

Maps & Other Lesser-Known Graphs

CM4125 – Topic 8

Before we begin

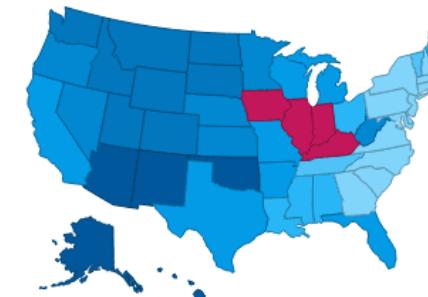
- Solutions of last week's lab
- SODU 2023
- Meta on Campus event
- Next week

Maps

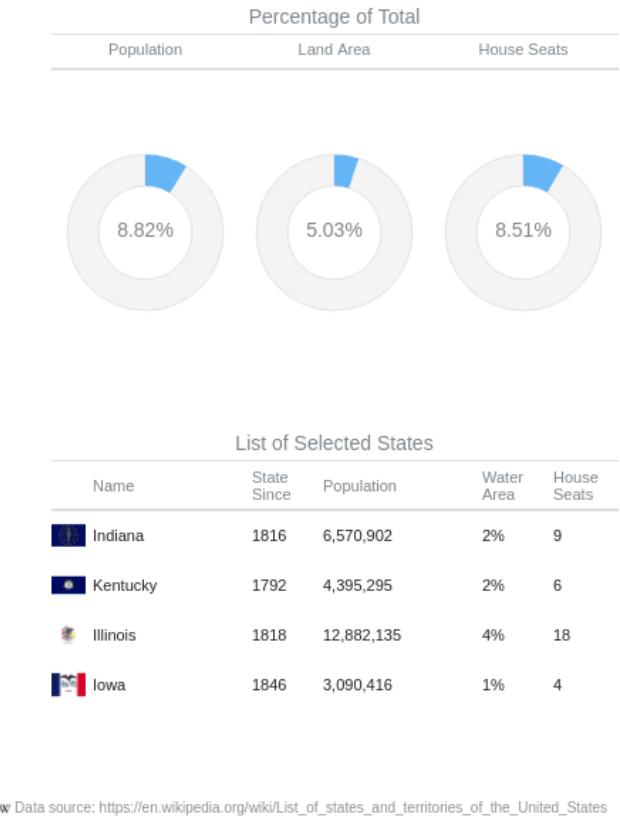
Maps

- Maybe the most widely used visualisation nowadays
- The most logical way to understand population trends

US States
by the Year of Joining the Union
Pick your state or a time period to see when chosen states joined

