

Five classifying families: CHRTS

CATEGORICAL

Comparing categories and distributions of quantitative values

HIERARCHICAL

Revealing part-to-whole relationships and hierarchies

RELATIONAL

Exploring correlations and connections

TEMPORAL

Plotting trends and intervals over time

SPATIAL

Mapping spatial patterns through overlays and distortions

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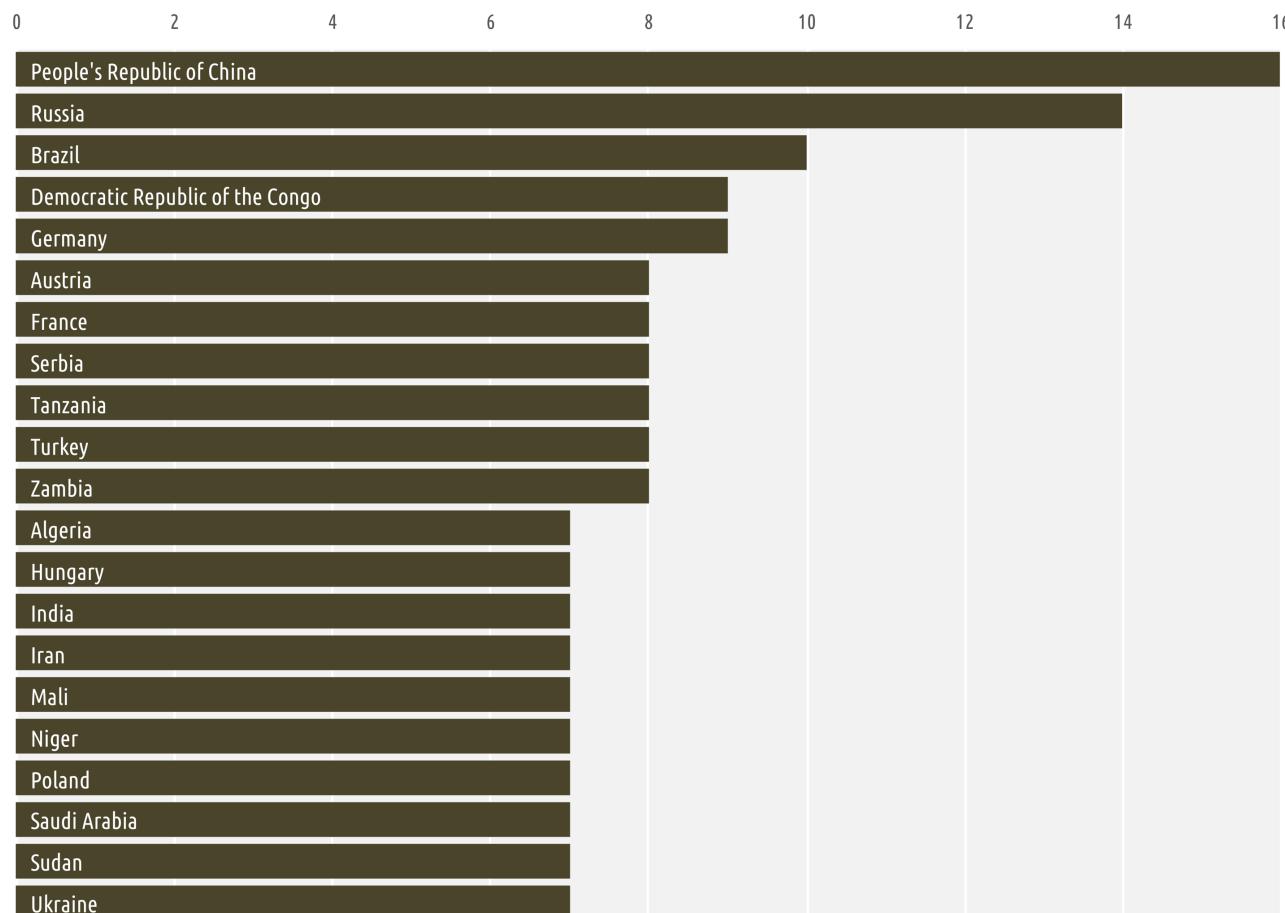
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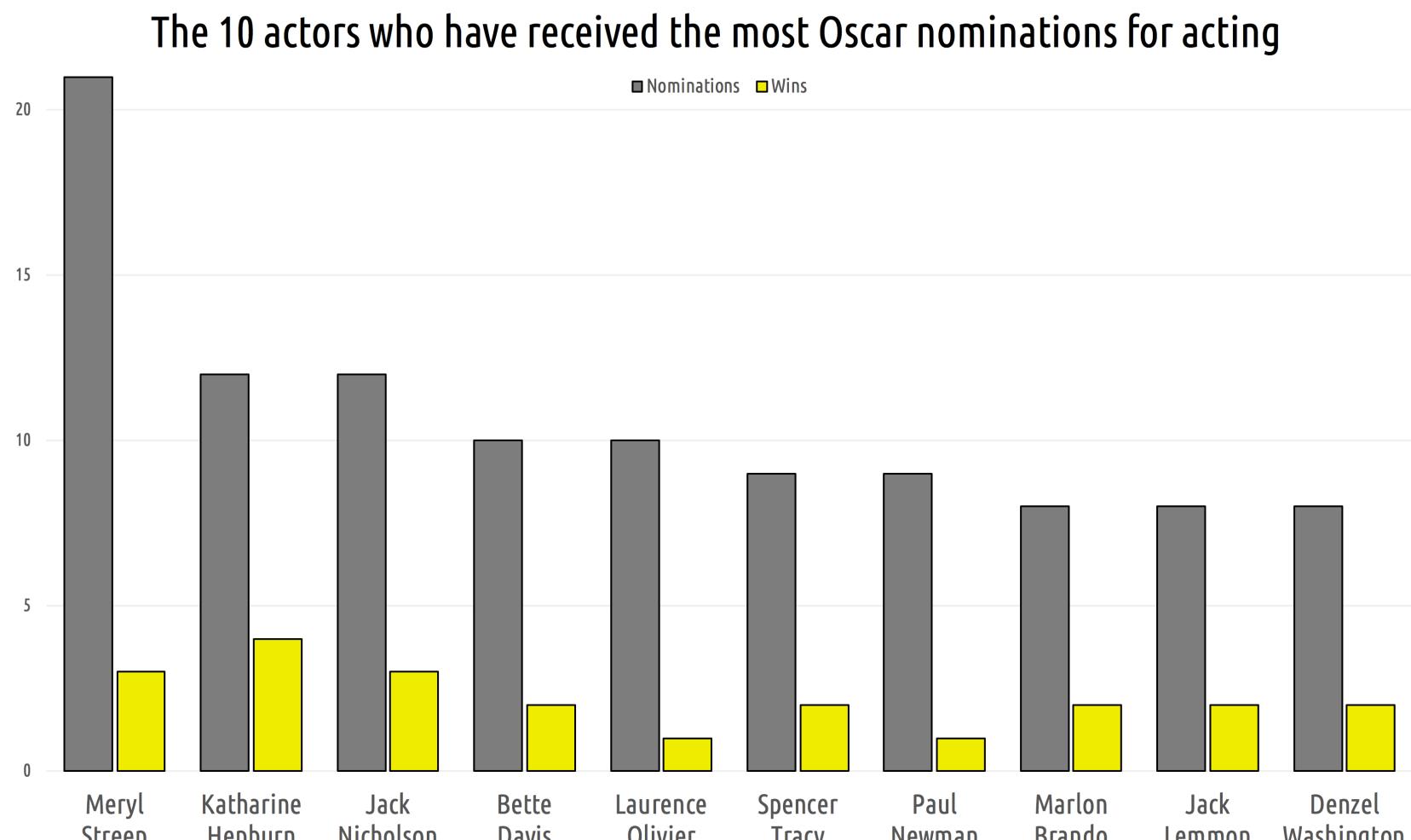
Comparing quantitative values by category

THE COUNTRIES WITH THE MOST LAND NEIGHBOURS



Source: https://en.wikipedia.org/wiki/List_of_countries_and_territories_by_land_borders (as at December 2018).

Notes: Minimum 7 neighbouring countries. France's figure does not include French overseas departments, collectivities, and territories.



Source: www.filmsite.org (as at December 2018)

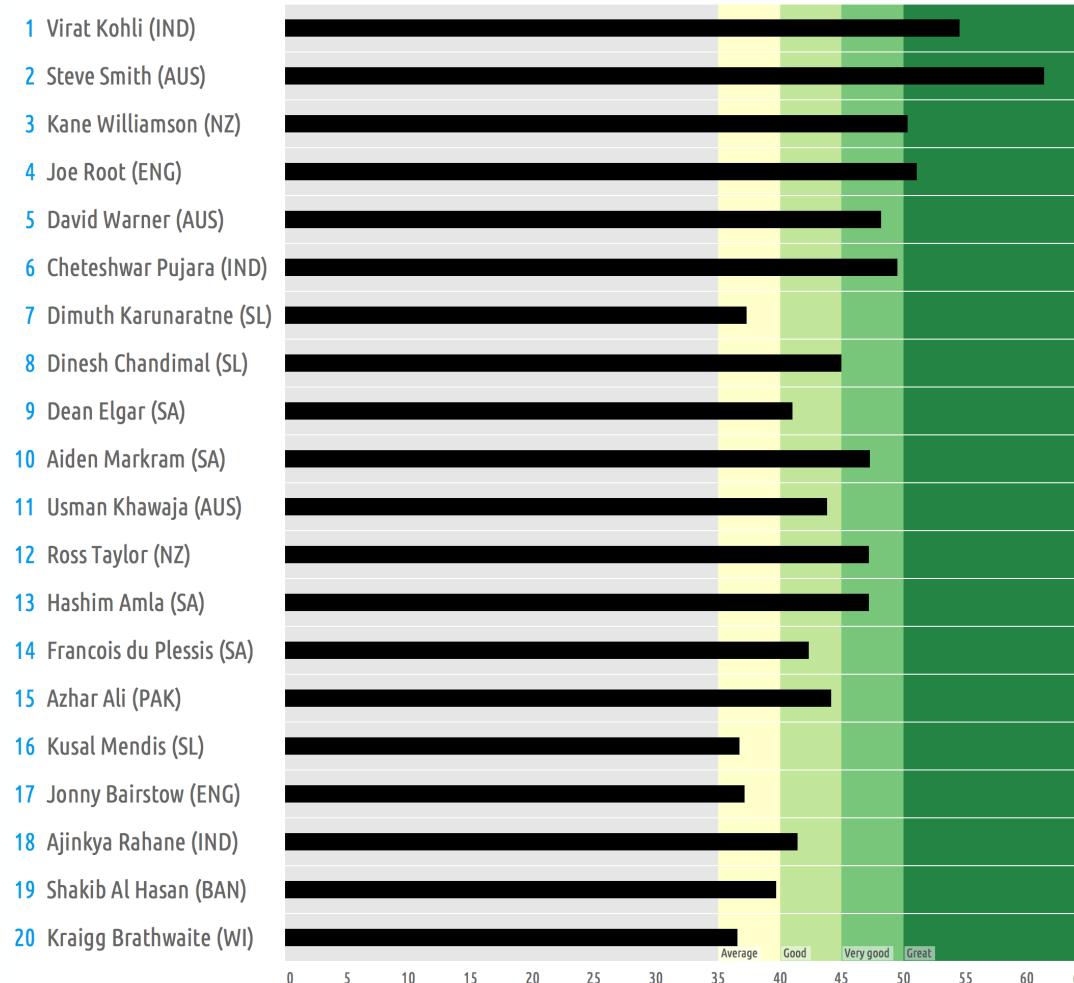
Notes: Al Pacino and Geraldine Page each have 8 nominations, 1 win. Peter O'Toole has 8 nominations but no win.

C H R T S

Bullet chart

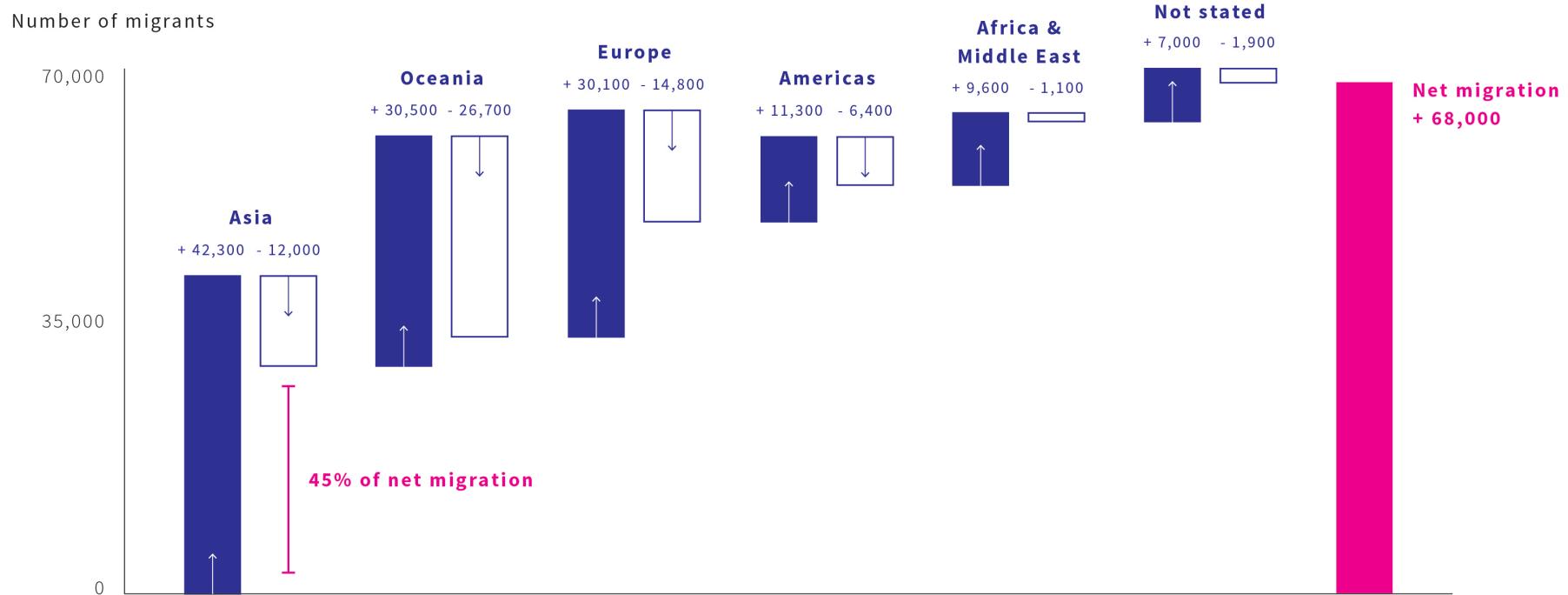
Top 20 Ranked Batters in Men's Test Cricket

SOURCE: ICC Rankings <https://www.icc-cricket.com/rankings/mens/player-rankings/test/batting> | Batting averages <http://www.espncricinfo.com/> as at October 2018



NEARLY HALF OF NEW ZEALAND'S ANNUAL MIGRATION GAIN IS FROM ASIA

■ Arrivals □ Departures



United Kingdom

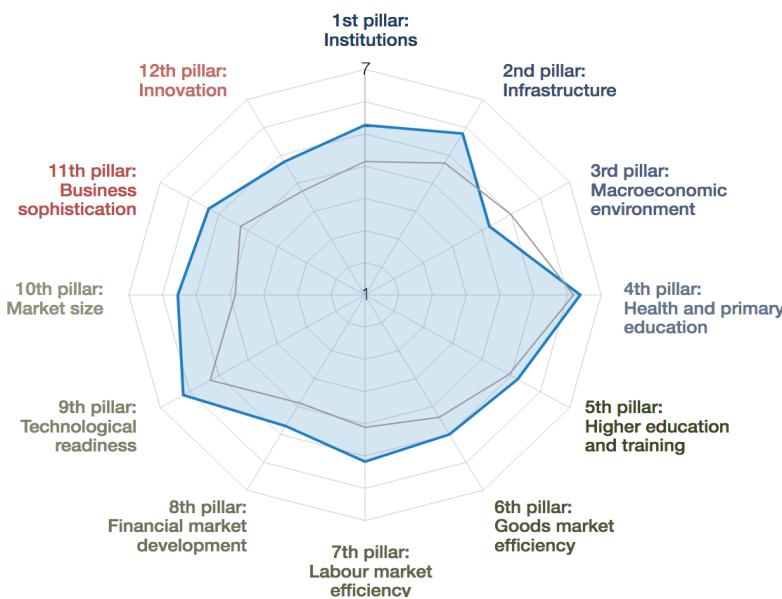
8th /137

Global Competitiveness Index 2017-2018 edition

Key indicators, 2016

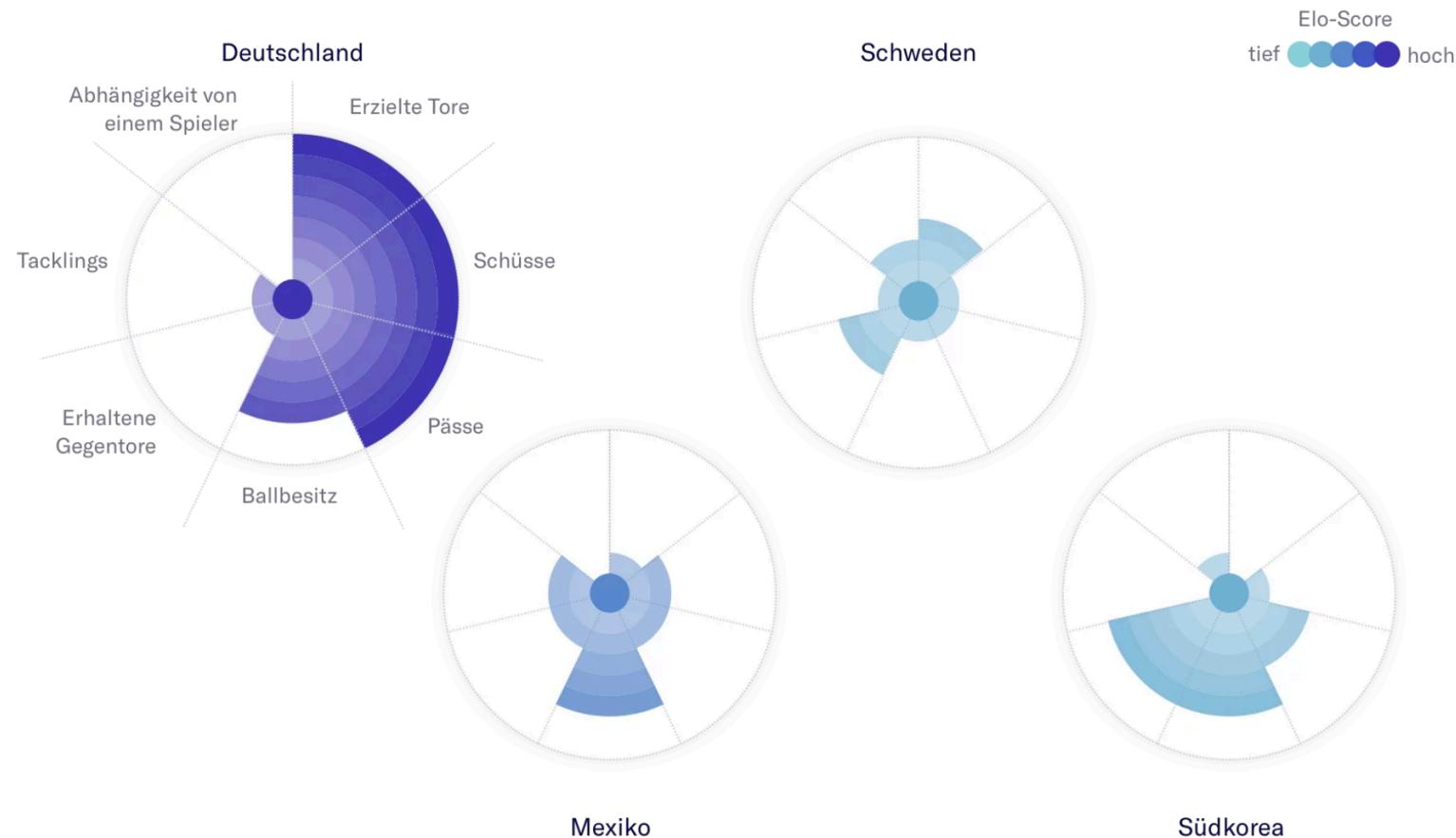
Source: International Monetary Fund; World Economic Outlook Database (April 2017)

Population millions	66.1	GDP per capita US\$	39,734.6
GDP US\$ billions	2,624.5	GDP (PPP) % world GDP	2.29



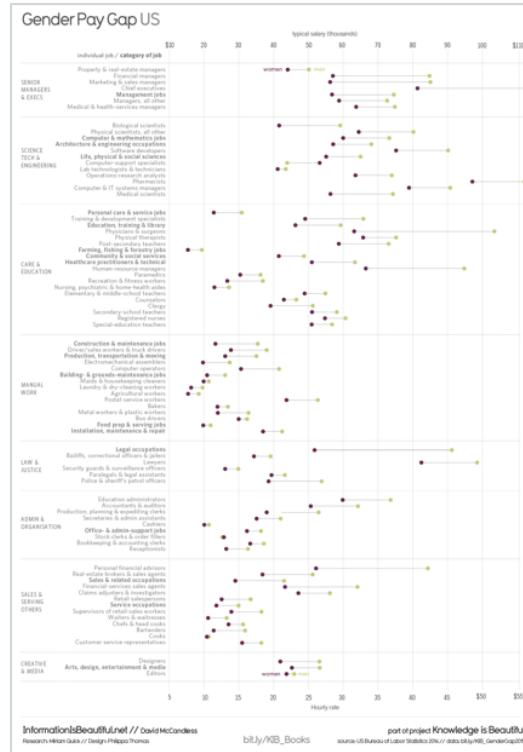
■ United Kingdom ■ Europe and North America

Gruppe F: Breit abgestützte Offensiven



Visualisation by NZZ <https://www.nzz.ch/sport/fussball-wm-2018/fussball-wm-die-32-nationalteams-im-direktvergleich-ld.1389717>

