

Maps & Other Lesser Known Graphs

CM4125 – Week 8

Announcements

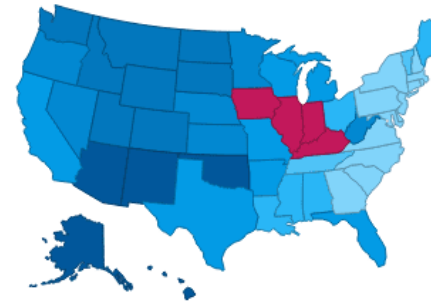
- BCR solution for last week
 - Available?
 - Review them!
 - Anyone did BCR with another tool?

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



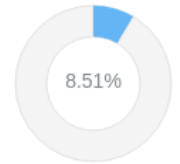
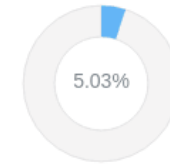
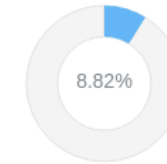
Before 1790 1820 - 1850 After 1900

Percentage of Total





Population

Land Area

House Seats



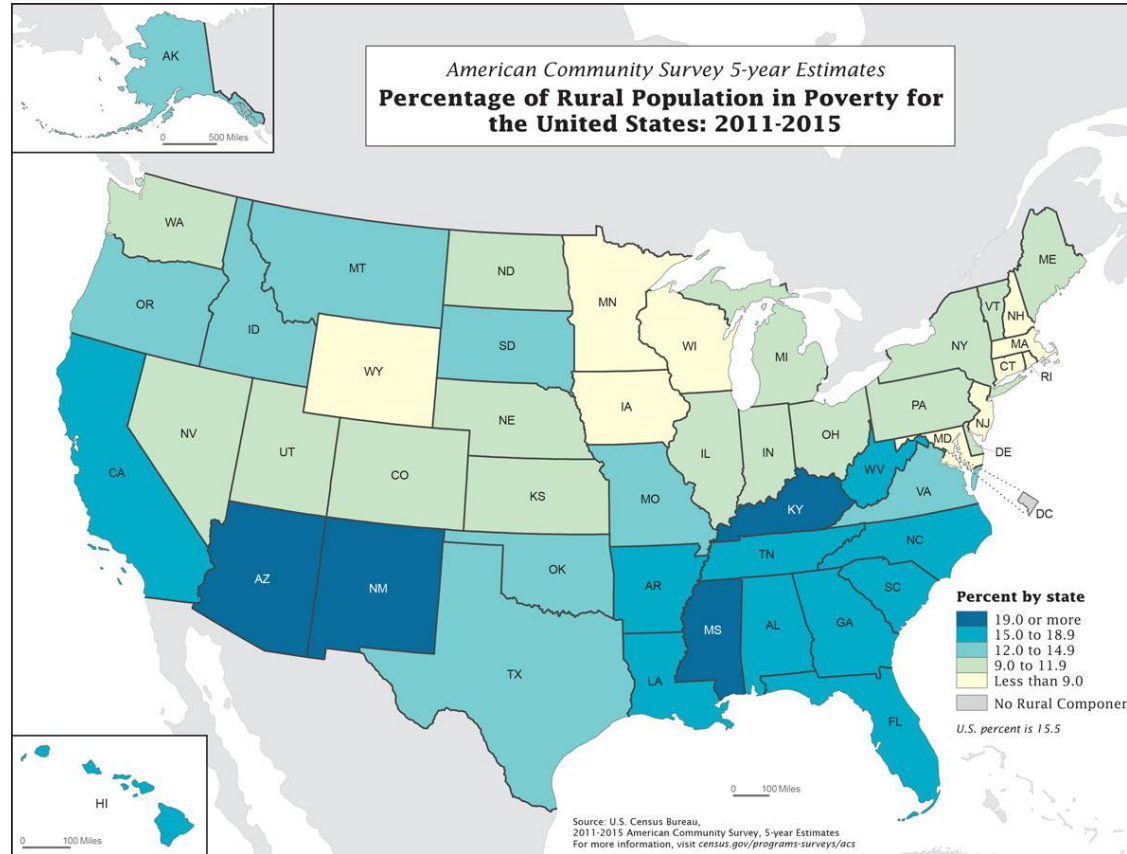
List of Selected States

Name	State Since	Population	Water Area	House Seats
 Indiana	1816	6,570,902	2%	9
 Kentucky	1792	4,395,295	2%	6
 Illinois	1818	12,882,135	4%	18
 Iowa	1846	3,090,416	1%	4

Data source: https://en.wikipedia.org/wiki/List_of_states_and_territories_of_the_United_States