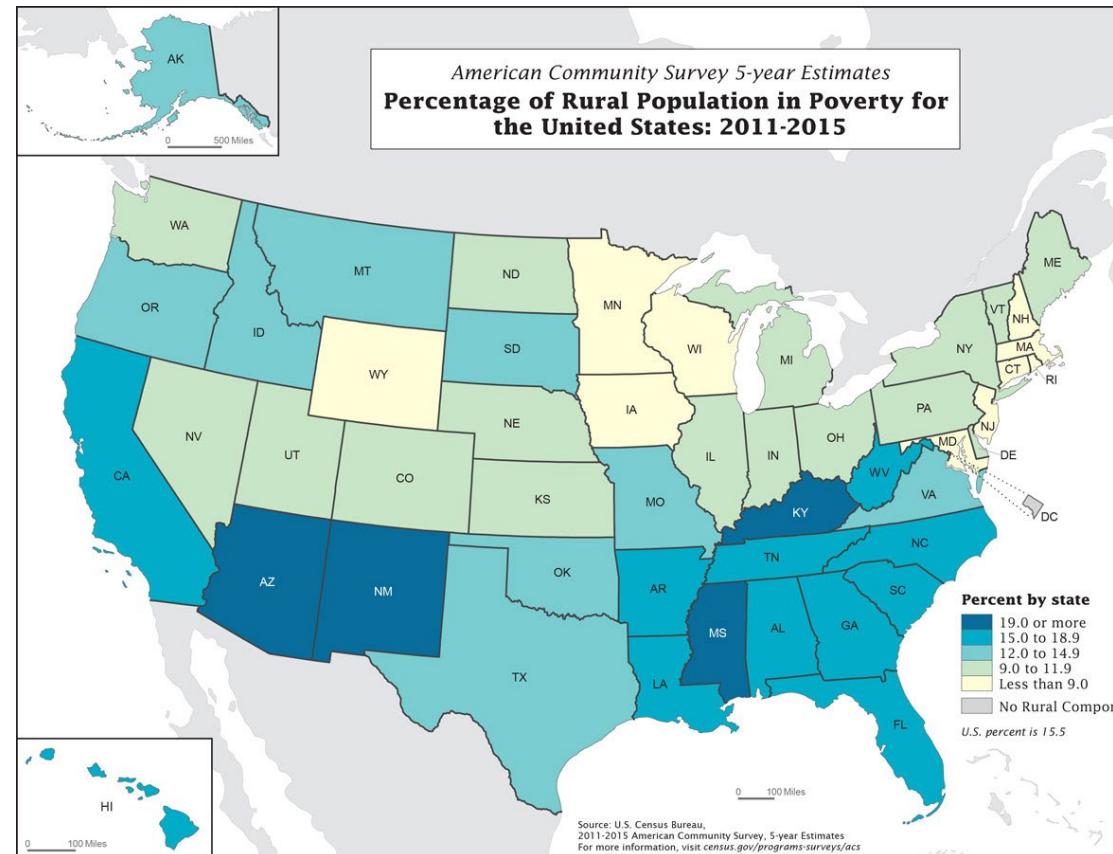


Before 1790 1820 - 1850 After 1900



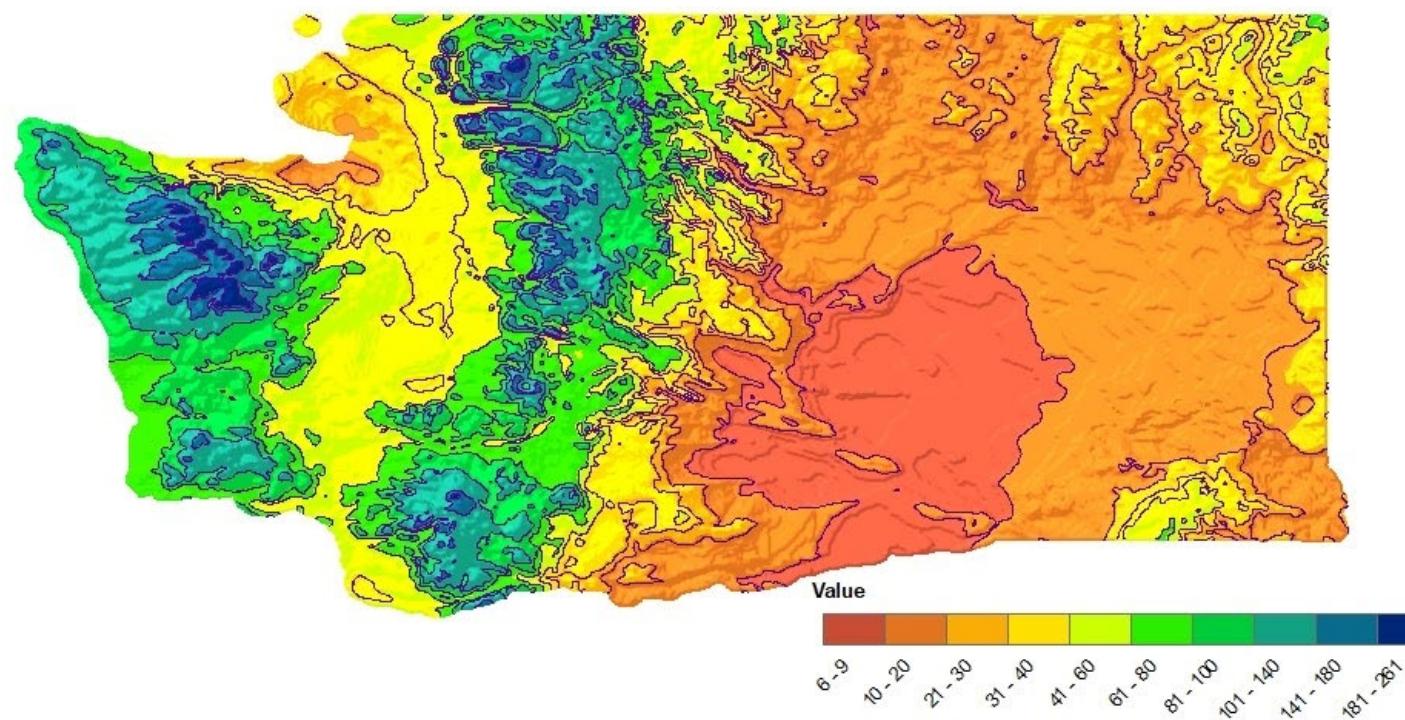
Types of Maps

Choropleth Map



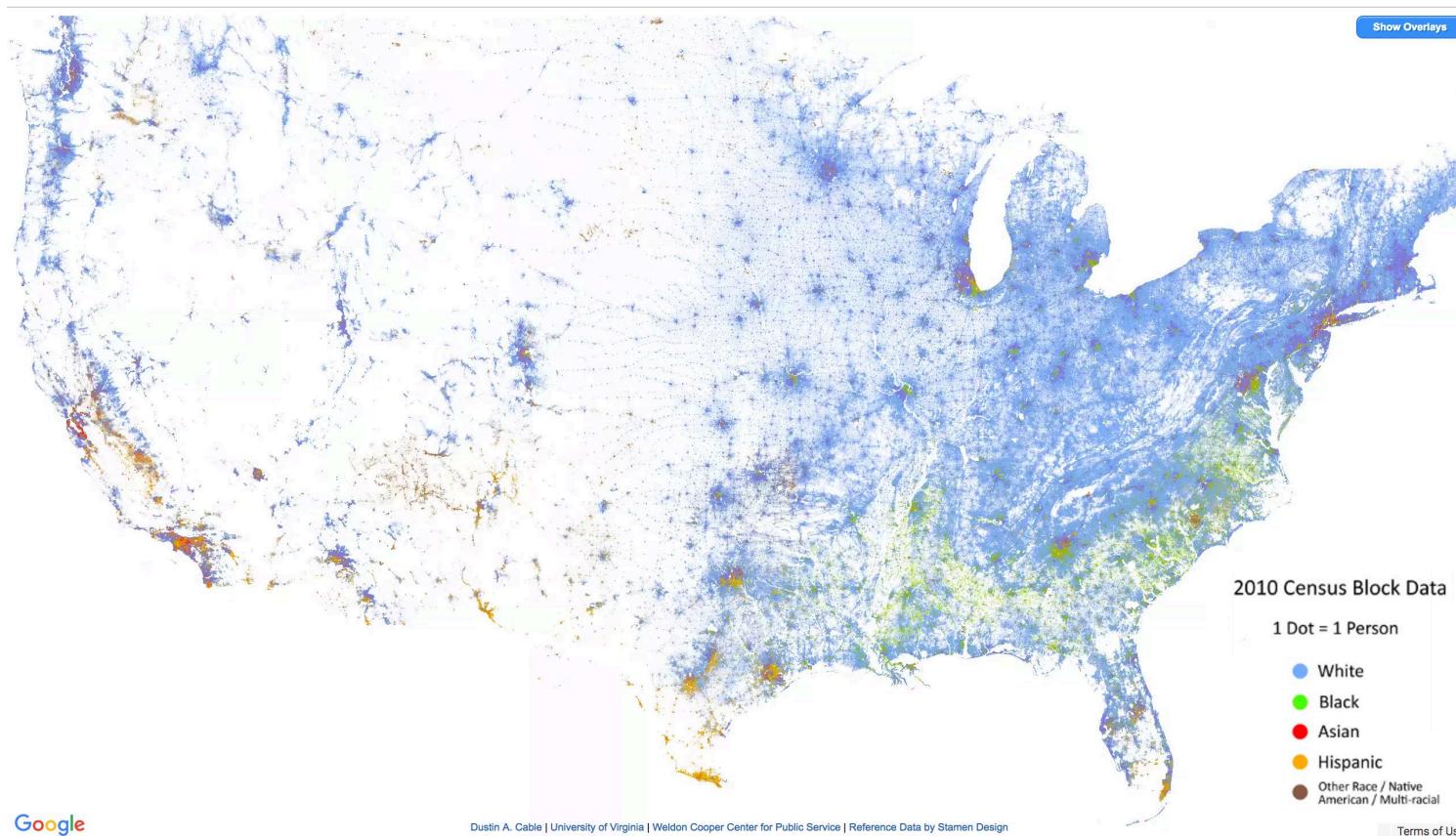
Isarithmic Map

Washington State Annual Precipitation

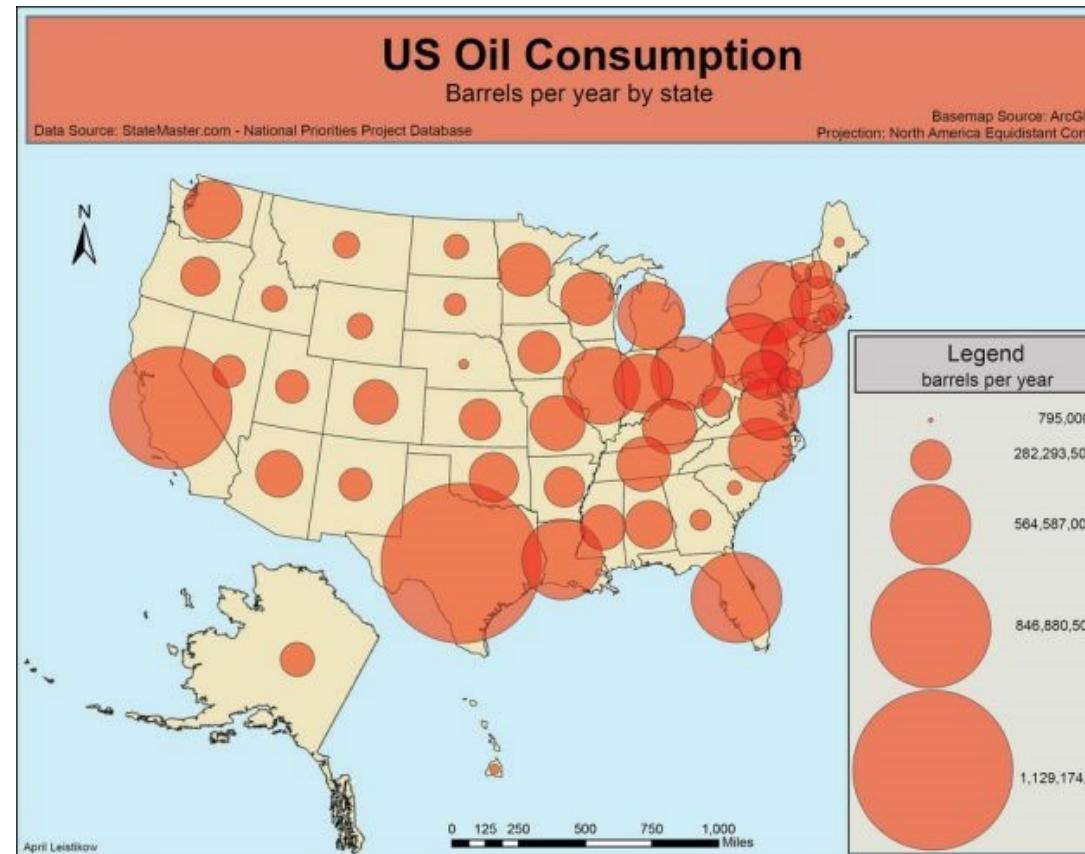


The raster dataset was downloaded from USDA Geospatial Gateway. The dataset is average precipitation in inches for the

