildistrict_2012.
↪shp')
```

```
---------------------------------------------------------------------------
CPLE_OpenFailedError                      Traceback (most recent call last)
fiona/_shim.pyx in fiona._shim.gdal_open_vector()


fiona/_err.pyx in fiona._err.exc_wrap_pointer()
```

```
CPLE_OpenFailedError: Unable to open ../../data/MetroStations/
↪lacitycouncildistrict_2012.shx or ../../data/MetroStations/
↪lacitycouncildistrict_2012.SHX. Set SHAPE_RESTORE_SHX config option to YES to
↪restore or create it.


During handling of the above exception, another exception occurred:


DriverError                               Traceback (most recent call last)
<ipython-input-4-5d7477ad3333> in <module>
----> 1 council = gpd.read_file('../../data/MetroStations/
↪lacitycouncildistrict_2012.shp')


/opt/conda/lib/python3.8/site-packages/geopandas/io/file.py in
↪_read_file(filename, bbox, mask, rows, **kwargs)
     94
     95        with fiona_env():
---> 96            with reader(path_or_bytes, **kwargs) as features:
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     98                # In a future Fiona release the crs attribute of features
↪will


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    398        def wrapper(*args, **kwargs):
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--> 400                return f(*args, **kwargs)
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    254
    255            if mode in ('a', 'r'):
--> 256                c = Collection(path, mode, driver=driver, encoding=encoding
    257                               layer=layer, enabled_drivers=enabled_drivers
↪**kwargs)
    258            elif mode == 'w':


/opt/conda/lib/python3.8/site-packages/fiona/collection.py in __init__(self,
↪path, mode, driver, schema, crs, encoding, layer, vsi, archive,
↪enabled_drivers, crs_wkt, ignore_fields, ignore_geometry, **kwargs)
    162                if self.mode == 'r':
    163                    self.session = Session()
--> 164                    self.session.start(self, **kwargs)
    165                elif self.mode in ('a', 'w'):
    166                    self.session = WritingSession()


fiona/ogrext.pyx in fiona.ogrext.Session.start()
```

```
fiona/_shim.pyx in fiona._shim.gdal_open_vector()

DriverError: Unable to open ../../data/MetroStations/lacitycouncildistrict_2012
 →shx or ../../data/MetroStations/lacitycouncildistrict_2012.SHX. Set␣
 →SHAPE_RESTORE_SHX config option to YES to restore or create it.
```

[5]:
```python
import geopandas as gpd
```

[6]:
```python
council = gpd.read_file('../../data/MetroStations/lacitycouncildistrict_2012.
 →shp')
```

[7]:
```python
type(council)
```

[7]:
```
geopandas.geodataframe.GeoDataFrame
```

[8]:
```python
council.head
```

[8]:
```
<bound method NDFrame.head of                                          slug
set  \
0    10-la-city-council-district-2012  L.A. City Council Districts (2012)
1    11-la-city-council-district-2012  L.A. City Council Districts (2012)
2    12-la-city-council-district-2012  L.A. City Council Districts (2012)
3    13-la-city-council-district-2012  L.A. City Council Districts (2012)
4    14-la-city-council-district-2012  L.A. City Council Districts (2012)
5    15-la-city-council-district-2012  L.A. City Council Districts (2012)
6     1-la-city-council-district-2012  L.A. City Council Districts (2012)
7     2-la-city-council-district-2012  L.A. City Council Districts (2012)
8     3-la-city-council-district-2012  L.A. City Council Districts (2012)
9     4-la-city-council-district-2012  L.A. City Council Districts (2012)
10    5-la-city-council-district-2012  L.A. City Council Districts (2012)
11    6-la-city-council-district-2012  L.A. City Council Districts (2012)
12    7-la-city-council-district-2012  L.A. City Council Districts (2012)
13    8-la-city-council-district-2012  L.A. City Council Districts (2012)
14    9-la-city-council-district-2012  L.A. City Council Districts (2012)

                               kind external_i name  \
0   L.A. City Council District (2012)         10   10
1   L.A. City Council District (2012)         11   11
2   L.A. City Council District (2012)         12   12
3   L.A. City Council District (2012)         13   13
4   L.A. City Council District (2012)         14   14
5   L.A. City Council District (2012)         15   15
6   L.A. City Council District (2012)          1    1
7   L.A. City Council District (2012)          2    2
8   L.A. City Council District (2012)          3    3
9   L.A. City Council District (2012)          4    4
10  L.A. City Council District (2012)          5    5
```

