VISUALIZING DATA

ALEXIS YOHROS
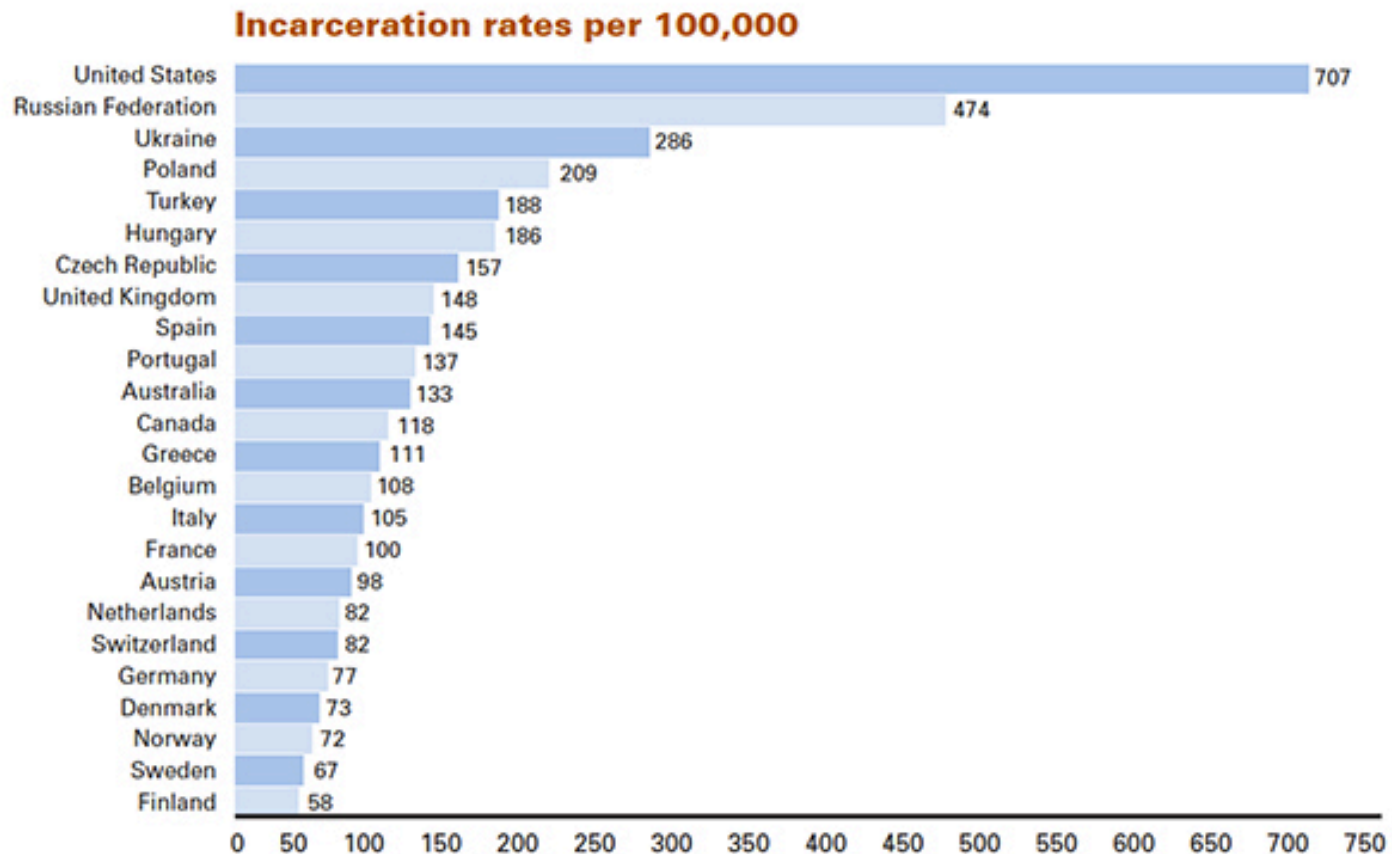