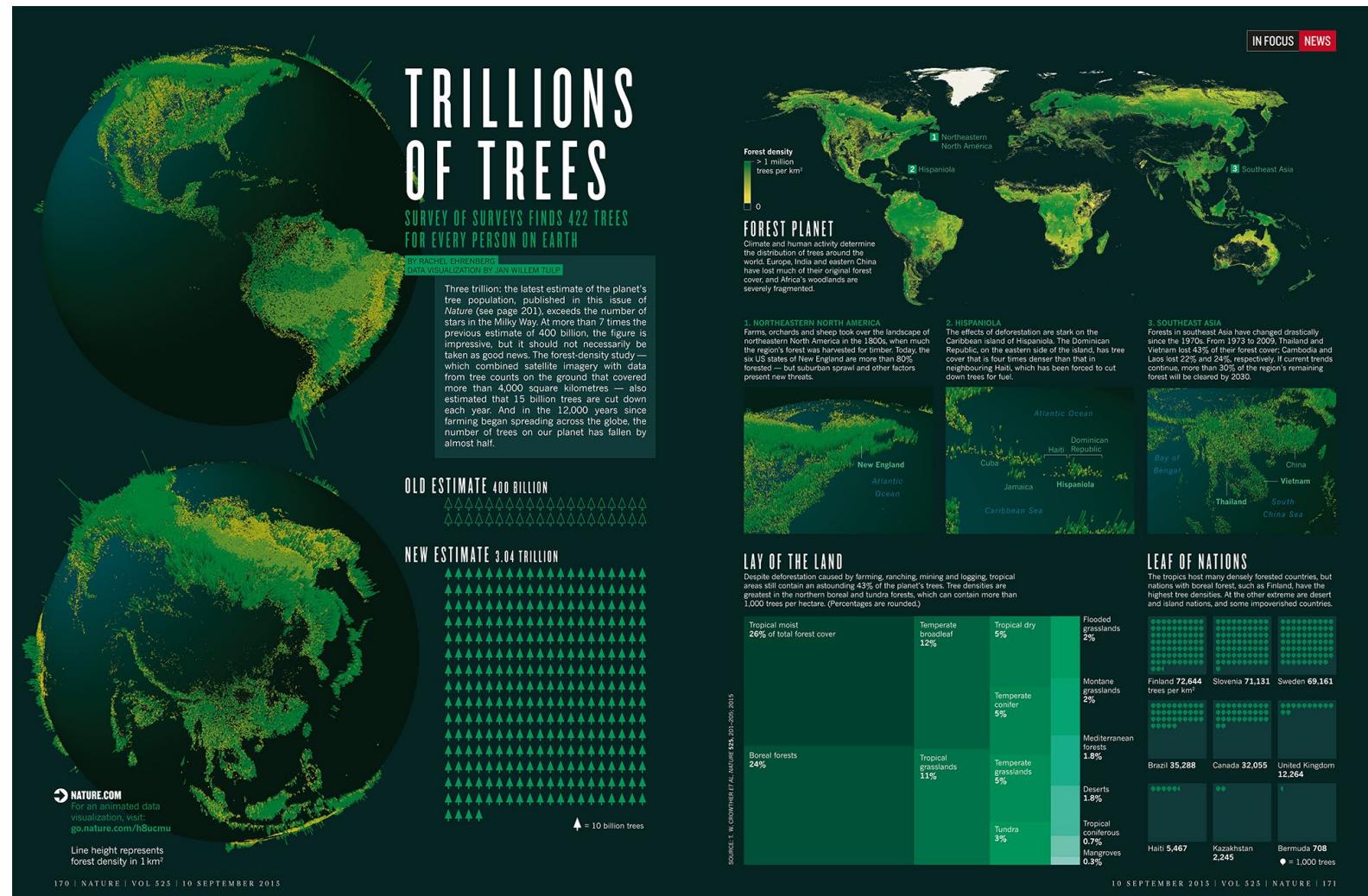
Dot Map



Proportional Symbol Map



Prism Map

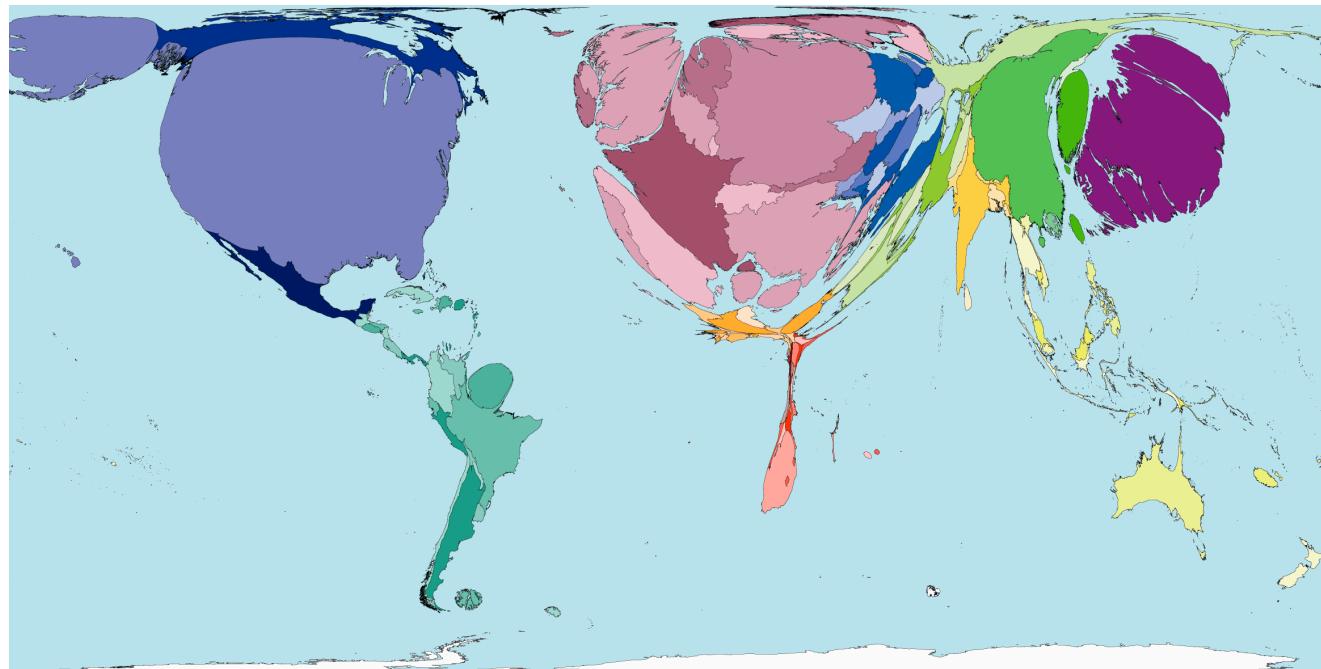


Flow Map



<https://multimedia.scmp.com/culture/article/SCMP-printed-graphics-memory/lonelyGraphics/201210A113.html>

Area Cartogram (a map of inequalities)



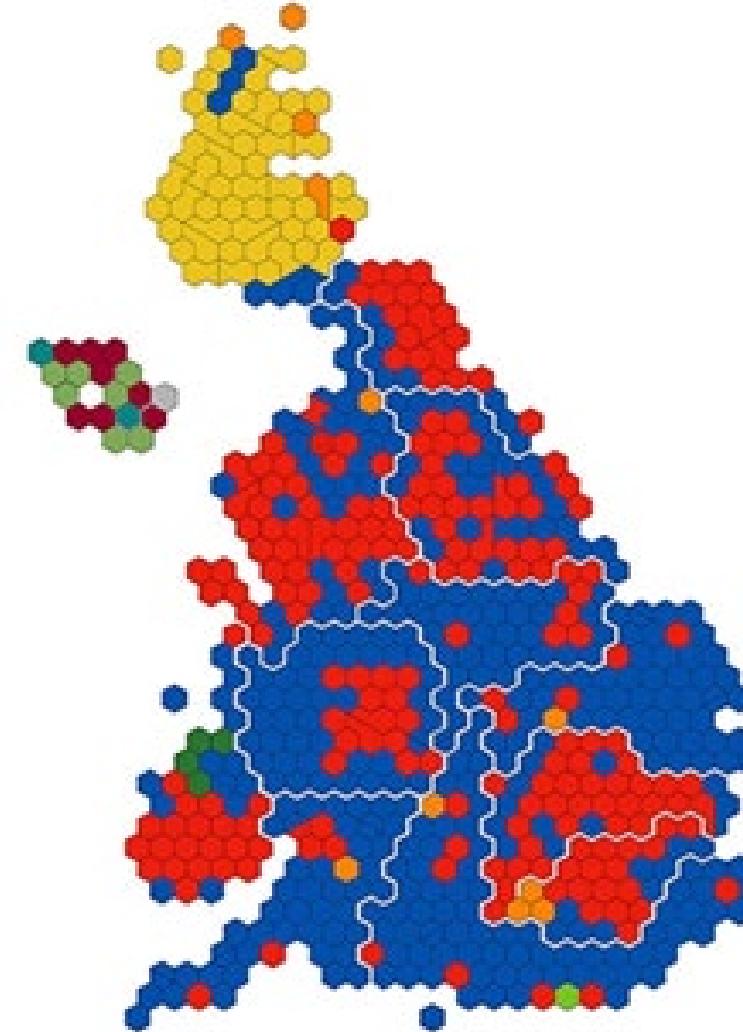
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040001>

Dorling Cartogram



<https://blog.datawrapper.de/cartograms/>

Grid Map



Map Word Cloud



Copyright © Pello.co.u

GREAT BRITISH BANDS

Art inspired by music | www.p...
Copyright © Peleg 2012

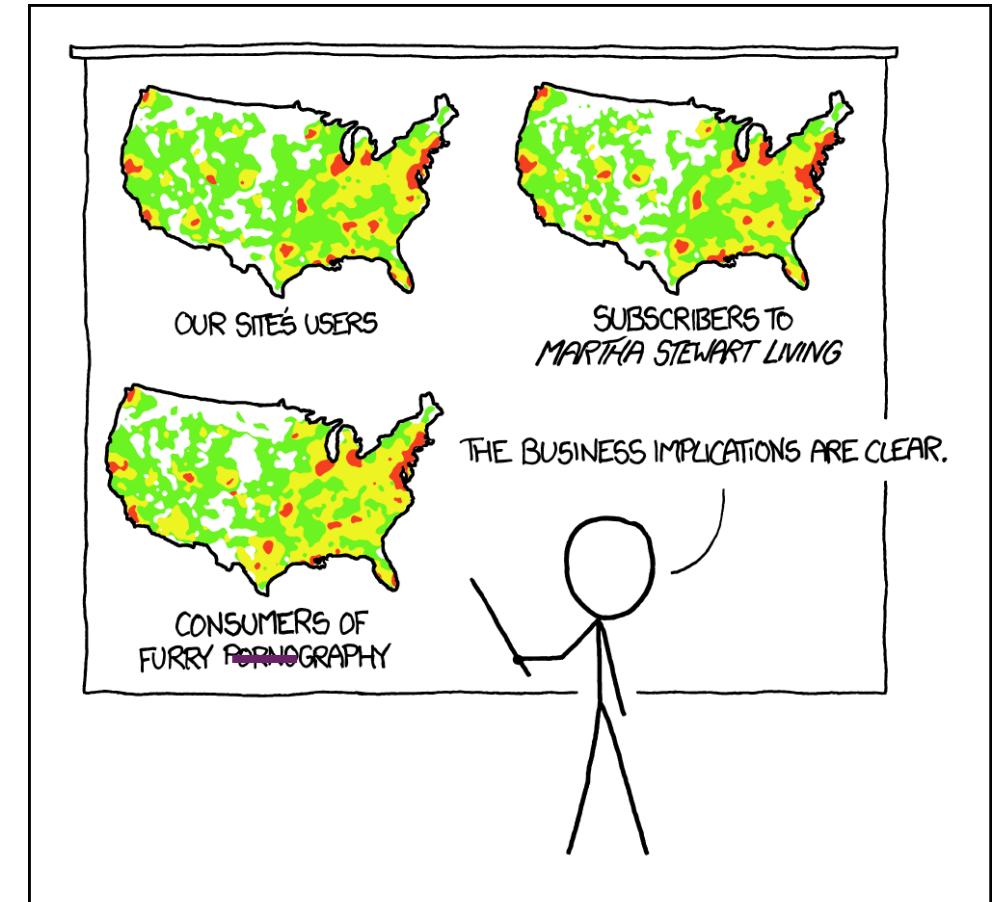


Problems with Maps



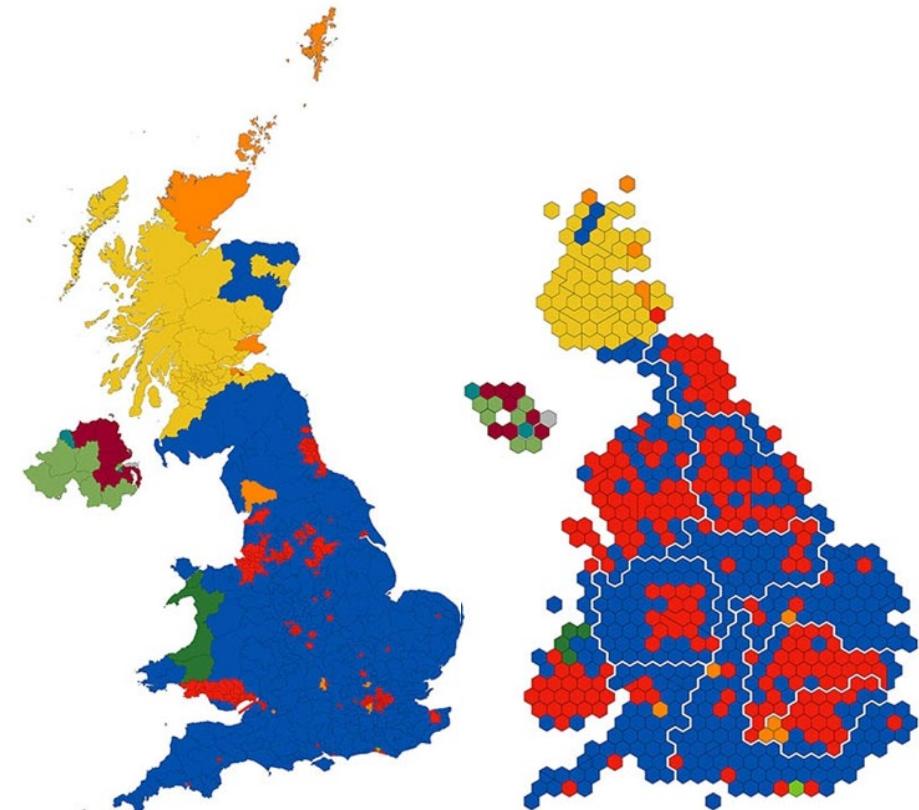
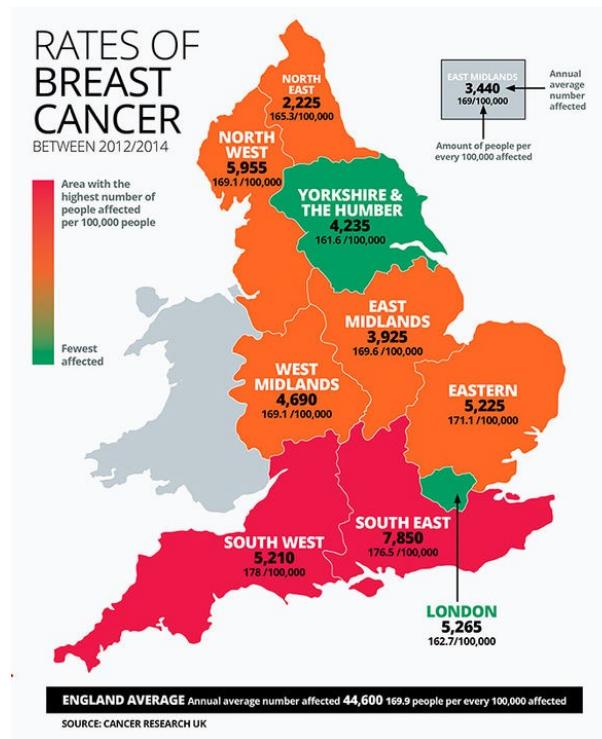
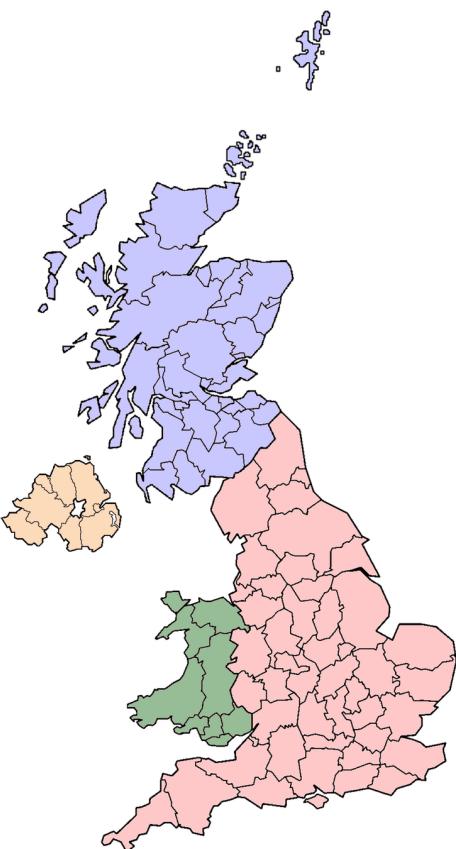
<https://thetruesize.com/>

Problems with Maps



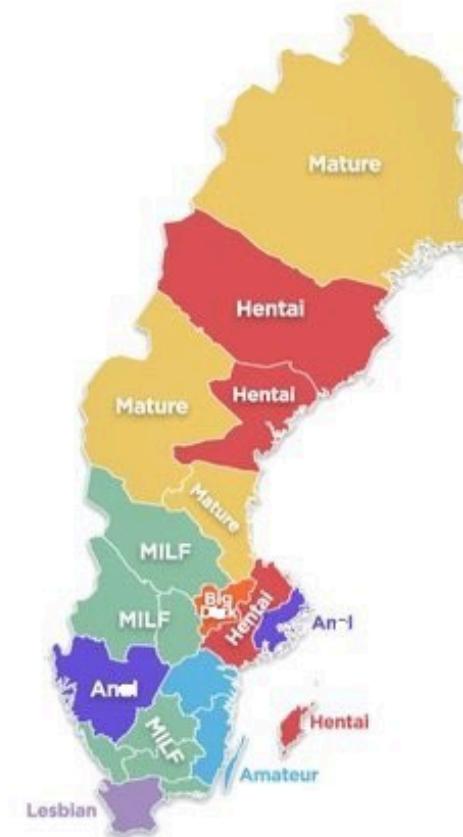
PET PEEVE #208:
GEOGRAPHIC PROFILE MAPS WHICH ARE
BASICALLY JUST POPULATION MAPS

Problems with Maps

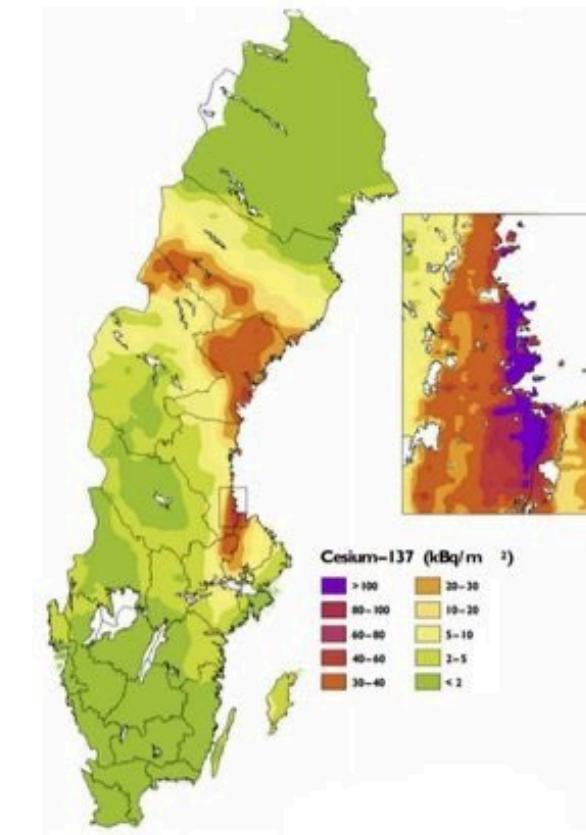


This is Sweden! -->

Most popular ~~porn~~ categories per region

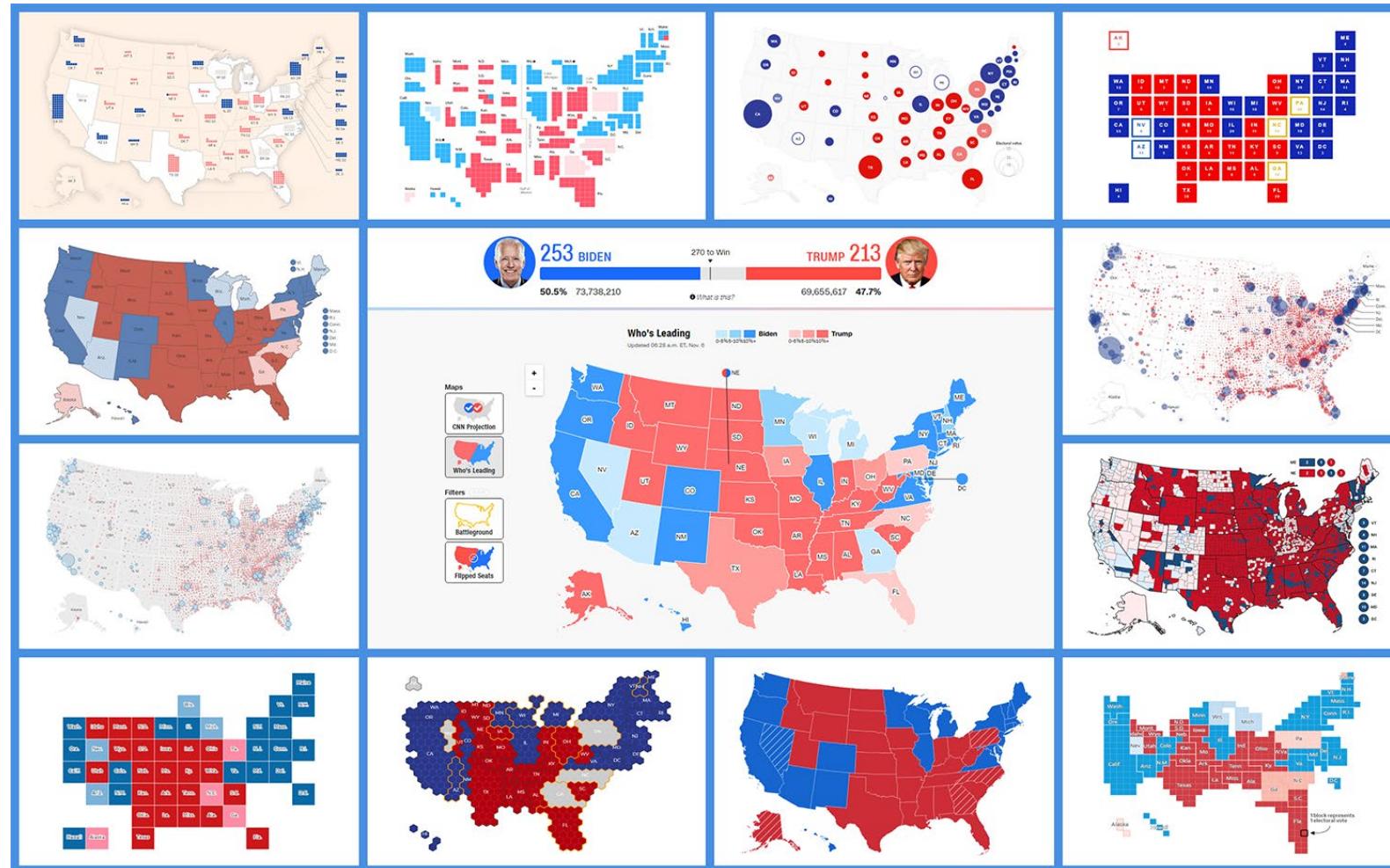


Density of radioactive fallout from Chernobyl



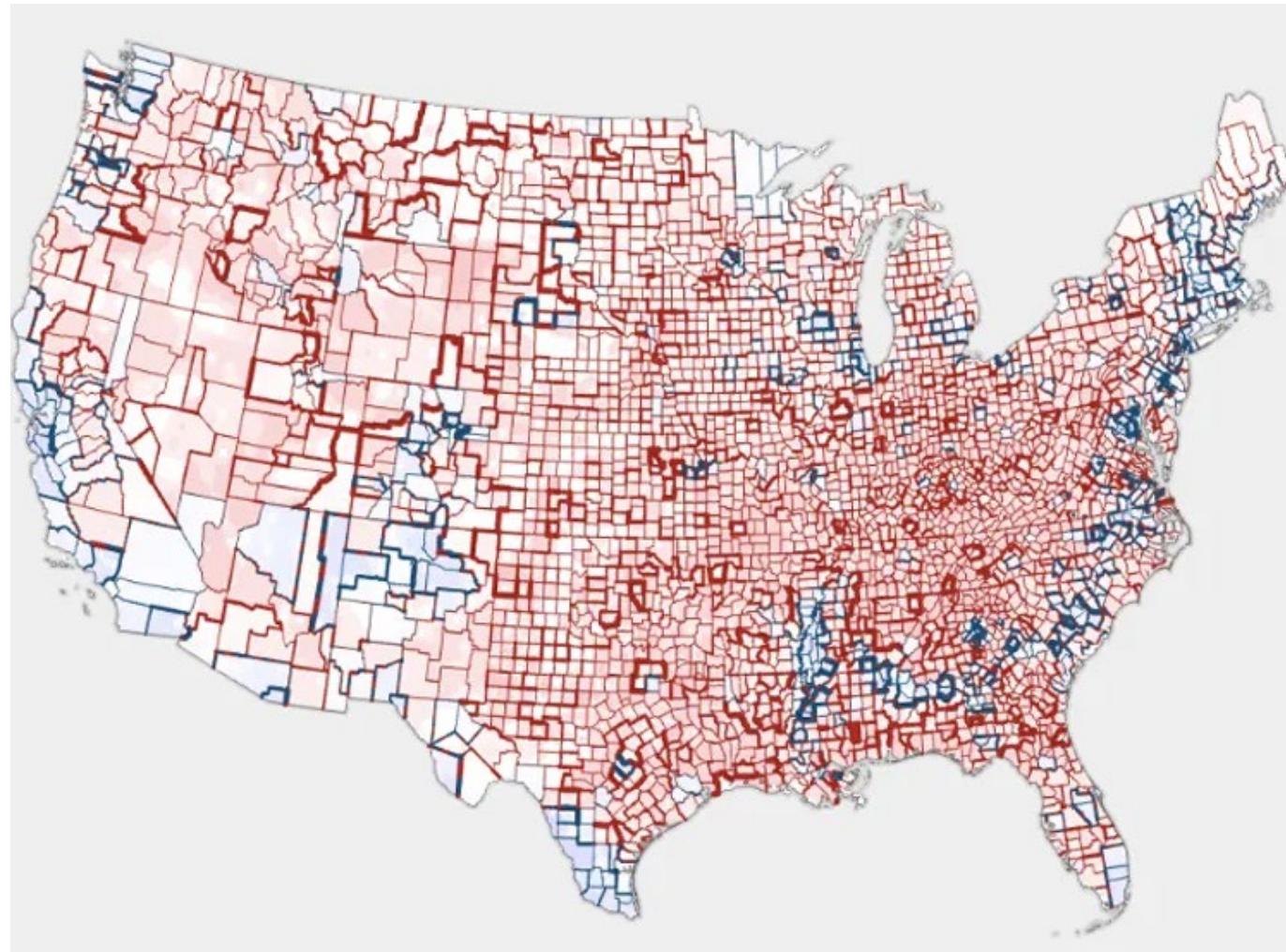
Again, correlation ≠ causation

Other examples



- <https://www.anychart.com/blog/2020/11/06/election-maps-us-vote-live-results/>

Other examples



- <https://www.wired.com/story/is-us-lean-ing-red-or-blue-election-maps>

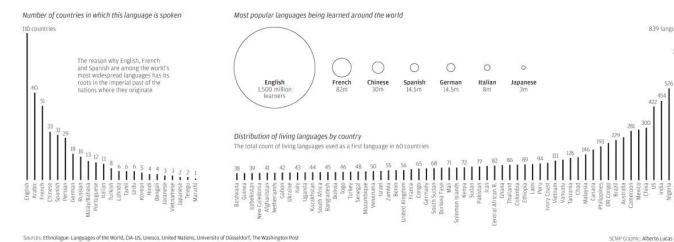
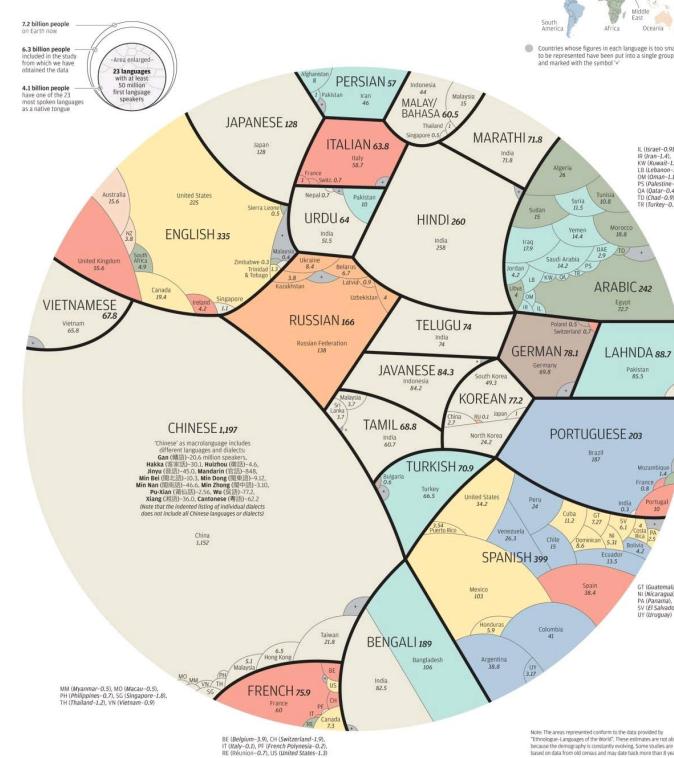
Other interesting ideas for maps

- Create your own maps!
 - <https://artsexperiments.withgoogle.com/ocean-of-books>



A world of languages

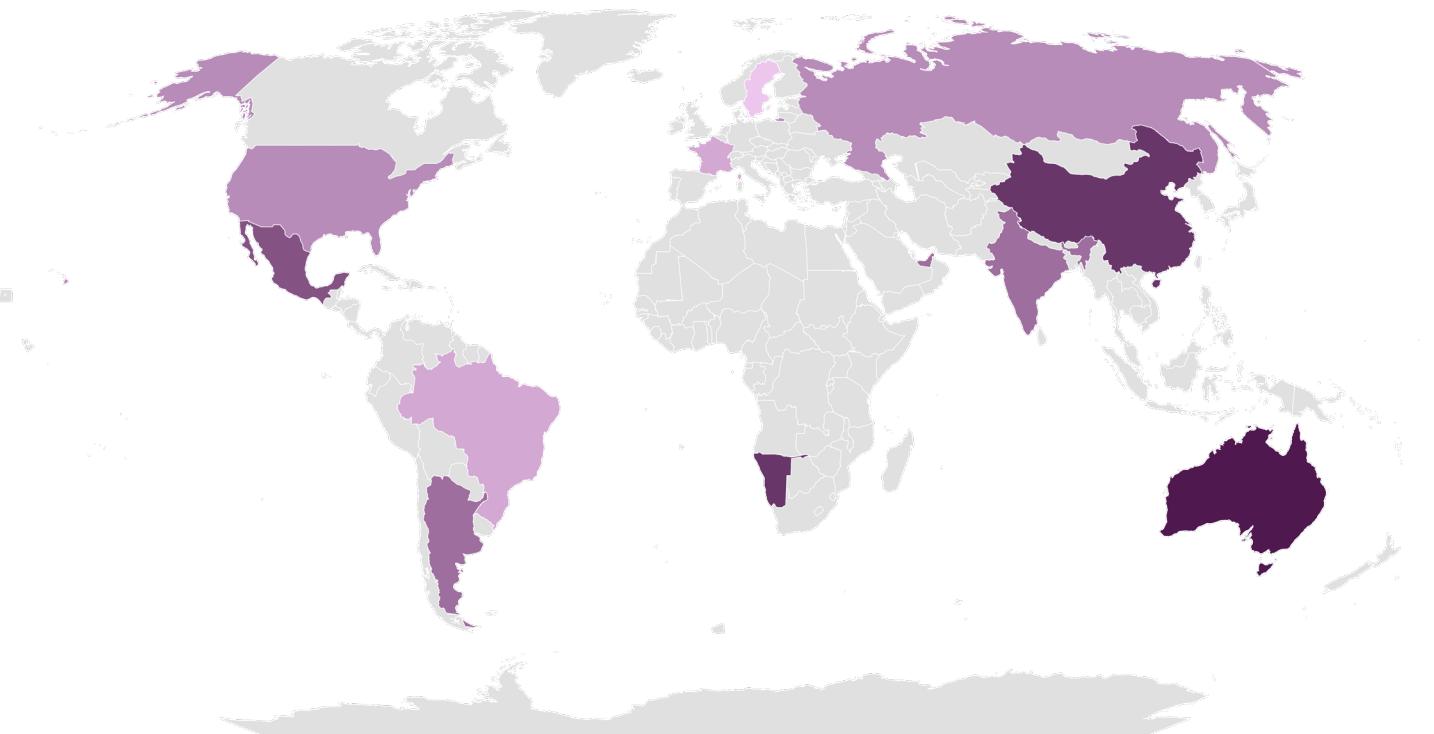
There are over 7,000 known languages alive in the world today. Twenty-three of these languages are a mother tongue for more than 50 million people. The 23 languages make up the native tongue of 4.1 billion people. We represent each language within black borders and then provide the numbers of native speakers (in millions) by country. The colour of these countries shows how languages have taken root in many different regions.



<https://www.visualcapitalist.com/a-world-of-languages/>

Chart Title

How to easily create maps...



Or use tools like
<https://mapchart.net/>

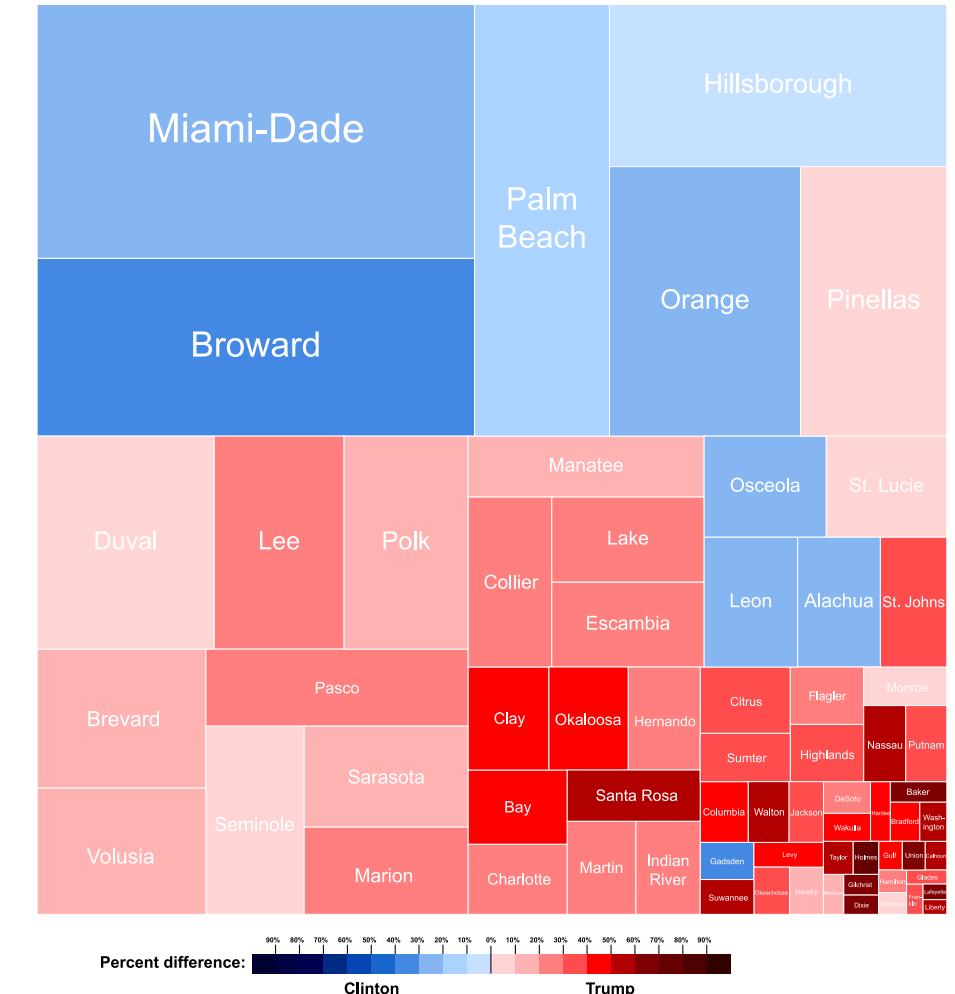
Powered by Bing
© Australian Bureau of Statistics, GeoNames, Microsoft, Navinfo, Open Places, OpenStreetMap, TomTom, Zenrin

Other Vis

Treemap

- Like a Word cloud, but with areas instead of words
- More accurate
- Can be more impactful/exhibitory
 - <https://www.informationisbeautiful.net/visualizations/the-billion-dollar-gram/>

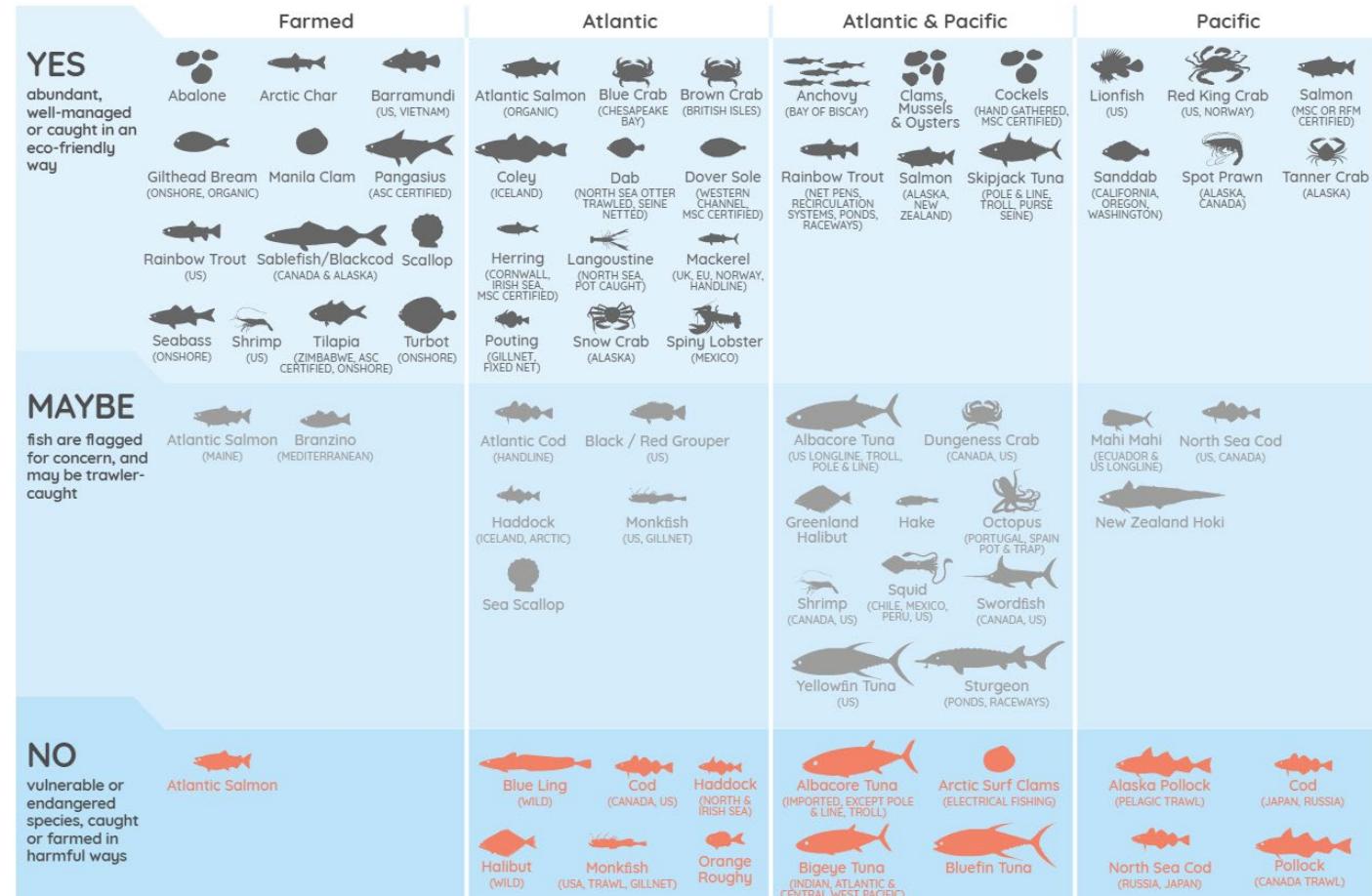
Florida Counties
United States presidential election, 2016



<https://en.wikipedia.org/wiki/Treemapping>

Matrix Charts

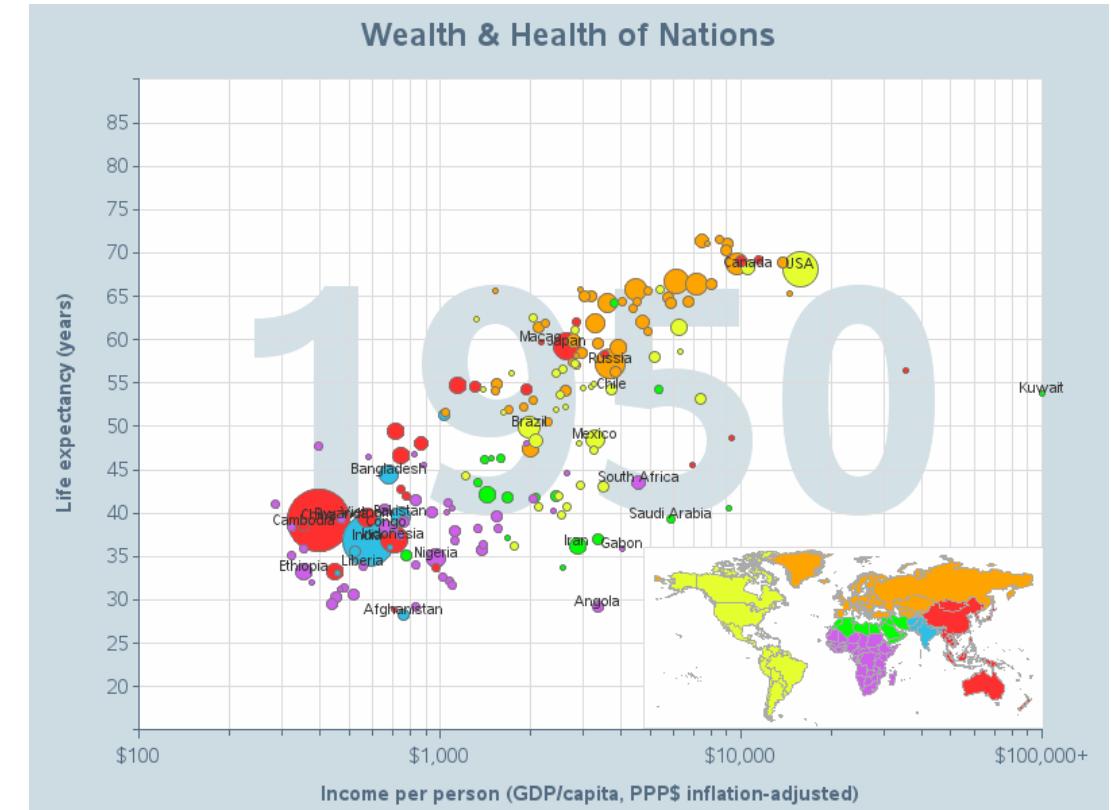
- Instead of simply doing a matrix or a heatmap, you can be more visual!
- Moral matrix
 - <https://lucyxwalker.wordpress.com/2014/02/04/moral-matrix/>