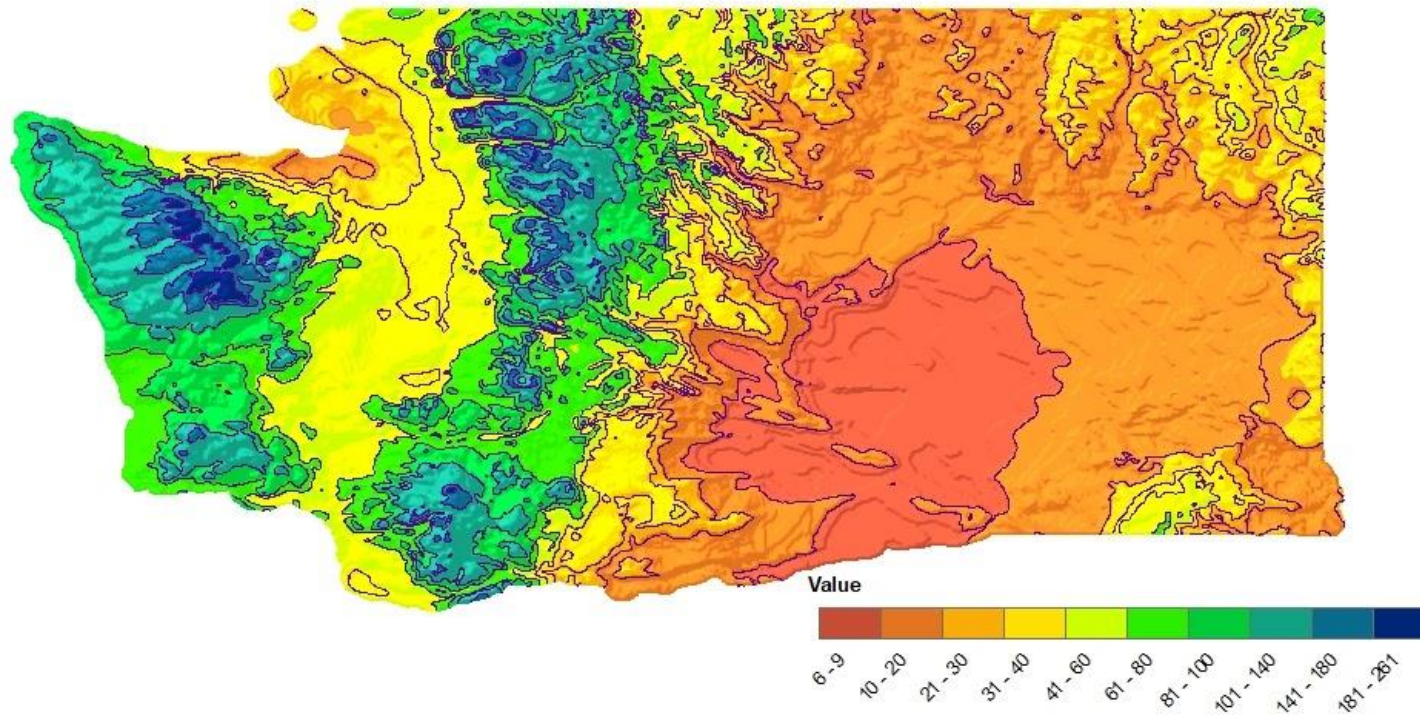
Types of Maps

Choropleth Map

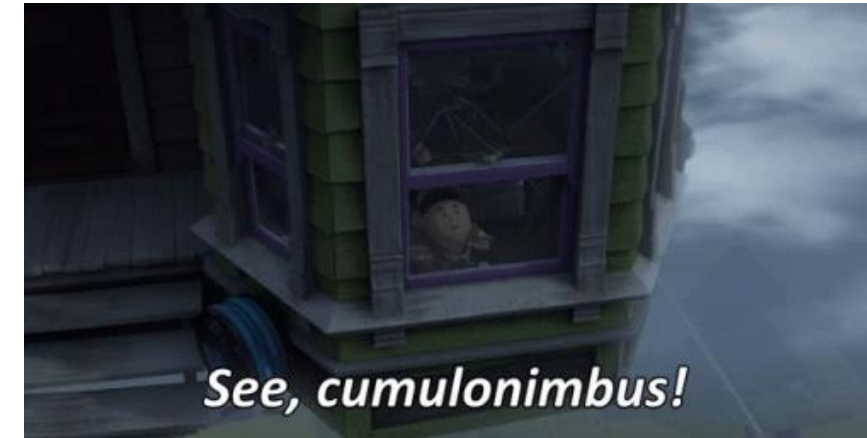


Isarithmic Map

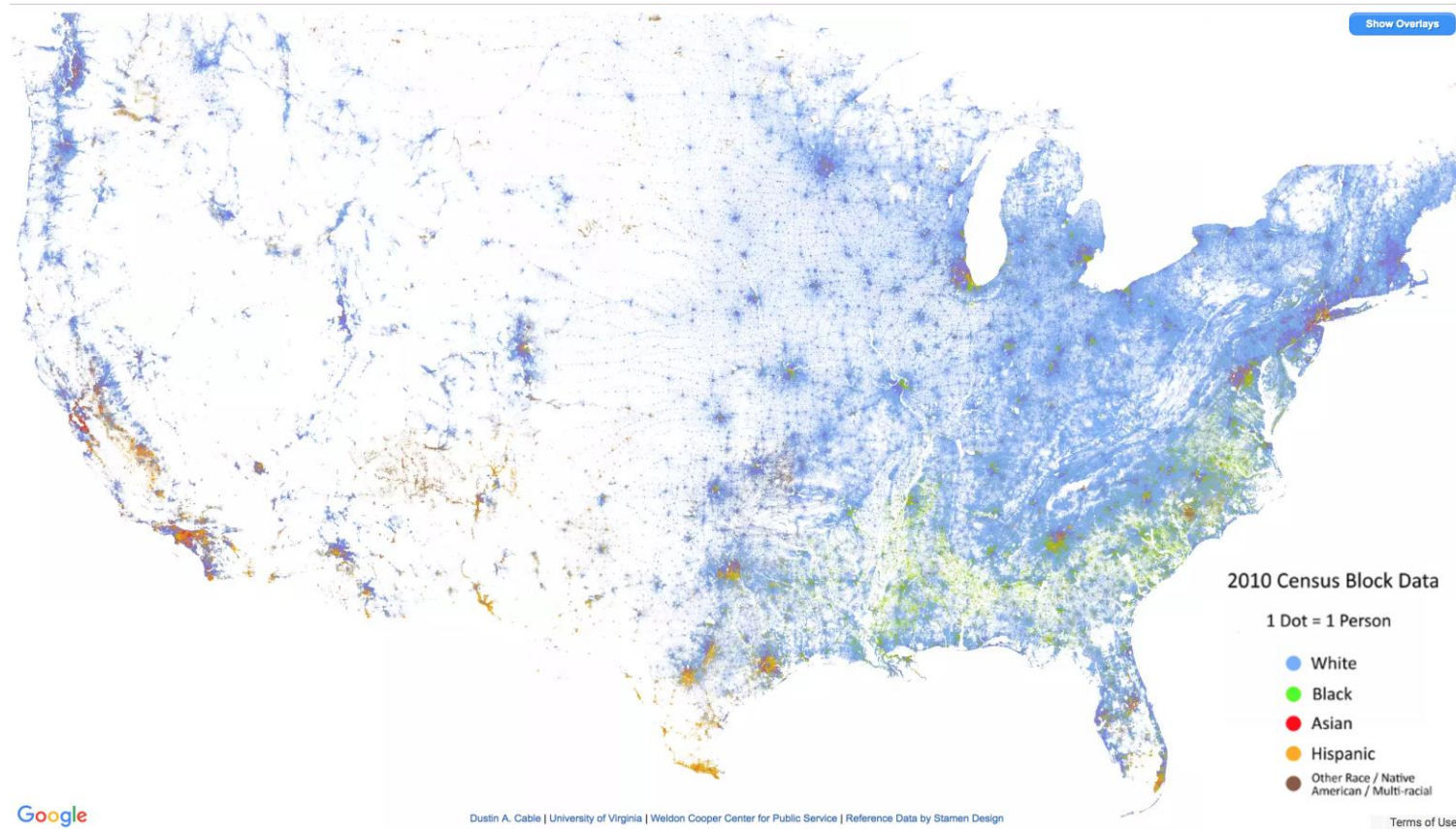
Washington State Annual Precipitation



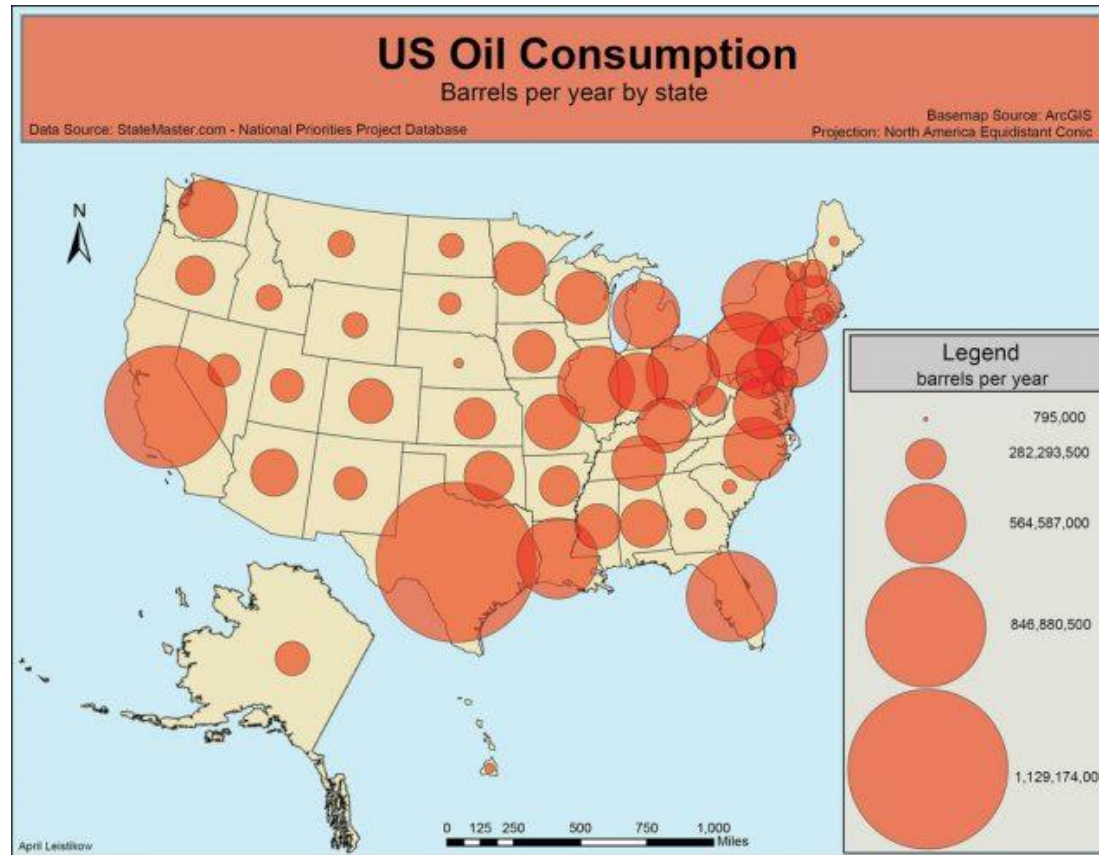
The raster dataset was downloaded from USDA Geospatial Gateway. The dataset is average precipitation in inches for the



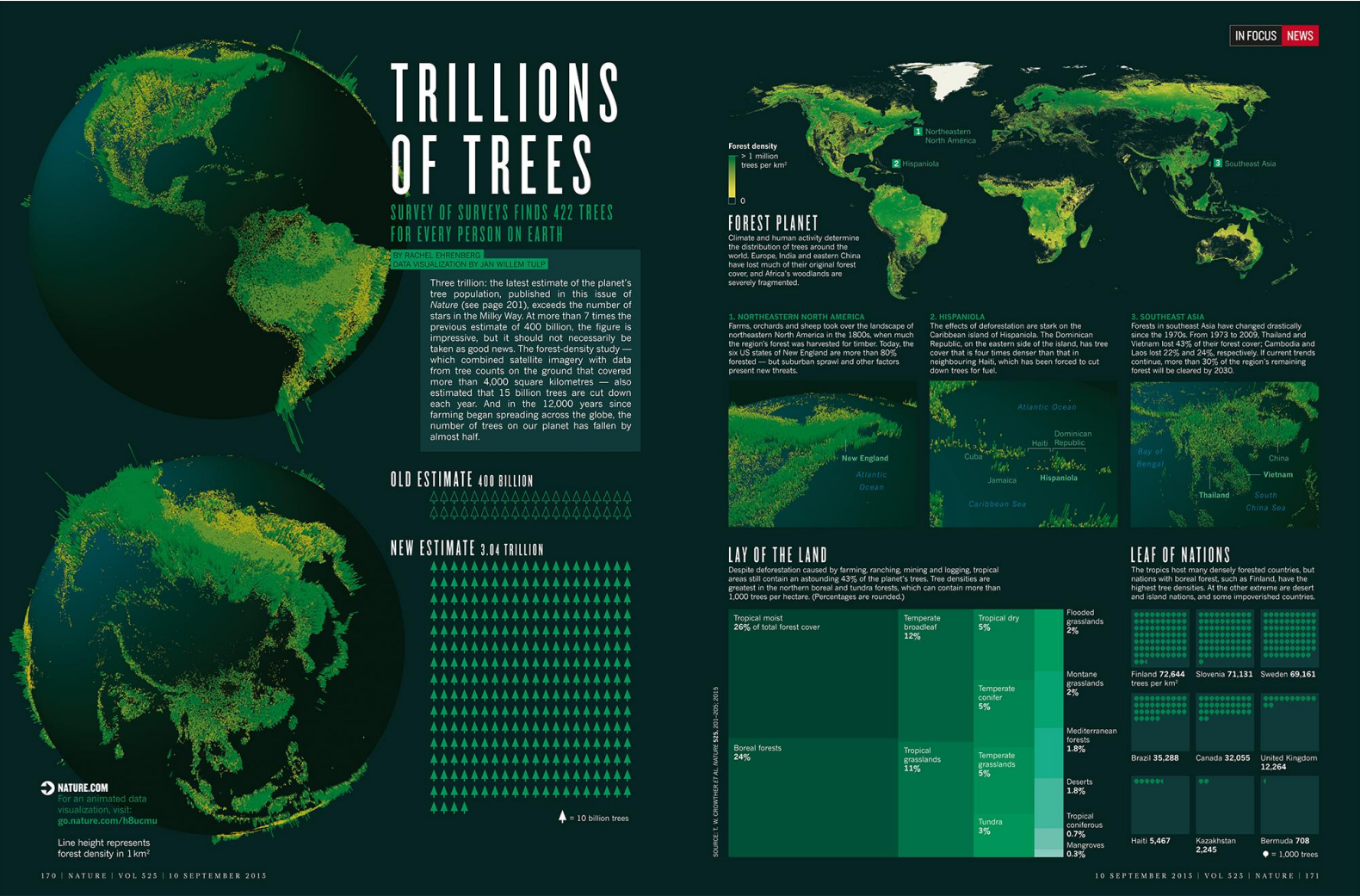
Dot Map



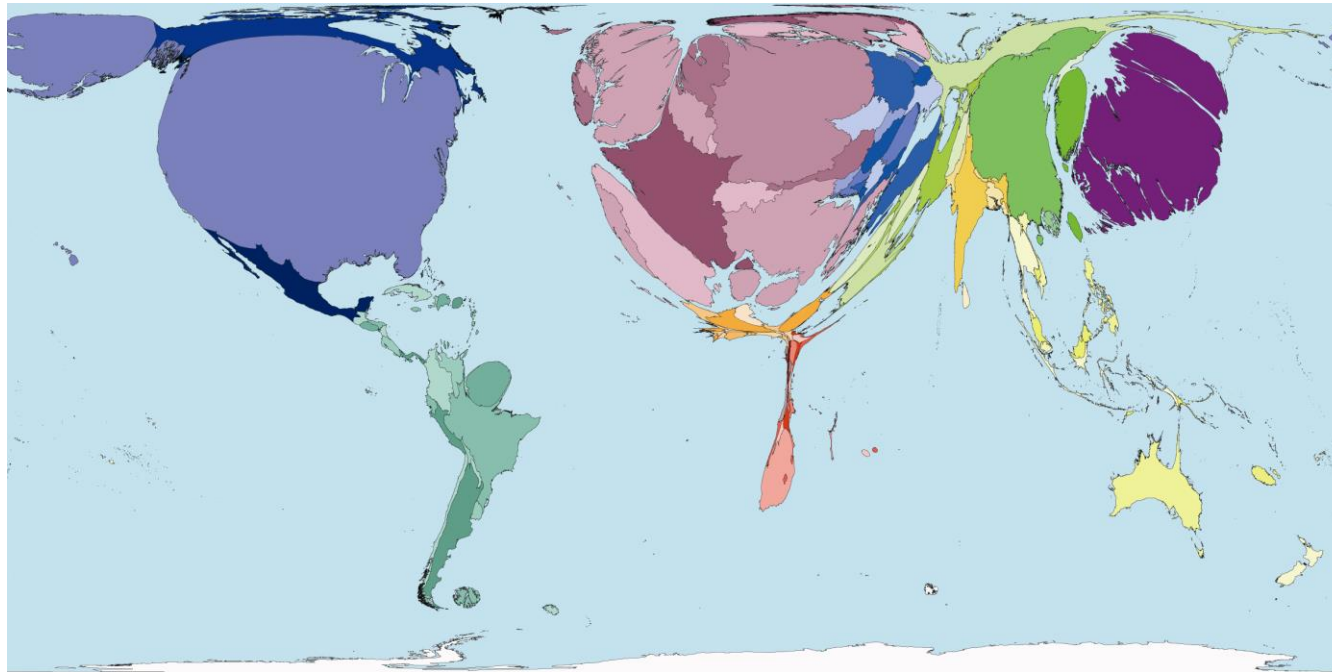
Proportional Symbol Map



Prism Map



Area Cartogram



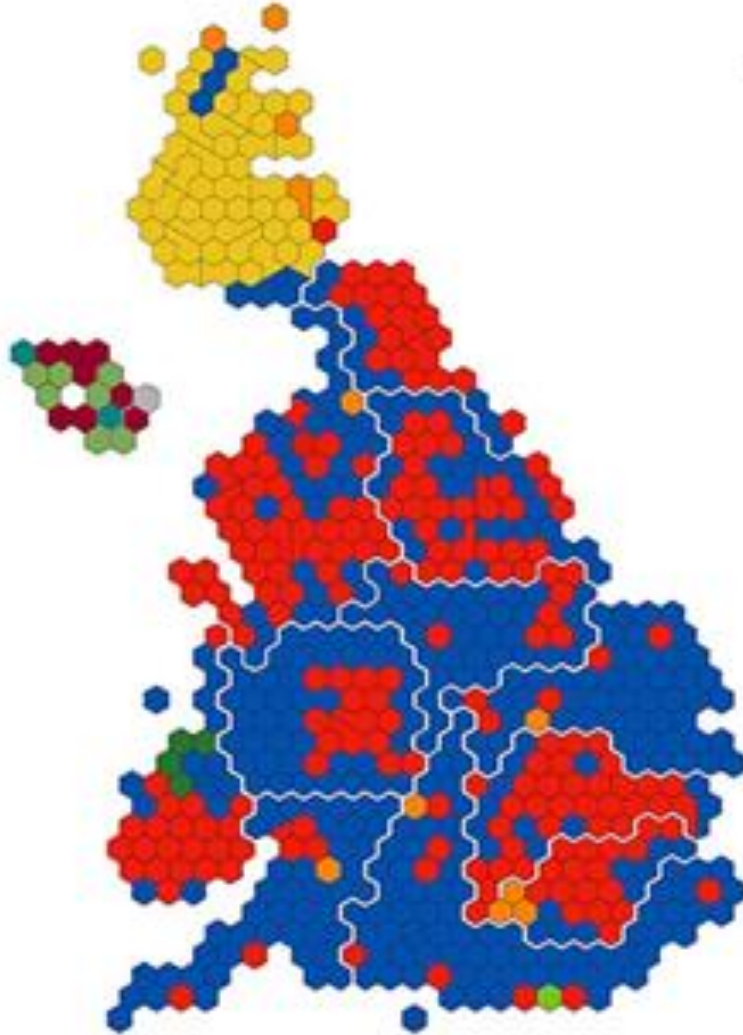
<https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0040001>

Dorling Cartogram



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

Grid Map



Map Word Cloud



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GREAT BRITISH BANDS

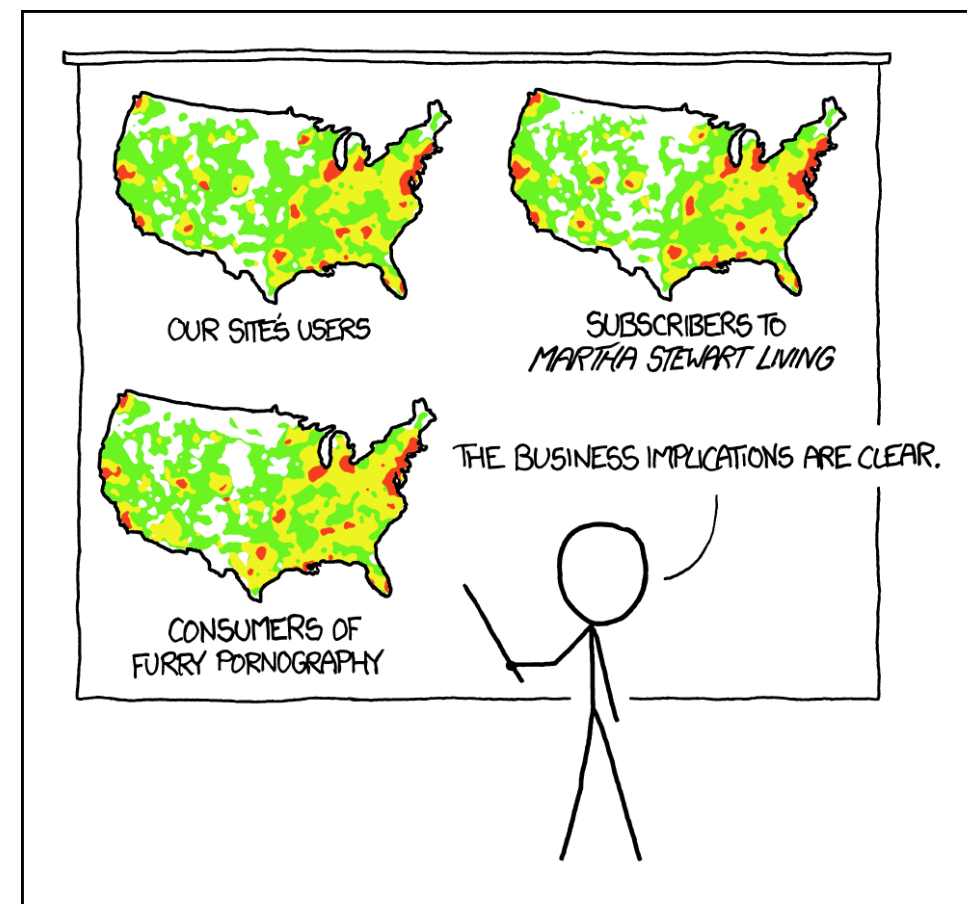


Problems with Maps



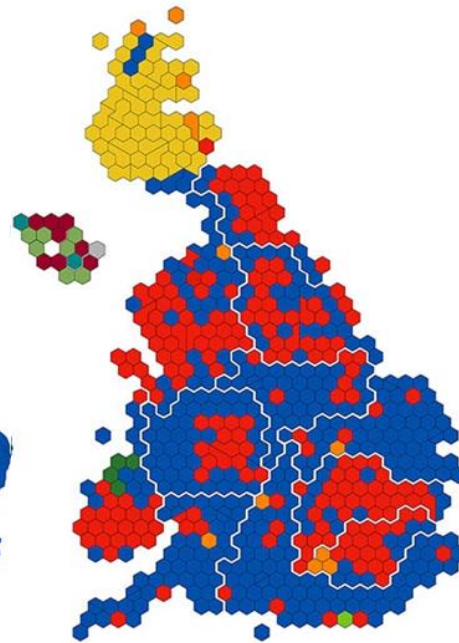
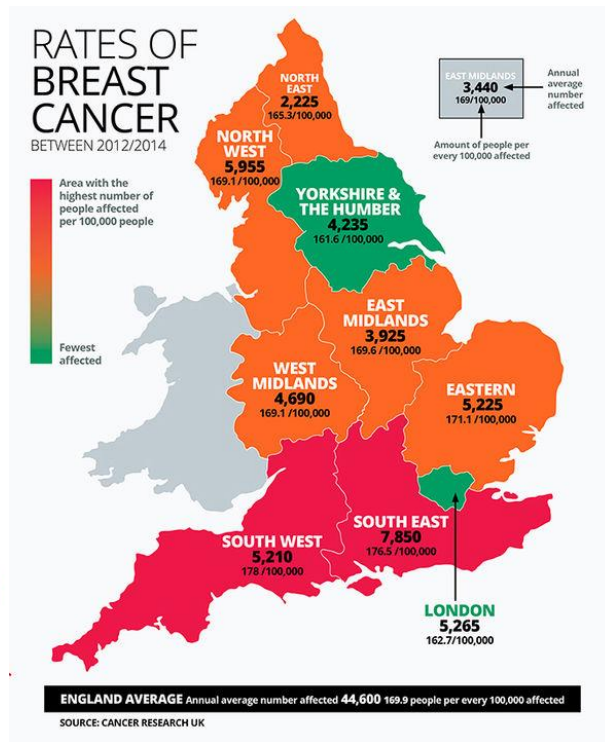
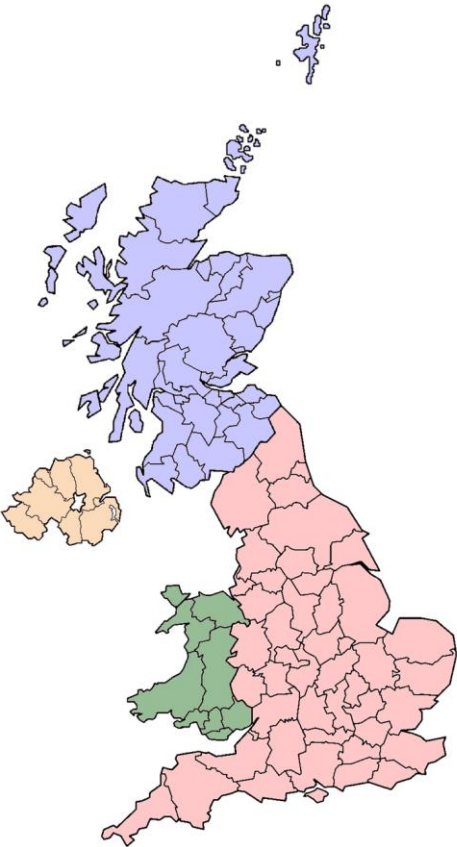
<https://thetruesize.com/>

Problems with Maps



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

Problems with Maps

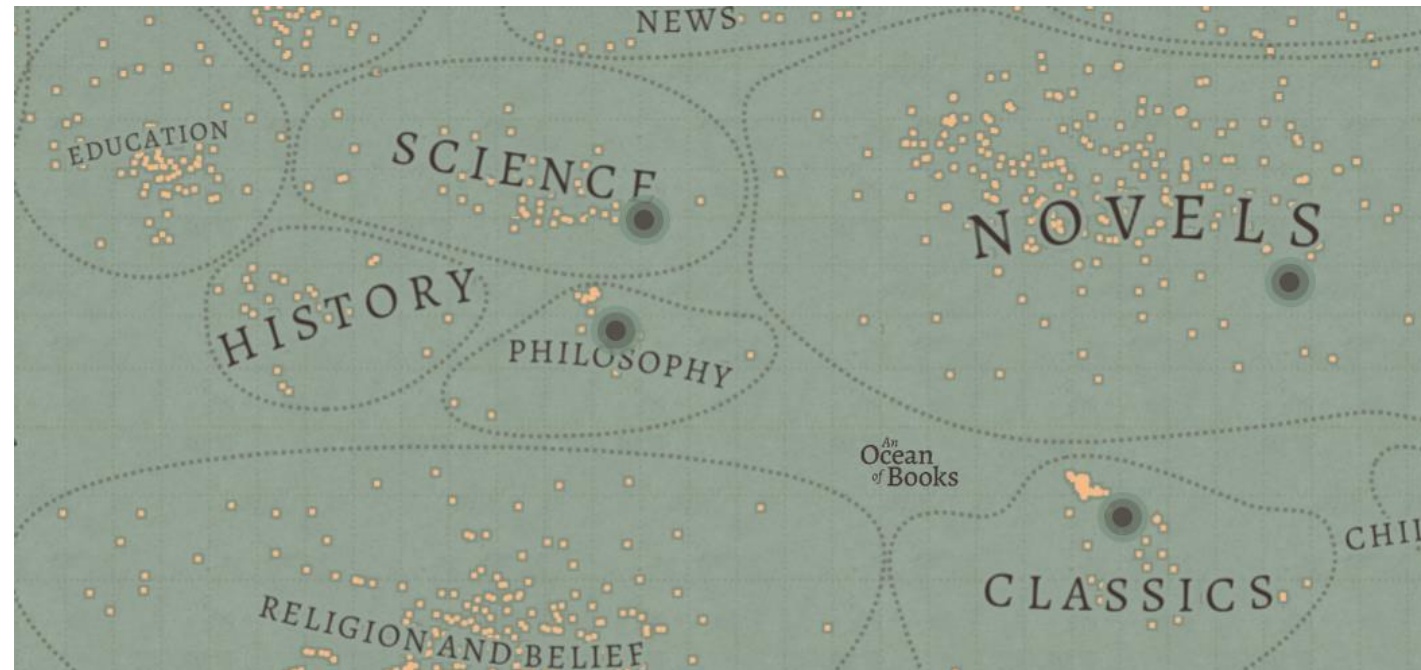


US 2020 Election Maps Special

- <https://www.anychart.com/blog/2020/11/06/election-maps-us-vote-live-results/>
- <https://www.wired.com/story/is-us-leaning-red-or-blue-election-maps>
- <https://twitter.com/BettinaForget/status/1324139878666391555>

Other interesting ideas for maps

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



How to easily create maps...

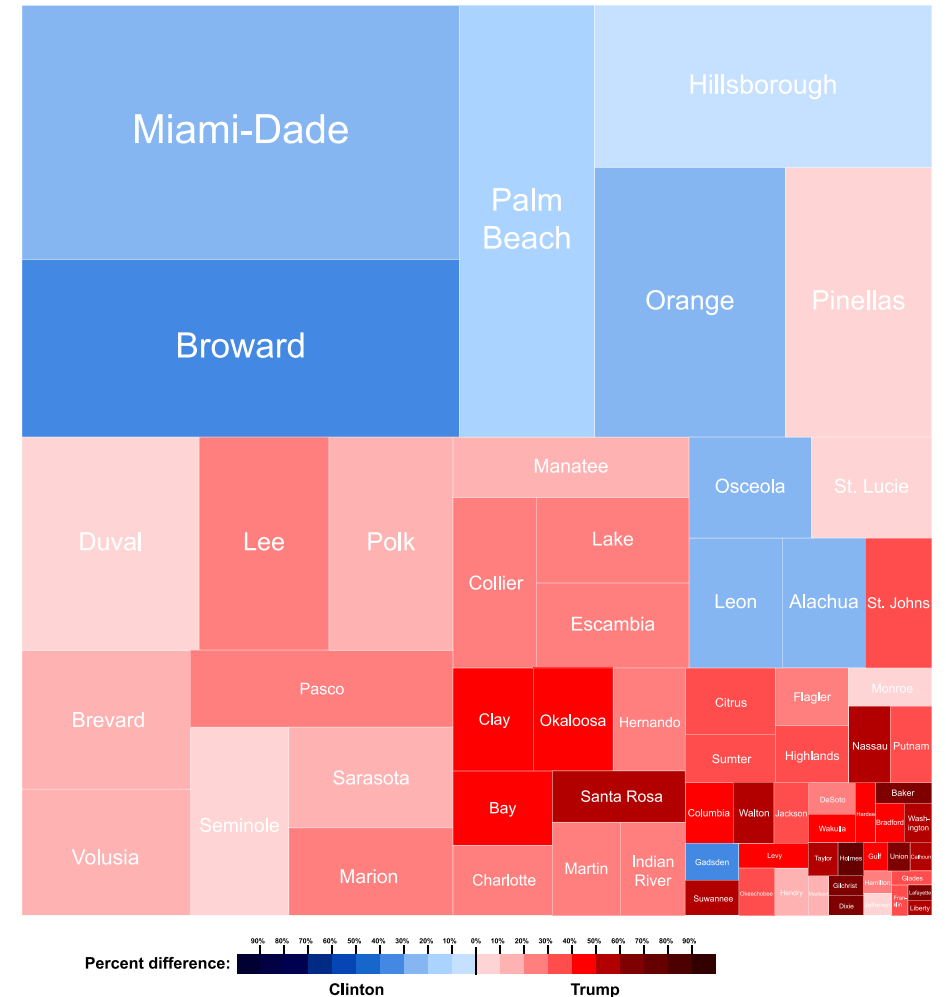
<https://mapchart.net/>

Other Viz

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/>

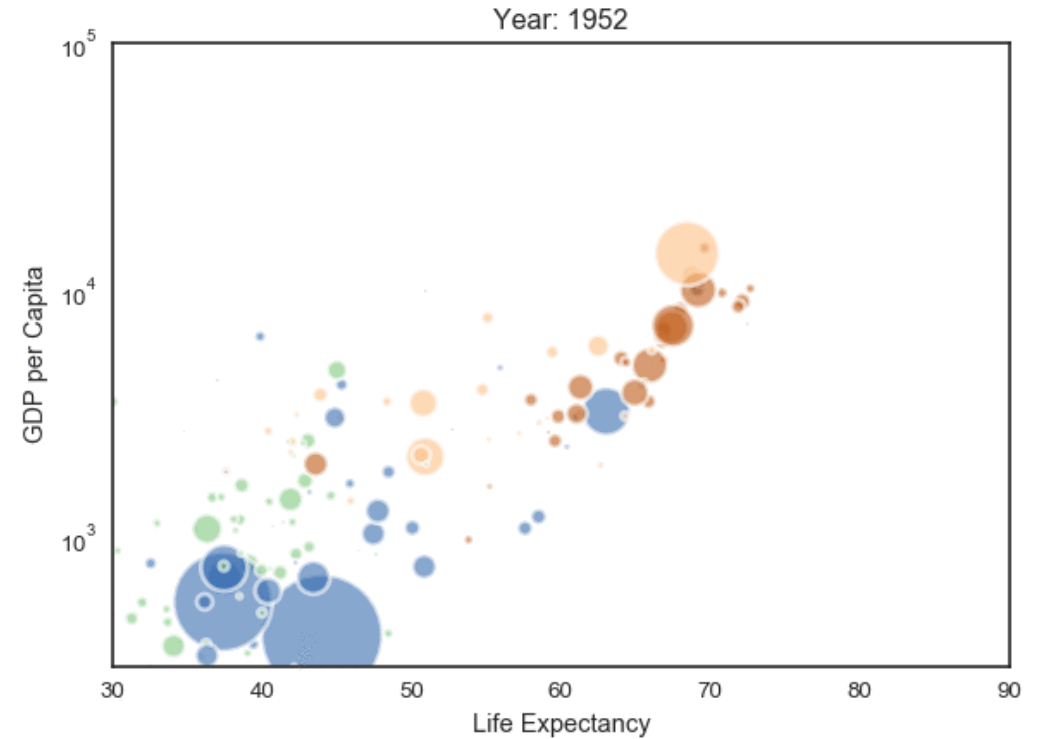
I care about: TOXINS CRUEL FISHING BY-CATCH ENVIRONMENTAL HARM FISH STOCKS ANIMAL WELFARE VEGETARIANISM CLEAR COPY YOUR CHOICES AS TEXT

	Farmed	Atlantic	Atlantic & Pacific	Pacific
YES abundant, well-managed or caught in an eco-friendly way	Abalone Arctic Char Barramundi (US, VIETNAM) Gilthead Bream (ONSHORE, ORGANIC) Manila Clam Pangasius (ASC CERTIFIED) Rainbow Trout (US) Sablefish/Blackcod (CANADA & ALASKA) Scallop Seabass (ONSHORE) Shrimp (US) Tilapia (ZIMBABWE, ASC CERTIFIED, ONSHORE) Turbot (ONSHORE)	Atlantic Salmon (ORGANIC) Blue Crab (CHESAPEAKE BAY) Brown Crab (BRITISH ISLES) Coley (ICELAND) Dab (NORTH SEA OTTER TRAWLED, SEINE NETTED) Dover Sole (WESTERN CHANNEL MSC CERTIFIED) Herring (CORNWALL, IRISH SEA, MSC CERTIFIED) Langoustine (NORTH SEA, POT CAUGHT) Mackerel (UK, EU, NORWAY, HANDLINE) Pouting (GILLNET, FIXED NET) Snow Crab (ALASKA) Spiny Lobster (MEXICO)	Anchovy (BAY OF BISCAY) Clams, Mussels & Oysters Cockles (HAND GATHERED, MSC CERTIFIED) Rainbow Trout (NET PENS, RECIRCULATION SYSTEMS, PONDS, RACEWAYS) Salmon (ALASKA, NEW ZEALAND) Skipjack Tuna (POLE & LINE, TROLL, PURSE SEINE)	Lionfish (US) Red King Crab (US, NORWAY) Salmon (MSC OR RFM CERTIFIED) Sanddab (CALIFORNIA, OREGON, WASHINGTON) Spot Prawn (ALASKA, CANADA) Tanner Crab (ALASKA)
MAYBE fish are flagged for concern, and may be trawler-caught	Atlantic Salmon (MAINE) Branzino (MEDITERRANEAN)	Atlantic Cod (HANDLINE) Black / Red Grouper (US) Haddock (ICELAND, ARCTIC) Monkfish (US, GILLNET) Sea Scallop	Albacore Tuna (US LONGLINE, TROLL, POLE & LINE) Dungeness Crab (CANADA, US) Greenland Halibut Hake Octopus (PORTUGAL, SPAIN, POT & TRAP) Shrimp (CANADA, US) Squid (CHILE, MEXICO, PERU, US) Swordfish (CANADA, US) Yellowfin Tuna (US) Sturgeon (PONDS, RACEWAYS)	Mahi Mahi (ECUADOR & US LONGLINE) North Sea Cod (US, CANADA) New Zealand Hoki
NO vulnerable or endangered species, caught or farmed in harmful ways	Atlantic Salmon	Blue Ling (WILD) Cod (CANADA, US) Haddock (NORTH & IRISH SEA) Halibut (WILD) Monkfish (USA, TRAWL, GILLNET) Orange Roughy	Albacore Tuna (IMPORTED, EXCEPT POLE & LINE, TROLL) Arctic Surf Clams (ELECTRICAL FISHING) Bigeye Tuna (INDIAN, ATLANTIC & CENTRAL WEST PACIFIC) Bluefin Tuna	Alaska Pollock (PELAGIC TRAWL) Cod (JAPAN, RUSSIA) North Sea Cod (RUSSIA, JAPAN) Pollock (CANADA TRAWL)

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

Bubble Charts

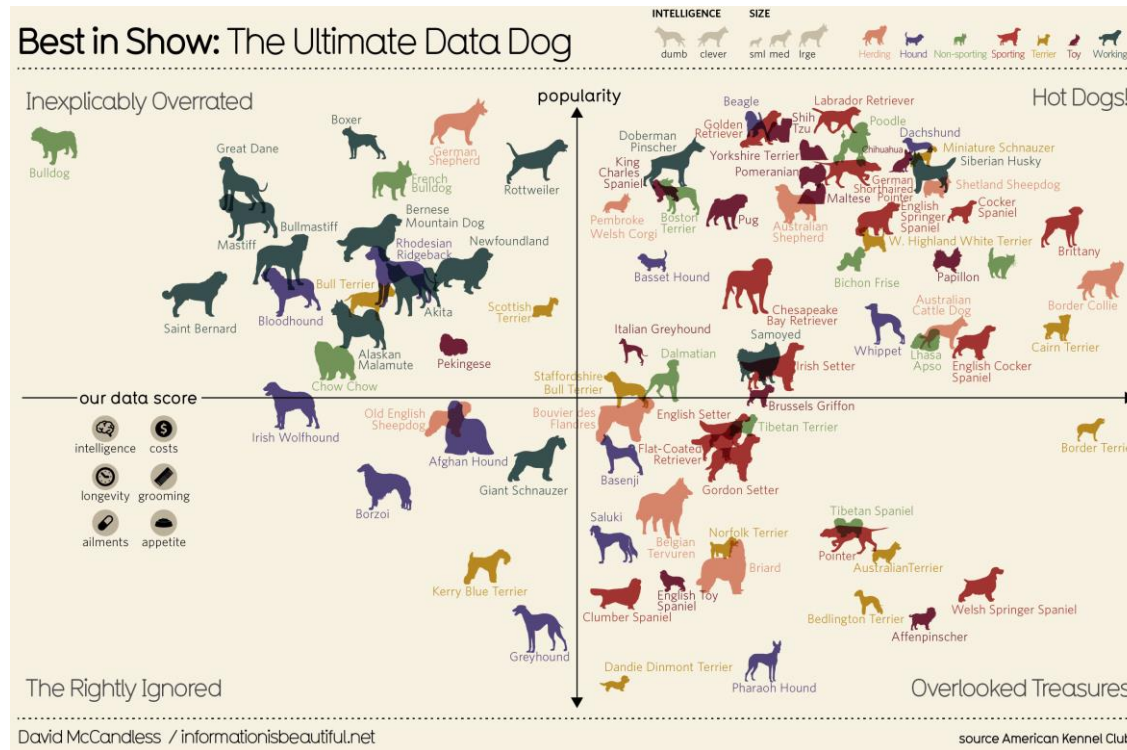
- As said before, these make more sense when moving (i.e. GapMinder)



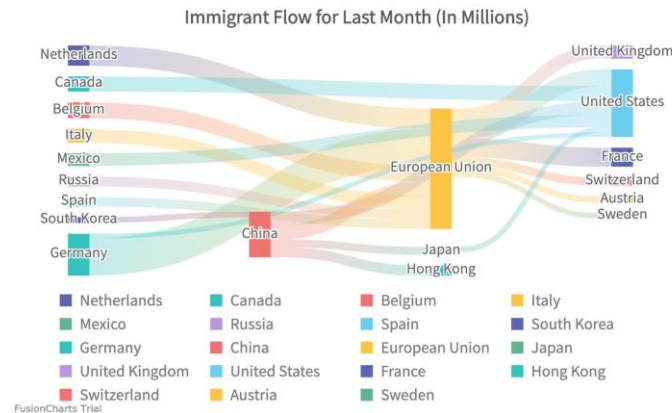
<https://www.gapminder.org/for-teachers/>

Bubble Charts

- They don't have to move necessarily!?

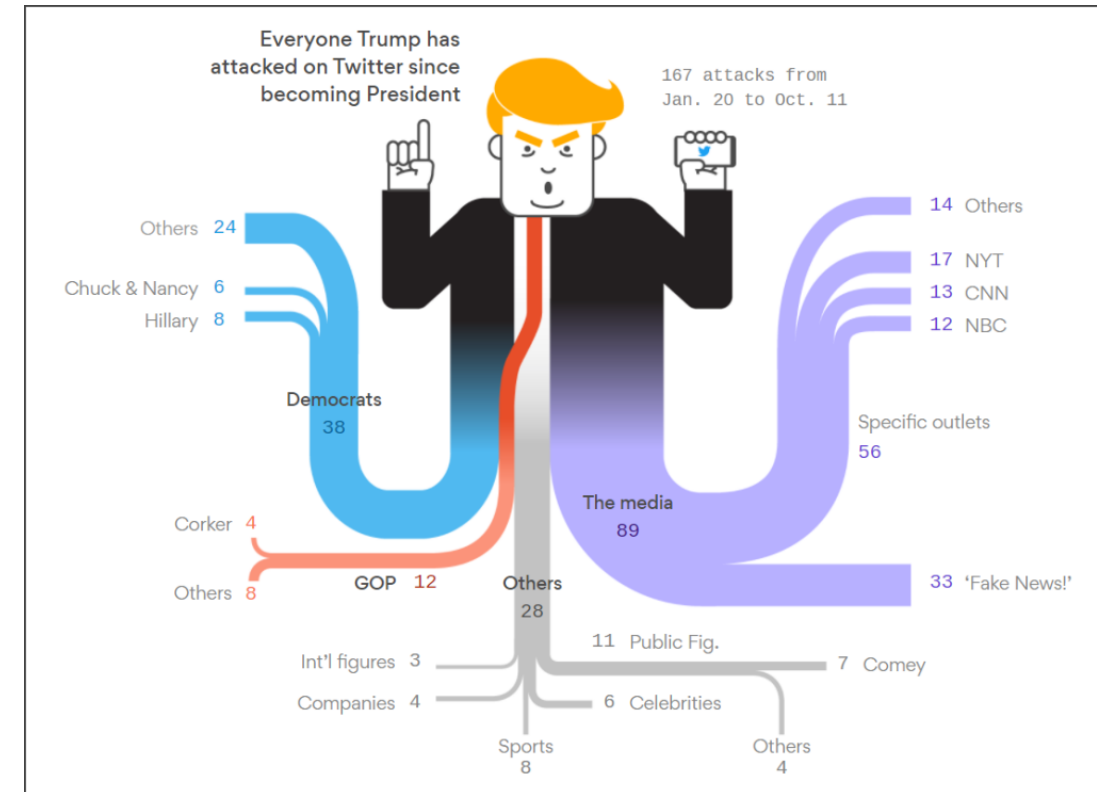


Sankey/Chord Diagrams



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

Lab: “Running Maps” in Python