INTRO TO COMPARATIVE POLITICS
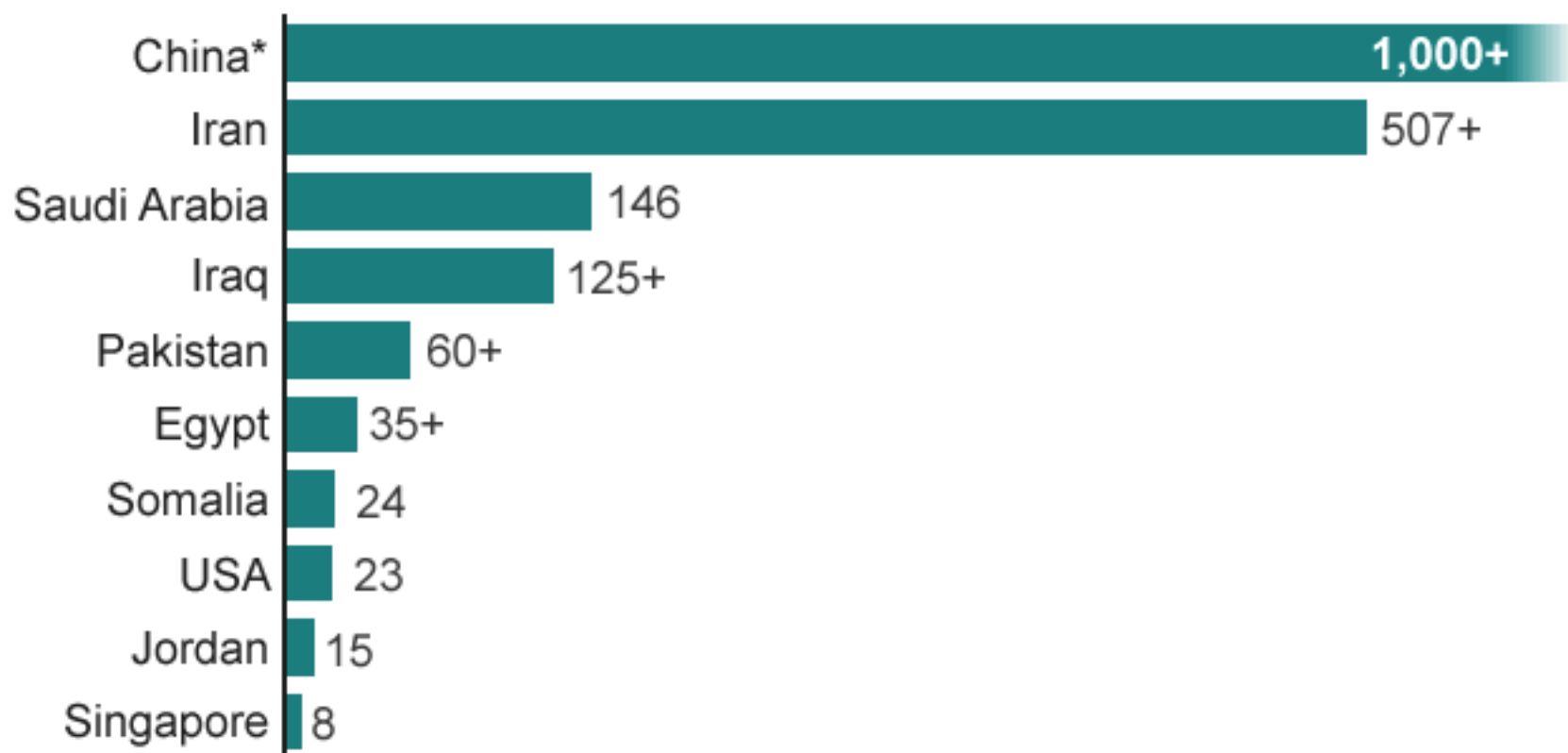
MAKING SENSE OF DATA

- **Why is data visualization important?**

- **One Hundred Million 311 Calls**

- https://www.wired.com/2010/11/ff_311_new_york/

- **Visualizing Policy**

- **Opiod Crisis in MA**

- https://chapter55.digital.mass.gov/

- **Comparisons Across Countries**

- **Income and Life Expectancy**

- https://www.gapminder.org/answers/how-does-income-relate-to-life-expectancy/

DESCRIPTIVE STATISTICS

- **Tools like Excel, Stata, R, and Python**

Incarceration rates per 100,000

Country	Rate
United States	707
Russian Federation	474
Ukraine	286
Poland	209
Turkey	188
Hungary	186
Czech Republic	157
United Kingdom	148
Spain	145
Portugal	137
Australia	133
Canada	118
Greece	111
Belgium	108
Italy	105
France	100
Austria	98
Netherlands	82
Switzerland	82
Germany	77
Denmark	73
Norway	72
Sweden	67
Finland	58

Executions around the world in 2017

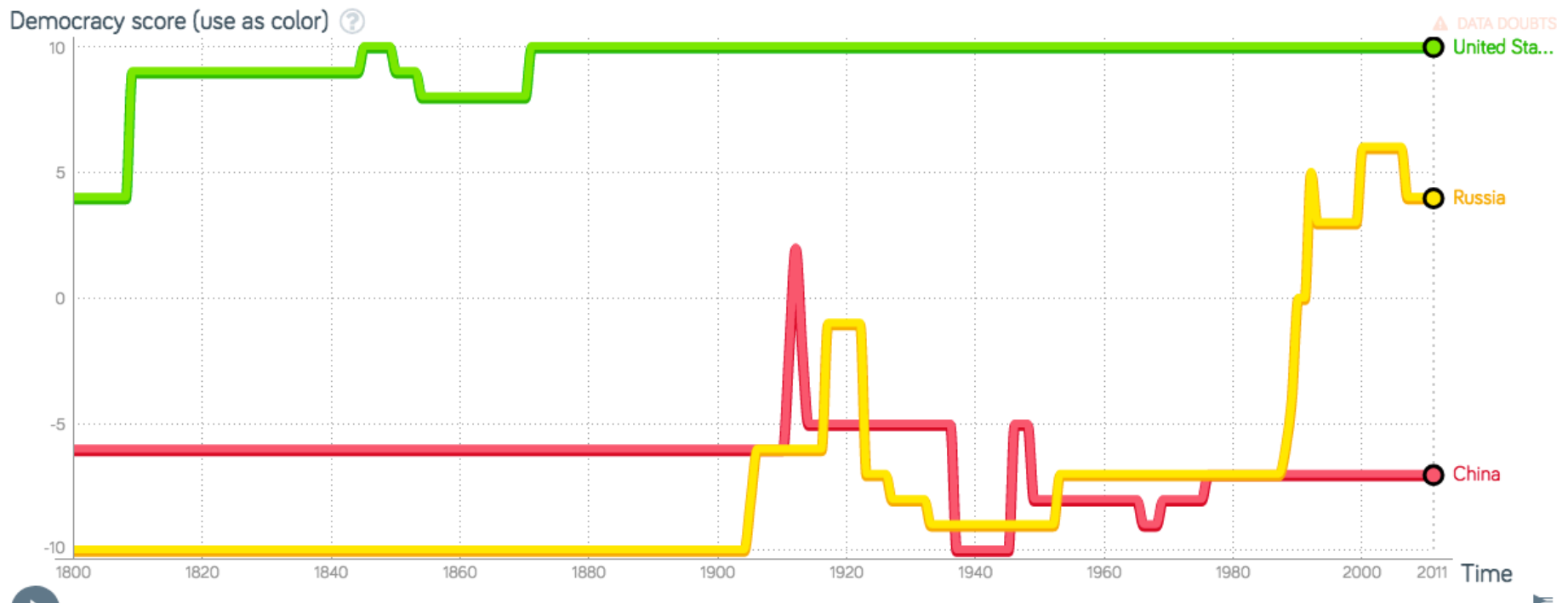| Country	Executions
China*	1,000+
Iran	507+
Saudi Arabia	146
Iraq	125+
Pakistan	60+
Egypt	35+
Somalia	24
USA	23
Jordan	15
Singapore	8

*Official data unavailable, but Amnesty International estimates that executions in China were in the thousands
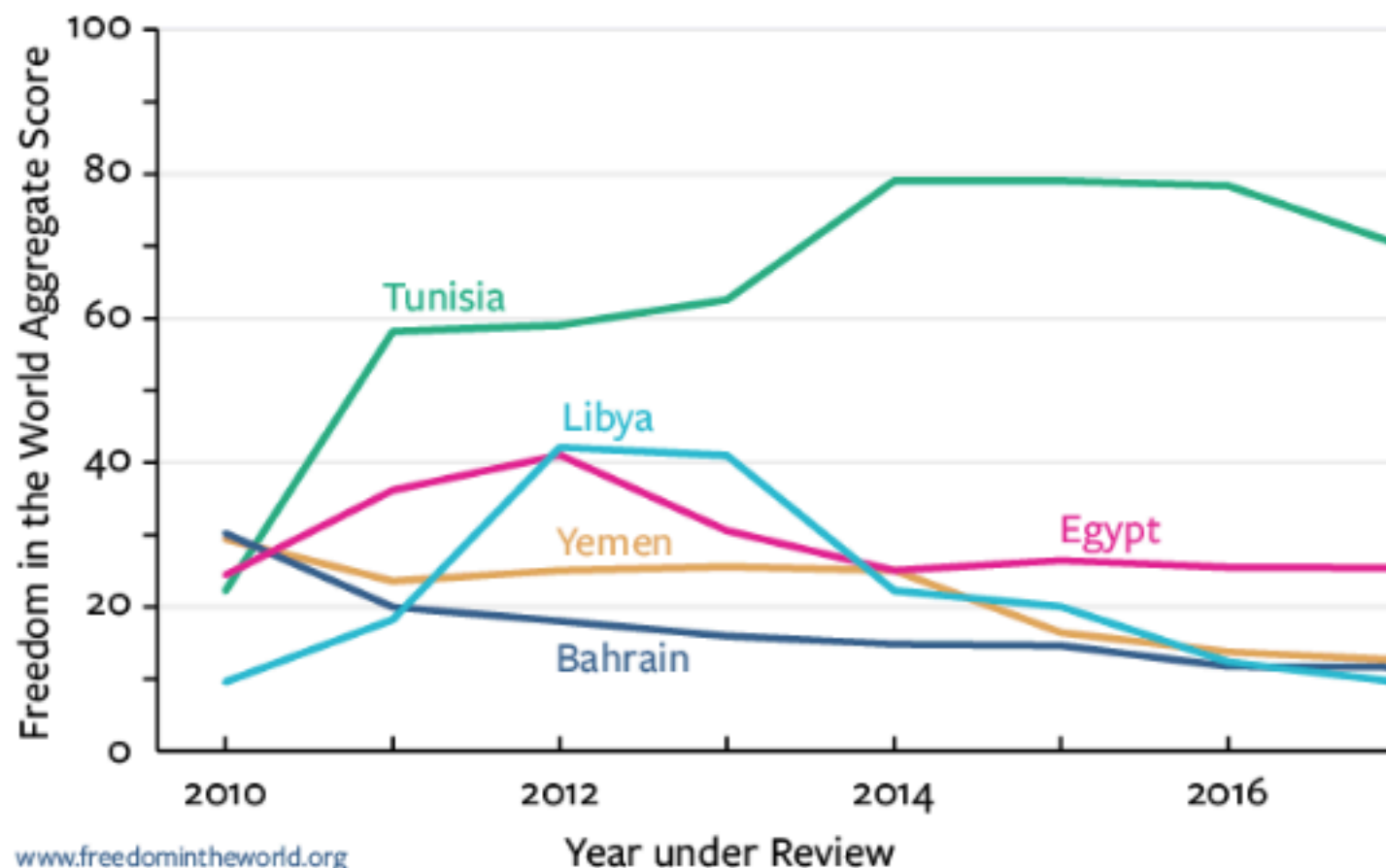
BBC

COMPARATIVE TRENDS OVER TIME

Democracy Score: from Polity IV dataset (autocracy score-democracy score)
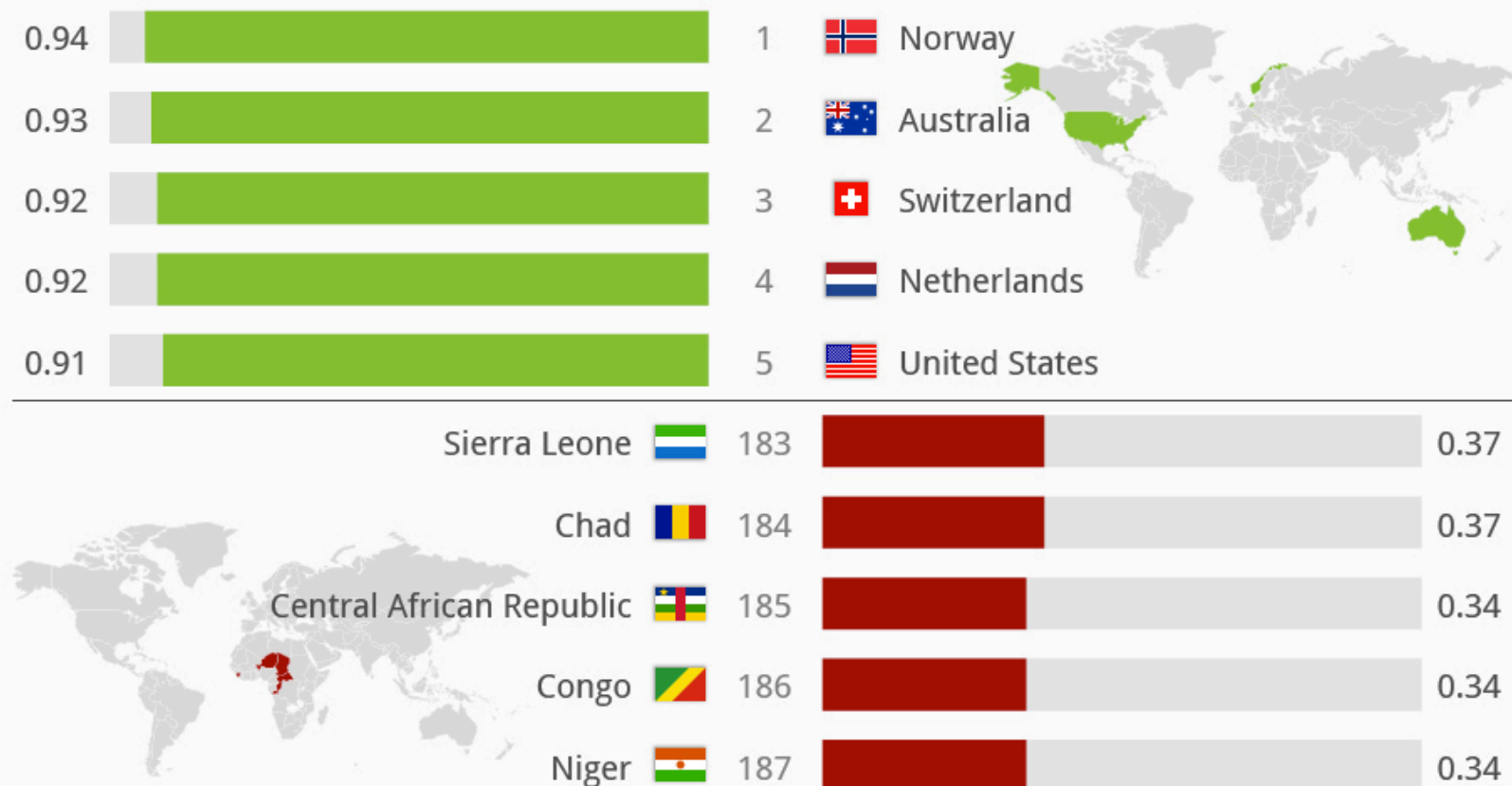
Democratic Backsliding in the Arab World

Tunisia was the only Arab Spring country to avoid repression or civil war after the hopeful 2011 uprisings, but even its hard-won democratic achievements are now under threat.

www.freedomintheworld.org

The Countries Where Human Progress Is Slowest and Fastest

Ranked according to the United Nations' Human Development Index* 2013

0.94	1	🇳🇴 Norway
0.93	2	🇦🇺 Australia
0.92	3	🇨🇭 Switzerland
0.92	4	🇳🇱 Netherlands
0.91	5	🇺🇸 United States

Sierra Leone	183	0.37
Chad	184	0.37
Central African Republic	185	0.34
Congo	186	0.34
Niger	187	0.34

* The HDI measures three dimensions of human development: longevity, education and standard of living
Source: United Nations Development Programme

Mashable statista

APPLYING IT TO YOUR PROJECTS
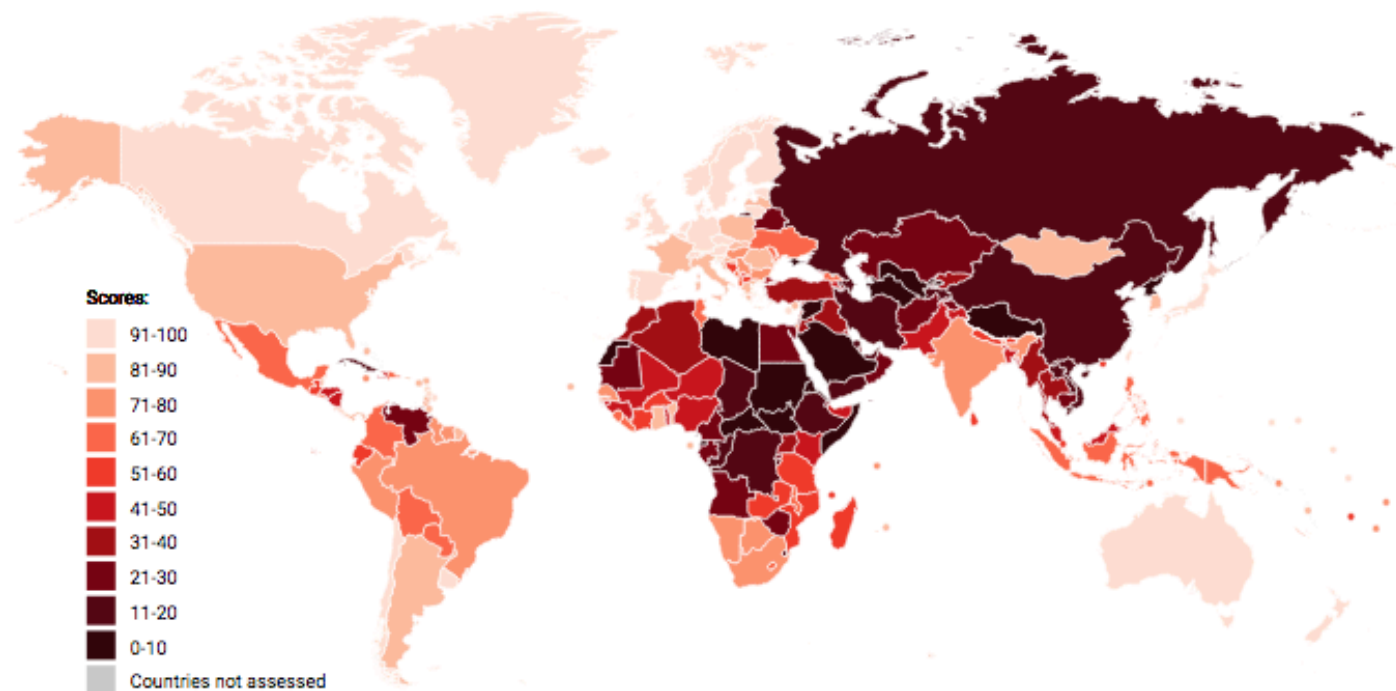
- Plotting trends using GDPPC data

- Plotting metrics from the Human Development Index for a country over time

- Comparing the same metric (GDP) across countries

- Other measures of economic well-being

MAPPING

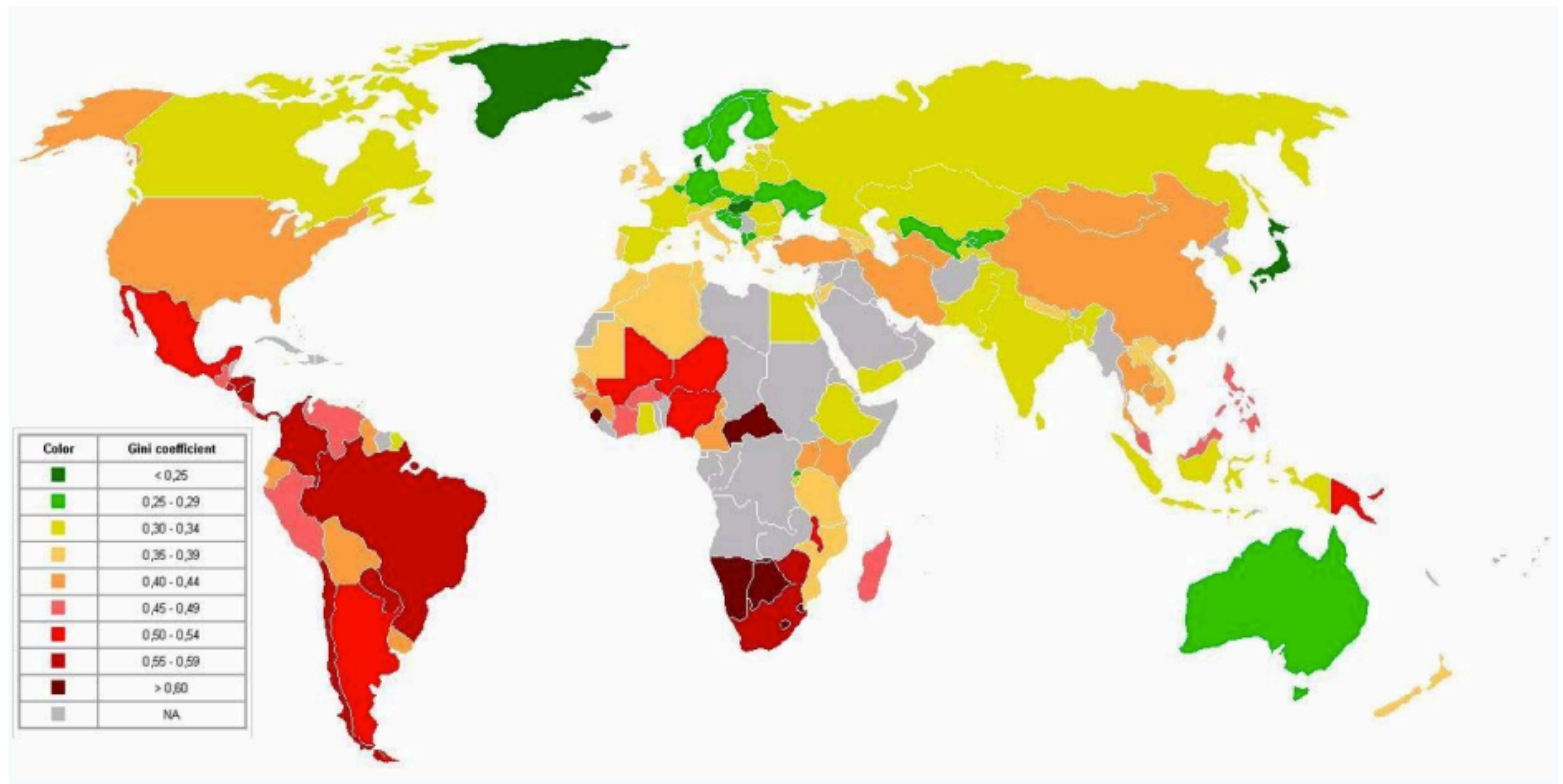- **Using R or ArcGIS**

Freedom in the World 2018 by Aggregate Score

Scores:
- 91-100
- 81-90
- 71-80
- 61-70
- 51-60
- 41-50
- 31-40
- 21-30
- 11-20
- 0-10
- Countries not assessed