```
11  L.A. City Council District (2012)          6     6
12  L.A. City Council District (2012)          7     7
13  L.A. City Council District (2012)          8     8
14  L.A. City Council District (2012)          9     9

                                 display_na DISTRICT  \
0   10 L.A. City Council District (2012)          10
1   11 L.A. City Council District (2012)          11
2   12 L.A. City Council District (2012)          12
3   13 L.A. City Council District (2012)          13
4   14 L.A. City Council District (2012)          14
5   15 L.A. City Council District (2012)          15
6    1 L.A. City Council District (2012)          01
7    2 L.A. City Council District (2012)          02
8    3 L.A. City Council District (2012)          03
9    4 L.A. City Council District (2012)          04
10   5 L.A. City Council District (2012)          05
11   6 L.A. City Council District (2012)          06
12   7 L.A. City Council District (2012)          07
13   8 L.A. City Council District (2012)          08
14   9 L.A. City Council District (2012)          09

                                           geometry
0   POLYGON ((-118.29166 34.06905, -118.29164 34.0…
1   POLYGON ((-118.35846 33.98304, -118.35861 33.9…
2   POLYGON ((-118.46805 34.28553, -118.46924 34.2…
3   POLYGON ((-118.27834 34.15320, -118.27561 34.1…
4   POLYGON ((-118.22993 34.12134, -118.22985 34.1…
5   POLYGON ((-118.25413 33.94187, -118.25411 33.9…
6   POLYGON ((-118.29998 34.05222, -118.29100 34.0…
7   POLYGON ((-118.43998 34.17575, -118.43998 34.1…
8   POLYGON ((-118.54609 34.22058, -118.54603 34.2…
9   POLYGON ((-118.35631 34.16877, -118.35625 34.1…
10  POLYGON ((-118.39091 34.03121, -118.38776 34.0…
11  POLYGON ((-118.36647 34.22992, -118.35921 34.2…
12  POLYGON ((-118.50664 34.33517, -118.50381 34.3…
13  POLYGON ((-118.28401 34.03703, -118.28396 34.0…
14  POLYGON ((-118.26947 34.03594, -118.27082 34.0…  >
```

[9]: `council.shape`

[9]: (15, 8)

[10]: `council.info()`

```
<class 'geopandas.geodataframe.GeoDataFrame'>
RangeIndex: 15 entries, 0 to 14
```

```
Data columns (total 8 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   slug         15 non-null     object
 1   set          15 non-null     object
 2   kind         15 non-null     object
 3   external_i   15 non-null     object
 4   name         15 non-null     object
 5   display_na   15 non-null     object
 6   DISTRICT     15 non-null     object
 7   geometry     15 non-null     geometry
dtypes: geometry(1), object(7)
memory usage: 1.1+ KB
```
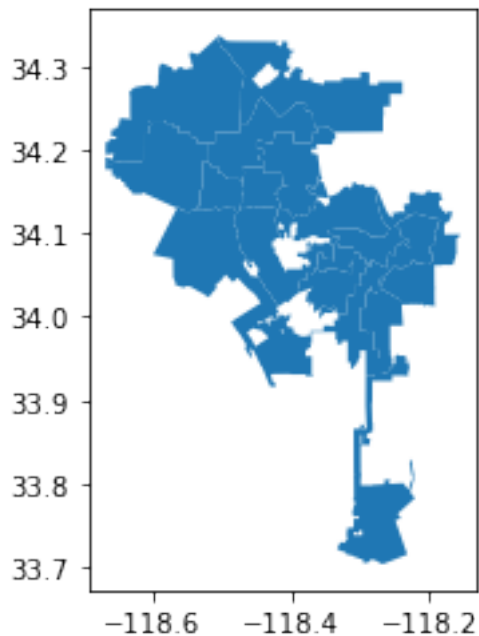
[11]: `council.columns.to_list()`

[11]:
```
['slug',
 'set',
 'kind',
 'external_i',
 'name',
 'display_na',
 'DISTRICT',
 'geometry']
```

[12]: `council.plot()`

[12]: `<matplotlib.axes._subplots.AxesSubplot at 0x7f2f542d56d0>`

[ ]: