CSE 163
Geopandas

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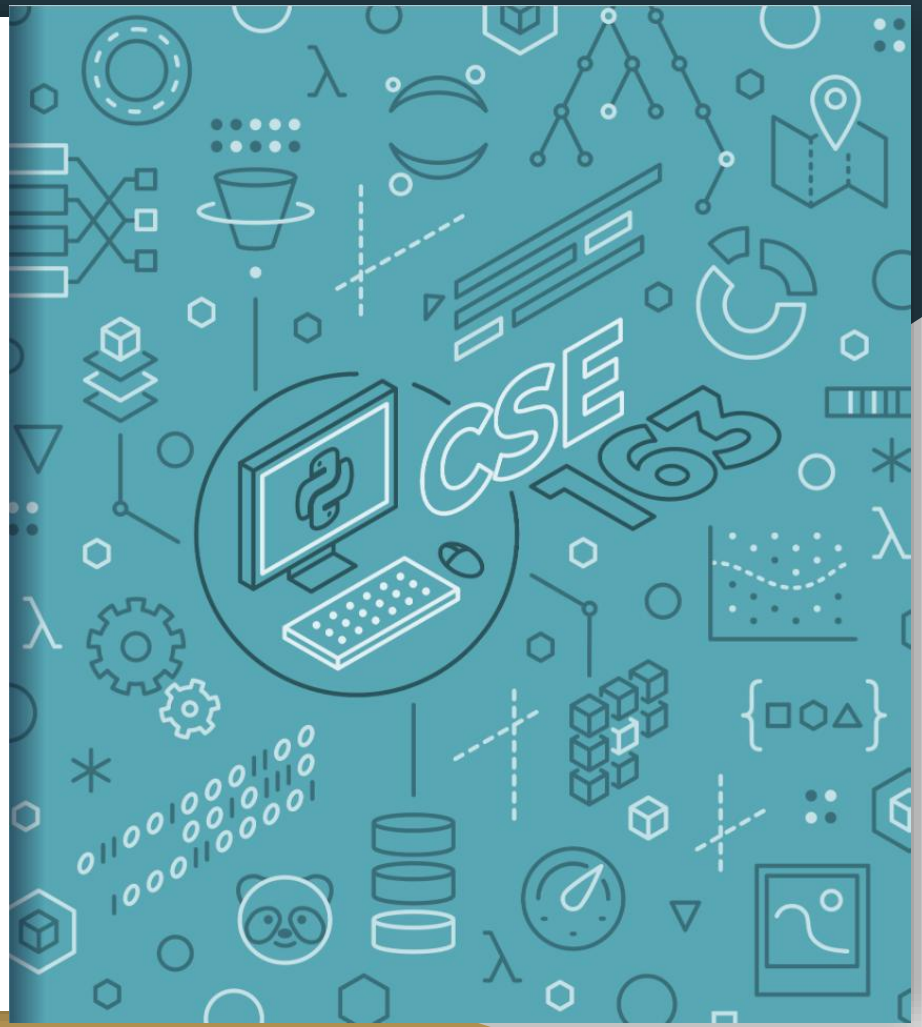
Spring 2026

💭 Icebreaker (discuss with neighbors): ‘
What’s the most difficult sport to play?
Add to our Slido!

slido.com
#cse163



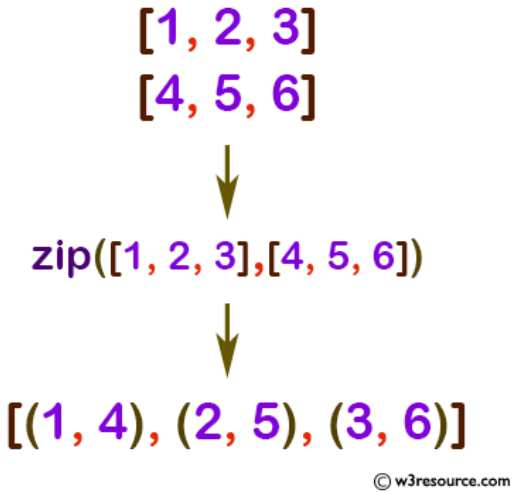
Announcements

- **Take Home Assessment 5: Mapping** will be released early next week
- **Peer Reviews for THA 4** available tonight, due Wednesday May 13th at 11:59pm!
- **Project Part 2** due May 14th at 11:59pm!
  - EDA/Milestone
  - Group Projects: only one person needs to submit but add your teammates to your submission using these instructions
- **Lesson 17 and 18 Canvas Quizzes** will be freebies!
- **Reading Assignment 4** (tentatively) due May 11th at 11:59pm!
  - PDF available on Ed!

zip

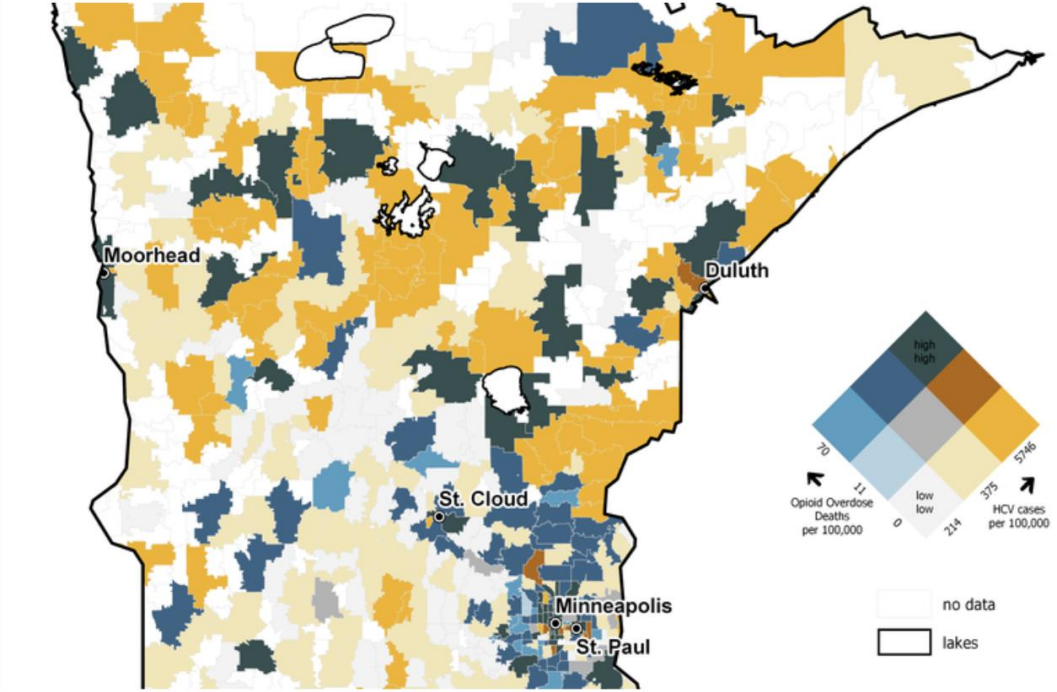
- Helpful built-in function to help combine lists

```
x = [1,2,3]
y = [4,5,6]
zip(x, y)
```

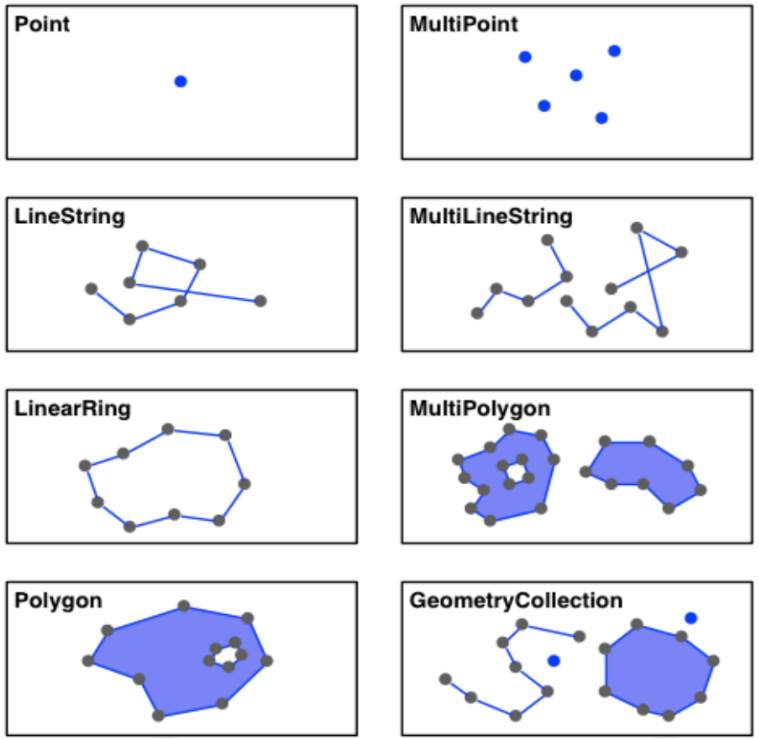


- ***zip* does not return a list!** *zip* returns a generator that you can iterate over once!

Geospatial Data!: Map representation of data



Shapes – the ***geometry*** column



Geopandas - pandas with geo data

- GeoDataFrame and GeoSeries

```
import geopandas as gpd

df = gpd.read_file('data_file.shp')

df.plot(column='some_col', legend=True)
plt.savefig('plot.png')
```

Matplotlib

- Default plots gets plotted on a global figure (think like a painting canvas)
  - *Plots would overwrite each other*
  - *Extra work to plot multiple graph information on the same set of axes*

```
fig, ax = plt.subplots(1)
<plot1>(ax=ax)
<plot2>(ax=ax)
fig.savefig('plot_together.png')
```

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```
fig, ax = plt.subplots(1)
<plot1>(ax=ax)
<plot2>(ax=ax)
fig.savefig('plot_together.png')
```

```
fig, [ax1, ax2] = plt.subplots(1, 2) # width, height
<plot1>(ax=ax1)
<plot2>(ax=ax2)
fig.savefig('plot_separate.png')
```

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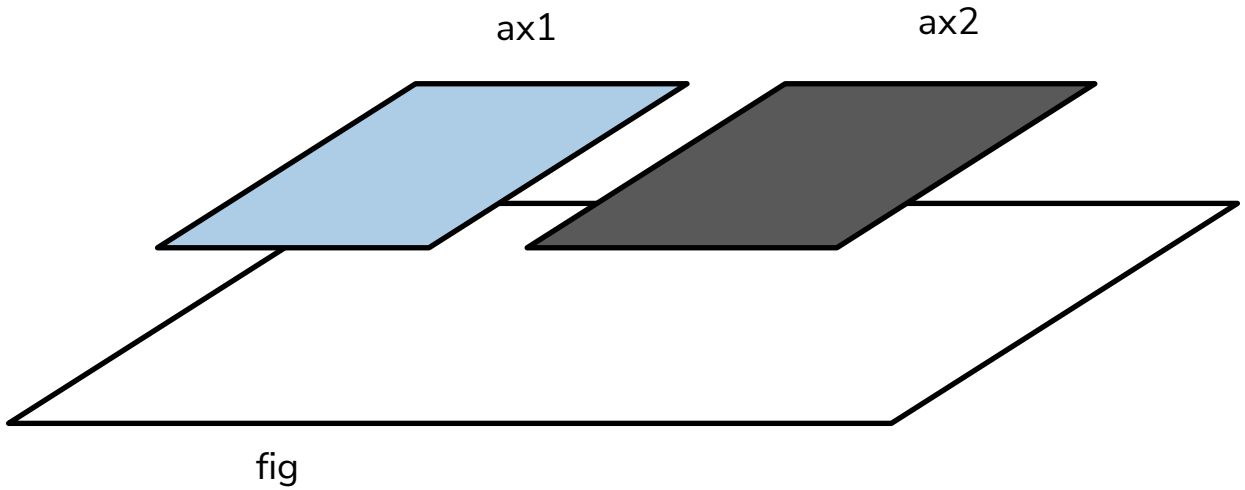

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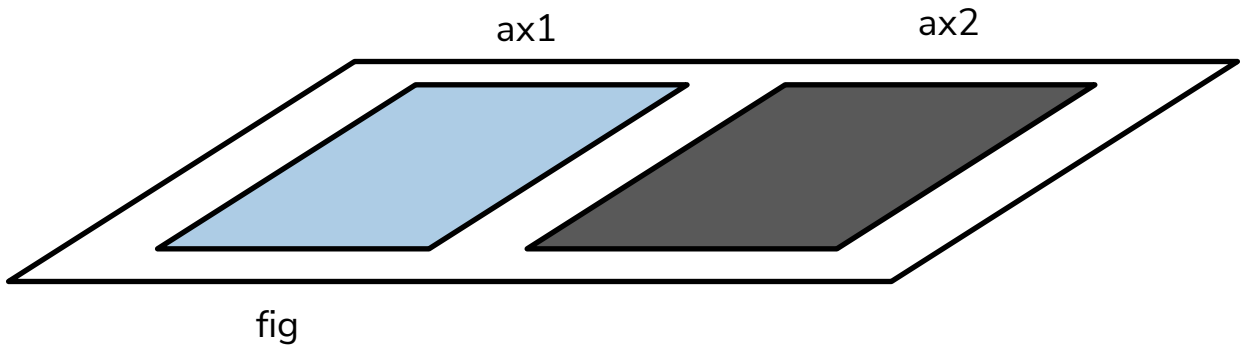

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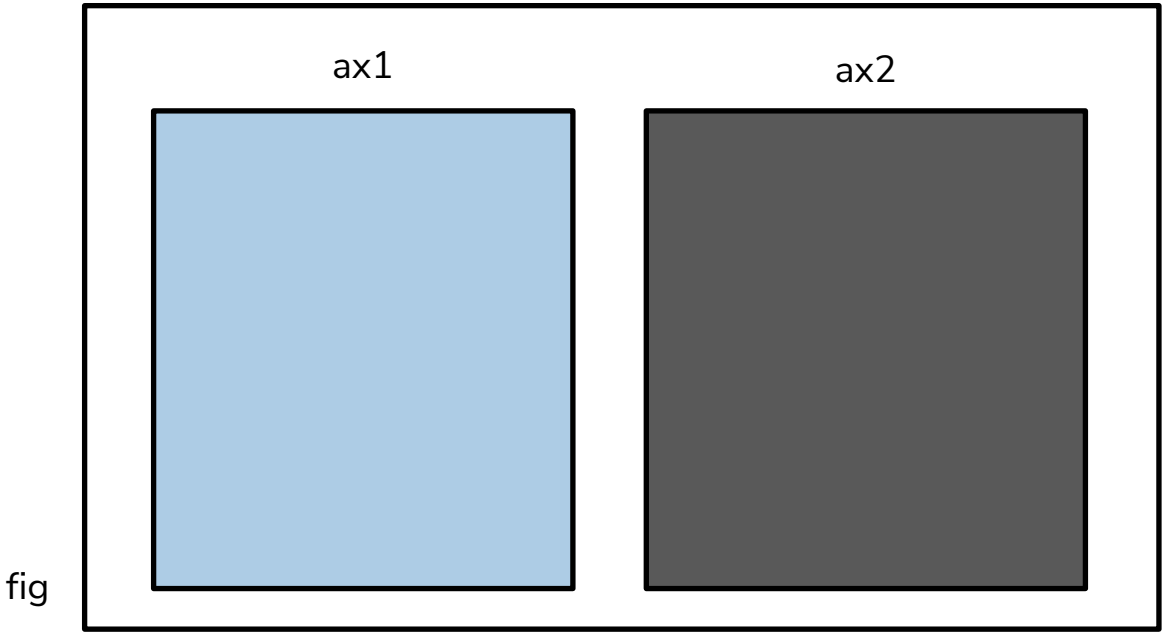
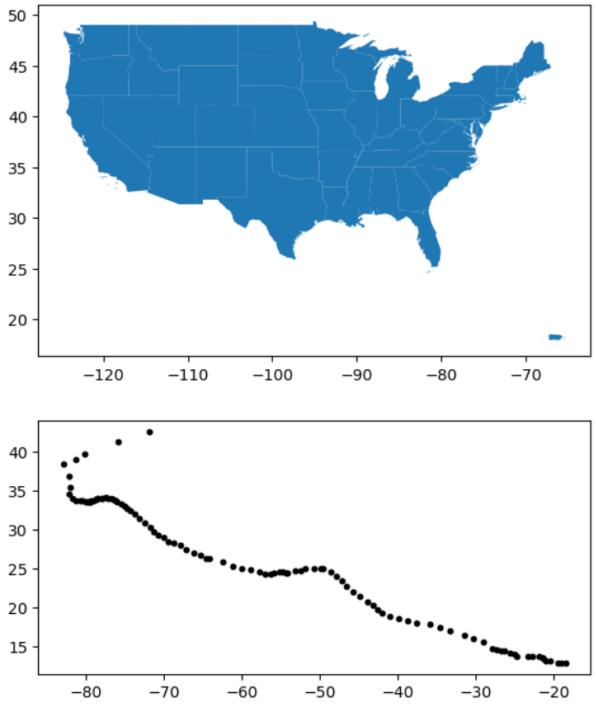


Hurricane Florence

```
[10] country.plot()
     florence.plot(color='black', markersize=10)
```

```
[10] <Axes: >
```



Hurricane Florence

In [11]:
```
fig, ax = plt.subplots(1, figsize=(15, 7))

country.plot(ax=ax)
florence.plot(color='black', markersize=10, ax=ax)
```

Out[11]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x7ff8224da460>
```