<https://www.informationisbeautifulawards.com/showcase/2620-which-fish-are-okay-to-eat>

Bubble Charts

- As said before, these make more sense when moving (i.e. GapMinder)

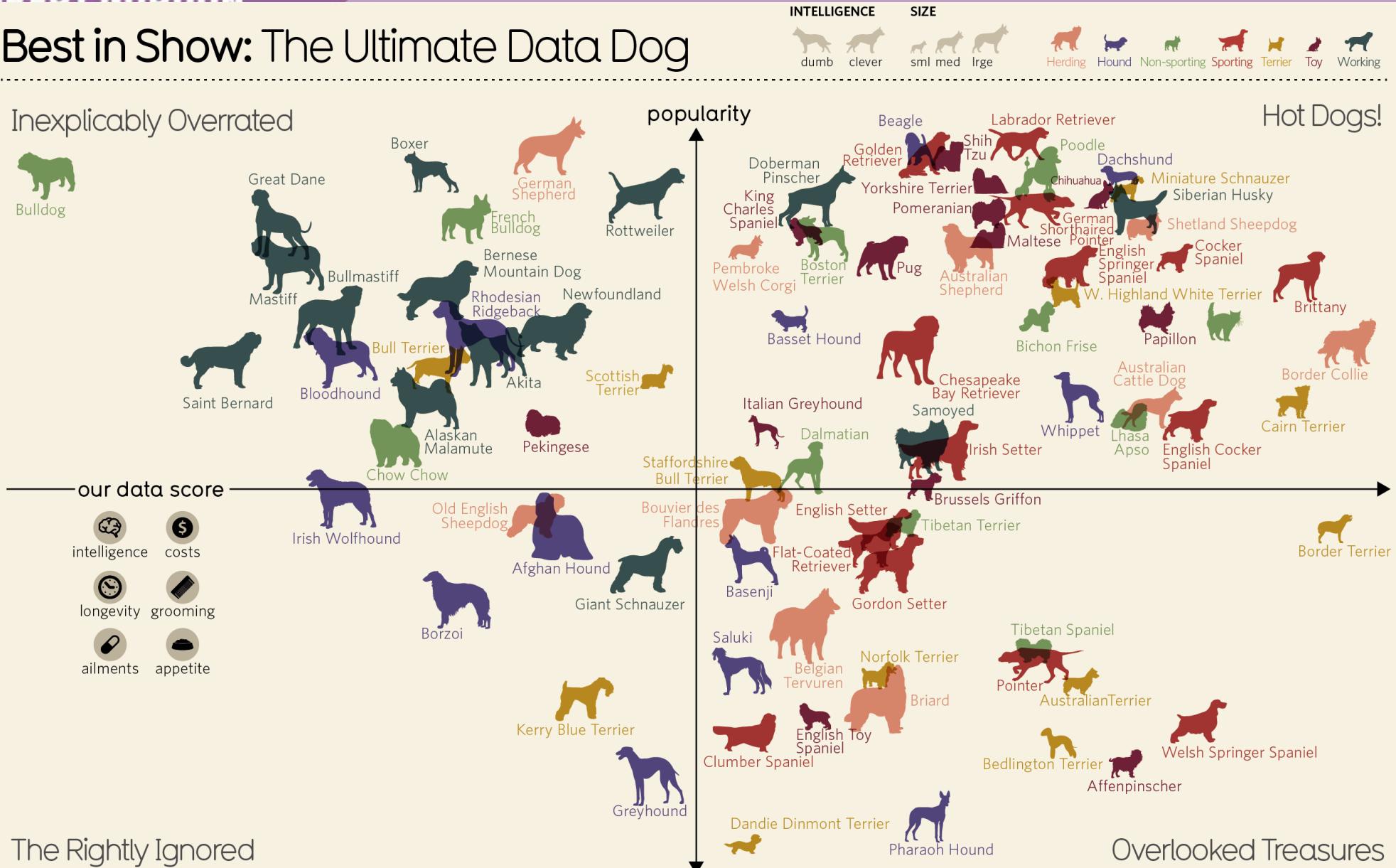


<https://www.gapminder.org/for-teachers/>

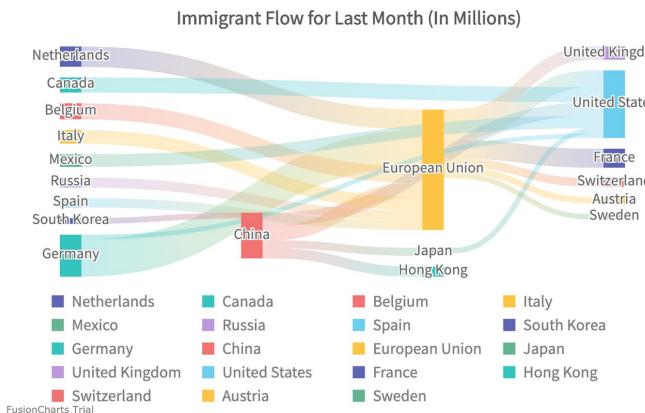
Best in Show: The Ultimate Data Dog

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Sankey/Chord Diagrams

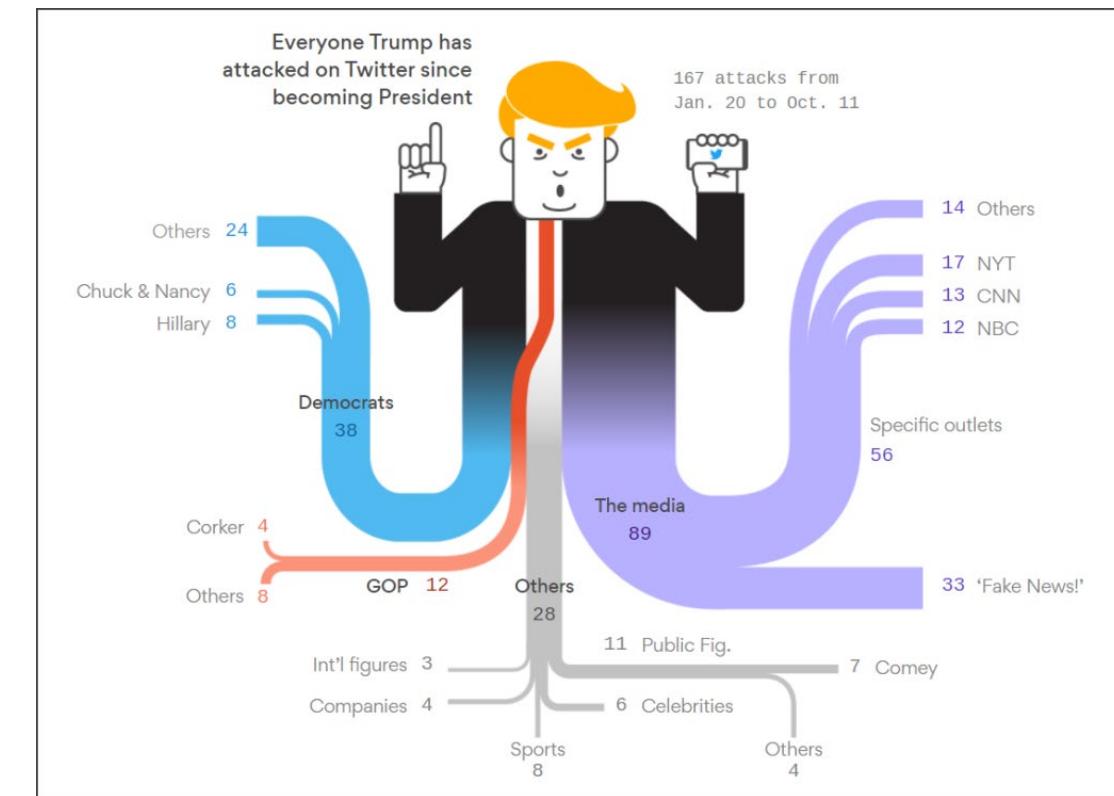


<https://www.fusioncharts.com/dev/chart-guide/standard-charts/sankey-diagram>

- Sometimes they are hard to interpret, but they can be very appealing!

- Timelines

- <https://www.informationisbeautiful.net/visualizations/timelines-time-travel-in-popular-film-and-tv/>



<https://datavizblog.com/2017/10/16/sankey-diagram-who-does-president-trump-attack-the-most-on-twitter/>

Lab: “Running Maps” in Python
