

# Maps & Other Lesser-Known Graphs

CM4125 – Topic 9

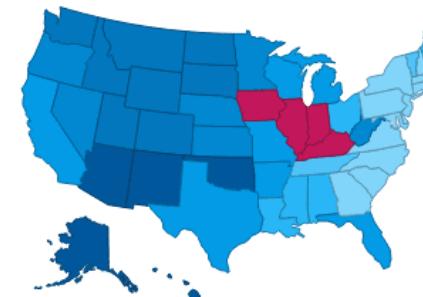
# Maps

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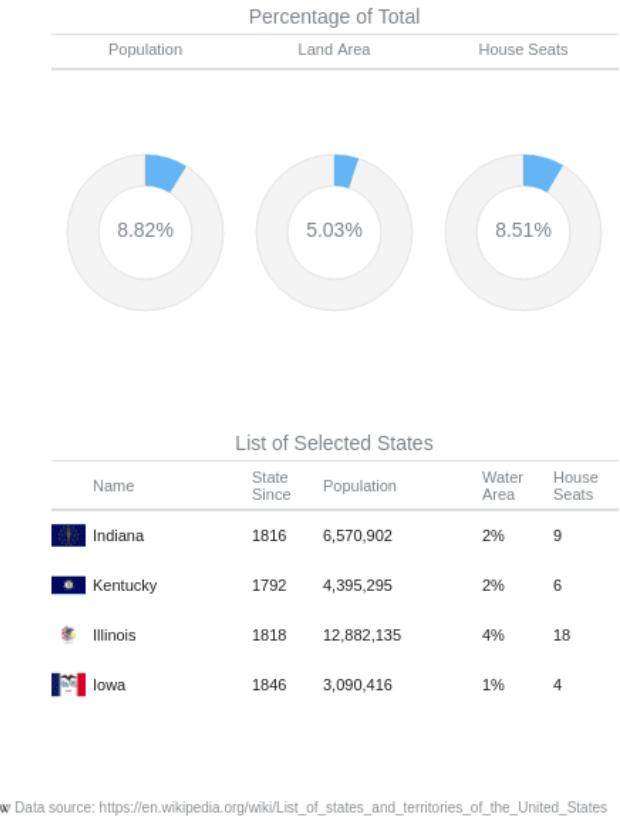
# Maps

- 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



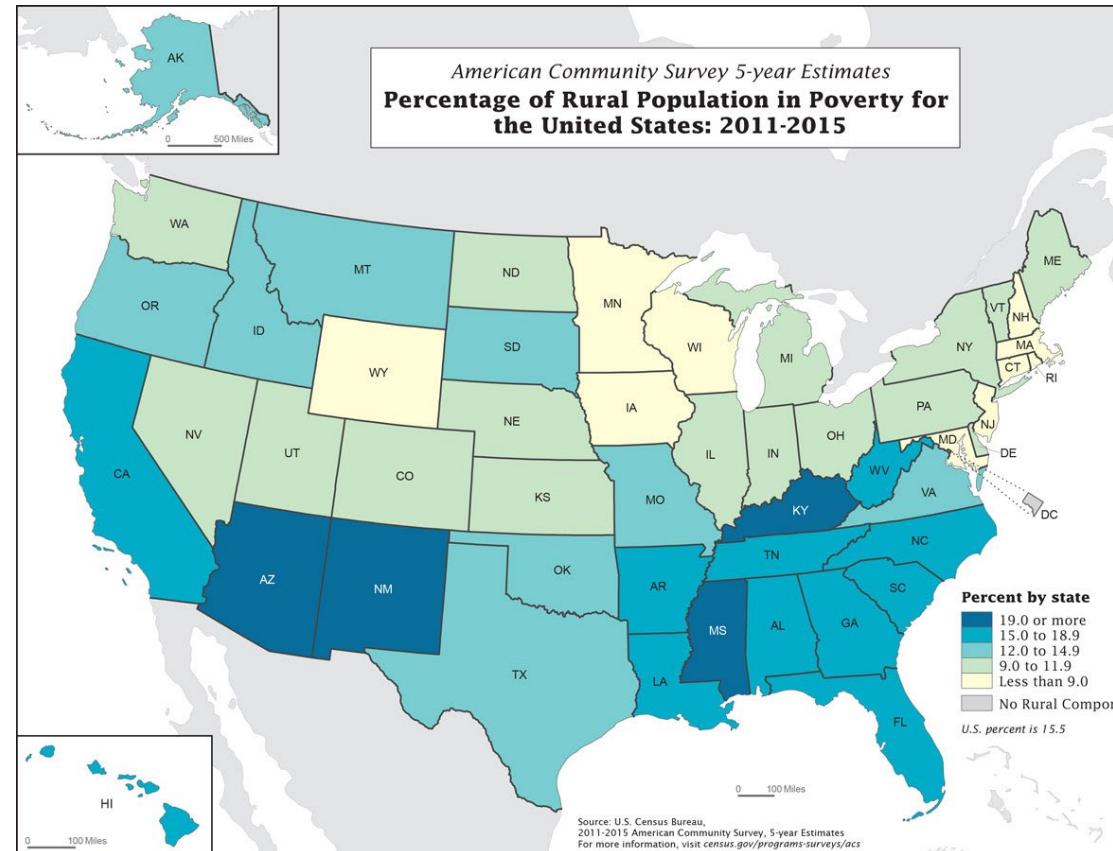
Before 1790      1820 - 1850      After 1900



# Types of Maps

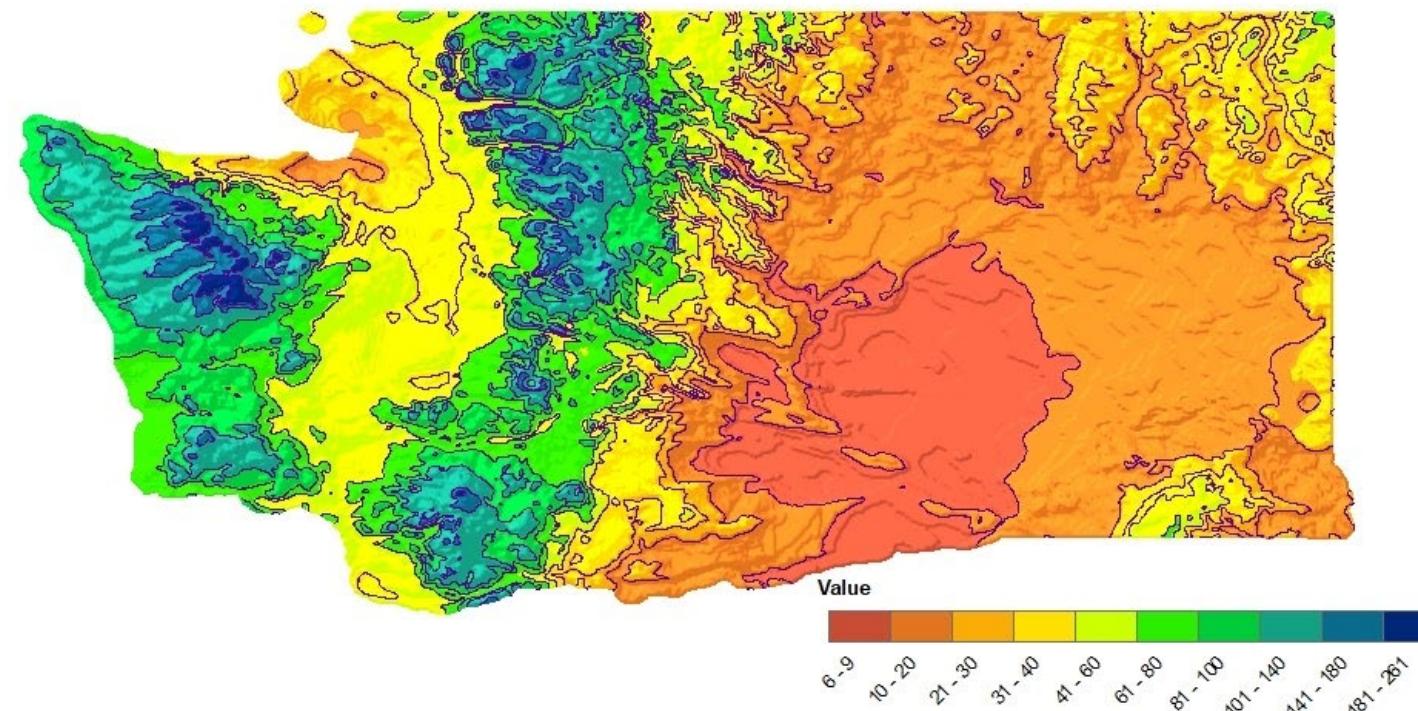
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# Choropleth Map

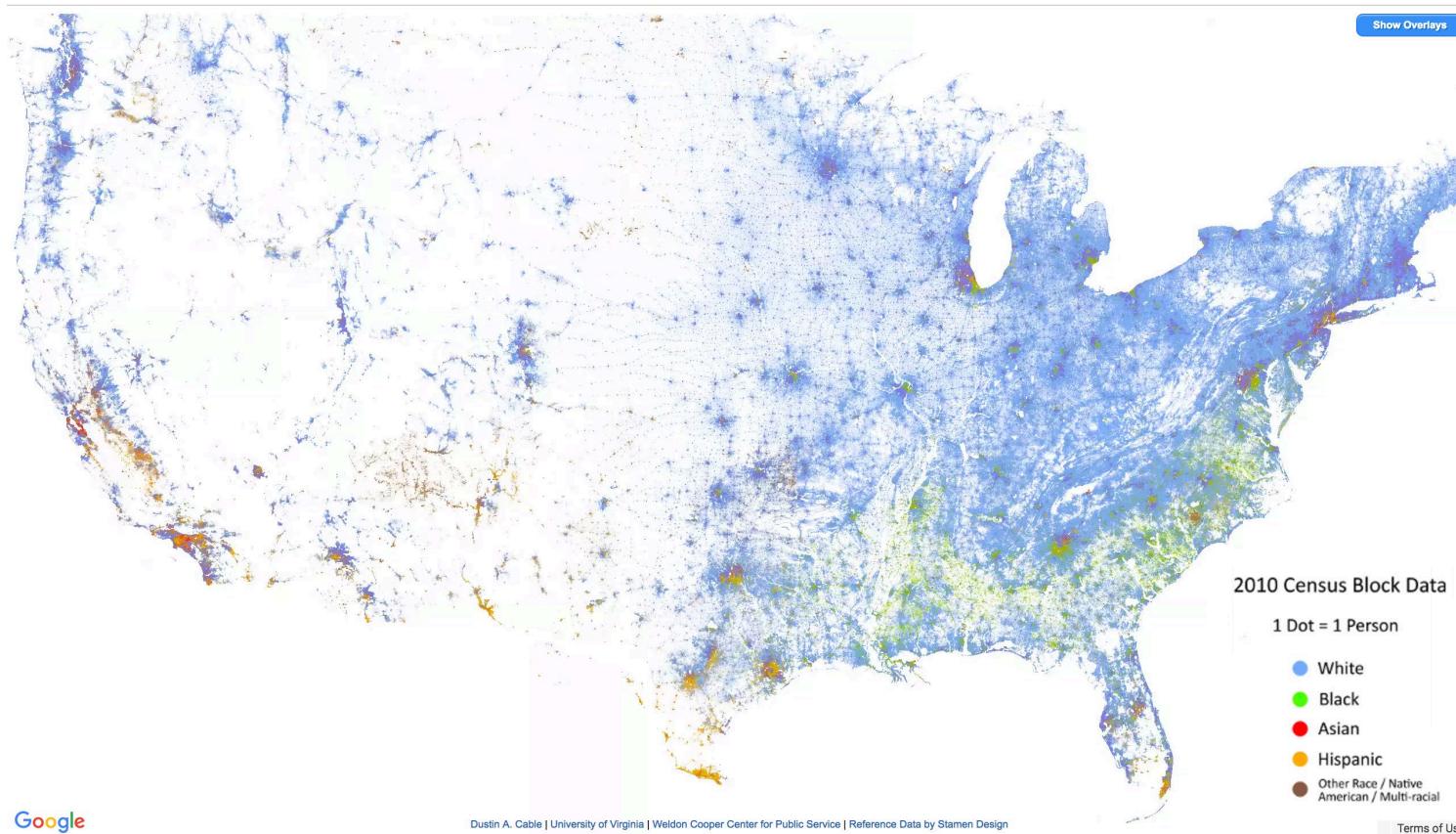


# Isarithmic Map

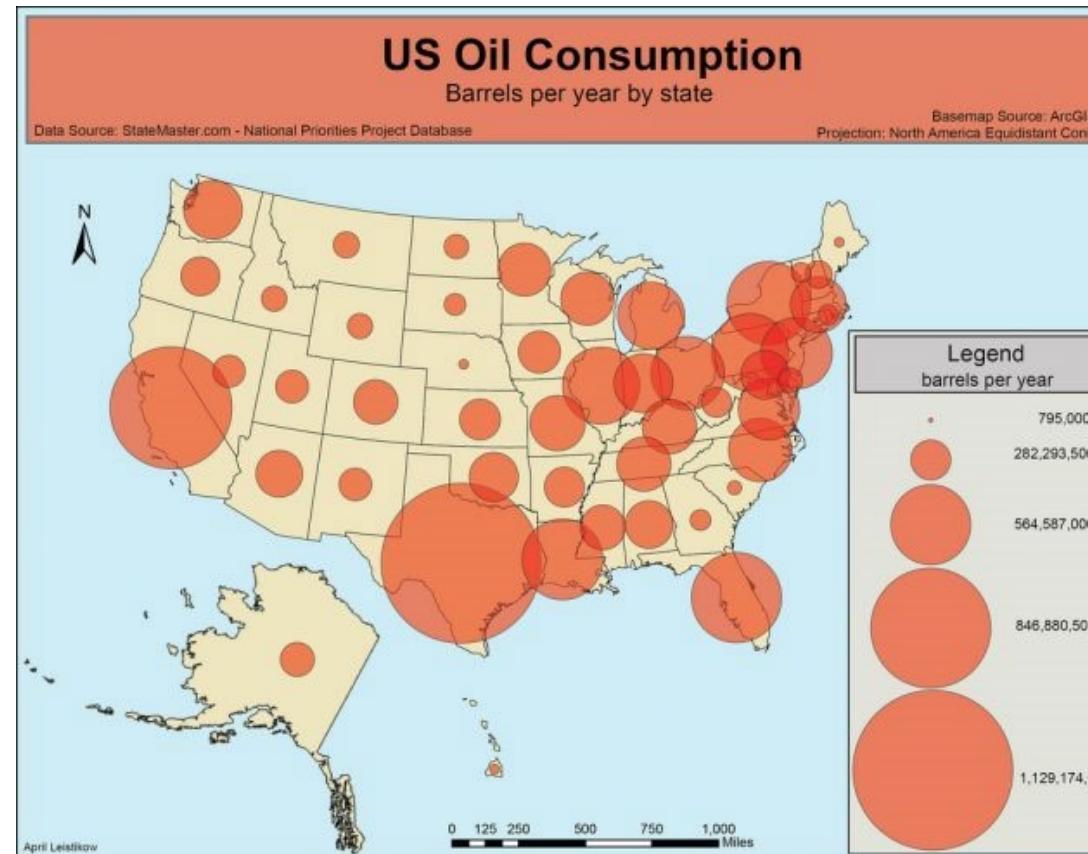
Washington State Annual Precipitation



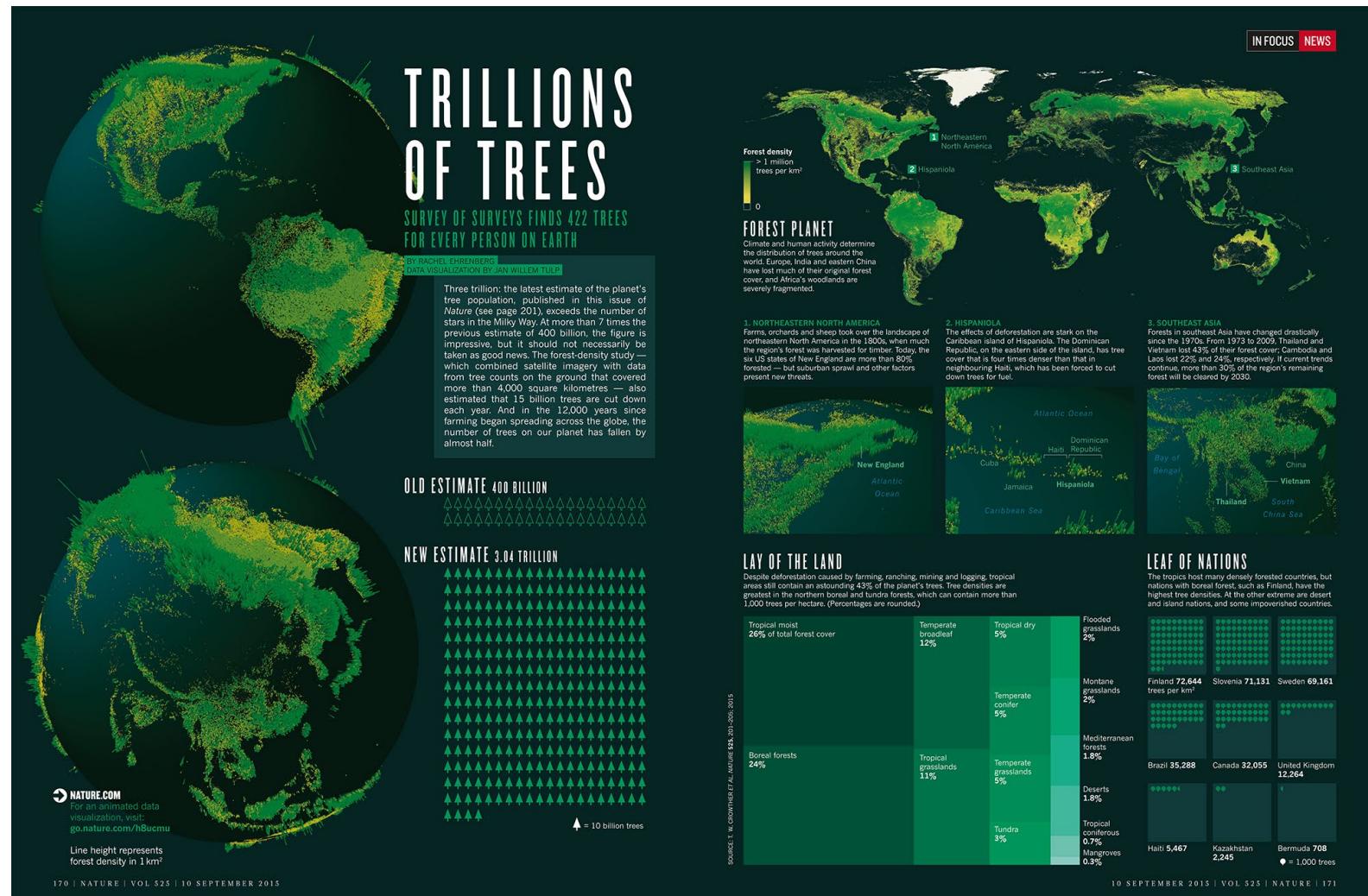
# Dot Map



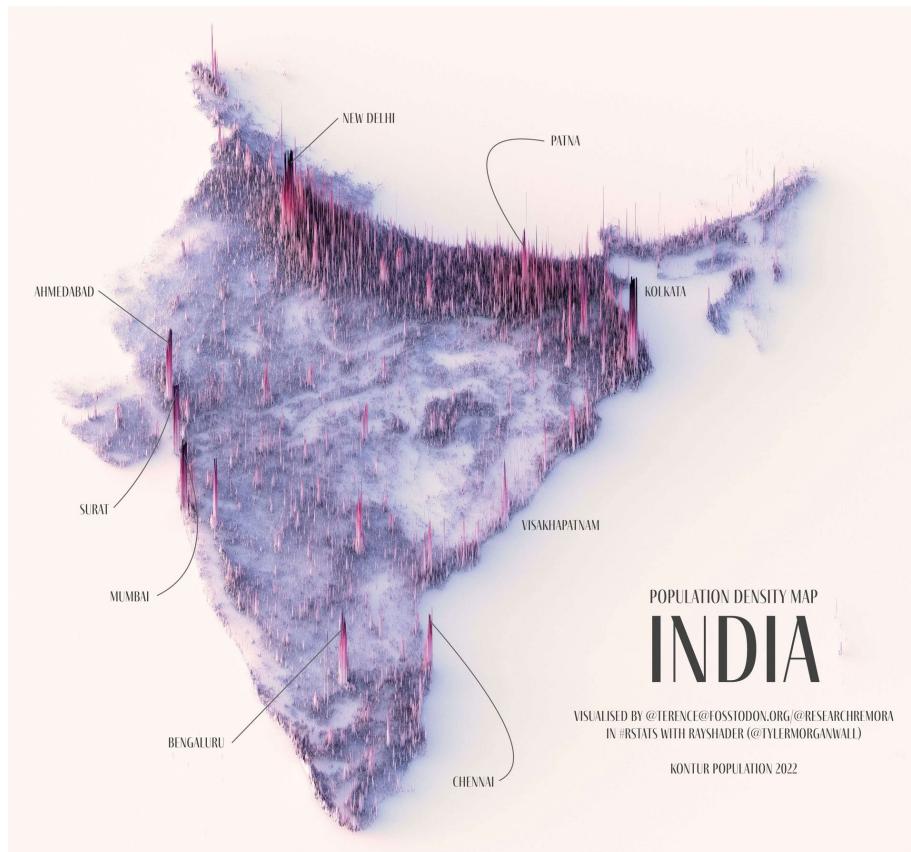
# Proportional Symbol Map



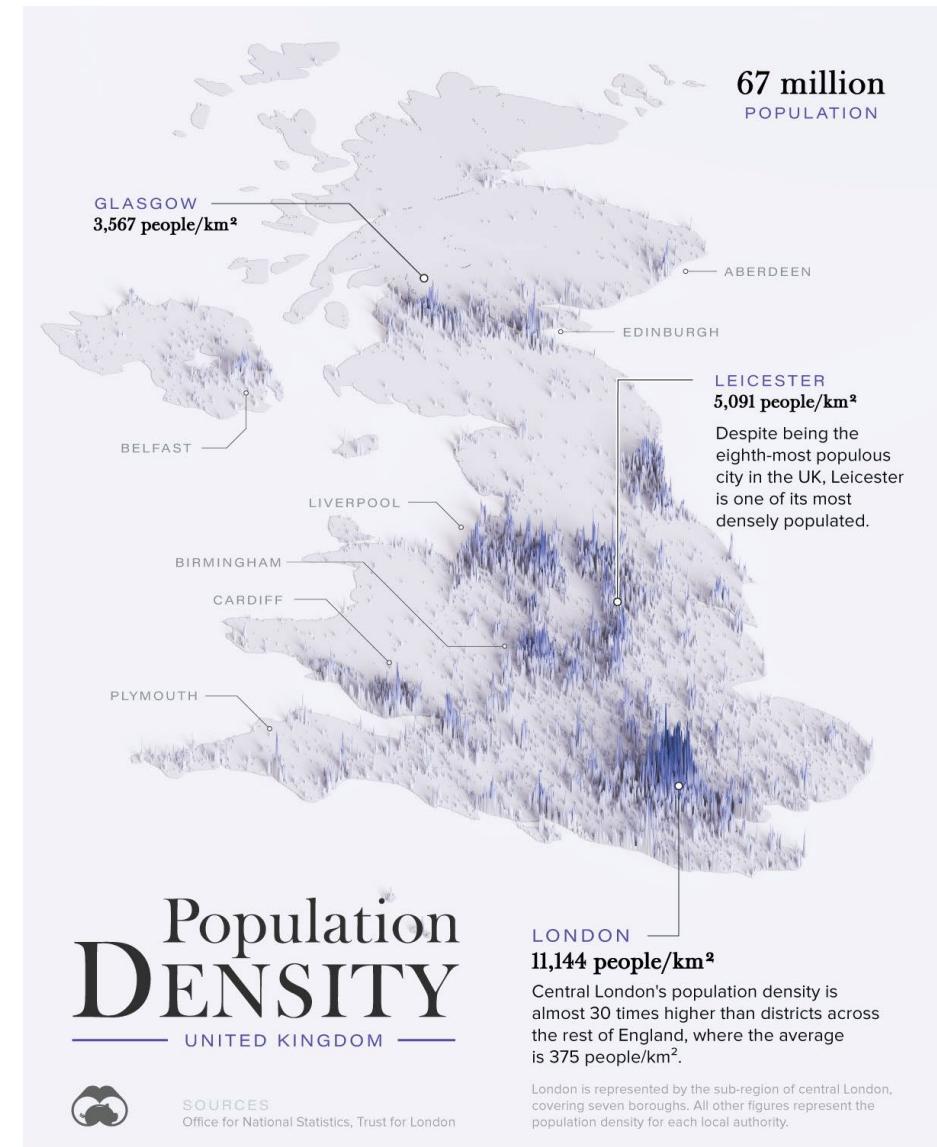
# Prism Map



# Density Spike Maps



<https://www.informationisbeautifulawards.com/showcase/5676-global-population-density-spike-map>

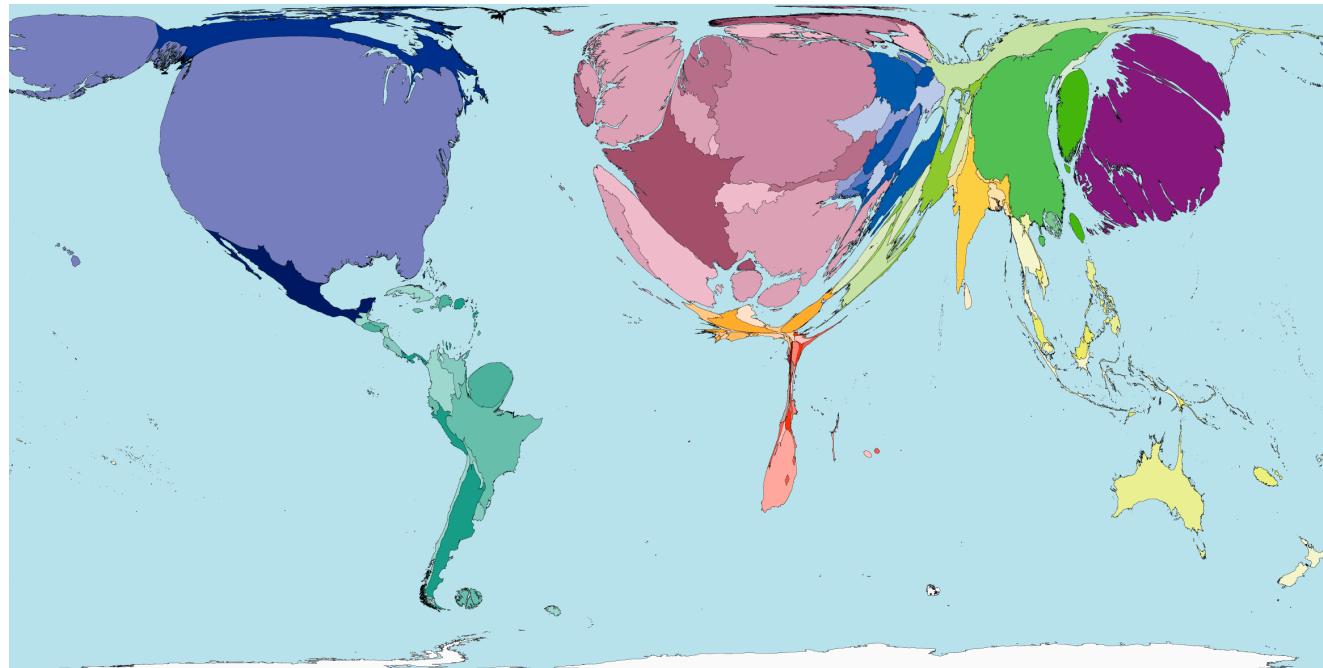


# Flow Map



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

# Area Cartogram (a map of inequalities)



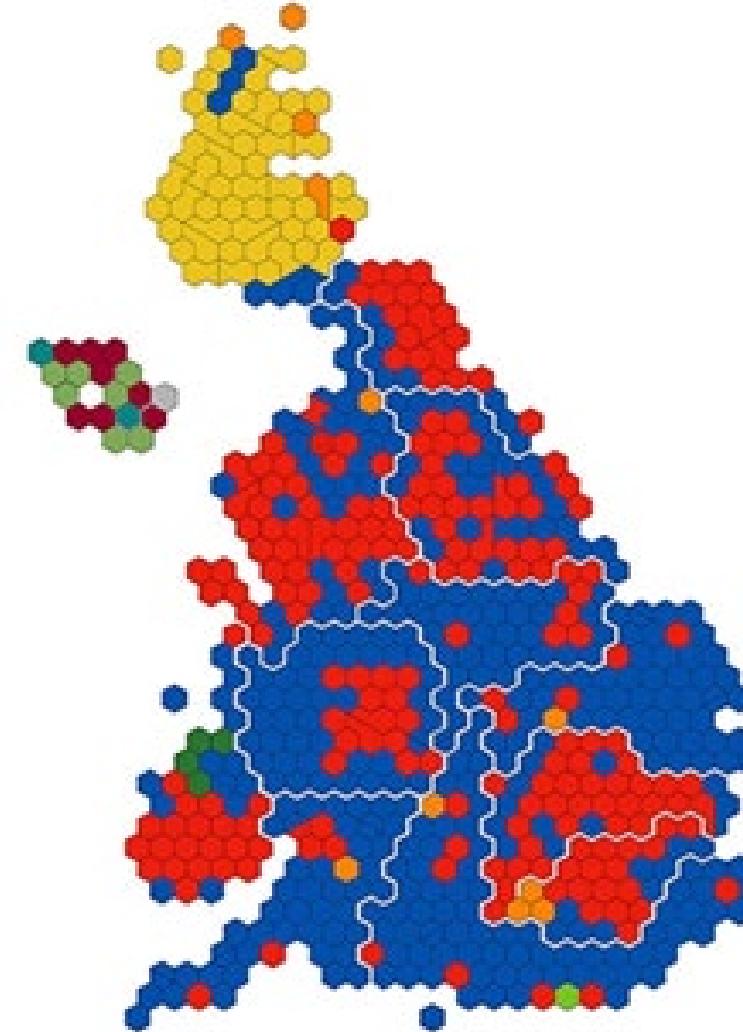
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040001>

# Dorling Cartogram



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

# Grid Map



# Map Word Cloud

- SCOTLAND
- WALES
- NORTH WEST
- NORTH EAST
- YORKSHIRE & THE HUMBER
- MIDLANDS
- EASTERN
- LONDON & SOUTH EAST
- SOUTH WEST