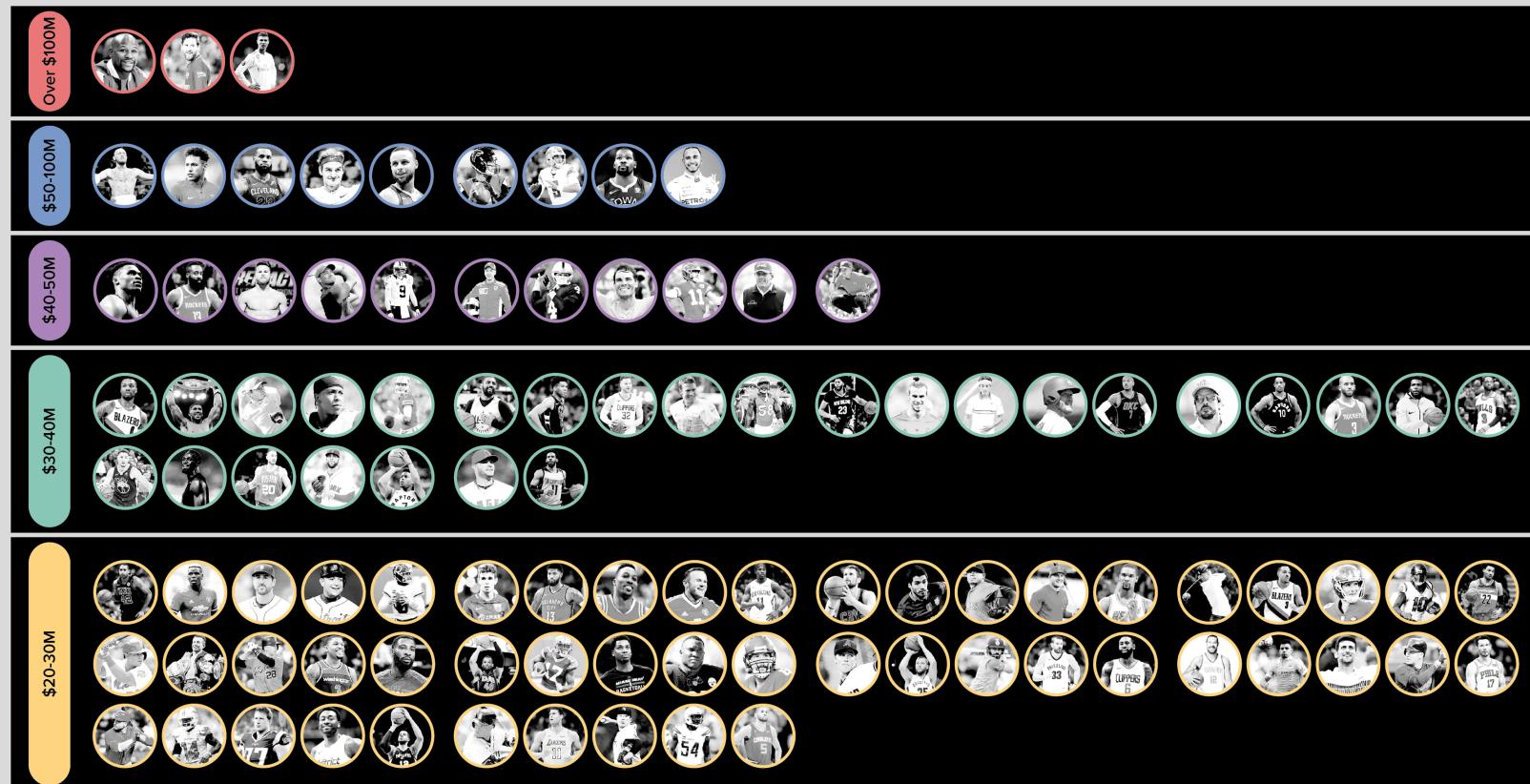
Gender Pay Gap US



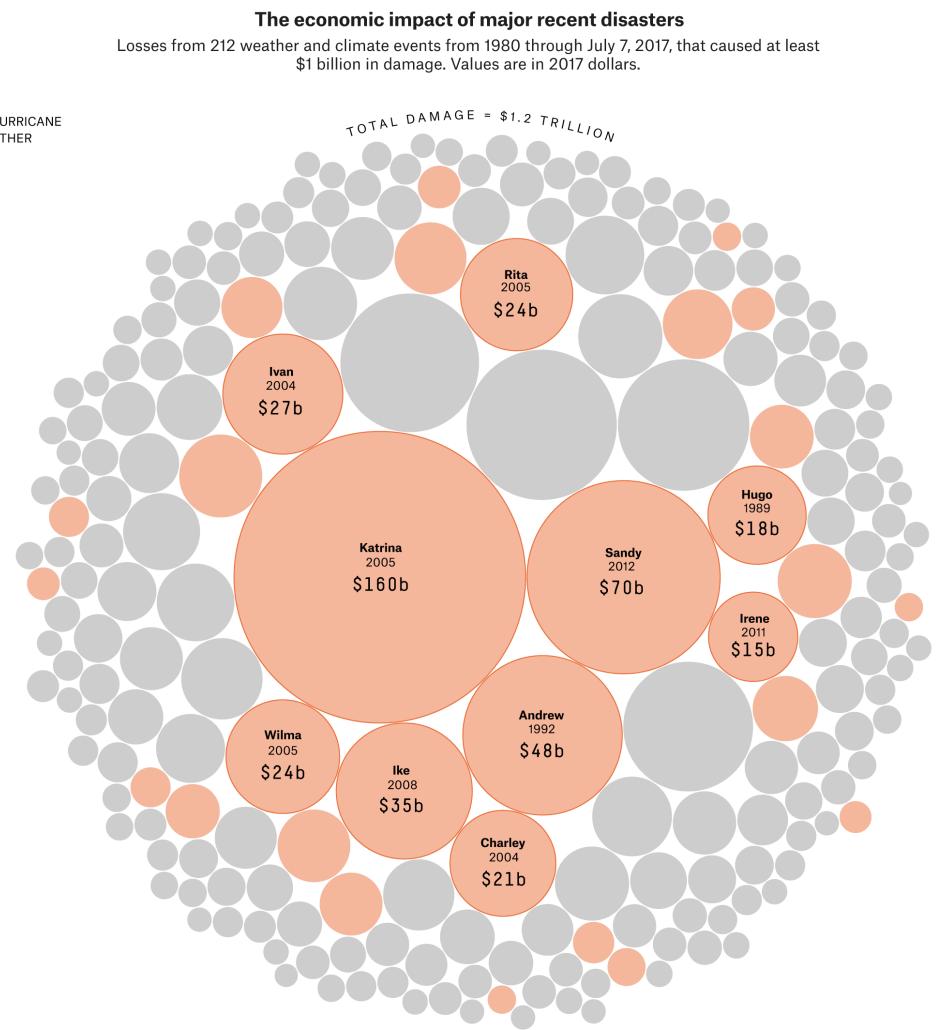
<http://www.informationisbeautiful.net/visualizations/gender-pay-gap-us/>

Forbes: The World's 100 Highest-Paid Athletes

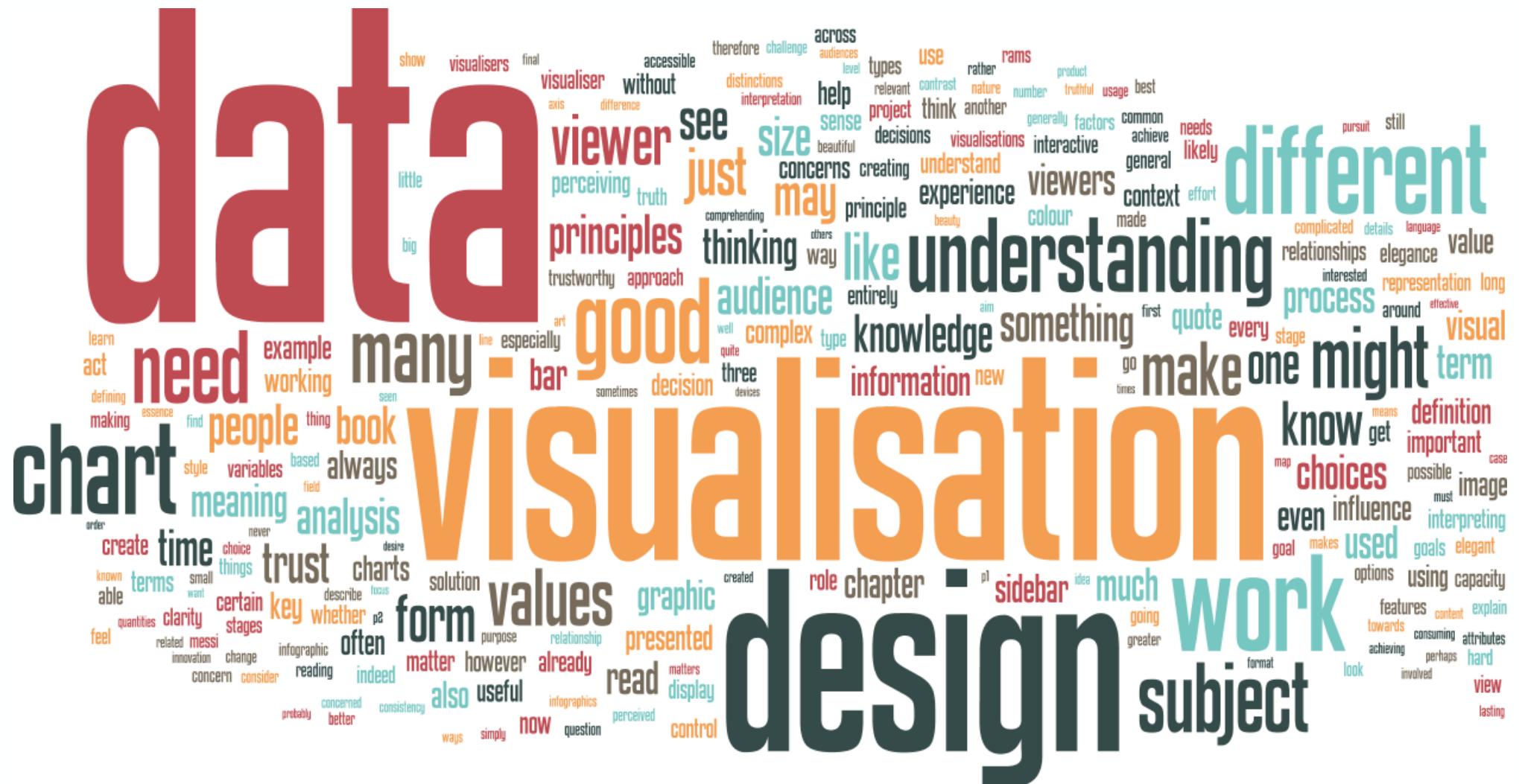
Pay groups



Data and images from <https://www.forbes.com/athletes/list/>



https://fivethirtyeight.com/features/hurricane-harveys-impact-and-how-it-compares-to-other-storms/?ex_cid=538twitter



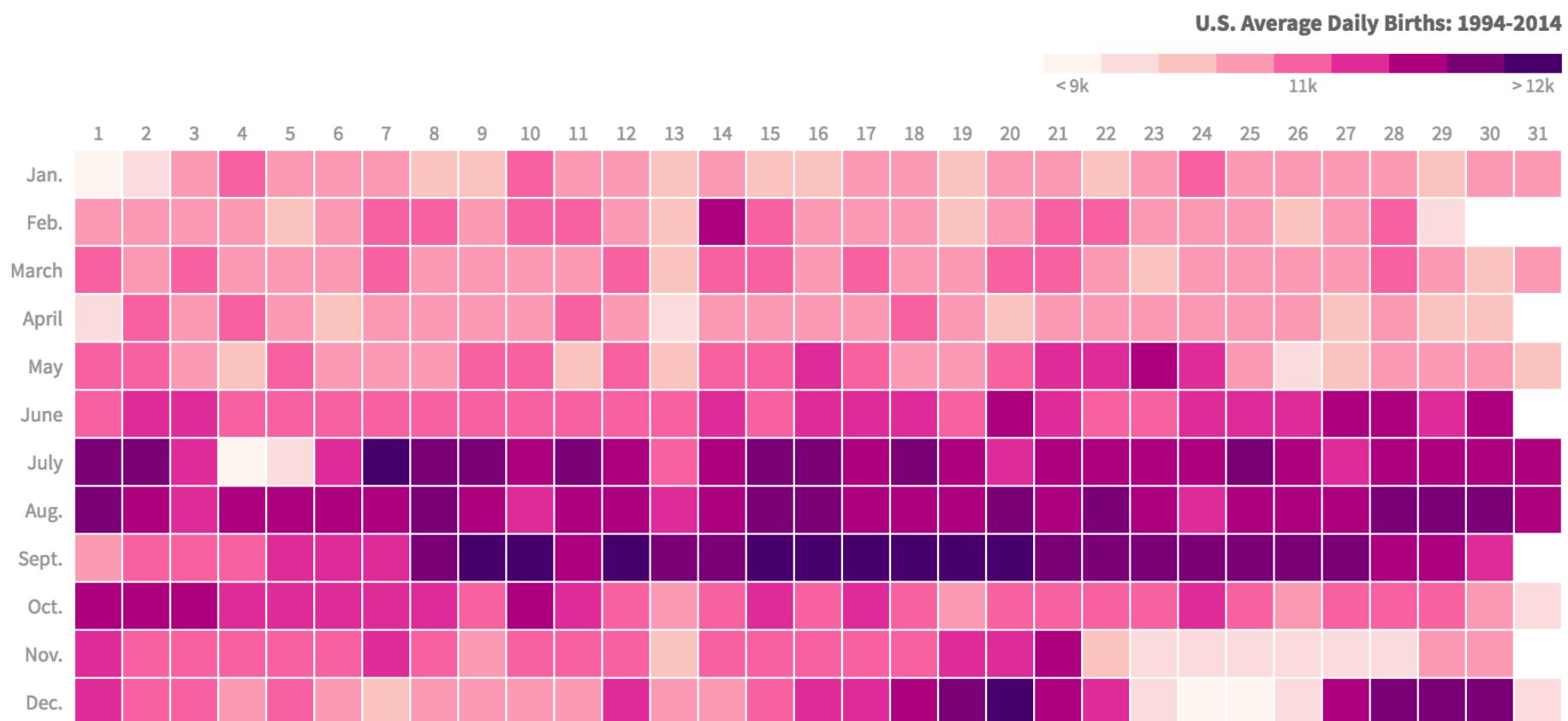
C H R T S

Heat map

Matrix chart, mosaic plot, table chart, XY heatmap

How Popular Is Your Birthday?

Two decades of American birthdays, averaged by month and day.



C H R T S

Matrix chart

Table chart

114 Years of Nobel Laureates

SORT BY:

PRIZE

YEAR

HIGHLIGHT:

2014

WOMEN

10 YOUNGEST

10 OLDEST

POSTHUMOUS

MULTIPLE WINNERS

ALL

<http://www.reuters.com/interactives/nobel-laureates>

Comparing the distribution of quantitative values
by category

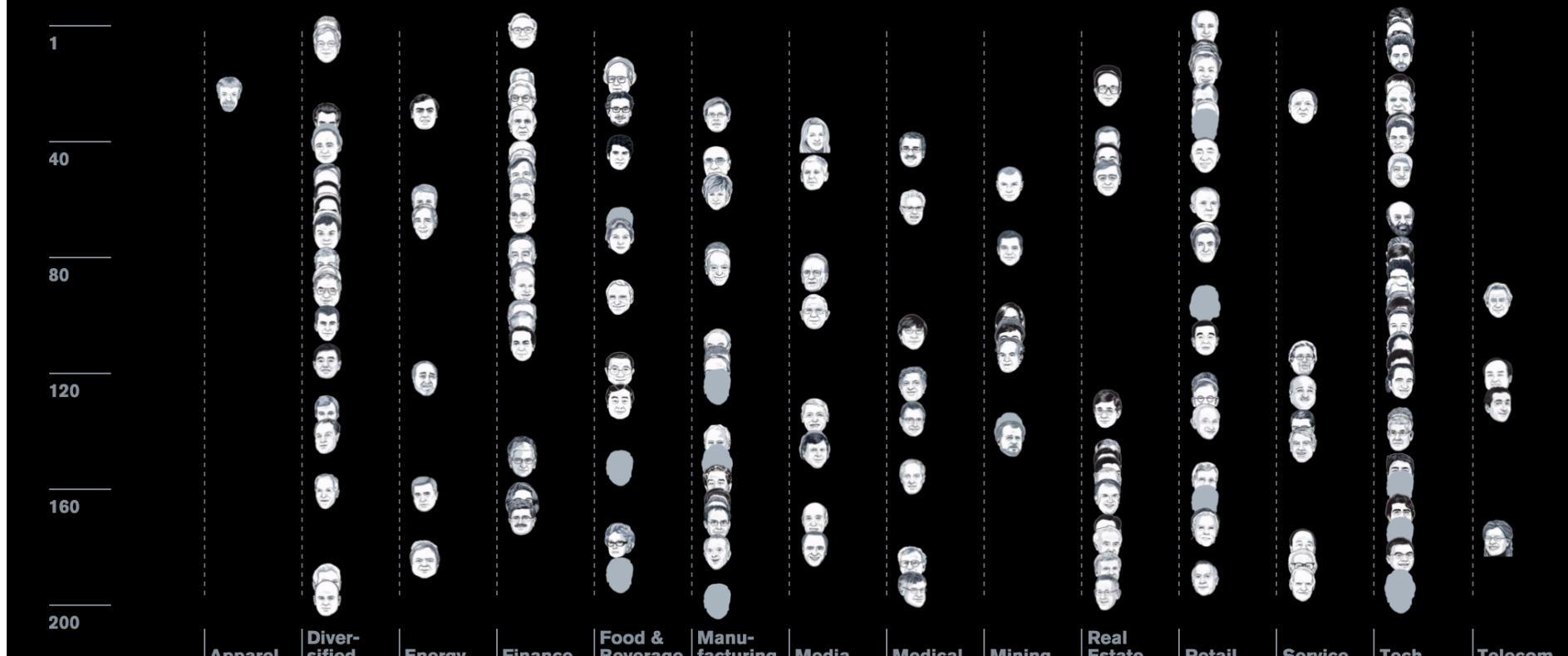
C H R T S

Dot plot

Univariate scatter plot, jitter plot, strip plot, 1D scatter plot

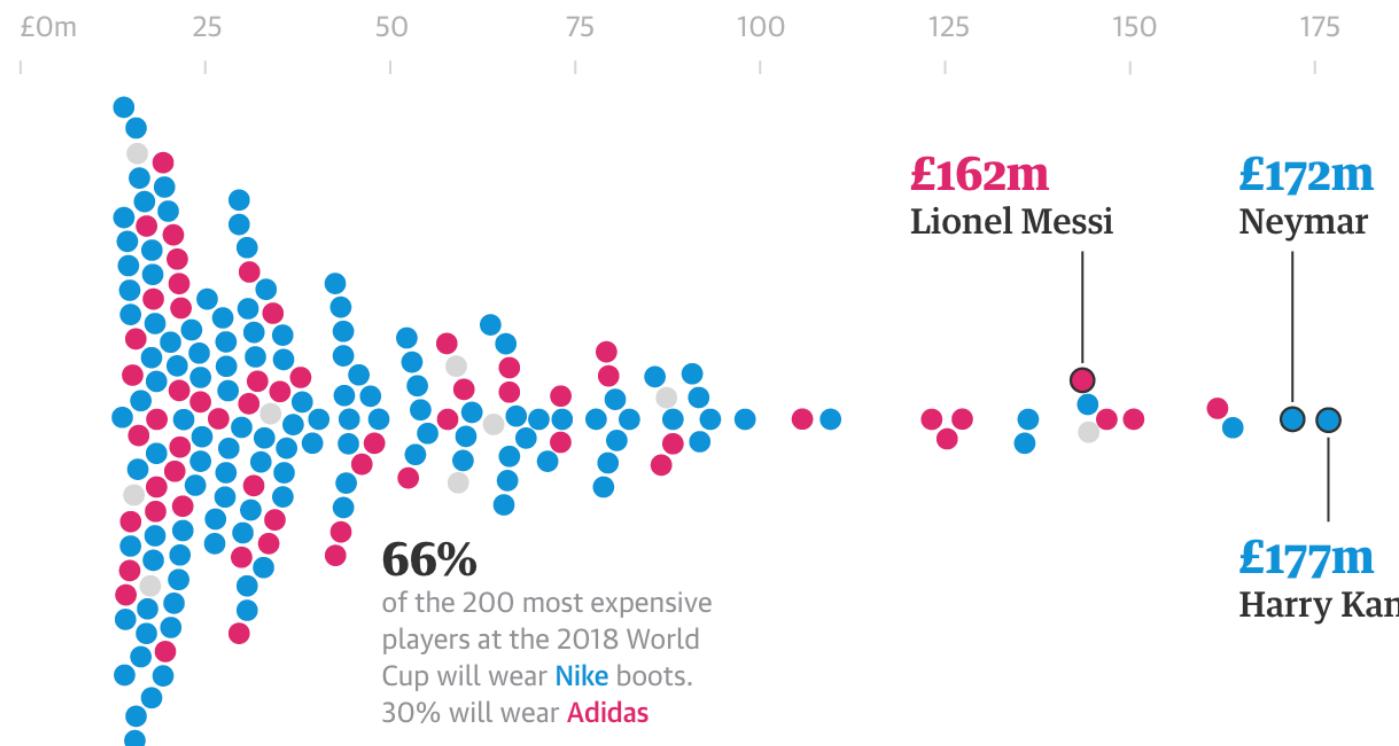
[Explore](#) [Rank](#) [Plot](#) [Map](#)[all billionaires](#) [all industries](#) [all citizenships](#) [all genders](#) [all ages](#) [all sources of wealth](#)

net worth (rankings) plotted against industry on February 4, 2016

Visualisation by Bloomberg <http://www.bloomberg.com/billionaires/>

Nike dominates Adidas in the boots game

Estimated transfer value of the 200 most expensive players at the 2018 World Cup



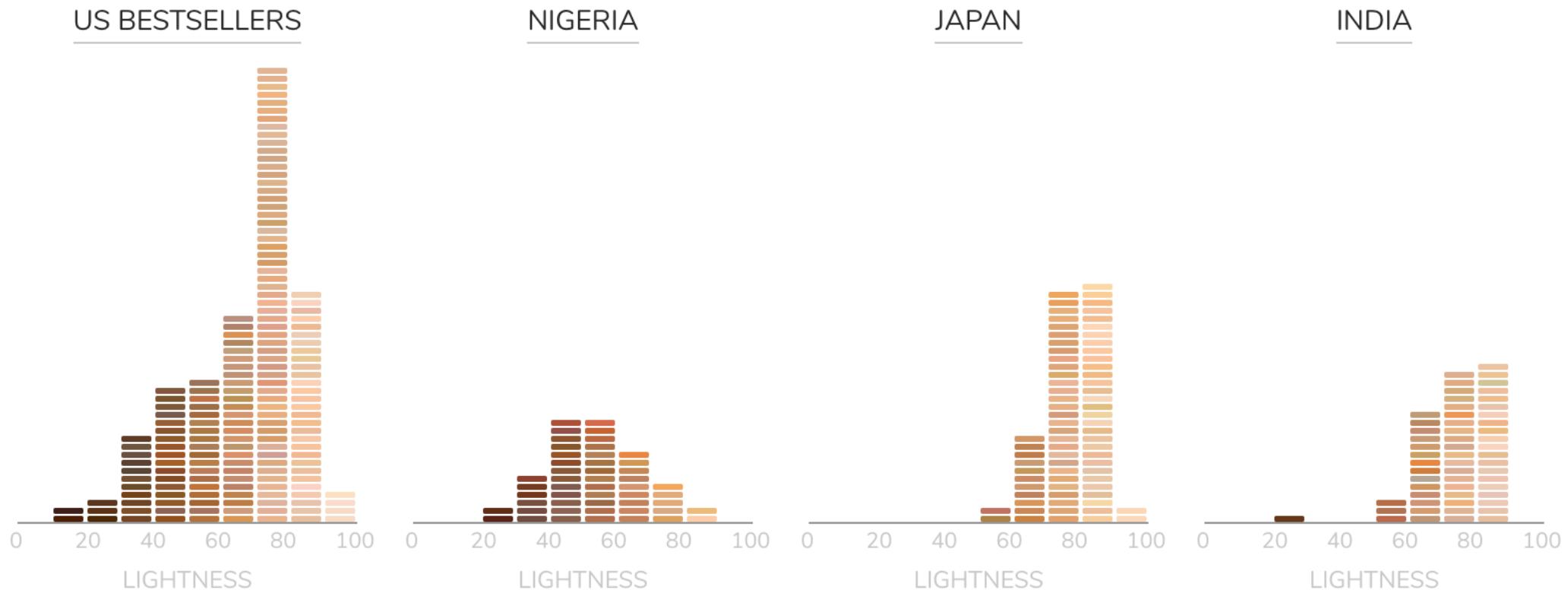
Guardian graphic. Source: CIES Football Observatory. Note: Values were converted from Euros on 1 June

C H R T S

Histogram

Bar chart (wrongly), population pyramid

Foundation Lightness Around the World



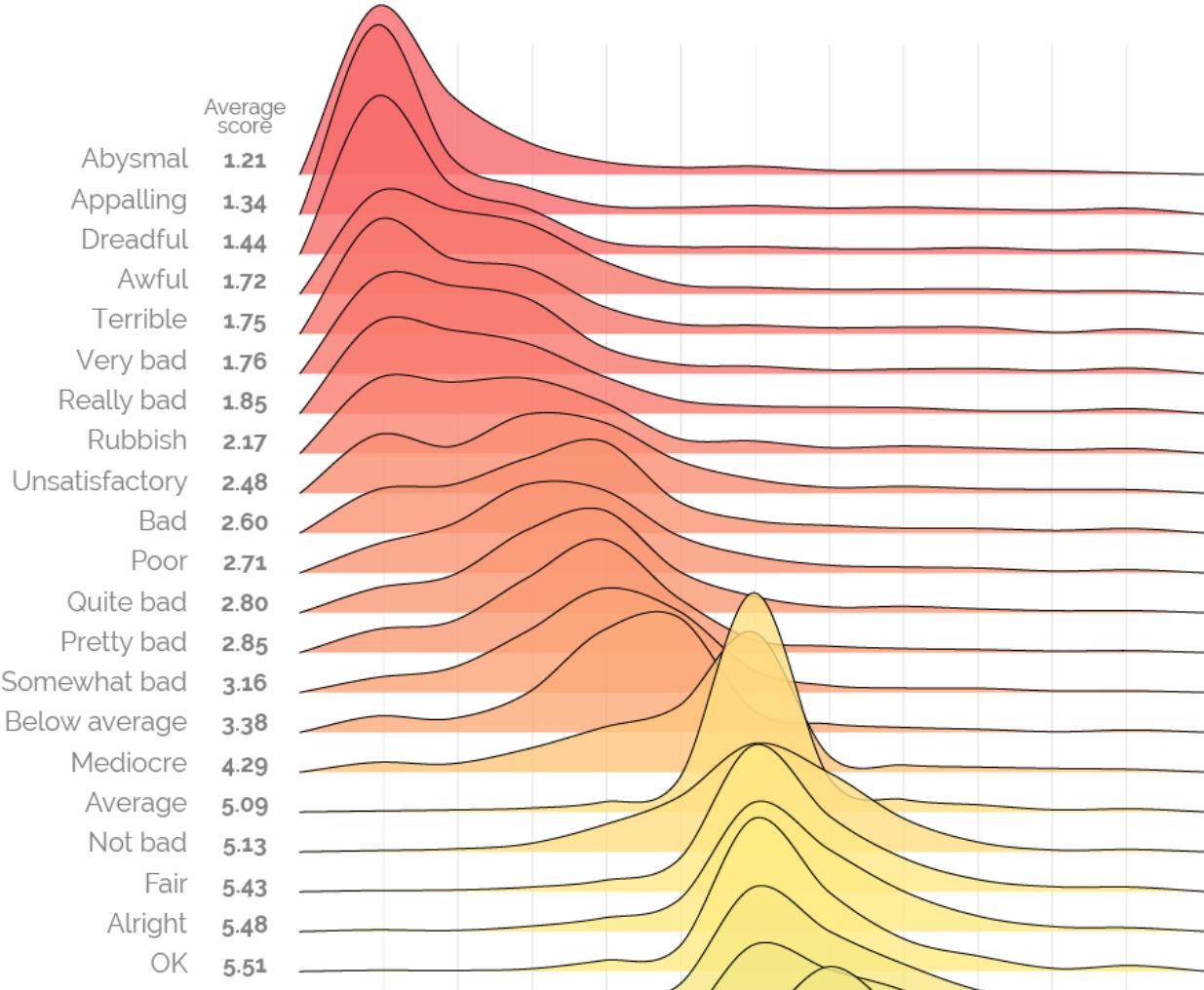
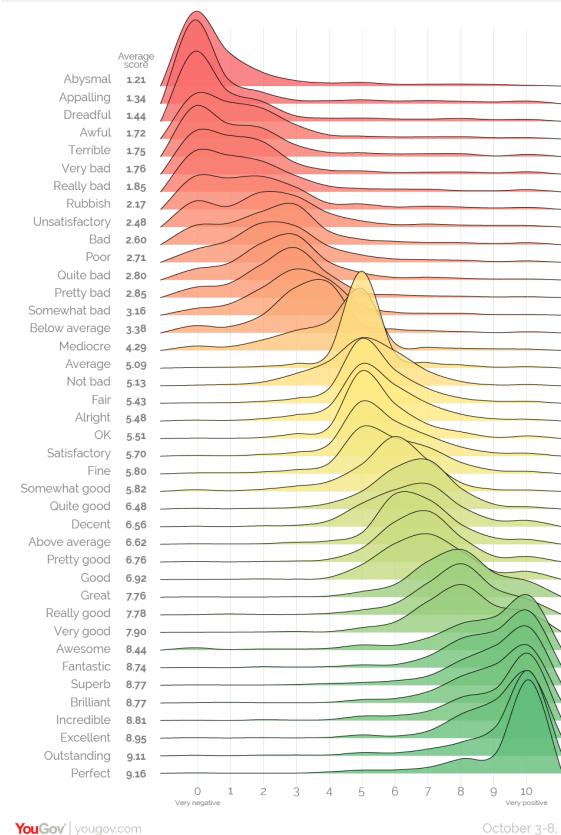
C H R T S

Density plot

Joy plot

How good is "good"? Now with even more words!

On a scale of 0 to 10, where 0 is 'very negative' and 10 is 'very positive', in general, how positive or negative would the following word/phrase be to someone when you used it to describe something?

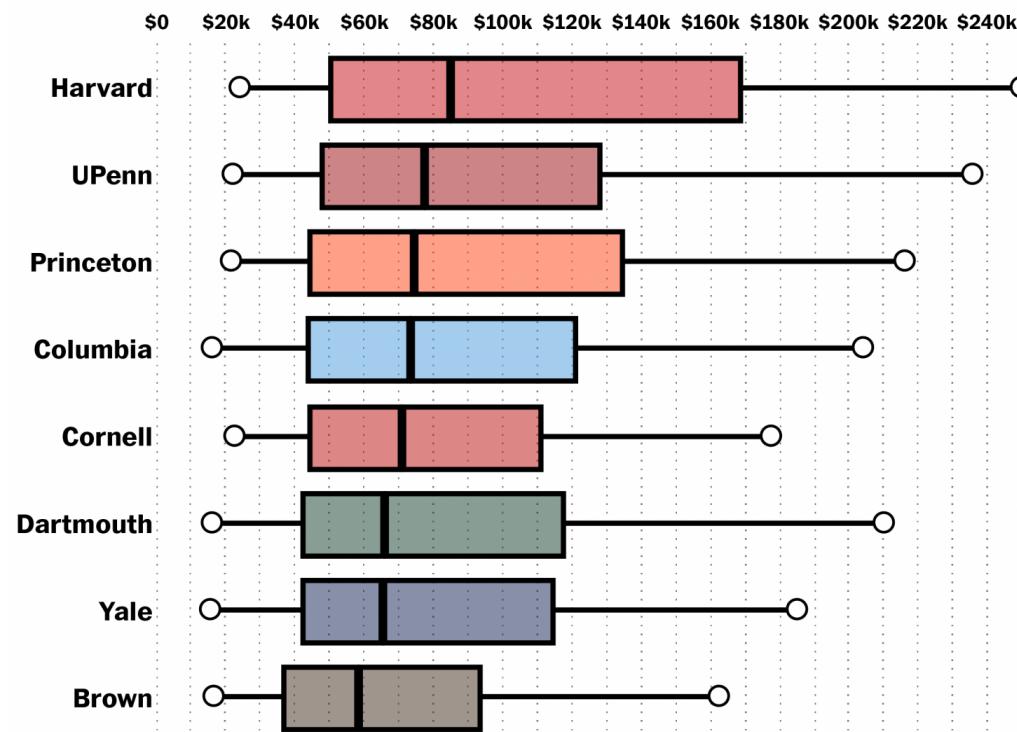


<https://yougov.co.uk/news/2018/10/02/how-good-good/>

Ranking the Ivies

Annual earnings distributions, 10 years after starting school

How to read



<https://www.washingtonpost.com/news/wonkblog/wp/2015/09/14/this-chart-shows-why-parents-push-their-kids-so-hard-to-get-into-ivy-league-schools/>

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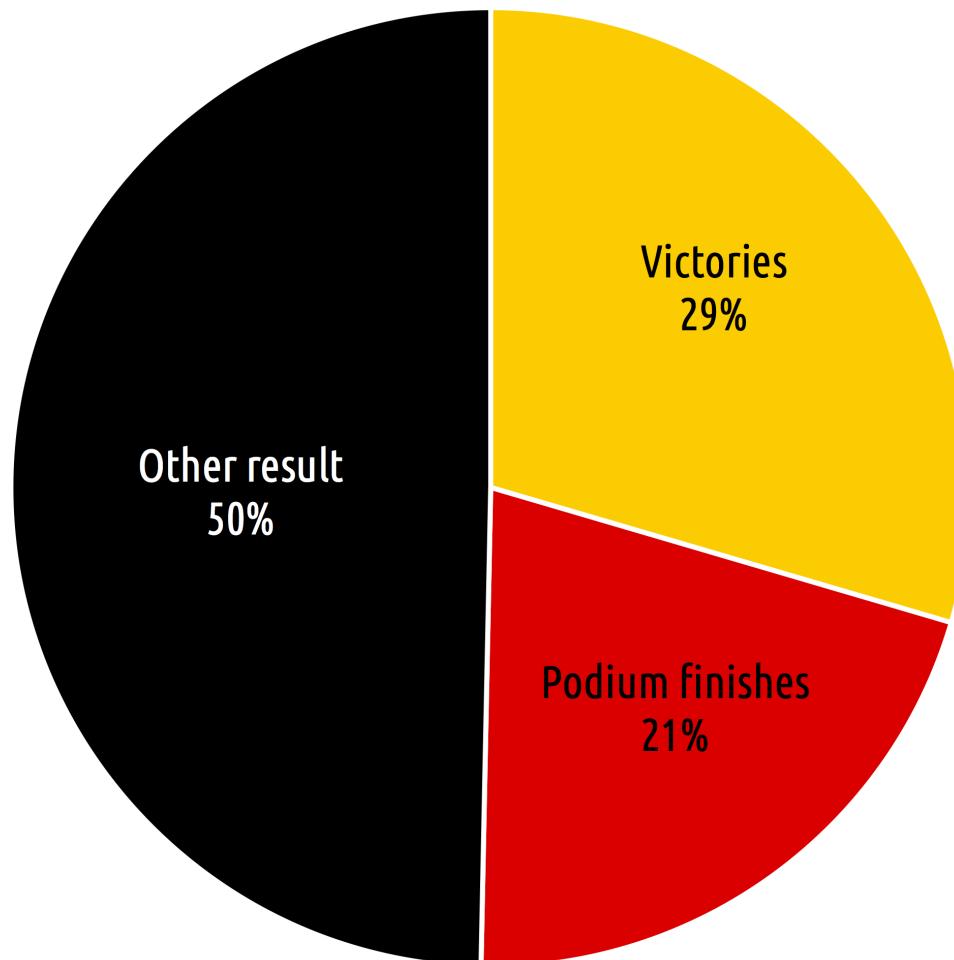
Revealing part-to-whole relationships

C H R T S

Pie chart

Pizza chart, donut chart (wrongly)

Breakdown of Michael Schumacher's F1 Career Over 308 Races

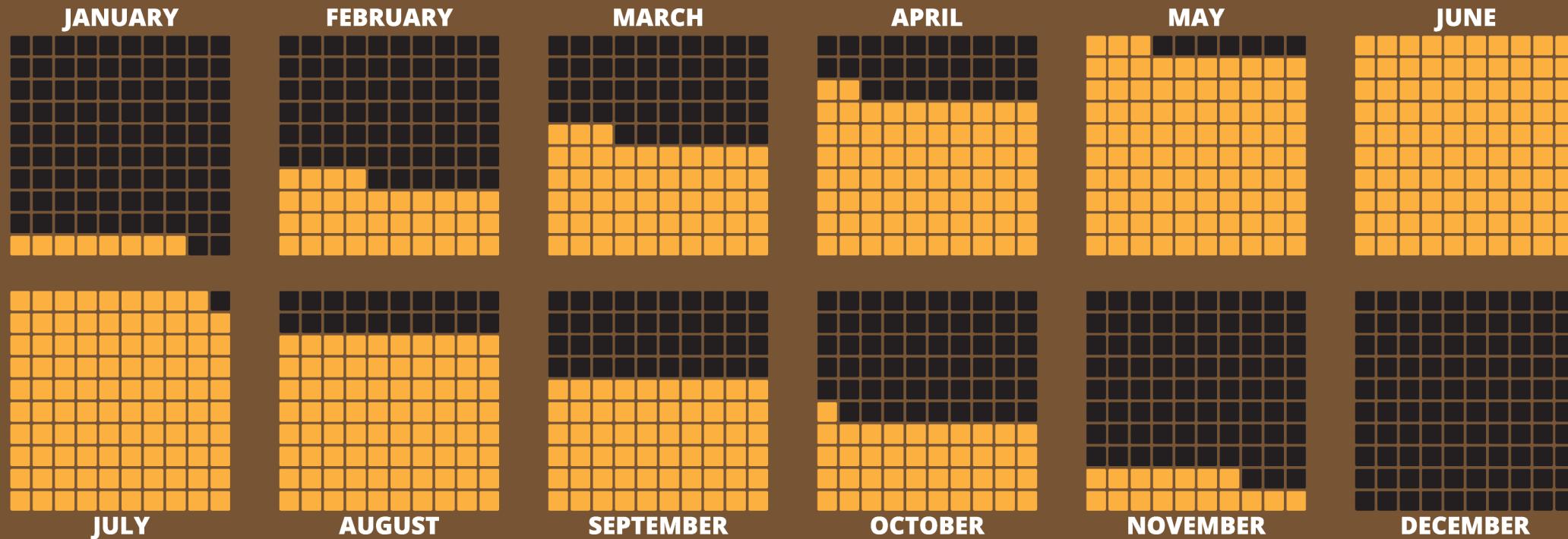


C H R T S

Waffle chart

Square pie, unit chart, gridplot

Percentage of hours during 2017 the sun was above horizon in Nuorgam Finland



10.4.2018 Hanna Kumpula Data from: <http://www.moisio.fi/taivas/>

<https://mobile.twitter.com/kumpulahanna/status/983600305576337408>

Only 16 per cent of Australians trust political parties, compared to 30 per cent for trade unions and 70 per cent for police.

How much do you trust ...?

Distrust Neither Trust

Political parties

57% Distrust 26% Neither 16% Trust

Federal government

43% Distrust 26% Neither 31% Trust

Web-based media

42% Distrust 38% Neither 20% Trust

Banks

41% Distrust 25% Neither 34% Trust

The print media

41% Distrust 30% Neither 29% Trust

State/Territory government

37% Distrust 27% Neither 36% Trust

Local government

36% Distrust 29% Neither 35% Trust

Trade unions

35% Distrust 35% Neither 30% Trust

Centrelink

29% Distrust 34% Neither 36% Trust

TV

28% Distrust 39% Neither 32% Trust

Radio

21% Distrust 41% Neither 38% Trust

The police

15% Distrust 15% Neither 70% Trust

Health care institutions

14% Distrust 25% Neither 61% Trust

Universities

11% Distrust 27% Neither 62% Trust

The military

11% Distrust 24% Neither 66% Trust

Civic wellbeing organisations

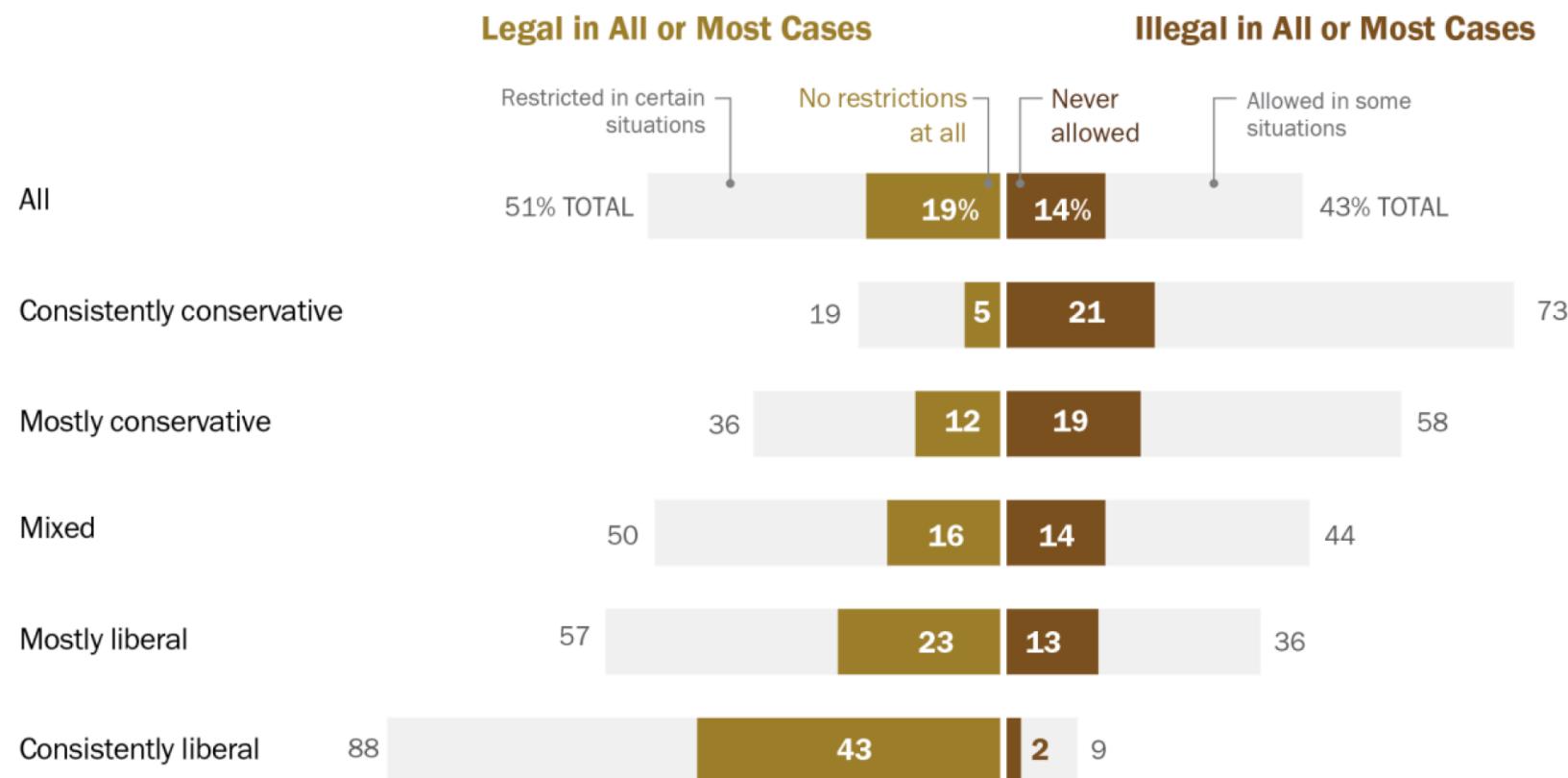
7% Distrust 24% Neither 68% Trust

Source: Museum of Australian Democracy • Get the data

<https://mobile.abc.net.au/news/2018-09-20/in-a-nation-of-cynics-we-are-flocking-to-the-fringe/10281522?pfmredir=sm>

Liberals Most Likely to Favor No Restrictions on Abortion

Abortion should be ...

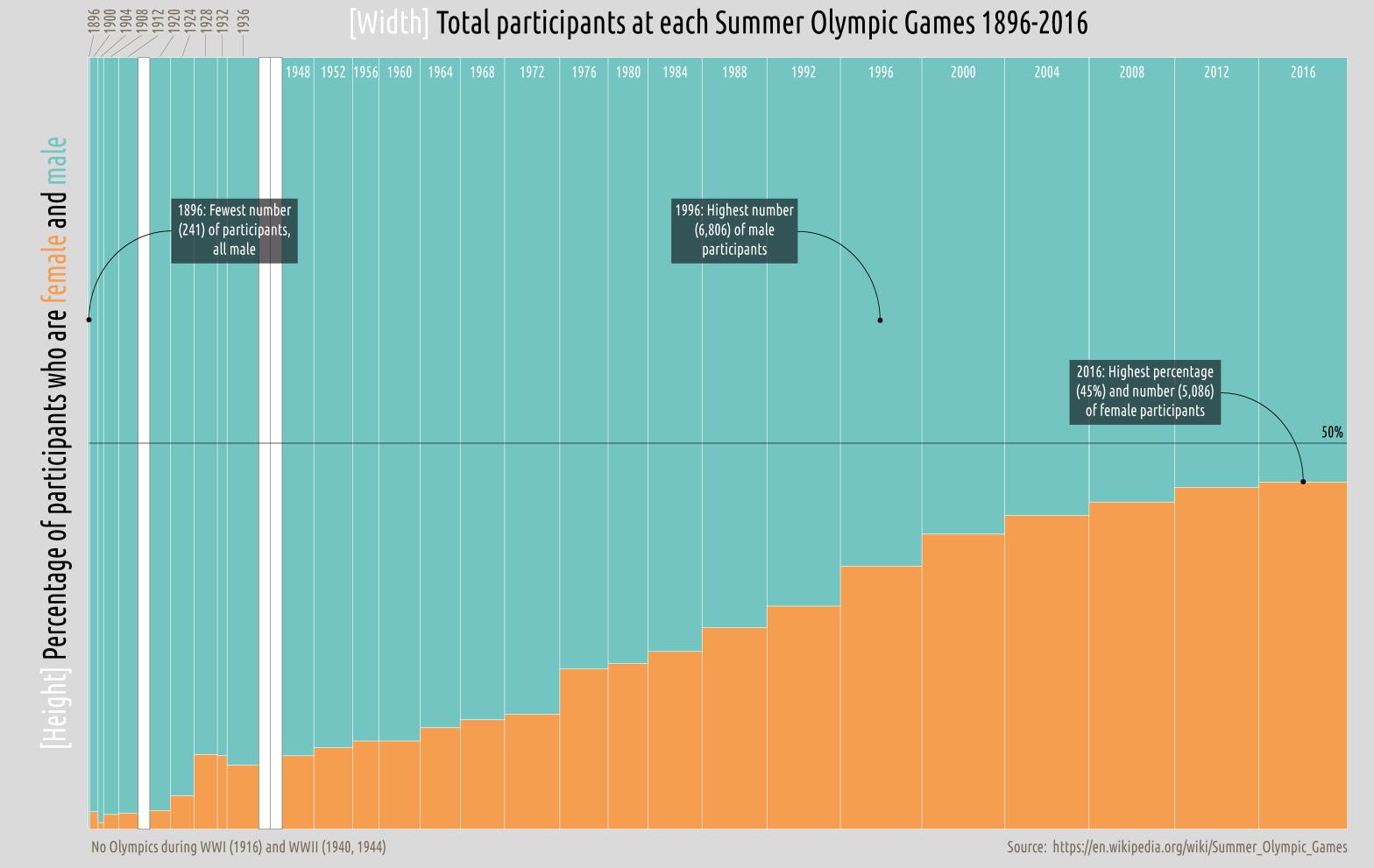


Source: 2014 Political Polarization in the American Public

Notes: "Don't know" responses not shown. Ideological consistency based on a scale of 10 political values questions (see Appendix A)

<http://www.people-press.org/2014/06/12/section-3-political-polarization-and-personal-life/>

THE GROWTH IN PARTICIPANTS AND FEMALE PARTICIPATION AT THE SUMMER OLYMPICS



Revealing hierarchical relationships

C H

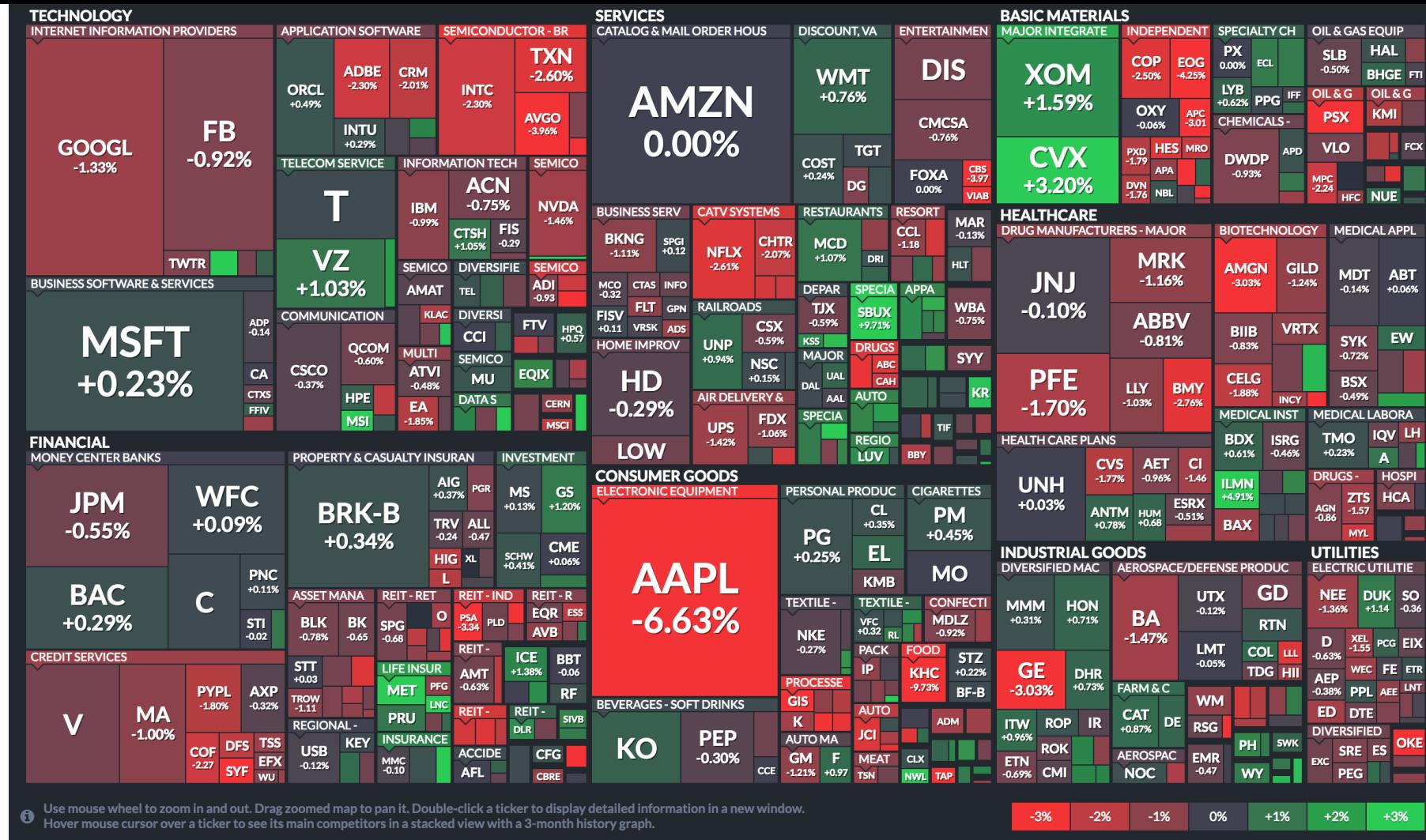
R

1

10

Tree map

Heat map (wrongly), Voronoi



i Use mouse wheel to zoom in and out. Drag zoomed map to pan it. Double-click a ticker to display detailed information in a new window.
Hover mouse cursor over a ticker to see its main competitors in a stacked view with a 3-month history graph.

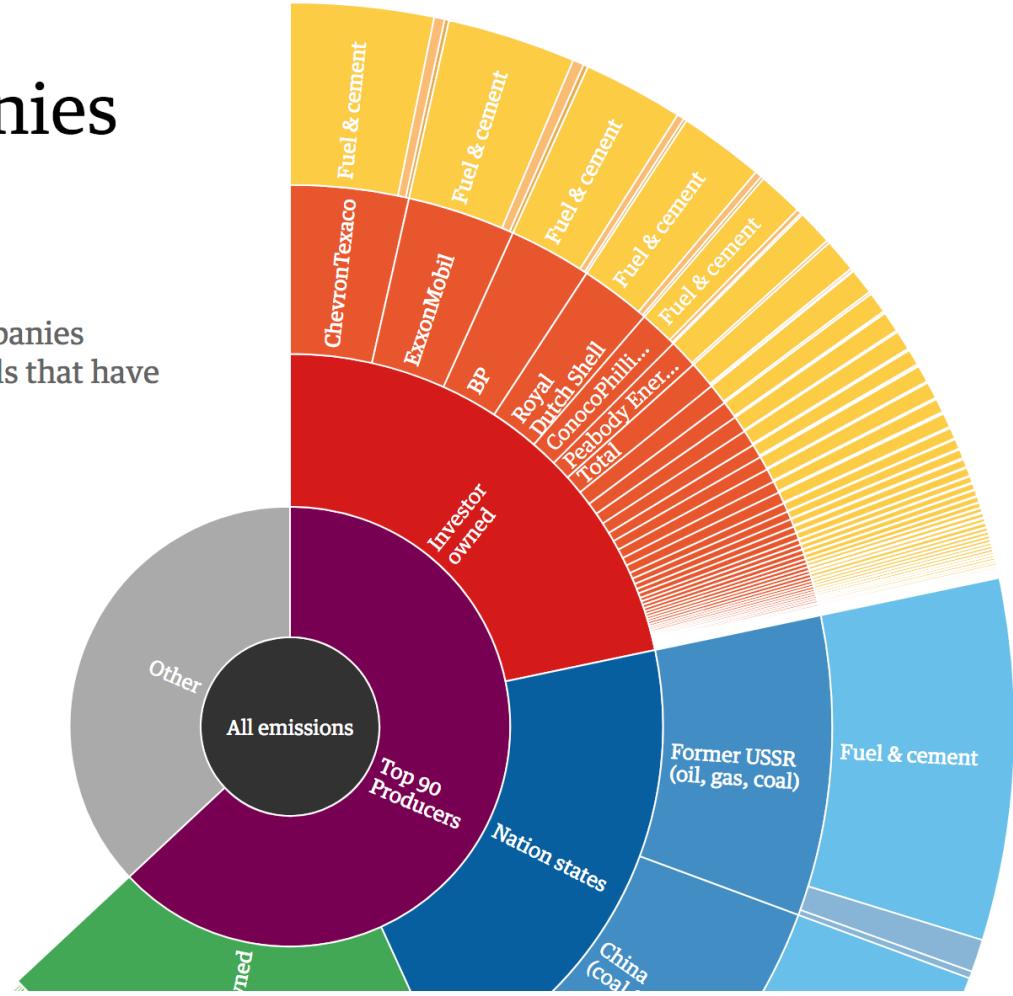
-3%	-2%	-1%	0%	+1%	+2%	+3%
-----	-----	-----	----	-----	-----	-----



Which companies caused global warming?

A new paper shows which companies extracted the carbon-based fuels that have caused climate change.

ⓘ Hover and click to explore
 ⓘ Read the news story

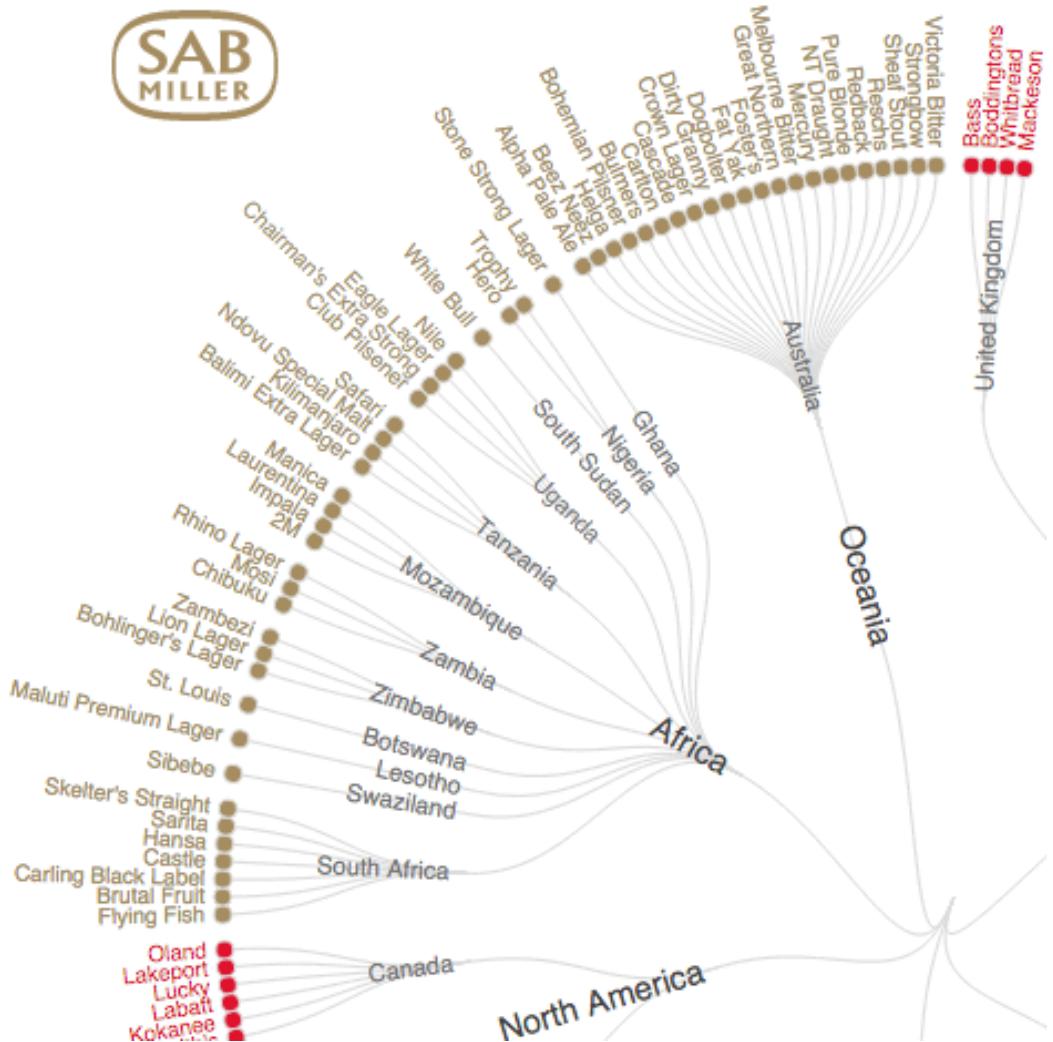
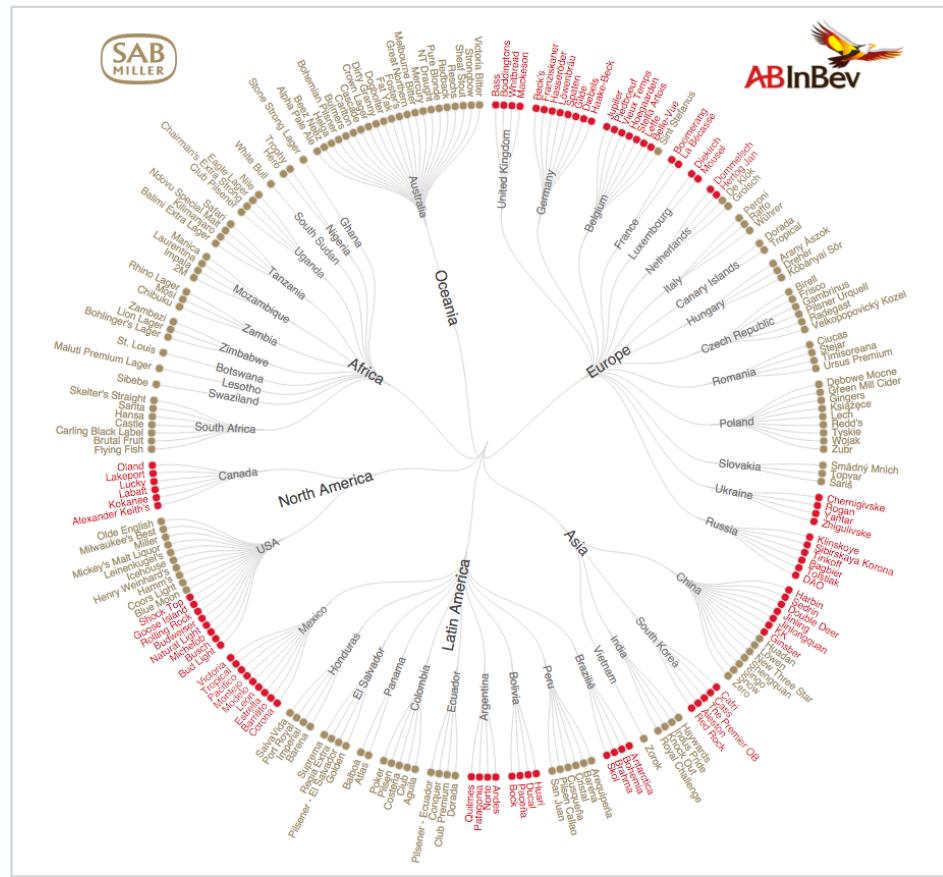


<https://www.theguardian.com/environment/interactive/2013/nov/20/which-fossil-fuel-companies-responsible-climate-change-interactive>

C H R T S

Radial dendrogram

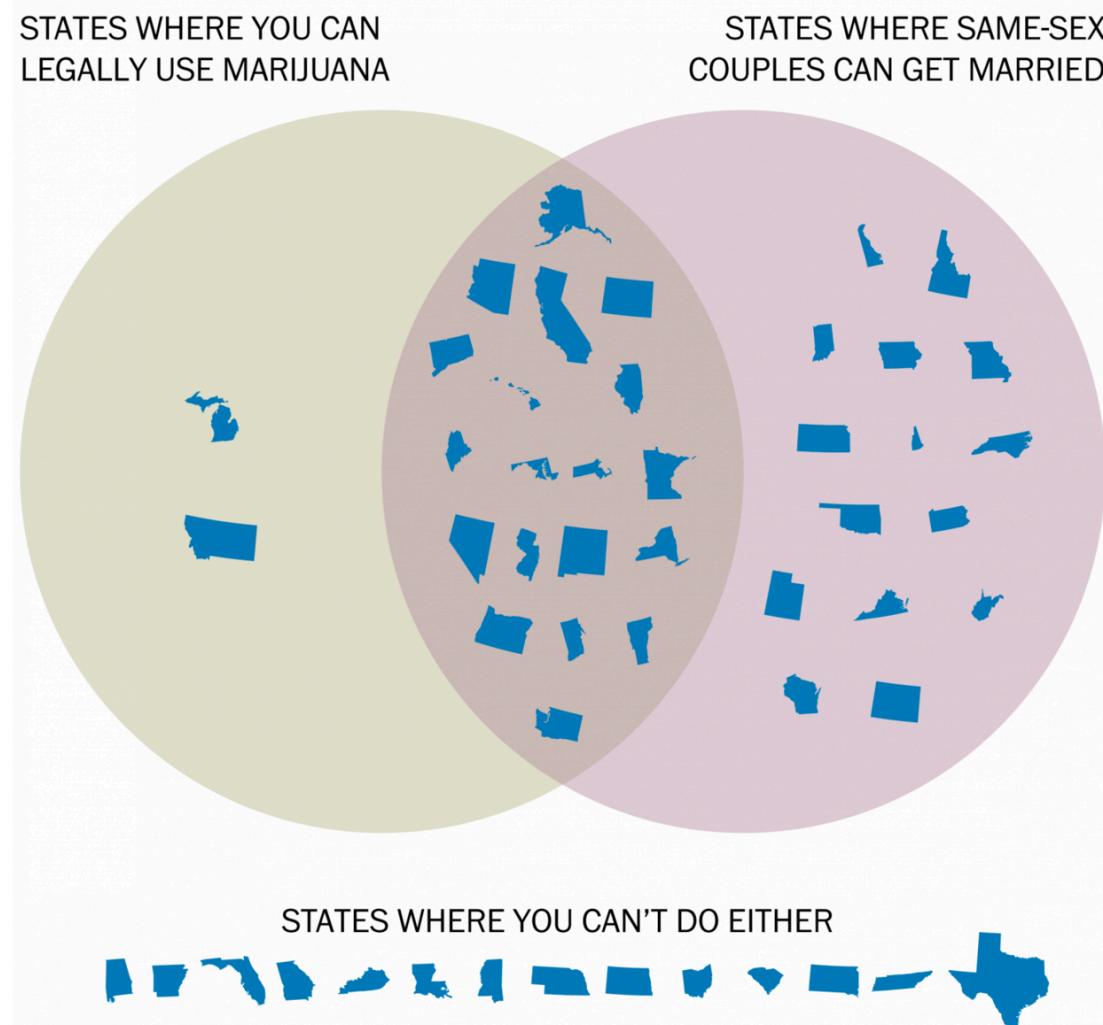
Radial tree, layout tree, cluster tree, tree hierarchy



C H R T S

Venn diagram

Set diagram, Euler diagram (wrongly)



<http://www.washingtonpost.com/news/the-fix/wp/2014/11/05/this-venn-diagram-shows-where-you-can-both-smoke-weed-and-get-a-same-sex-marriage/>

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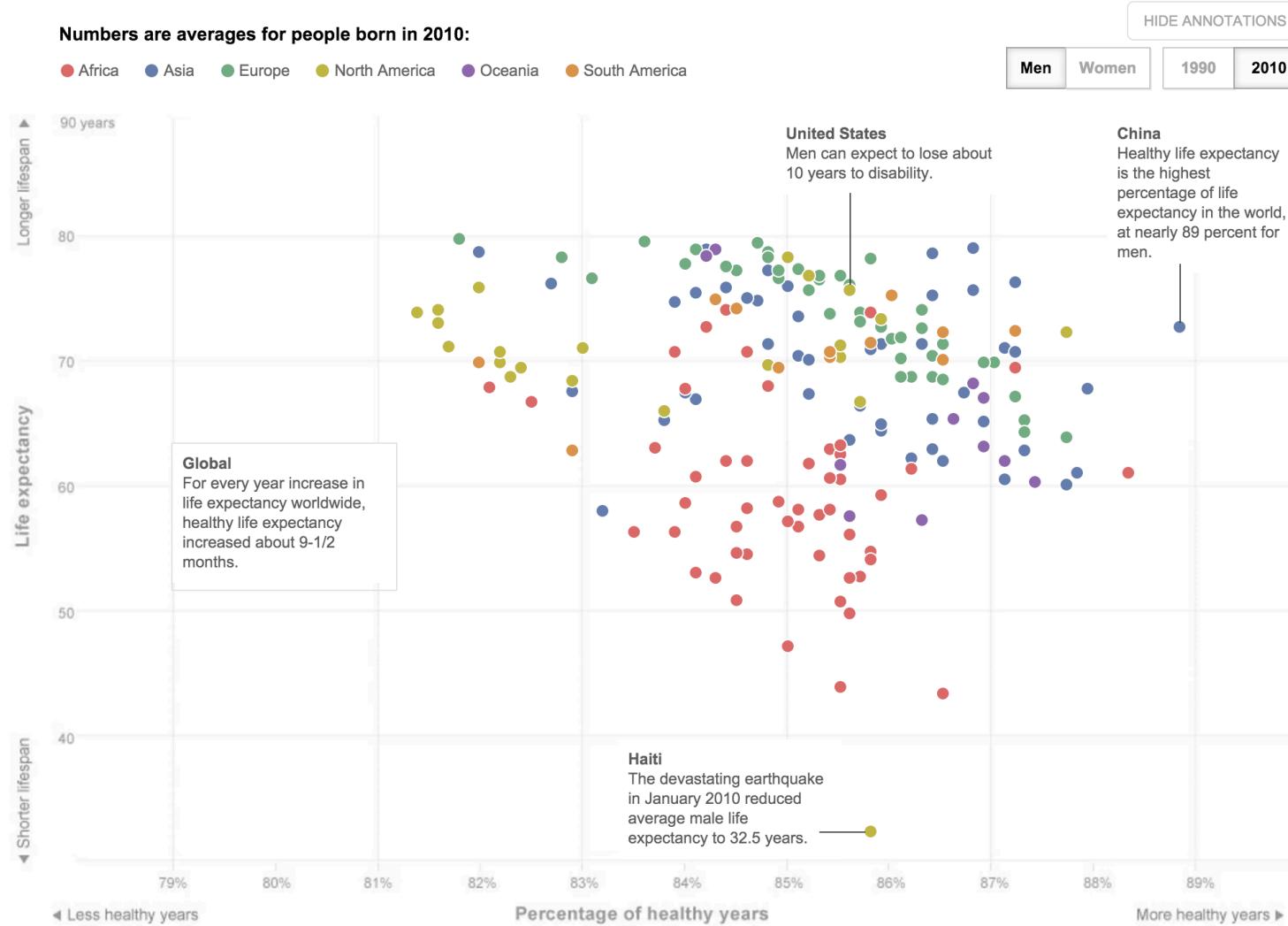
Mapping spatial patterns through overlays and distortions

Exploring correlations

C H R T S

Scatter plot

Scatter graph, scatter chart



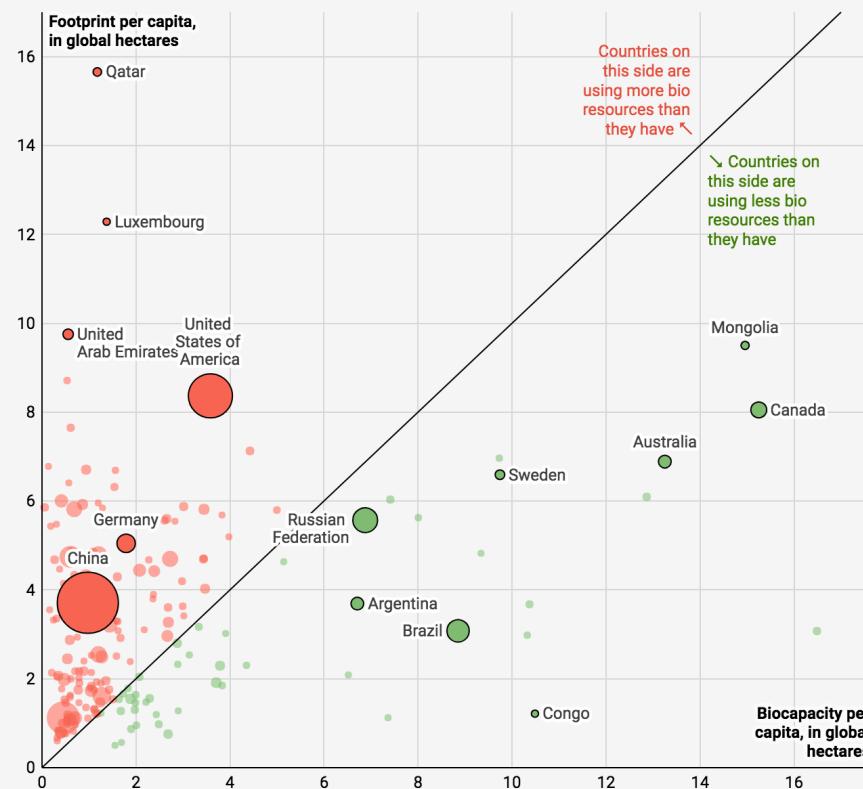
C H R T S

Bubble Plot

Bubble chart

Debtors or creditors of the world? Looking at countries' ecological footprint versus biocapacity

Footprint per capita vs biocapacity per capita for each country. The size of the circle represents the total ecological footprint.



Based on 2014 data. Global hectares are the accounting unit for the ecological footprint and biocapacity accounts. Gabon, Guyana, Suriname and French Guiana have all a biocapacity of more than 20 global hectares per capita and were removed from the chart to make it more readable. Learn more in 3 minutes [with this YouTube video](#).

Chart: Made by Edith Visualize • Source: [Global Footprint Network](#) • [Get the data](#)

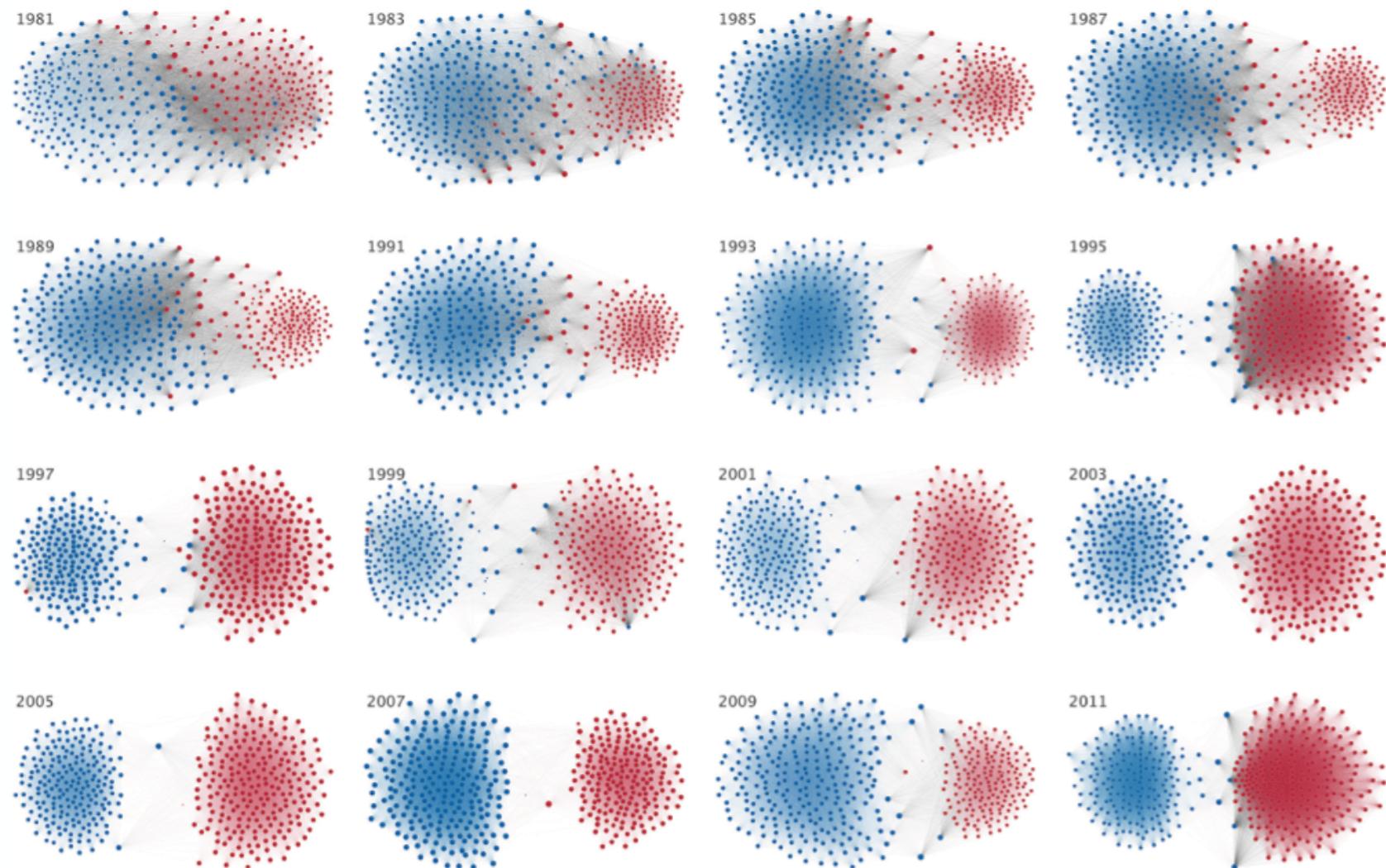
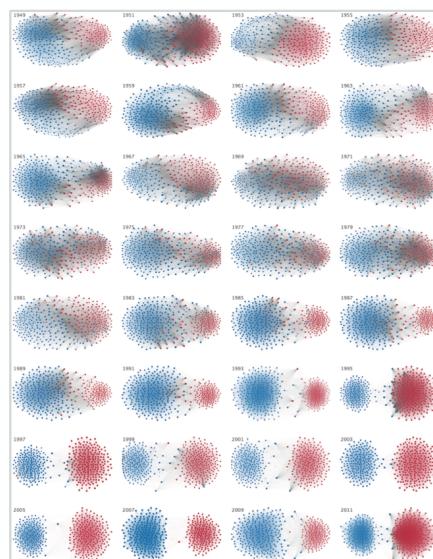
<https://blog.datawrapper.de/weeklychart-biocapacity/>

Exploring connections

C H R T S

Network diagram

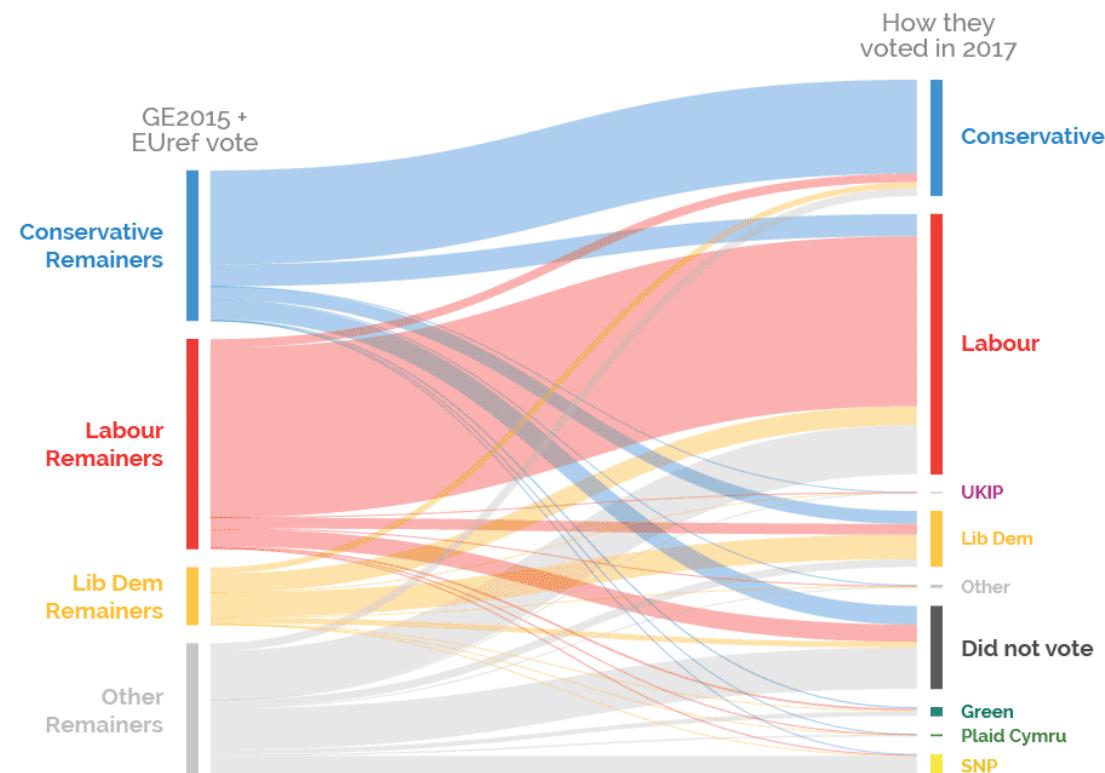
Node-link diagram, graph, hairball graph, social network



<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0123507>

How did REMAIN voters who had voted in the 2015 general election vote in 2017?

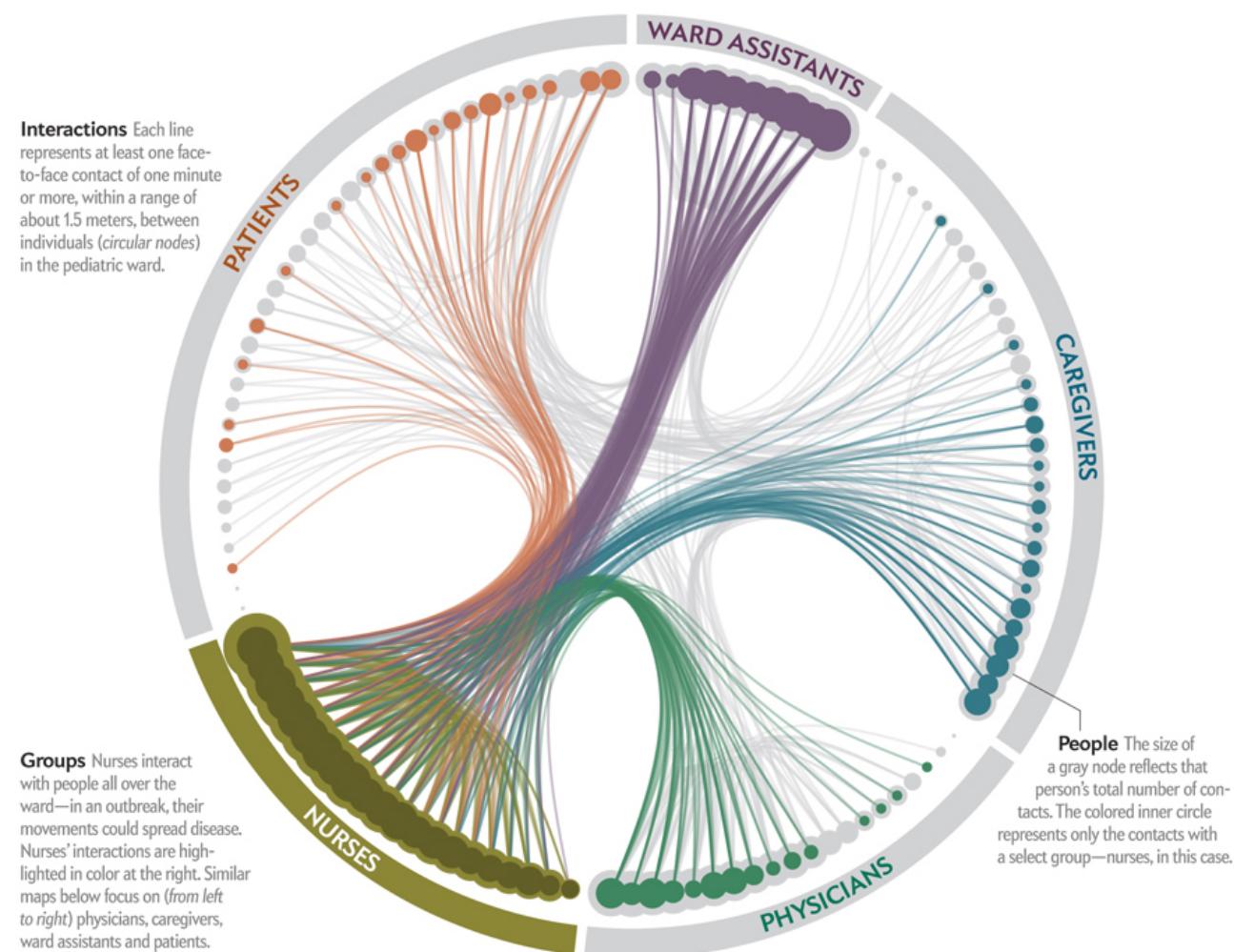
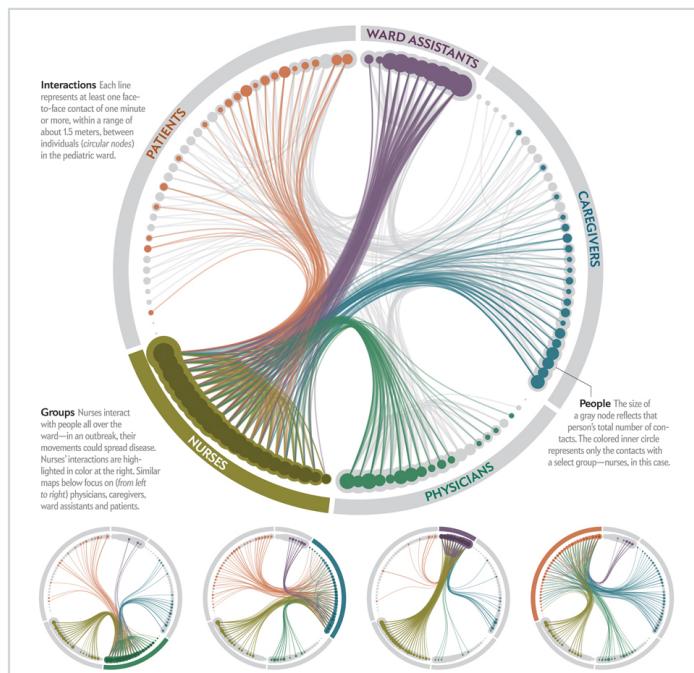
Based on a survey of 36,147 GB adults who had voted in the 2015 general election and the EU referendum about their vote in the 2017 general election



C H R T S

Chord diagram

Radial network diagram, arc diagram



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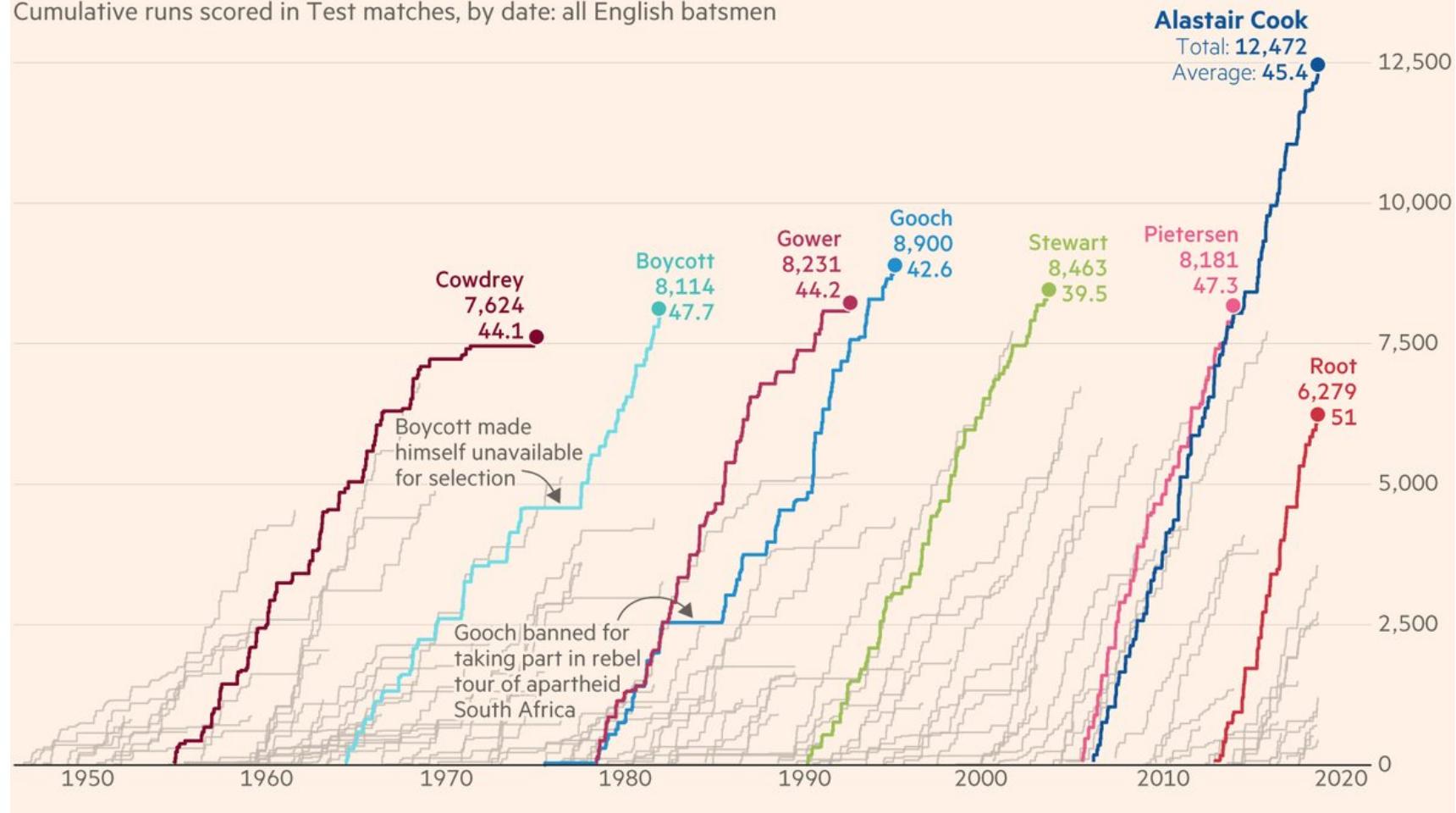
C H R T S

Line chart

Fever chart, stock chart

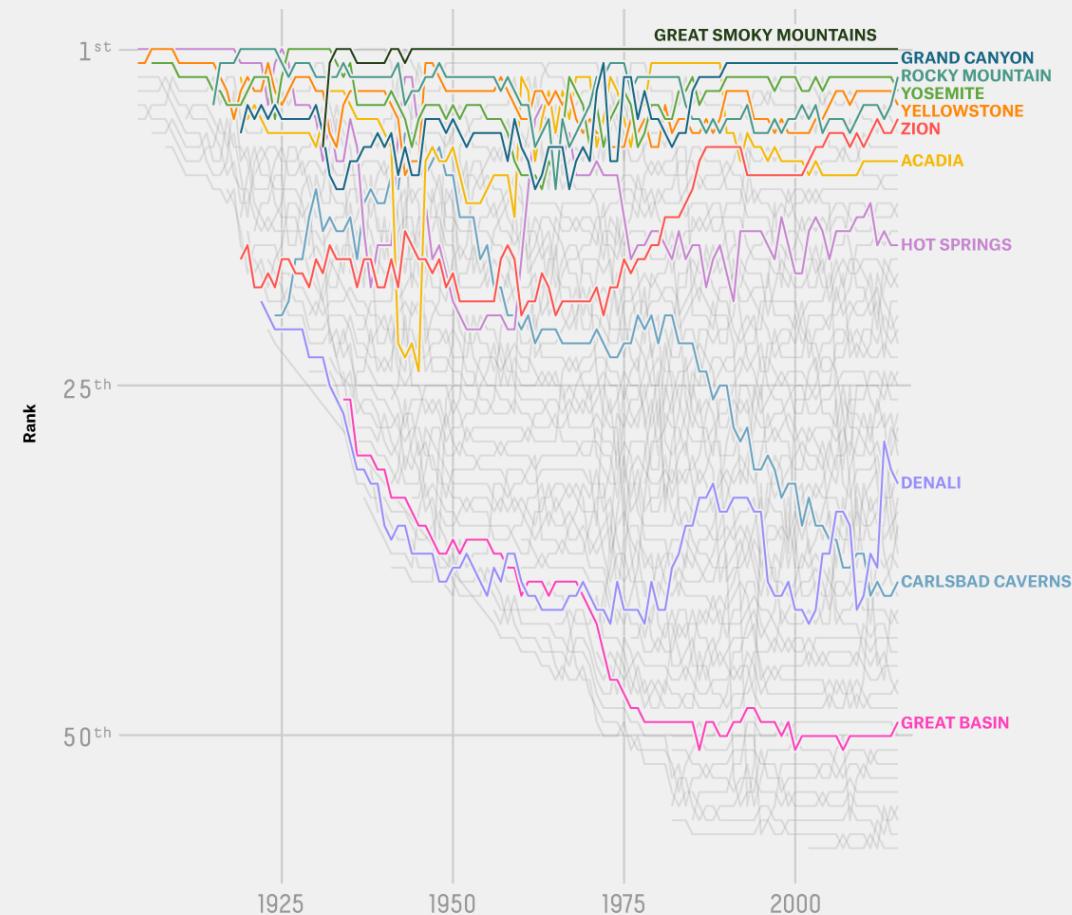
Alastair Cook towers above all other English Test batsmen

Cumulative runs scored in Test matches, by date: all English batsmen

<https://www.ft.com/content/3464a154-b27f-11e8-8d14-6f049d06439c>

The most popular national parks

National parks ranked by number of visitors in a given year

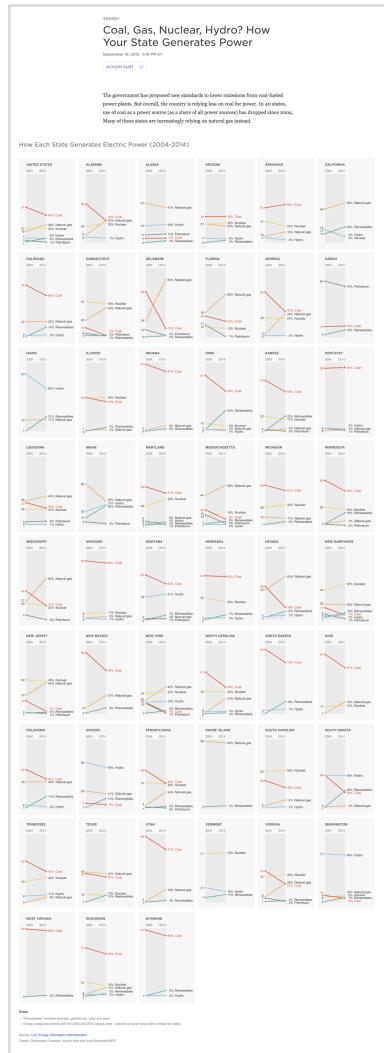


<https://fivethirtyeight.com/features/the-national-parks-have-never-been-more-popular>

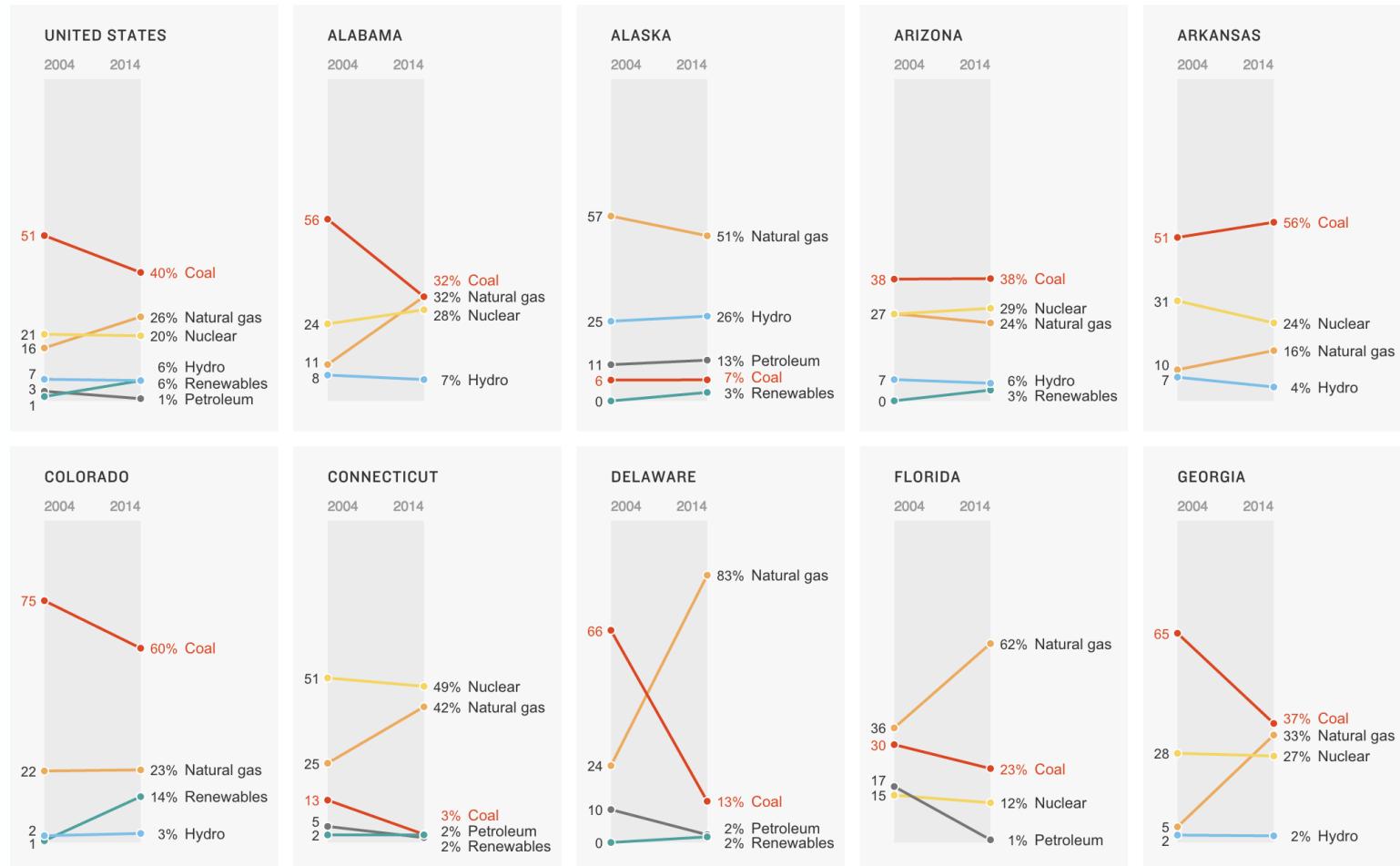
C H R T S

Slope graph

Slope chart



How Each State Generates Electric Power (2004-2014)



<http://www.npr.org/2015/09/10/319535020/coal-gas-nuclear-hydro-how-your-state-generates-power>

C | H | R | T | S

Connected scatter plot

Trail chart, comet chart



<http://www.bloomberg.com/infographics/2014-01-16/tracking-super-bowl-ticket-prices.html>

C

H

R

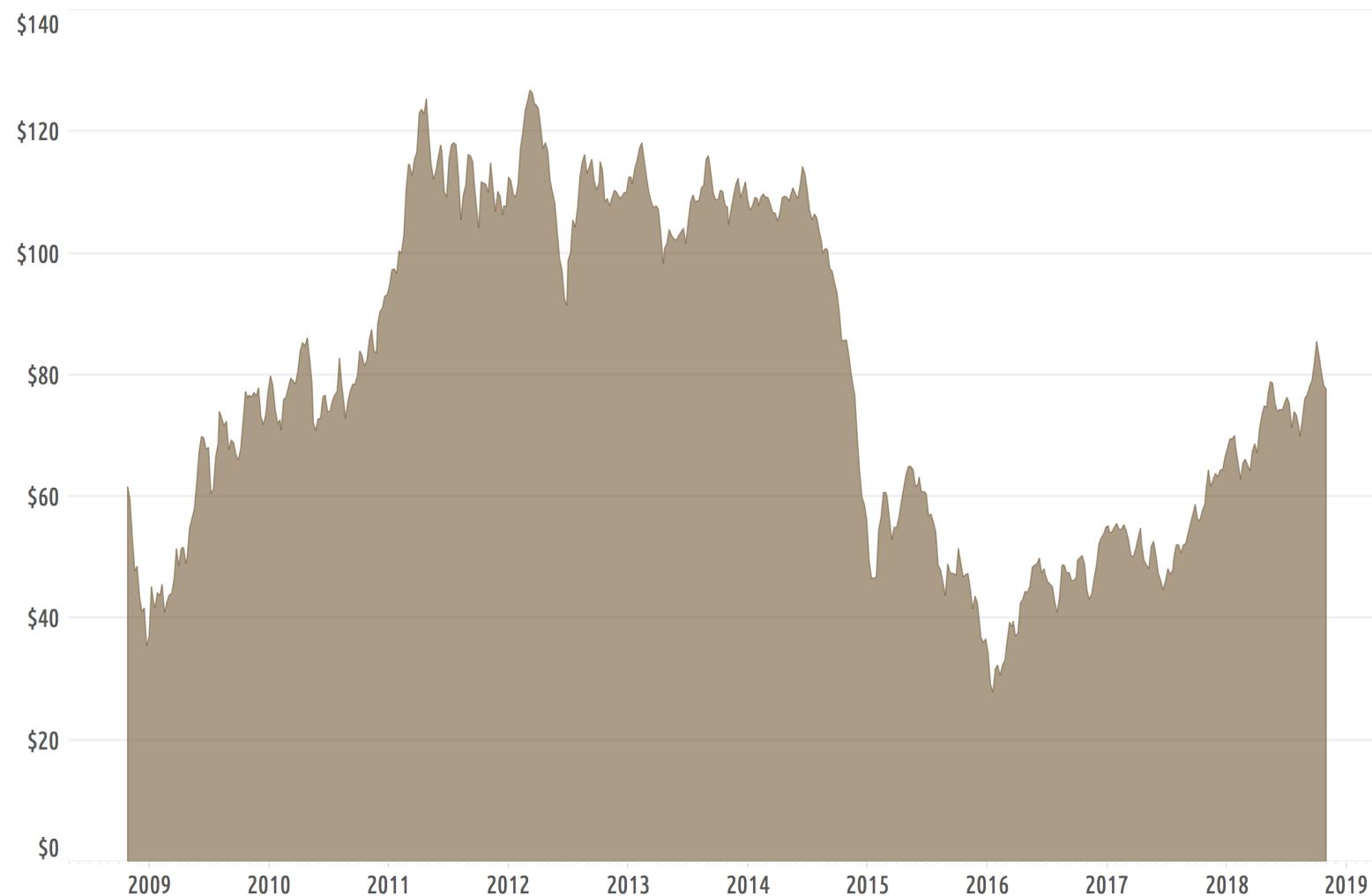
T

S

Area chart

Joy plot

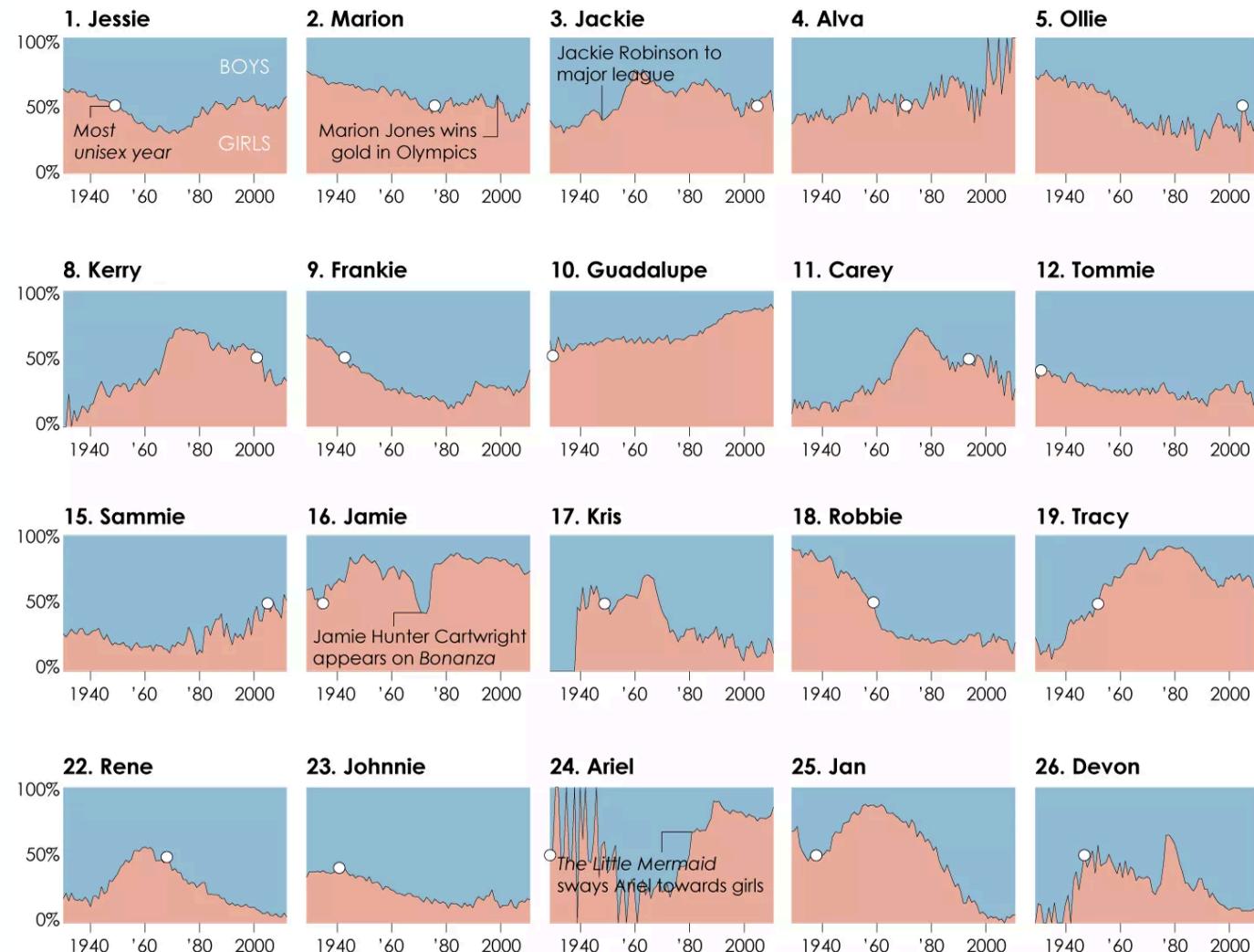
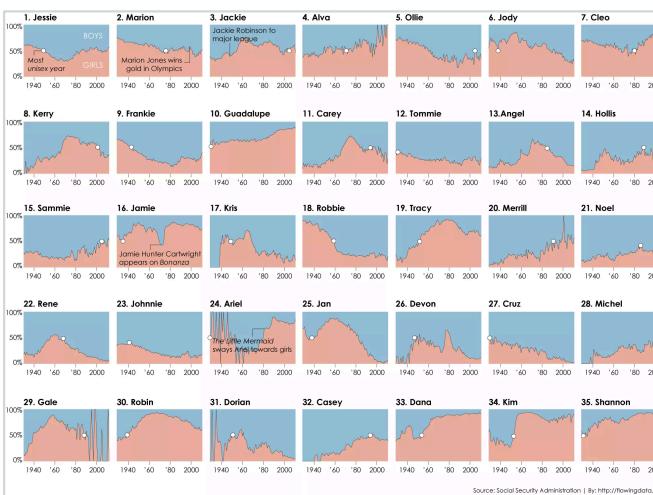
Average Weekly Brent Crude Oil Prices (\$ per barrel), 2008 - 2018



C H R T S

Stacked area chart

100% stacked area chart

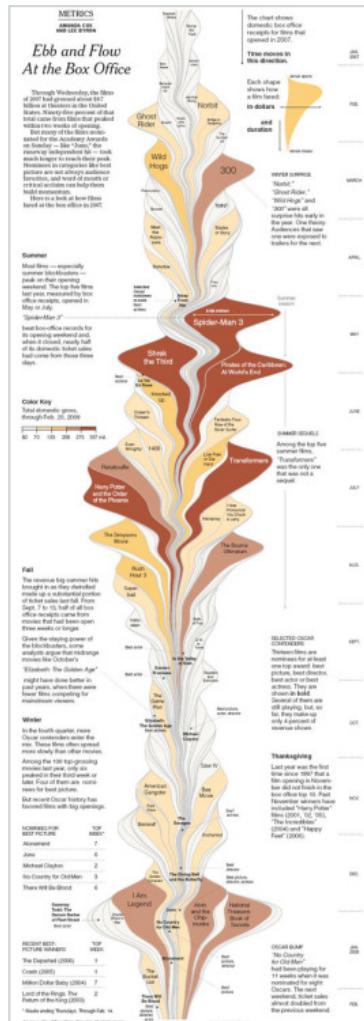


<http://flowingdata.com/2013/09/25/the-most-unisex-names-in-us-history/>

C H R T S

Stream graph

Theme river



Ebb and Flow At the Box Office

Through Wednesday, the films of 2007 had grossed about \$9.7 billion at theaters in the United States. Ninety-five percent of that total came from films that peaked within two weeks of opening.

But many of the films nominated for the Academy Awards on Sunday — like “Juno,” the runaway independent hit — took much longer to reach their peak. Nominees in categories like best picture are not always audience favorites, and word of mouth or critical acclaim can help them build momentum.

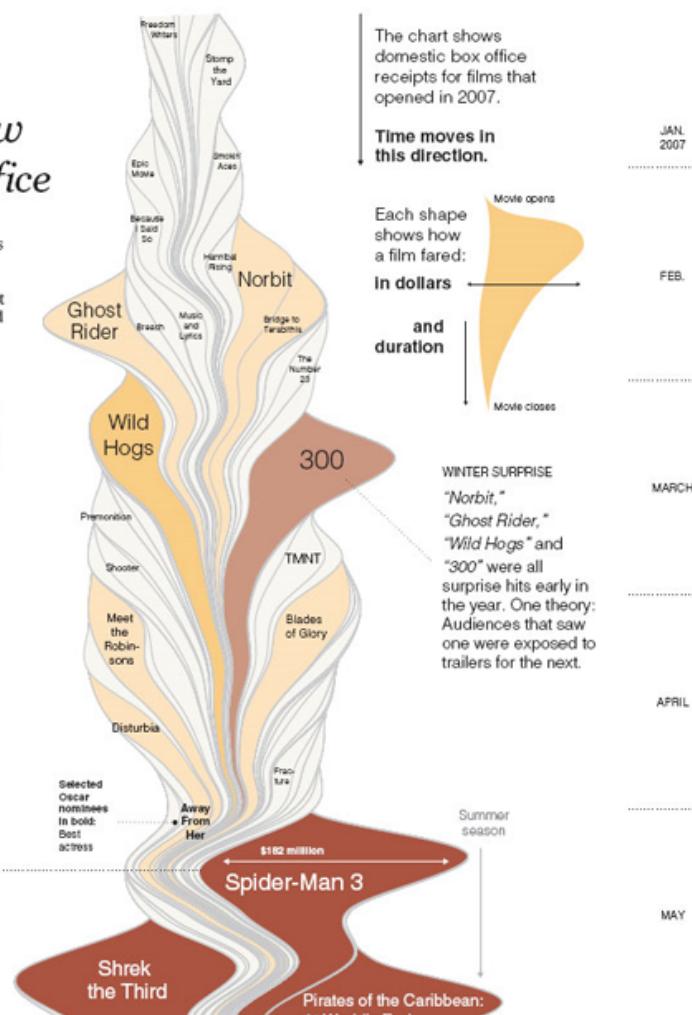
Here is a look at how films fared at the box office in 2007.

Summer

Most films — especially summer blockbusters — peak on their opening weekend. The top five films last year, measured by box office receipts, opened in May or July.

“Spider-Man 3”

beat box-office records for its opening weekend and, when it closed, nearly half of its domestic ticket sales had come from those three days.



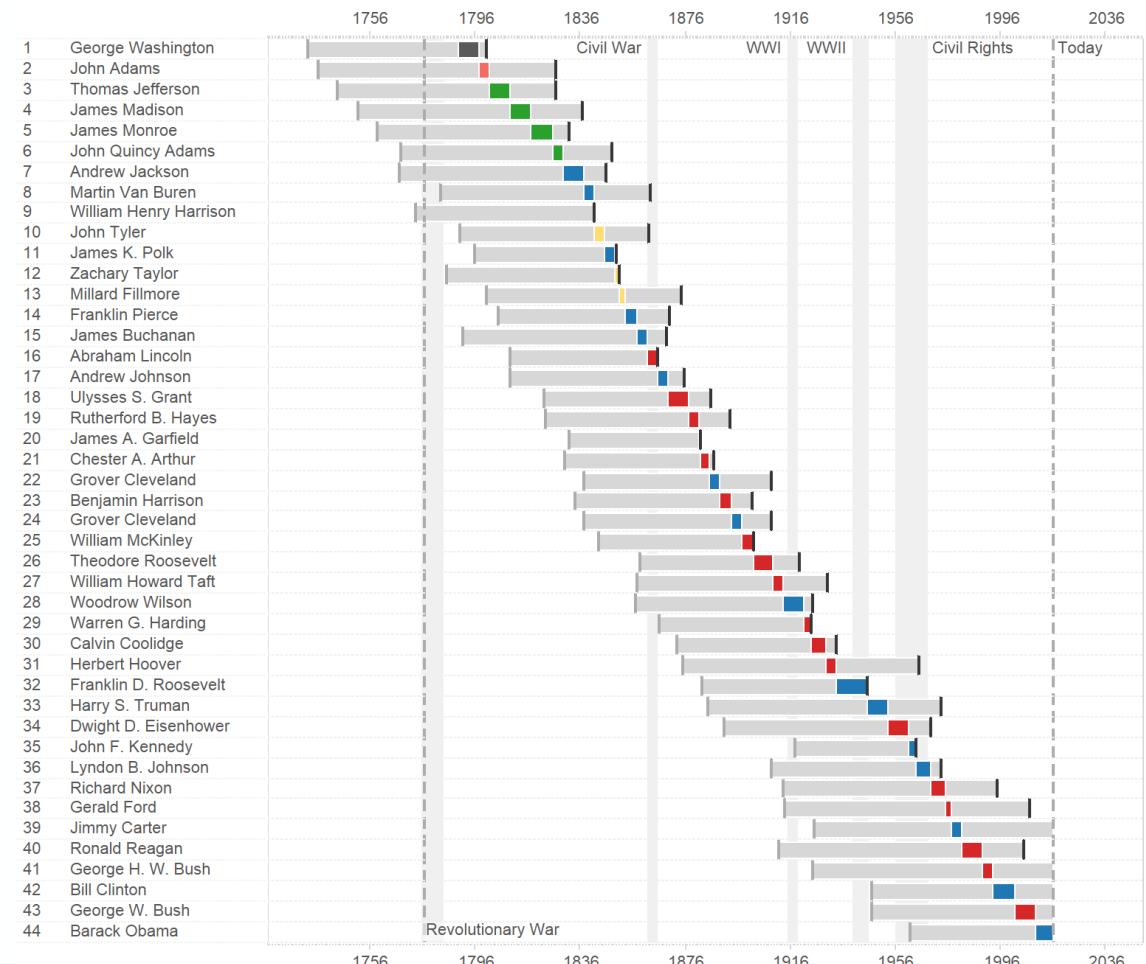
Plotting intervals over time

C H R T S

Gantt chart

Range chart, floating bar chart, Priestley timeline

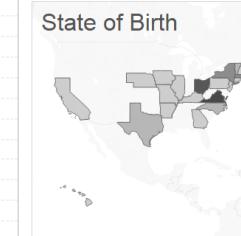
A PRESIDENTIAL GANTT CHART



Day of Took office

- Party
- Democratic
 - Democratic-..
 - Federalist
 - Independent
 - Republican
 - Whig

- Democratic
- Republican
- Democratic-Republican
- Federalist
- Independent
- Whig



Created by: Ben Jones
@DataRemixed

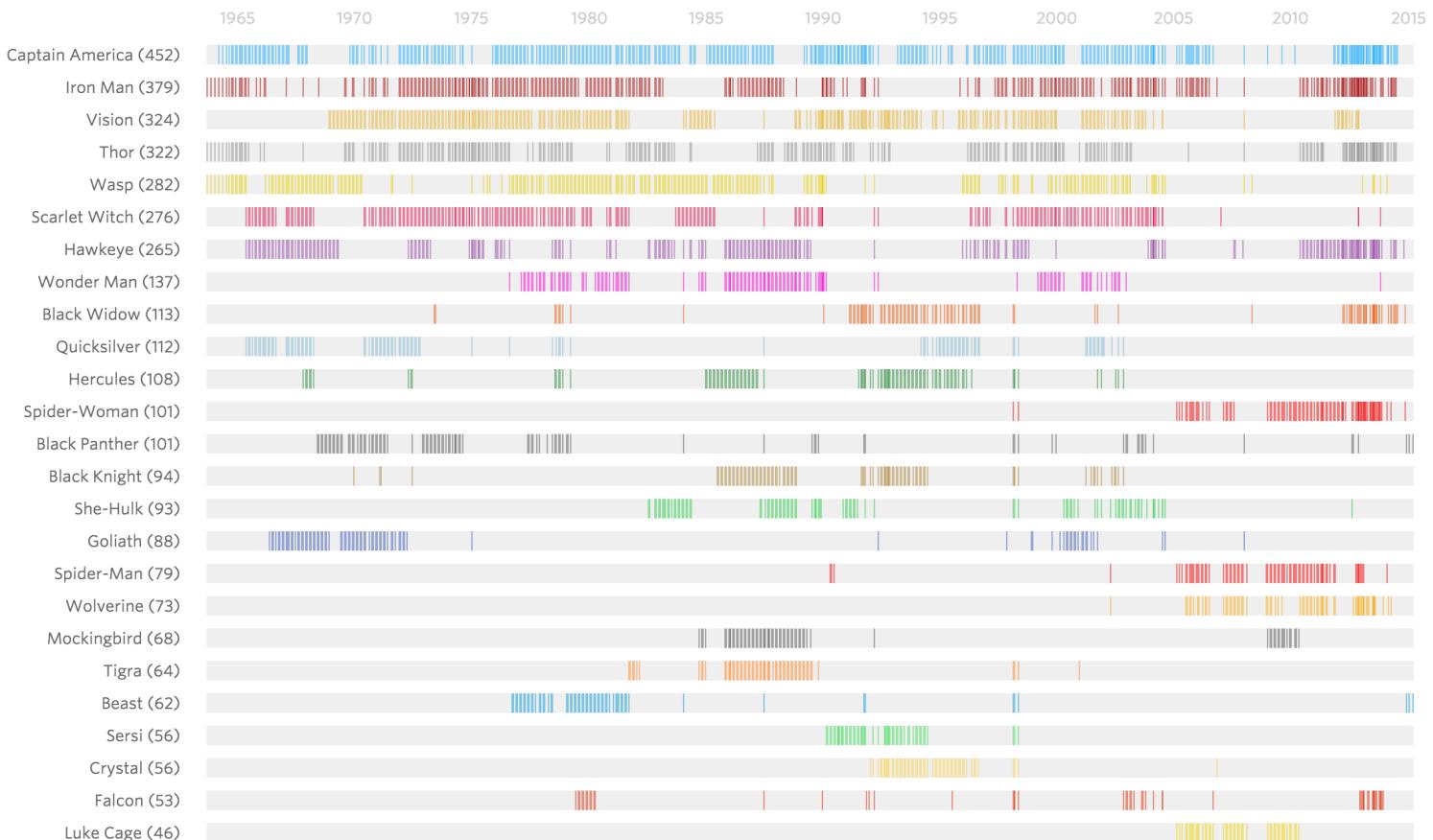
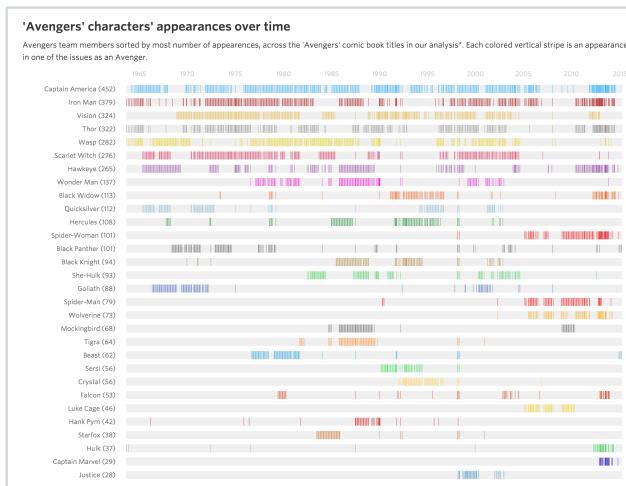
C H R T S

Instance chart

Milestone map, barcode plot, strip plot

'Avengers' characters' appearances over time

Avengers team members sorted by most number of appearances, across the 'Avengers' comic book titles in our analysis*. Each colored vertical stripe is an appearance in one of the issues as an Avenger.



<http://graphics.wsj.com/avengers-team/>

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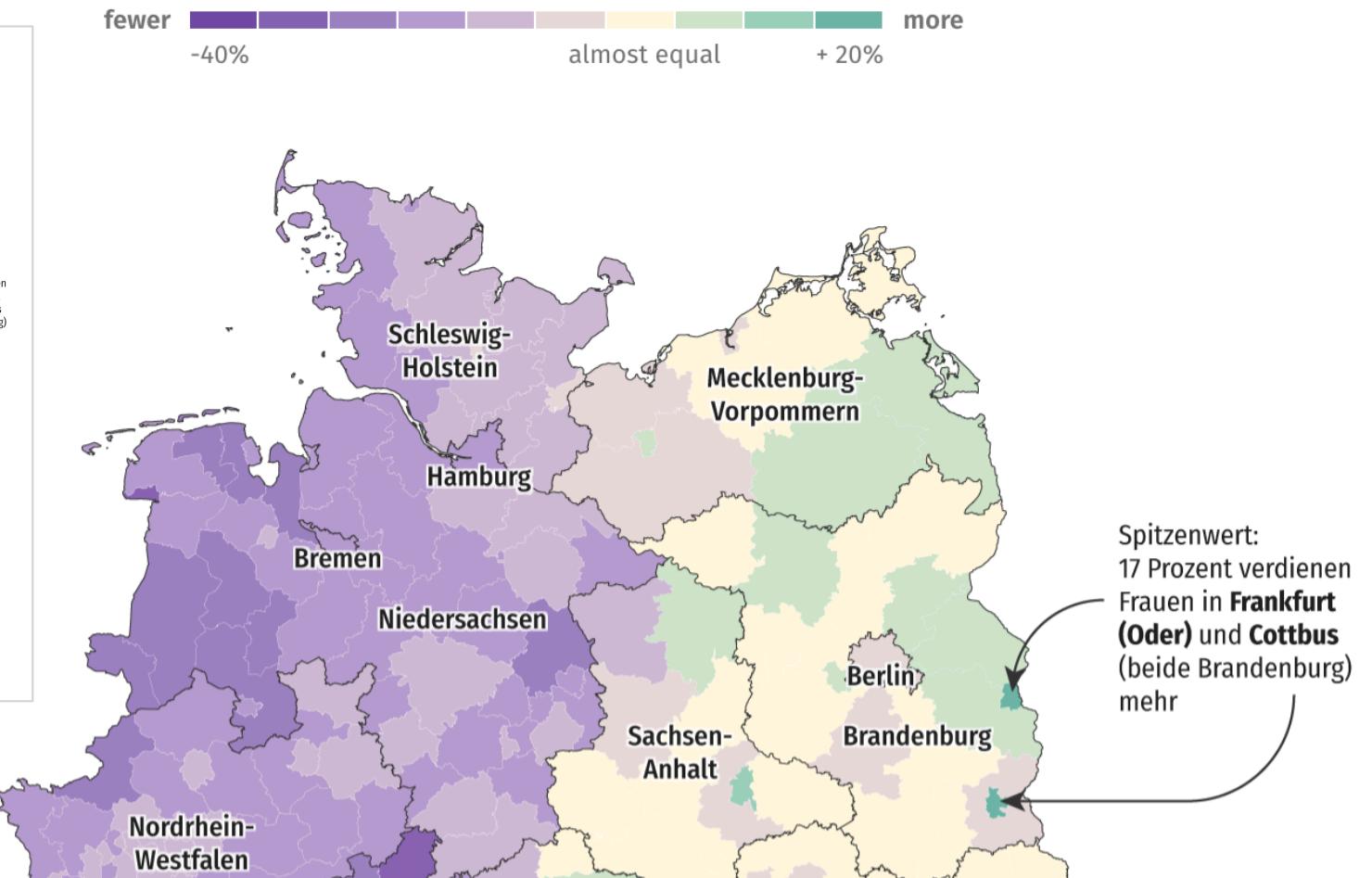
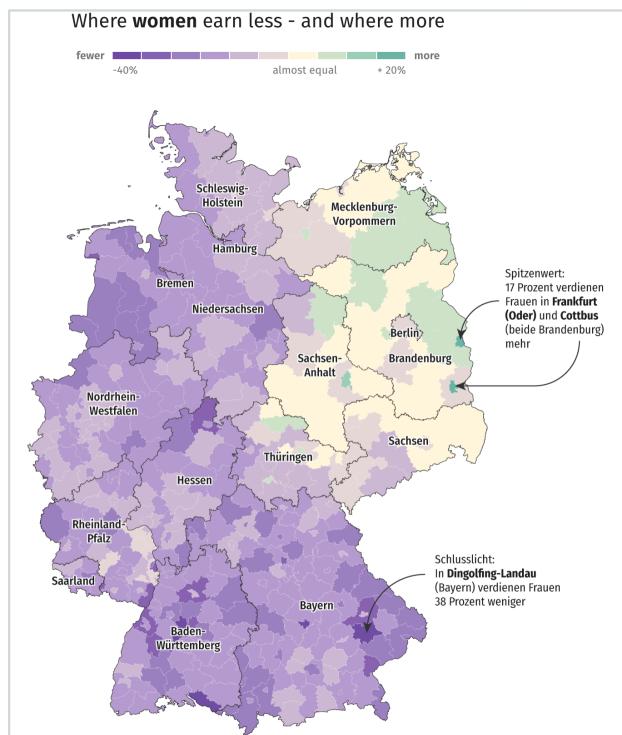
Plotting trends and intervals over time

SPATIAL

Mapping spatial patterns through overlays and distortions

Mapping spatial patterns through overlays

Where women earn less - and where more



C H R T S

Isarithmic map

Contour map, isopleth map, isochrone map, heat map

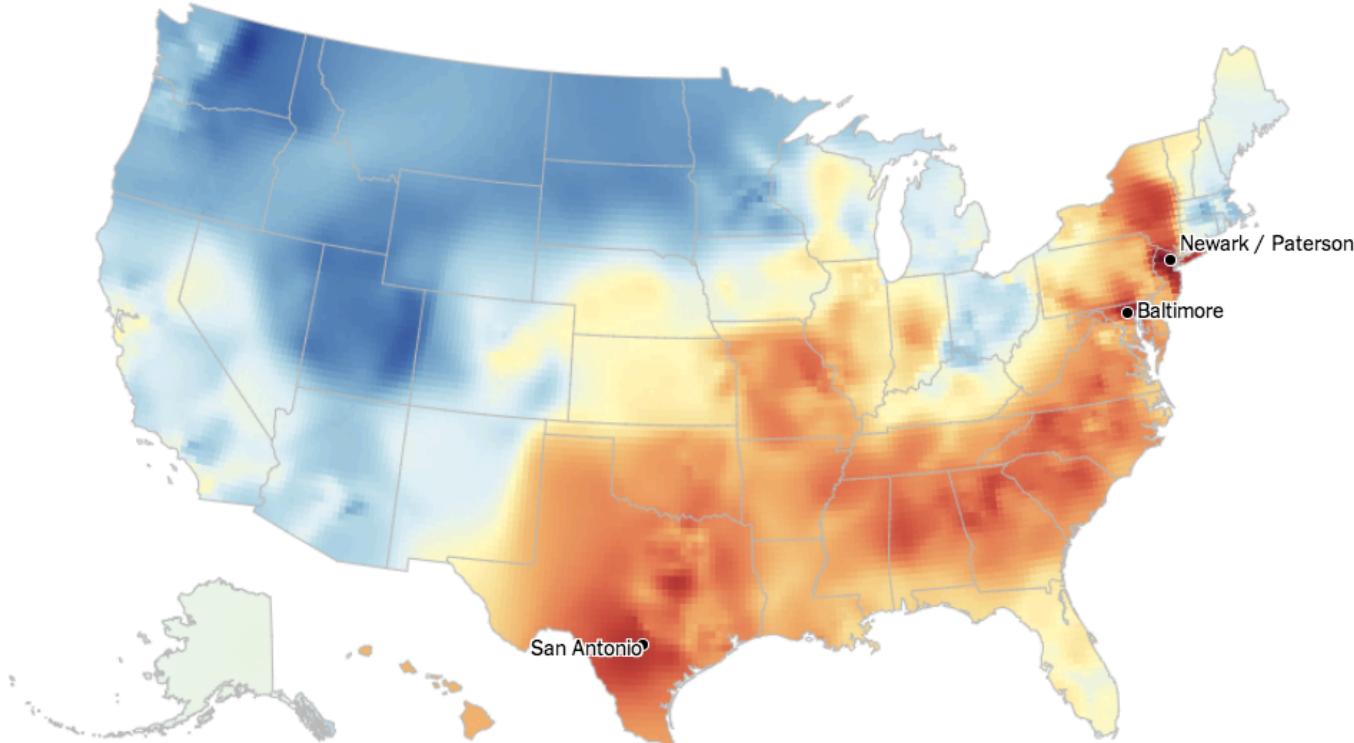
Your Map

See the pattern of your dialect in the map below. Three of the most similar cities are shown.

Least similar Most similar

Show least similar

SHARE YOUR MAP:



http://www.nytimes.com/interactive/2013/12/20/sunday-review/dialect-quiz-map.html?_r=1&

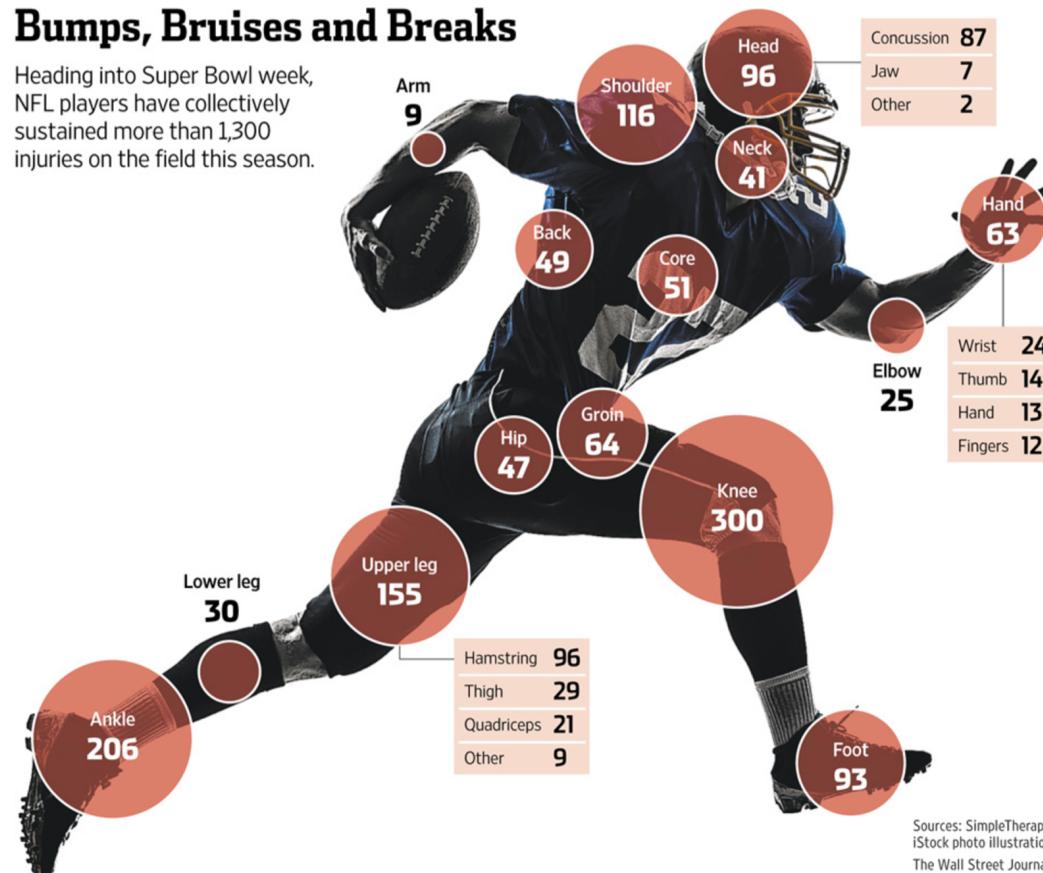
THE COUNT

In the NFL, Which Body Part Gets Hurt the Most?

[Email](#) [f](#) [t](#) [in](#)

Bumps, Bruises and Breaks

Heading into Super Bowl week, NFL players have collectively sustained more than 1,300 injuries on the field this season.

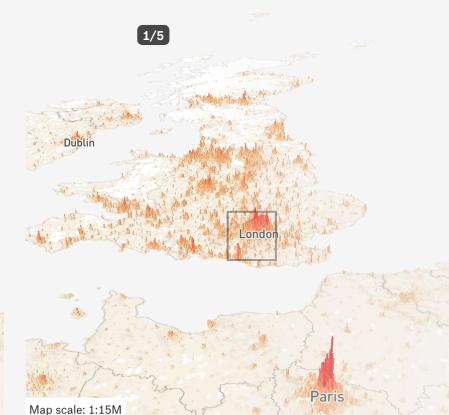
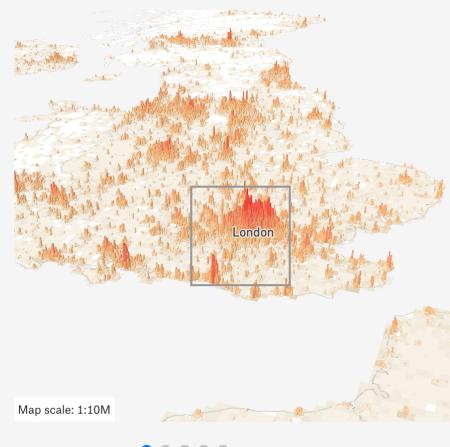
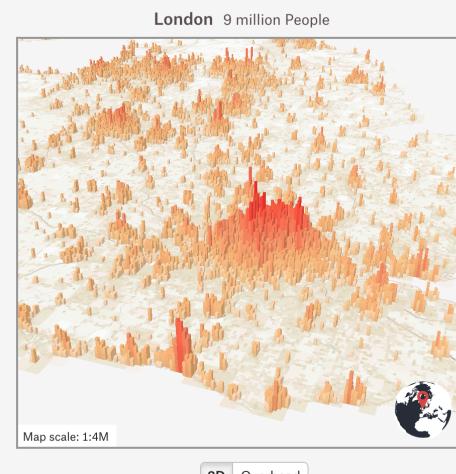
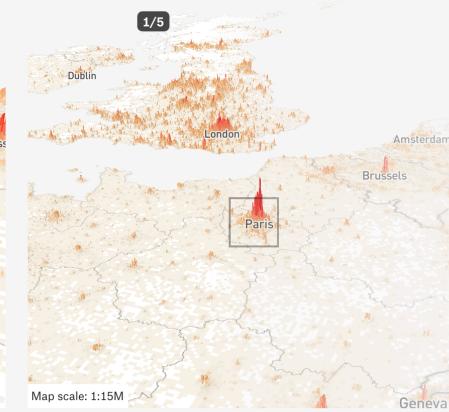
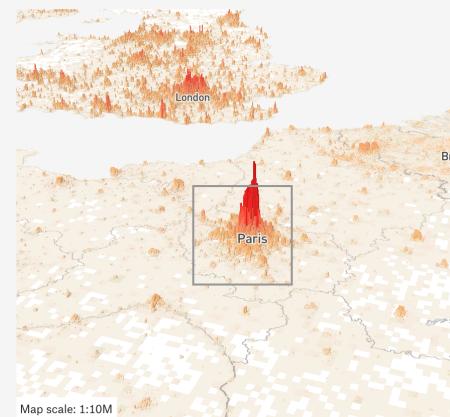
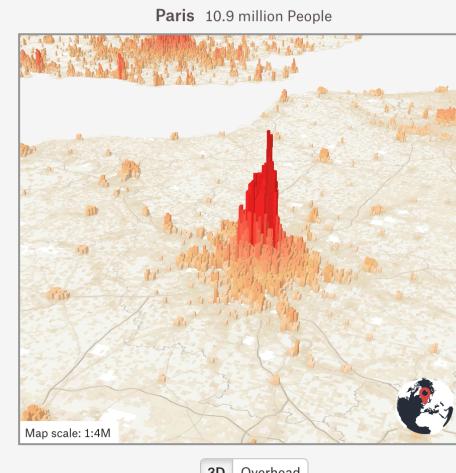


Sources: SimpleTherapy;
iStock photo illustration
The Wall Street Journal

C H R T

Prism map

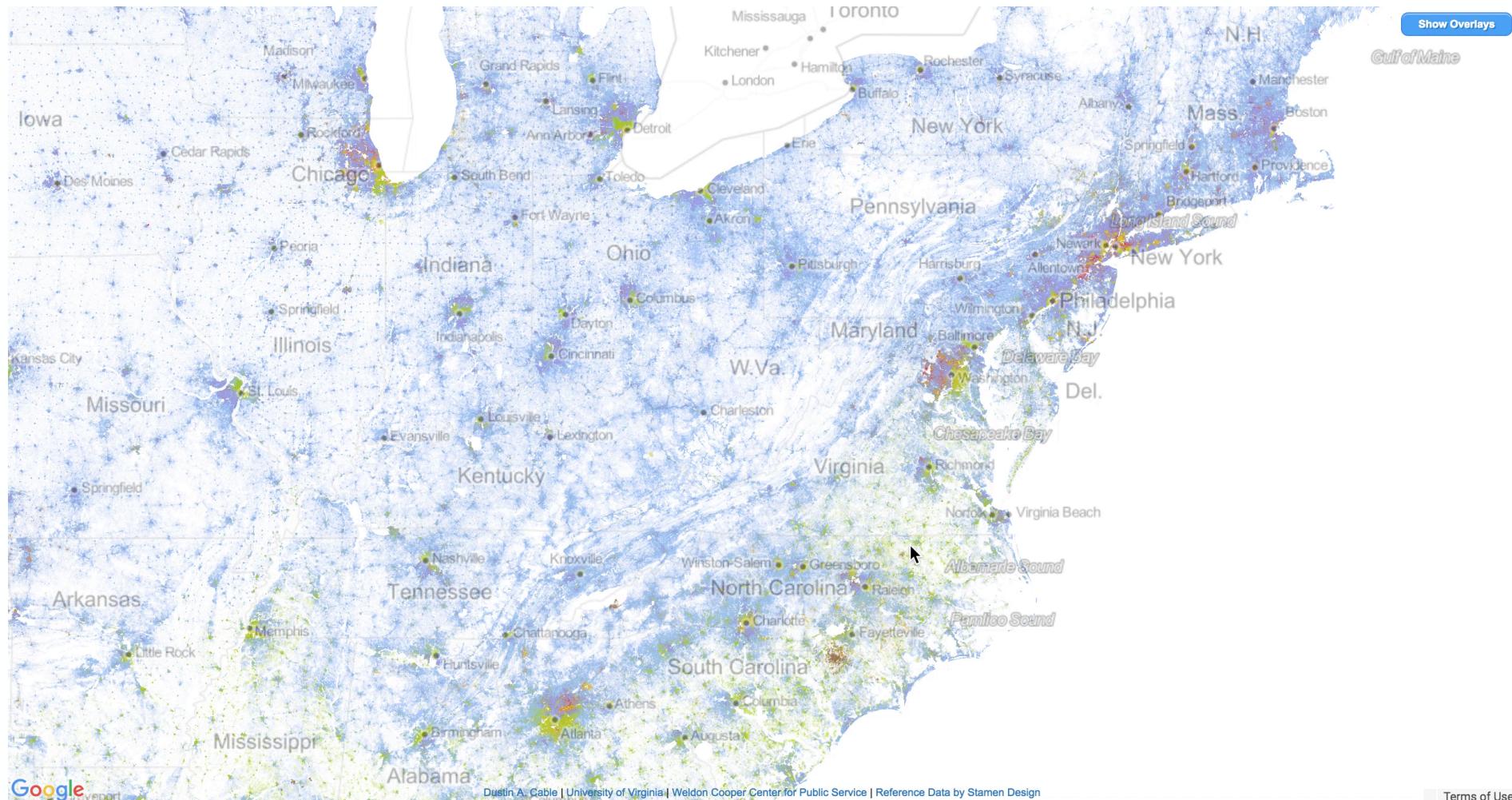
Isometric map, spike map, datascape



<https://pudding.cool/2018/12/3d-cities-story/>

C H R T s Dot map

Dot distribution map, pointillist map, location map, dot density map



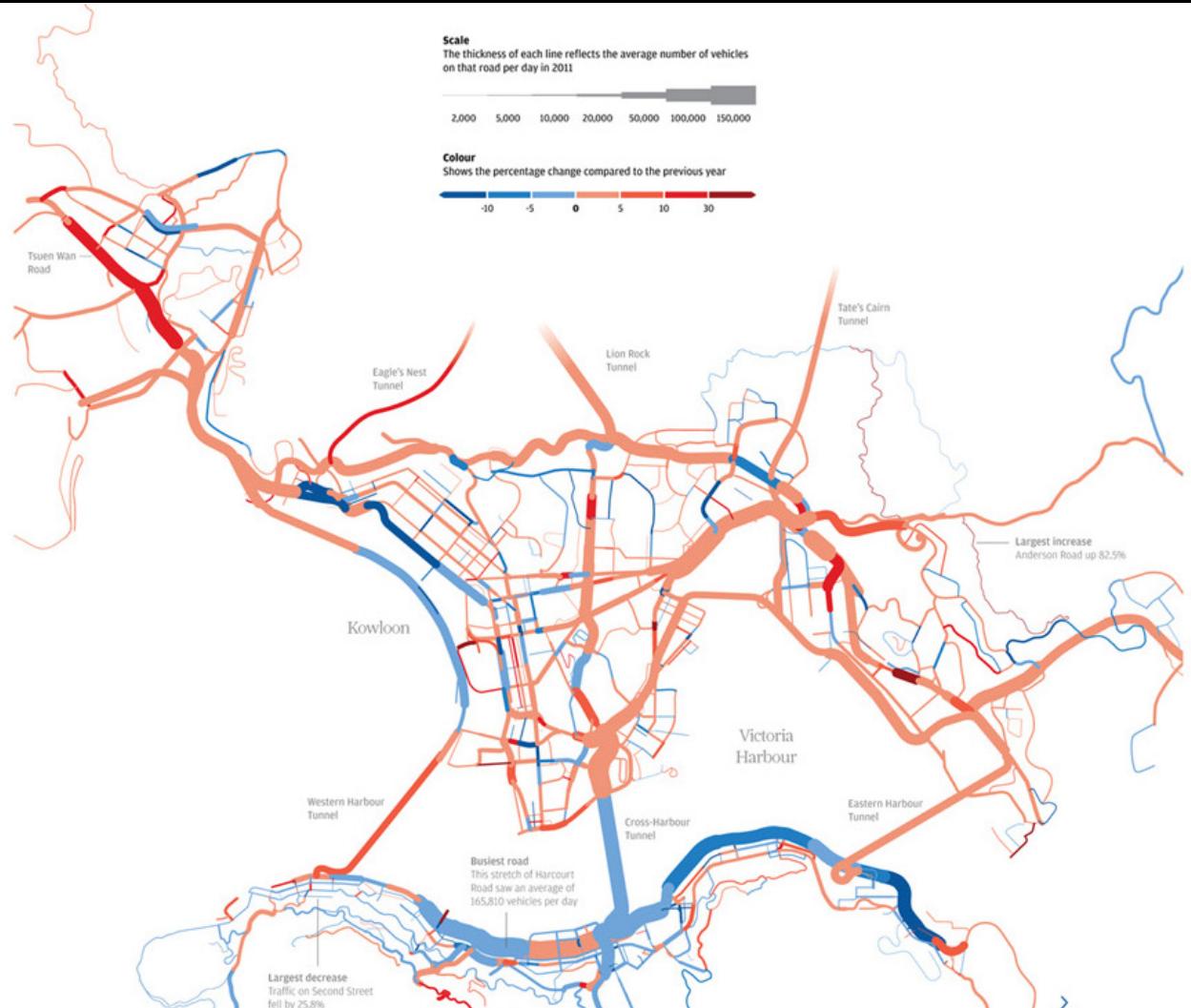
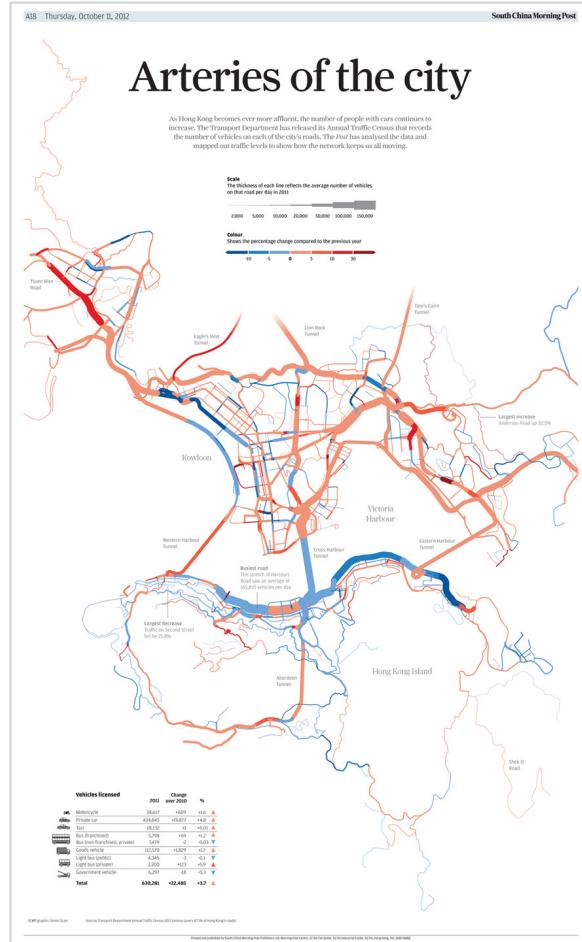
Stin A. Cable | University of Virginia | Weldon Cooper Center for Public Service | Reference Data by Stamen Design

Terms of Use

<http://demographics.coopercenter.org/DotMap/index.html>

C H R T S Flow map

Connection map, route map, stream map, particle flow map



<http://graphics-info.blogspot.co.uk/2013/01/arteries-of-city.html>

Mapping spatial patterns through distortions

C H R T S

Area cartogram

Contiguous cartogram, density-equalizing map

BACKGROUND

Area Population Wealth

RESPONSIBILITY

Extraction Emissions Consumption Historical Reserves

VULNERABILITY

People at risk Sea level Poverty

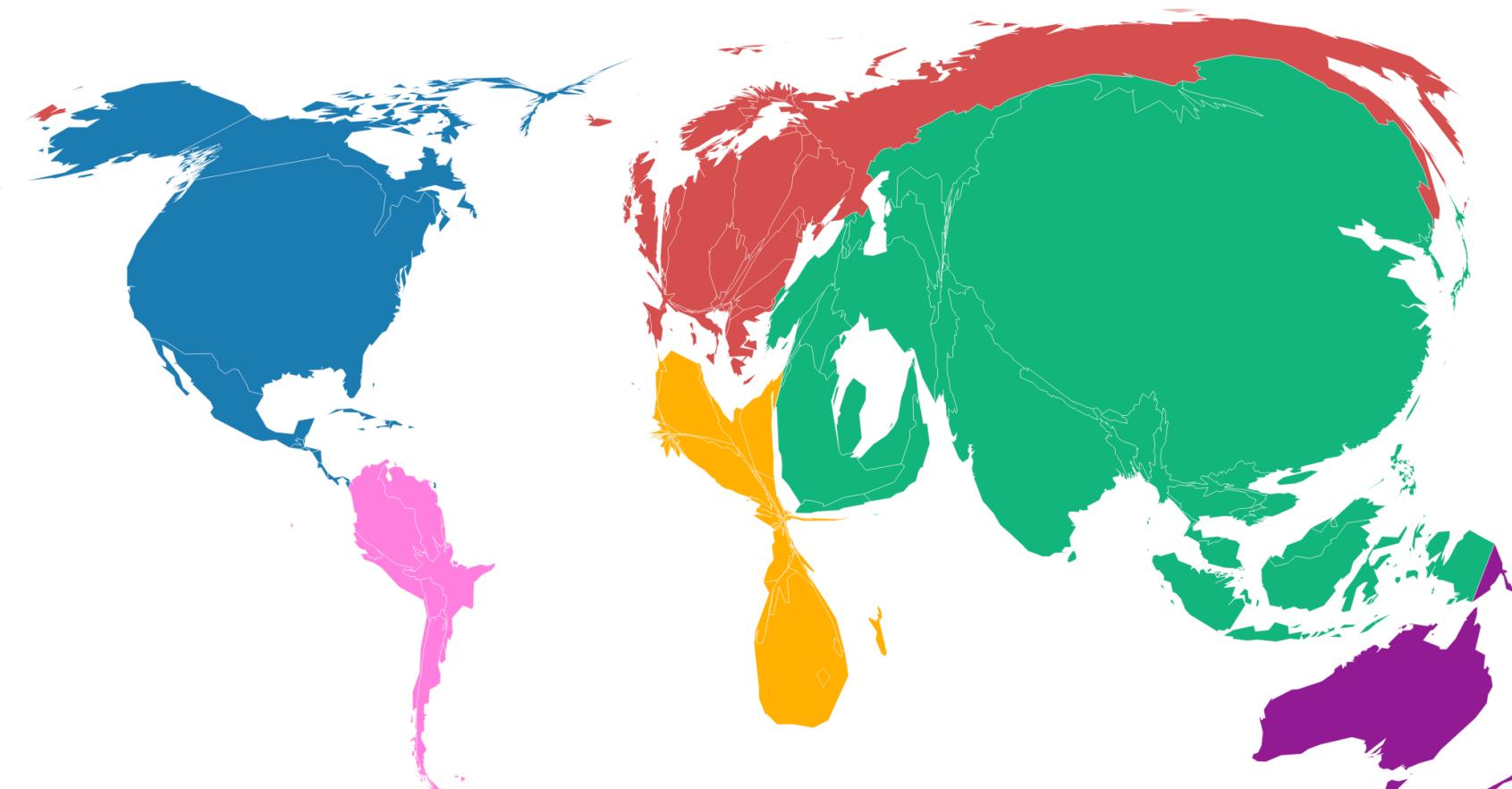
**Shade by**

Continents

- Europe
- Africa
- Asia
- North America
- South America
- Oceania

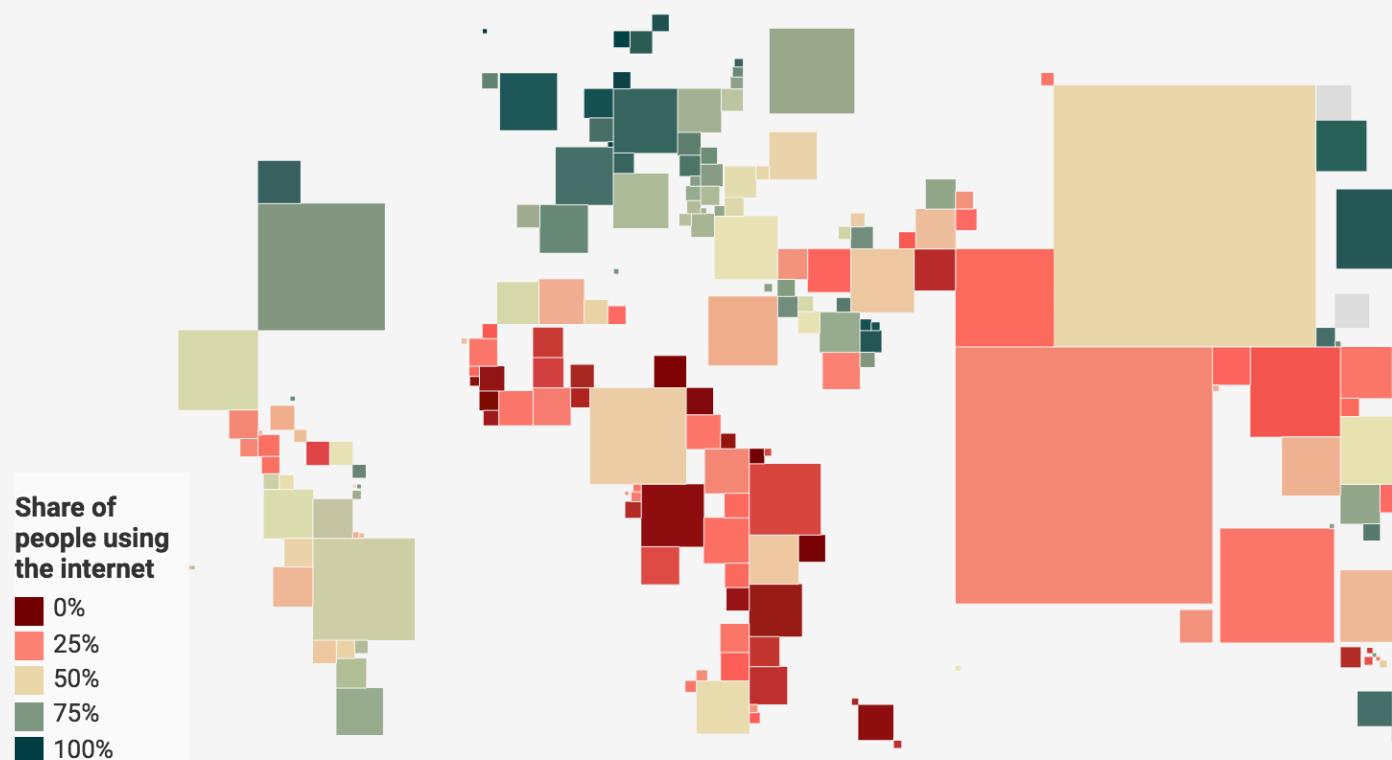
This map

Country sizes show the eventual CO₂ emissions from oil, coal and gas extracted (2013) each year. Many of these fuels are exported rather than used domestically, but arguably the countries extracting and selling fossil fuels bear a degree of responsibility for the resulting emissions.

[ABOUT THIS TOOL](#) [DATA SOURCES](#)<http://www.carbonmap.org/#Extraction>

Share of individuals using the internet, 2015

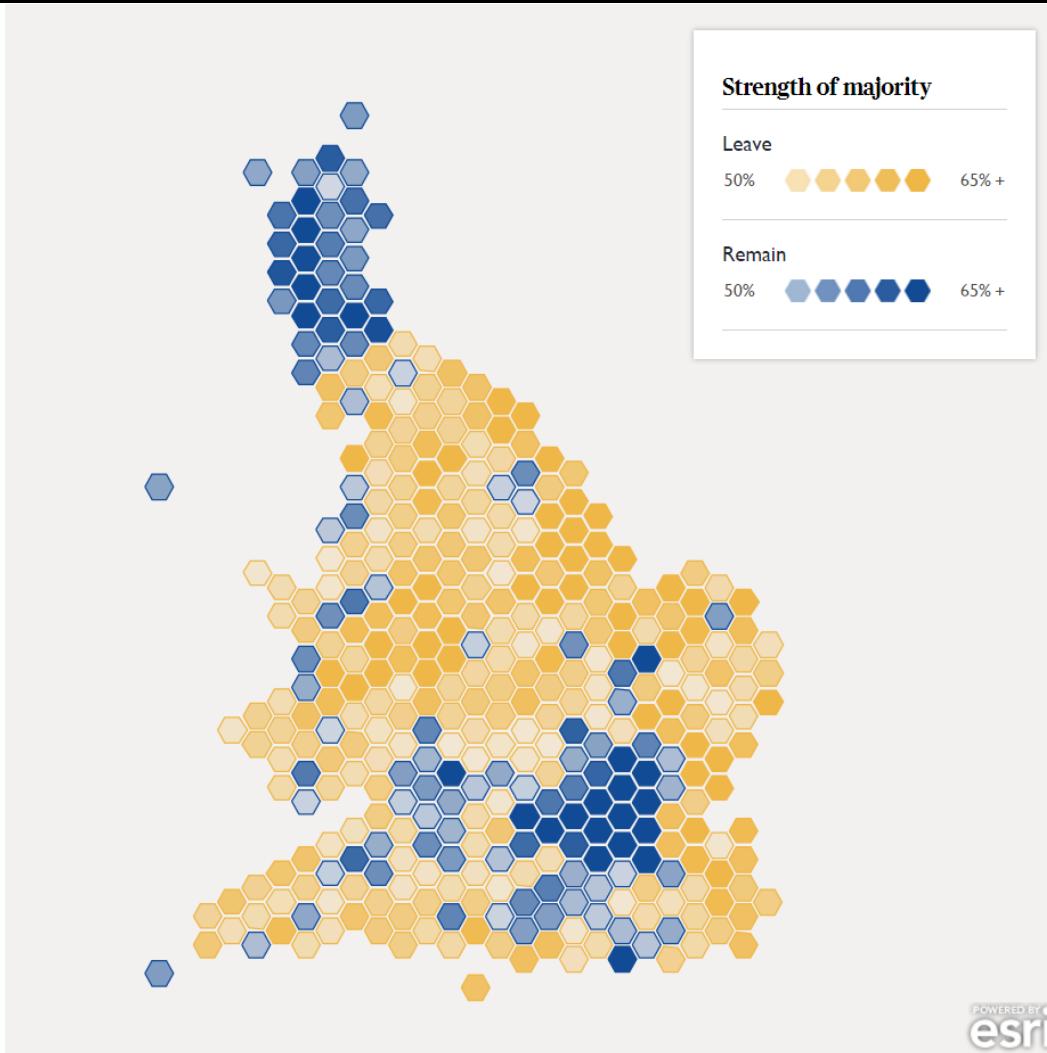
Share of individuals using the internet, measured as the percentage of the population. Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc.



C H R T S

Grid map

Cartogram, bin map, equal-area cartogram, hexagon bin map



<https://www.benflanagan.co.uk/#/brexit/>