Freedom in the World Aggregate Score: 0 = Least Free, 100 = Most Free

GINI COEFFICIENT ACROSS COUNTRIES

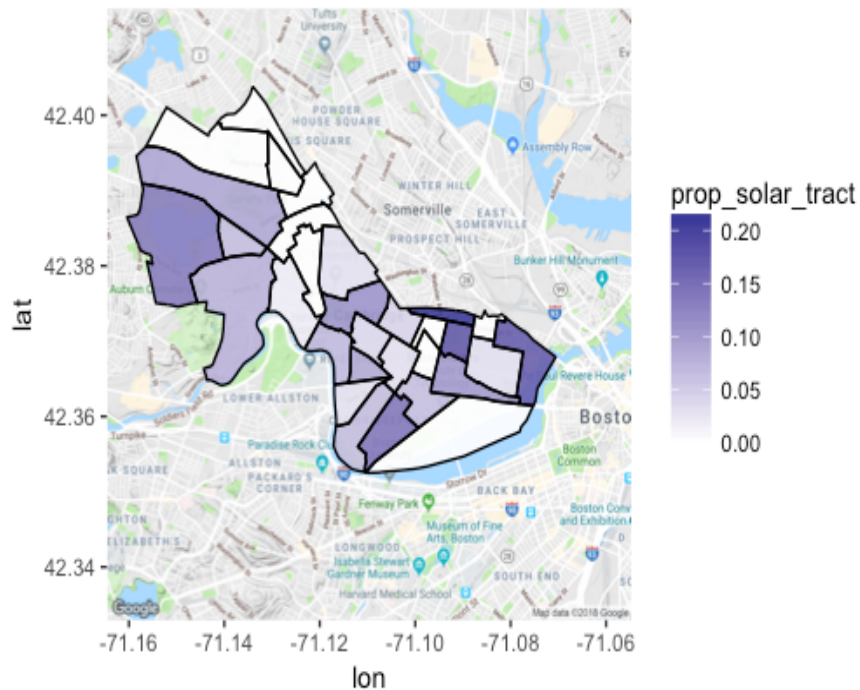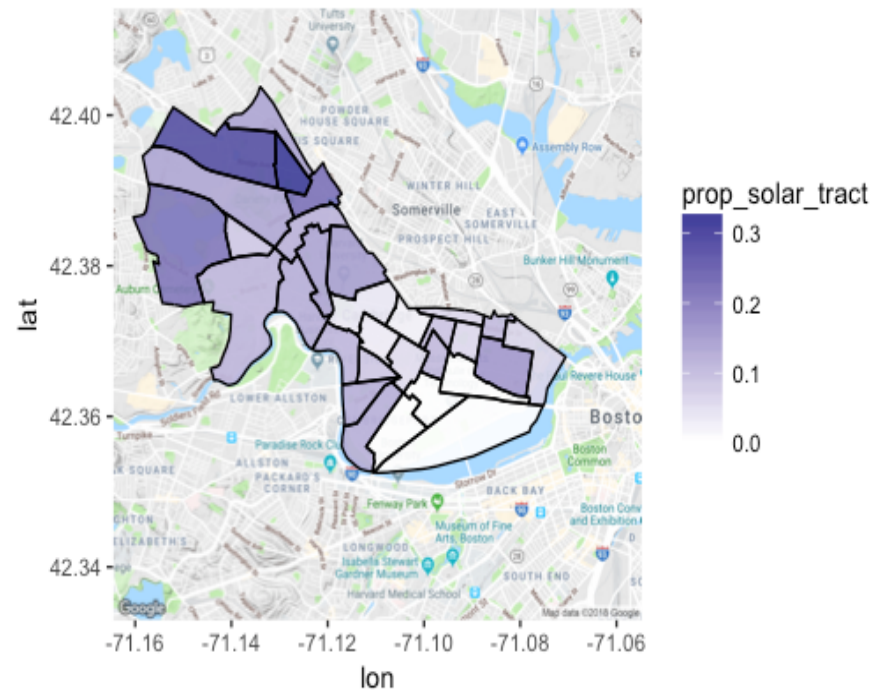| Color	Gini coefficient
	< 0,25
	0,25 - 0,29
	0,30 - 0,34
	0,35 - 0,39
	0,40 - 0,44
	0,45 - 0,49
	0,50 - 0,54
	0,55 - 0,59
	> 0,60
	NA

CREATING MAPS IN R

Investment in Solar Power 2014

Investment in Solar Power 2017

APPLYING IT TO YOUR PROJECTS

- **Mapping metrics across countries**

- **Seeing changes over time across one country**

  - GDP, democratic score, other measures of economic well-being

- **Ethnic diversity in different regions of a country**

MORE ADVANCED: VISUALIZING TEXT

- **Text analysis tools like Python**

- **Most common words, changes in language over time**

- **School Shooting and the Media Example (section of module)**

  https://bit.ly/2IRzCof

COLLECTING DATA

- **Quantitative data**

- **Qualitative data**

- **String versus numeric**

- **Creating datasets**

- **Excel**

Country	Population	GDP	Article
USA			
Russia			

FROM CSV FILES TO EXCEL

Comma separated values:

Walk through: Political Regimes

https://ourworldindata.org/democracy

VISUALIZING IN EXCEL

Follow along

WHERE TO FIND DATA

Follow along

https://www.icpsr.umich.edu/icpsrweb/

Exploring Gapminder: https://www.gapminder.org/tools/

RESOURCES

- **Alexis Yohros**

  - Yohros.a@husky.neu.edu

- **Cara Messina**

  - Messina.c@husky.neu.edu

- **NULab for Texts, Maps and Networks**

  - Workshops

- **GIS Specialist at NEU Library:**

  - Bahare Sanaie-Movahed

  - B.sanaiemovahed@northeastern.edu

TEXT ANALYSIS TOOLS : RESOURCES

Links:

https://www.jasondavies.com/wordtree/

https://databasic.io/en/samediff/

https://storybench.shinyapps.io/textanalysis/