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GREAT BRITISH BANDS

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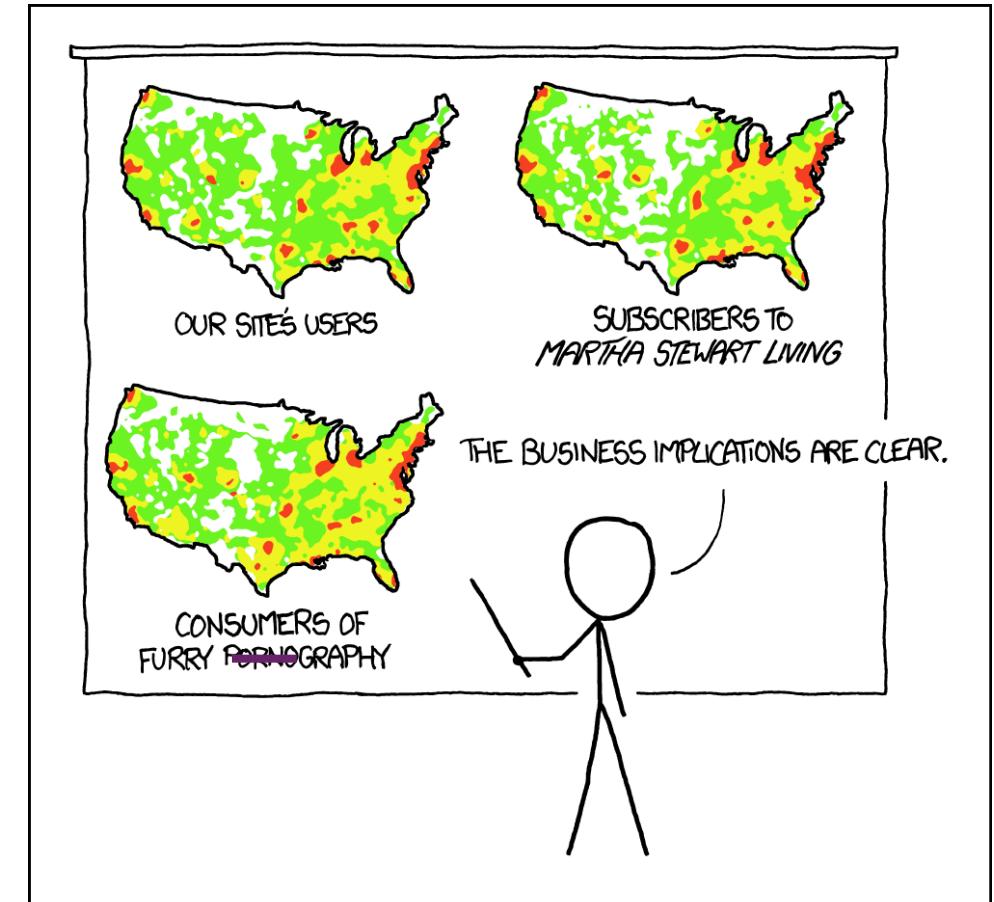


# Problems with Maps



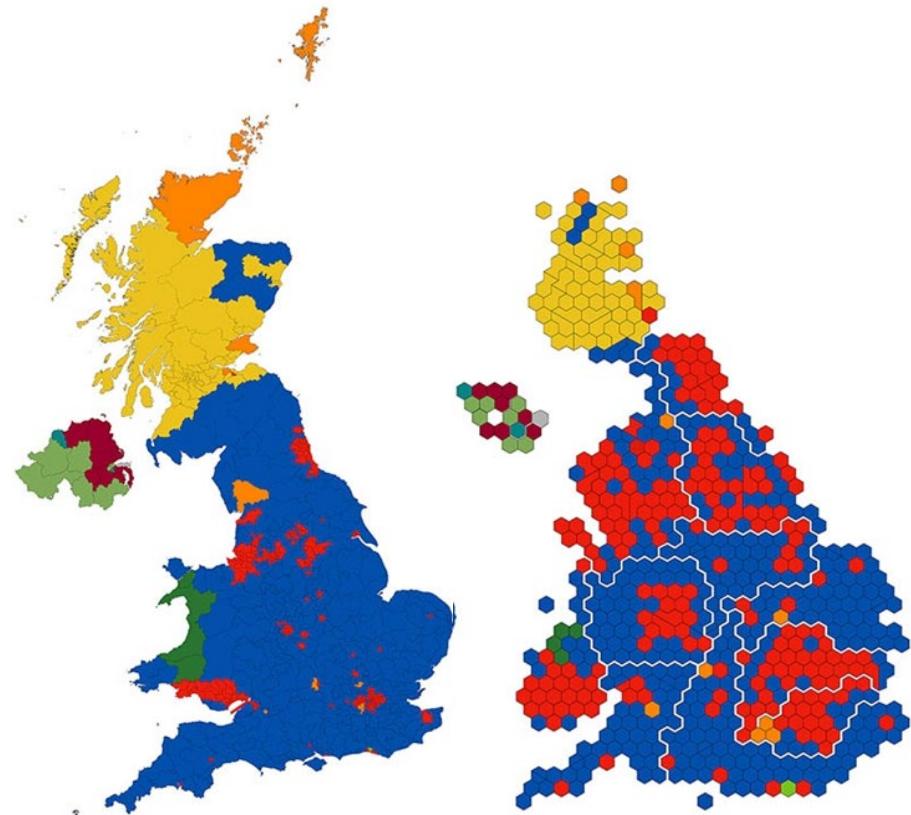
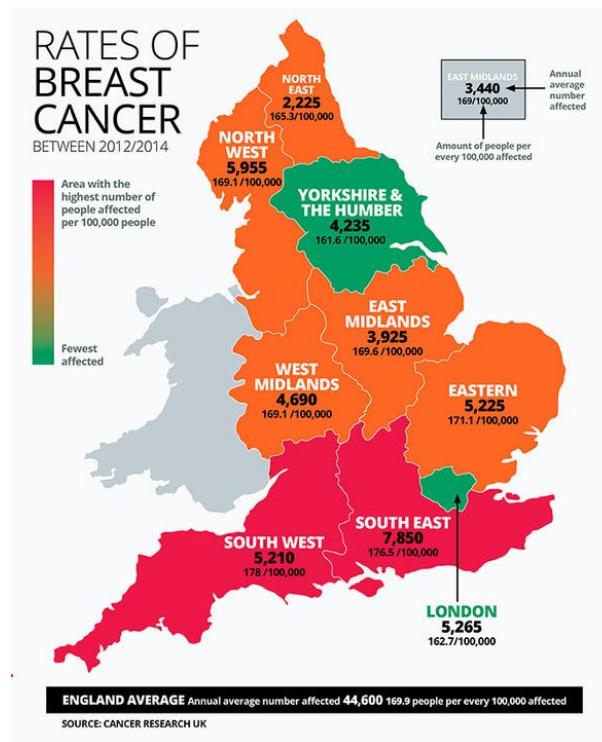
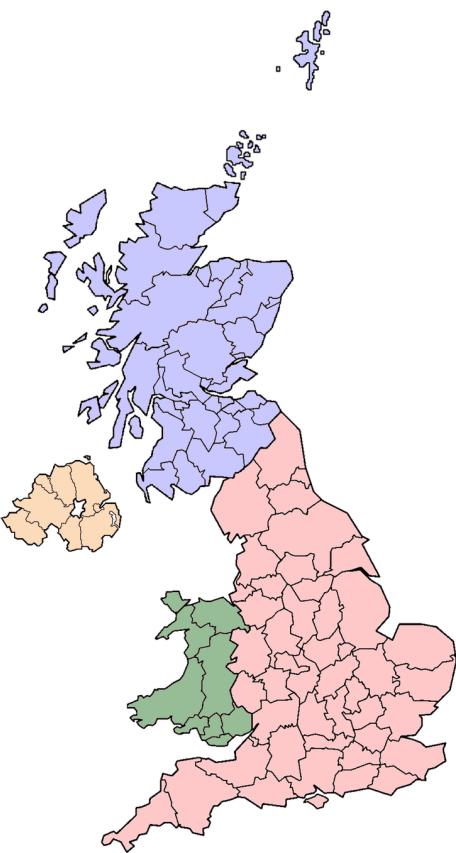
<https://thetruesize.com/>

# Problems with Maps



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

# Problems with Maps



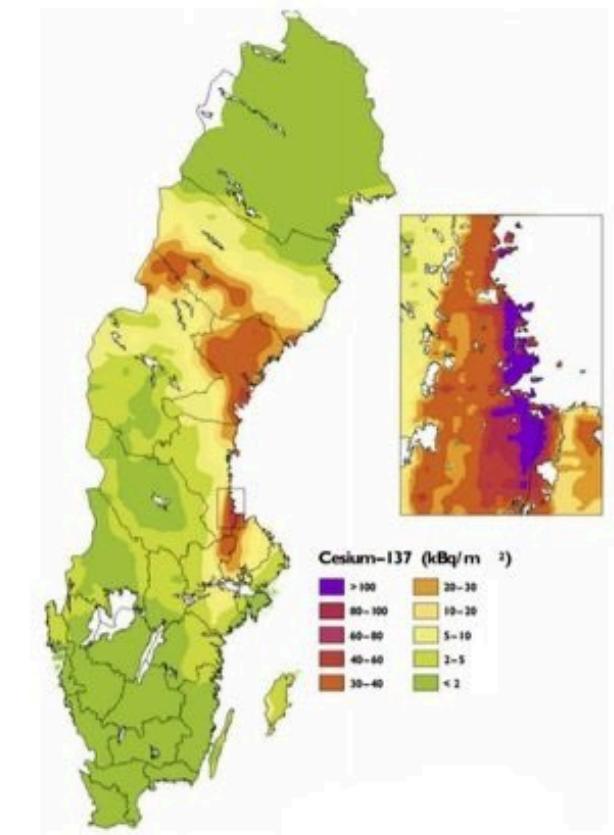
# Again correlation ≠ causation

This is Sweden! -->

Most popular ~~porn~~ categories per region

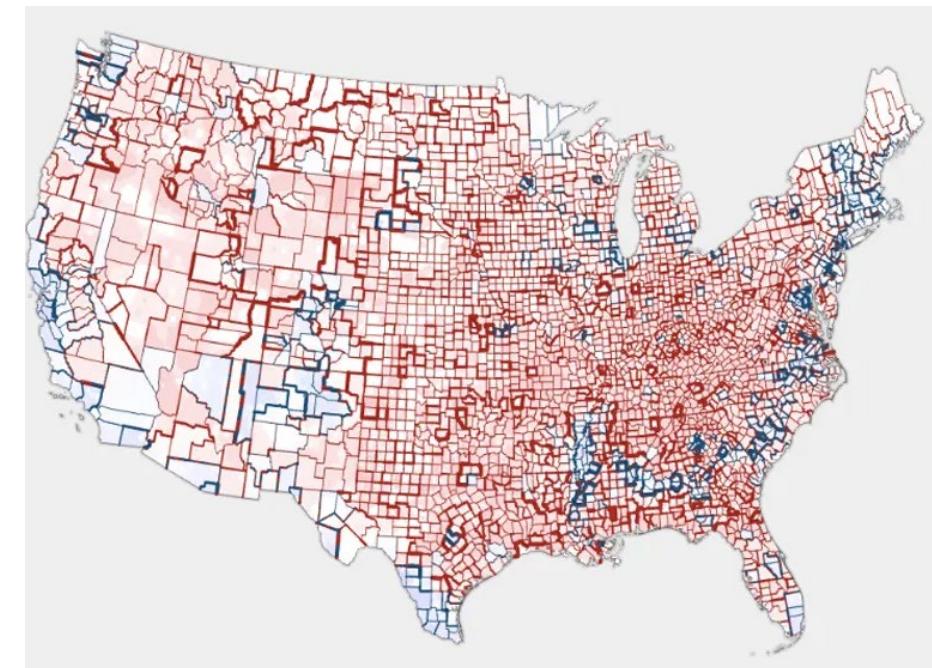
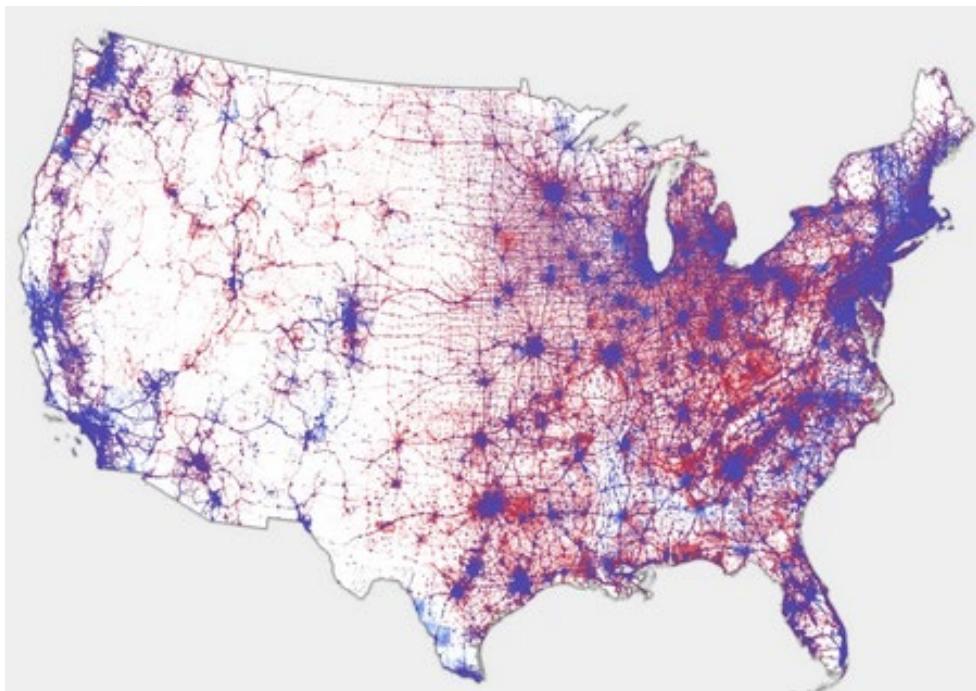


Density of radioactive fallout from Chernobyl



<https://www.facebook.com/photo.php?fbid=3496496333928064&id=1702341603343555&set=a.3010414095869626>

# Other examples



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

# Other examples



<https://www.anychart.com/blog/2024/11/08/us-election-maps/>

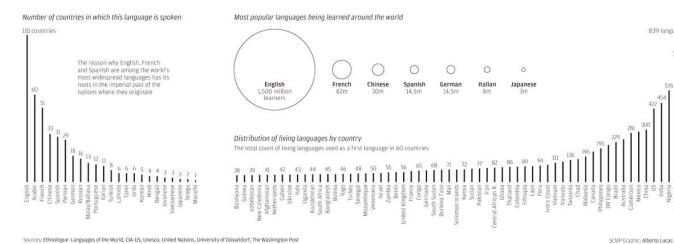
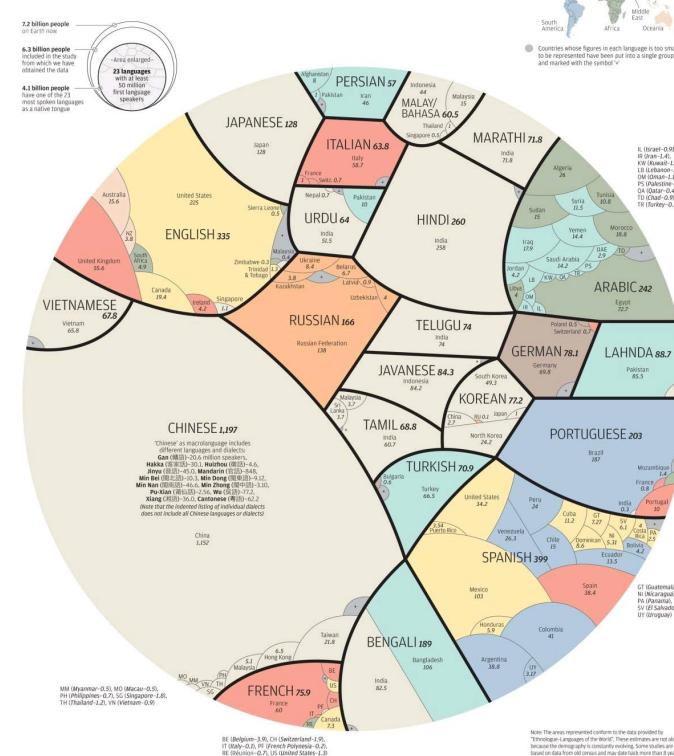
# Other interesting ideas for maps

- 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/>

# How to easily create maps...

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

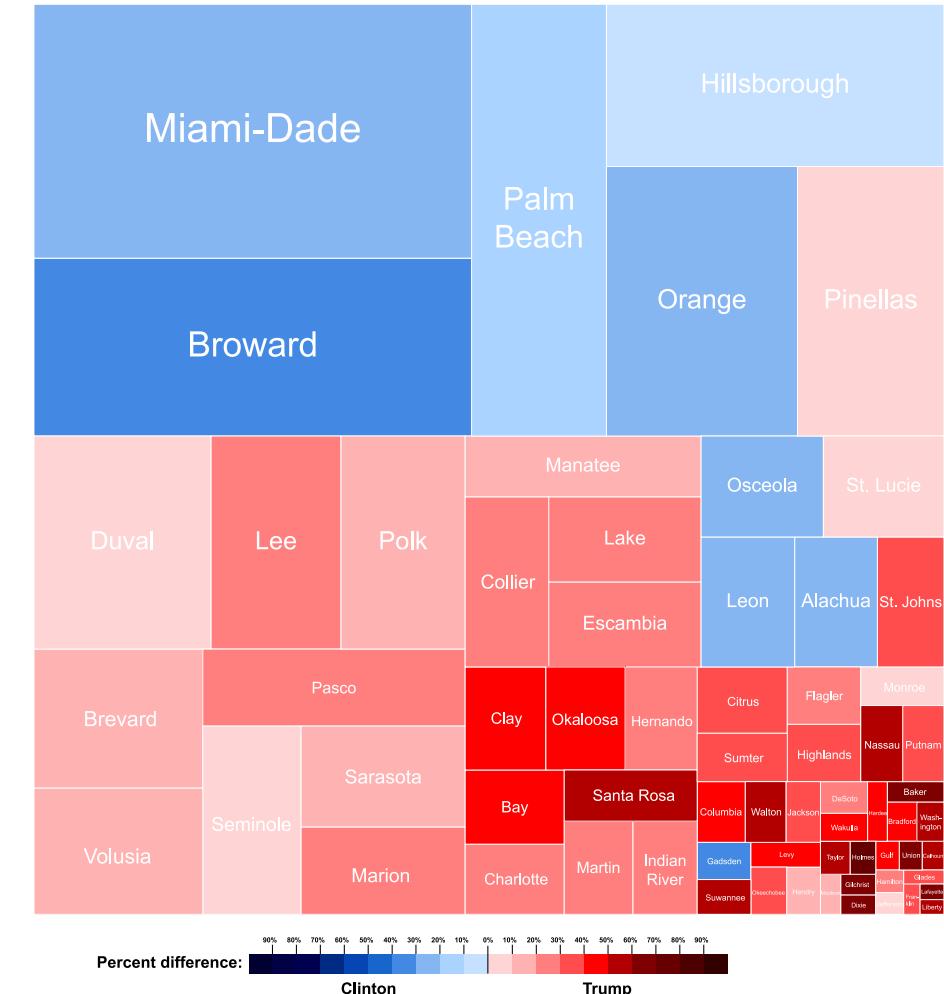
# Other Vis

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# Tree map

- 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/>

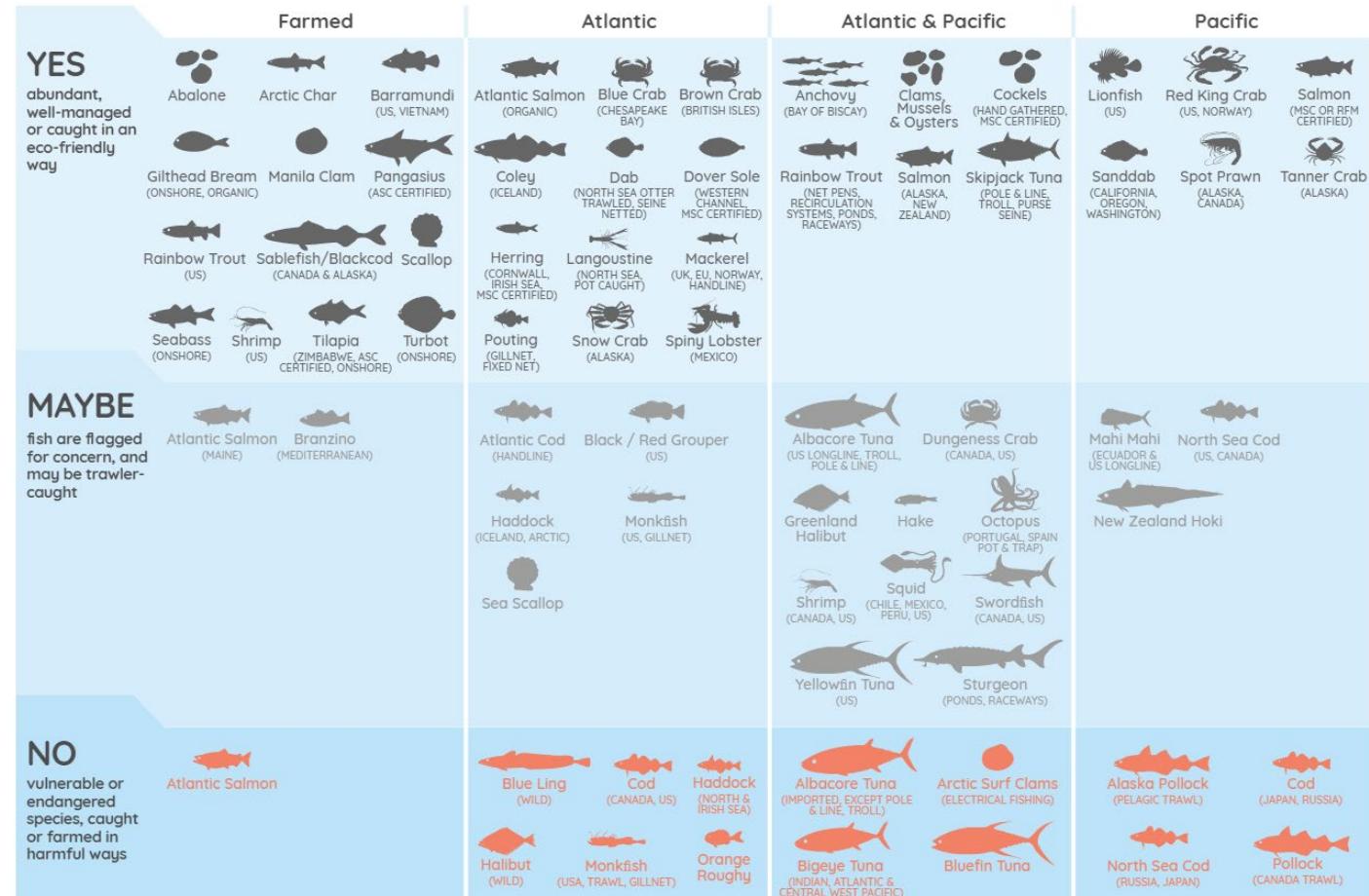
**Florida Counties**  
United States presidential election, 2016



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

# Matrix Charts

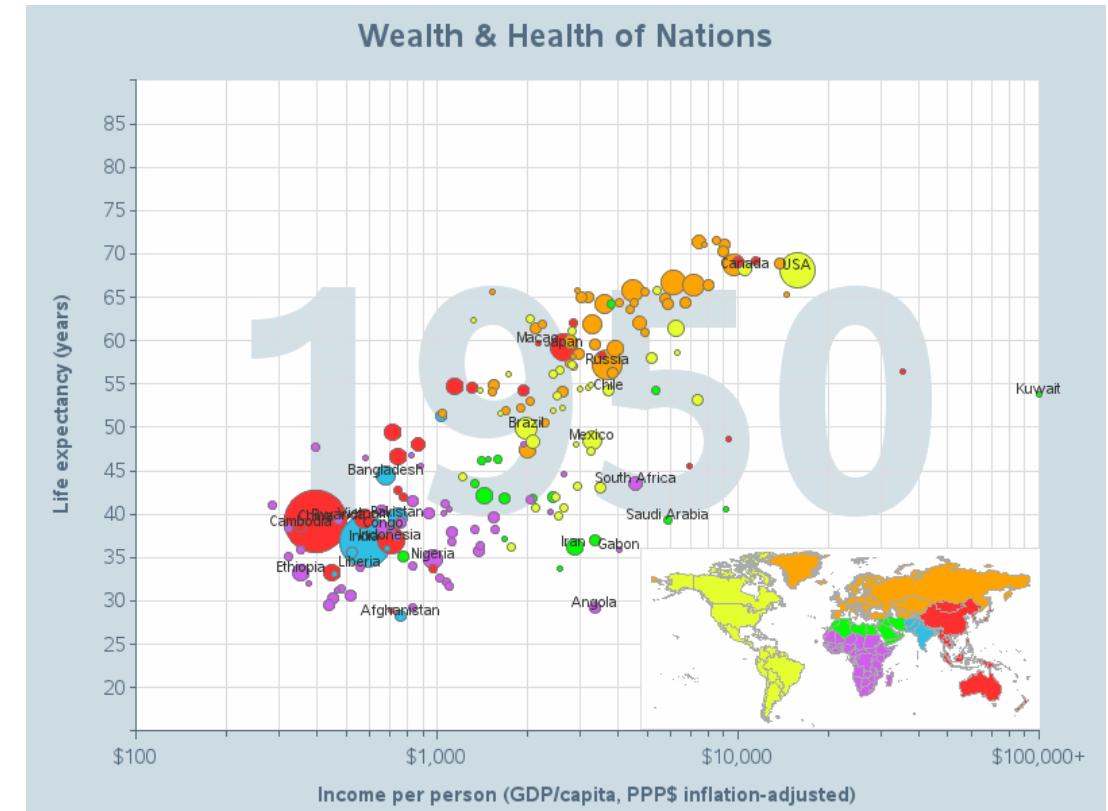
- Instead of simply doing a matrix or a heatmap, you can be more visual!
- Moral matrix
  - <https://lucyxwalker.wordpress.com/2014/02/04/moral-matrix/>



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

# Bubble Charts

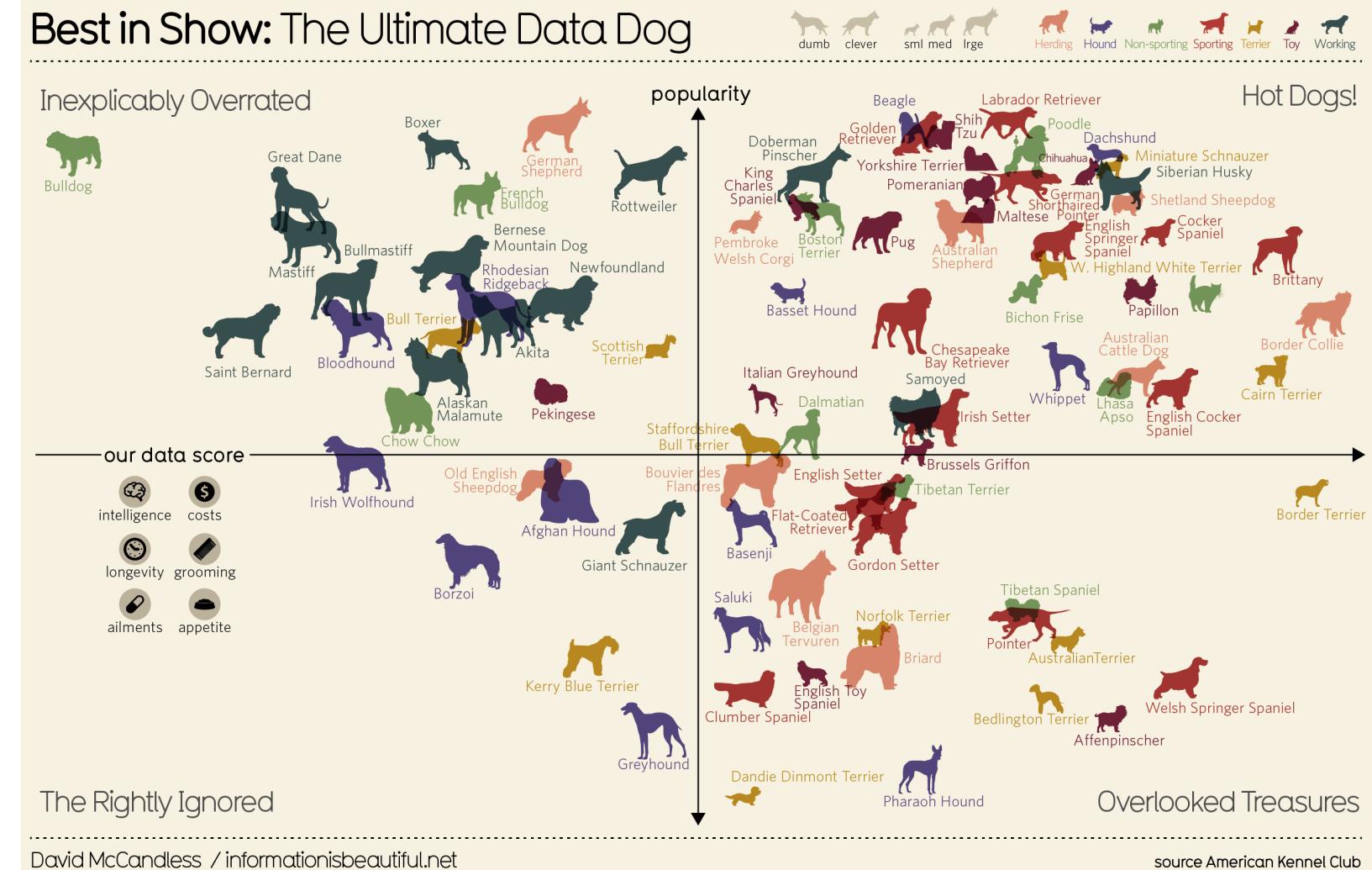
- As said before, these make more sense when moving (i.e. GapMinder)



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

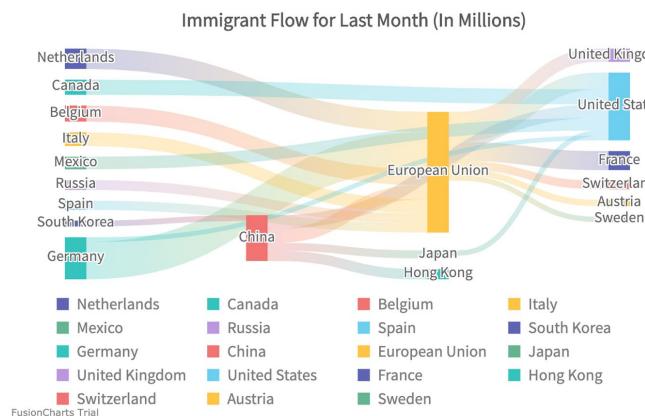
# Bubble Charts

- They don't have to move necessarily!

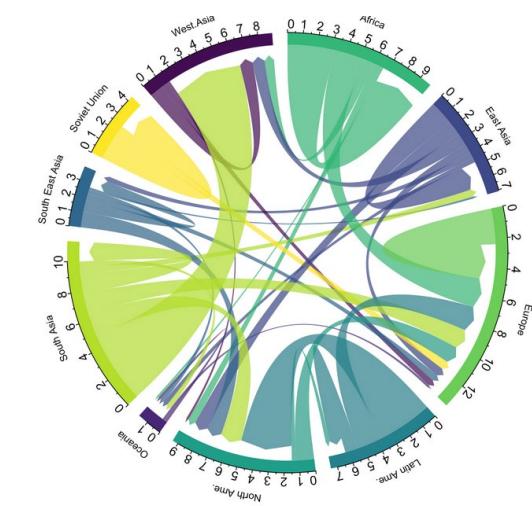


<https://www.informationisbeautiful.net/visualizations/best-in-show-whats-the-top-data-dog/>

# Sankey/Chord Diagrams



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



<https://www.data-to-viz.com/graph/chord.html>

- 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/>

We will look at these in detail next week!

# Lab: “Running Maps” in Python

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