

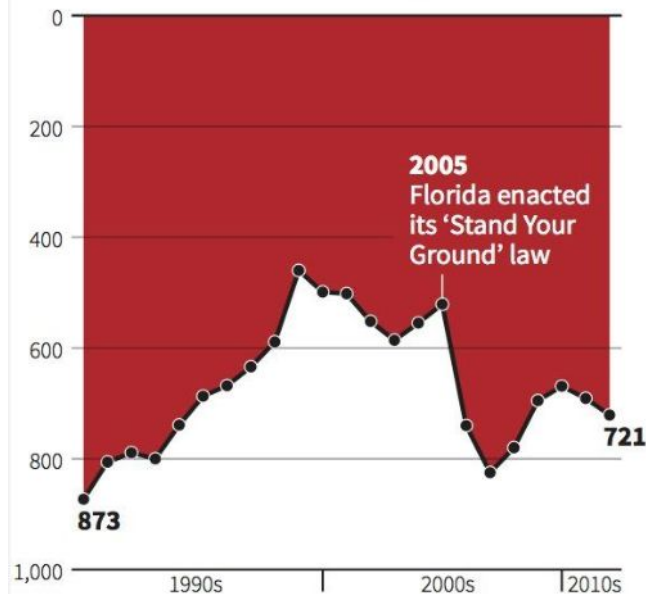
Be a skeptic

Ask the four skeptical questions:

- Who produced this data?
- Are the axes sensible?
- Is all the data displayed? What is missing? (What or who is not represented in the data?)
- Is the data showing a causal relationship, or is it just correlational?

Gun deaths in Florida

Number of murders committed using firearms



Source: Florida Department of Law Enforcement

C. Chan 16/02/2014

REUTERS

Organizing Data

Examine the dataset and decide how you would structure the data for analysis.

Why is your organization helpful for analysis?

File

Roller Coasters

Unsaved

CODAP

v3.0.1 (2934)

Tables

Graph

Map

Slider

Calc

Text

Web Page

Plugins

Sample of US Roller Coasters Across Years

States (1 case, 31 hidden)

	State	West Coast	newAttr2
1	California		

Roller Coasters (18 cases, 139 hidden)

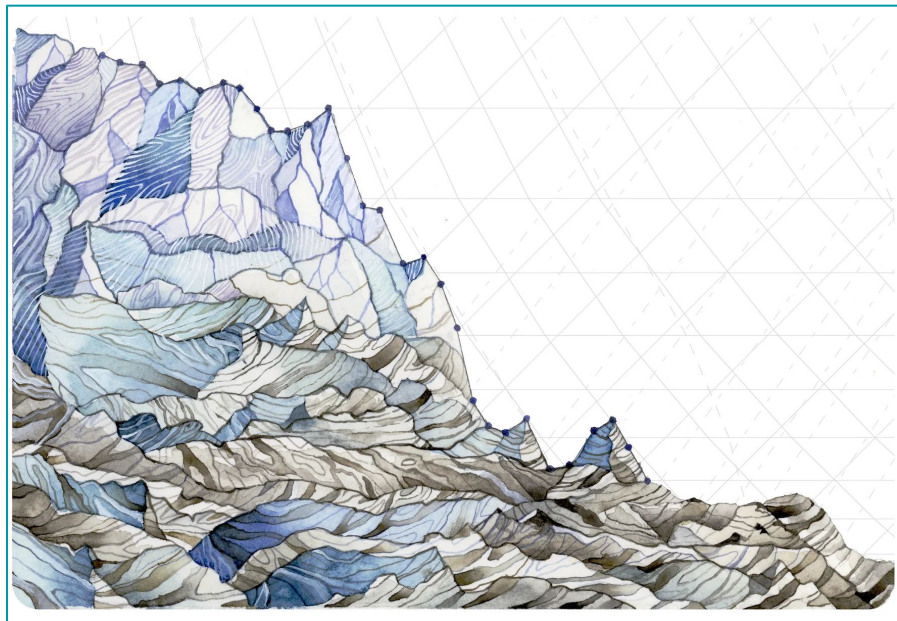
	Coaster	Park	Top Speed (mph)	Max Height (ft)	Drop (ft)	Length (ft)	Duration (sec)	Type	Design	Year Opened	Age Group	Inversions	Num of Inversions	City	newAttr
1	X	Six Flags...	76	175	215	3,610		Steel	4th Dim...	2002	newest	Y	2	Valencia	
2	Giant Dipper	Santa Cr...	55	70	65	2,640	112	Wooden	Sit Down	1924	older	N	0	Santa ...	
3	Colossus	Six Flags...	62	125	115	4,325	150	Wooden	Sit Down	1978	older	N	0	Valencia	
4	Demon	Paramo...	50	102	90	2,130	105	Steel	Sit Down	1976	older	Y	4	Santa ...	
5	Montezooma's ...	Knotts B...	55	148	137	800	36	Steel	Sit Down	1978	older	Y	1	Buena...	
6	Riddlers Revenge	Six Flags...	65	156	146	4,370	180	Steel	Stand Up	1998	recent	Y	6	Valencia	
7	GhostRider	Knotts B...	56	118	108	4,533	160	Wooden	Sit Down	1998	recent	N	0	Buena...	
8	Viper	Six Flags...	70	188	171	3,830	150	Steel	Sit Down	1990	recent	Y	7	Valencia	
9	Jaguar!	Knotts B...	35	65	45	2,602	120	Steel	Sit Down	1995	recent	N	0	Buena...	
10	Screamer	Scandia ...	50	90	80	2,600	116	Steel	Sit Down	1995	recent	N	0	Ontario	
11	Superman The ...	Six Flags...	100	415	328	1,235	28	Steel	Sit Down	1997	recent	N	0	Valencia	
12	Top Gun	Paramo...	50	102	91	2,260	146	Steel	Inverted	1993	recent	Y	3	Santa ...	
13	Invertigo	Paramo...	50	161	138	1,014	90	Steel	Inverted	1998	recent	Y	3	Santa ...	
14	Goliath	Six Flags...	85	235	255	4,500	180	Steel	Sit Down	2000	newest	N	0	Valencia	
15	Medusa	Six Flags...	65	150	150	3,937	195	Steel	Sit Down	2000	newest	Y	7	Vallejo	
16	California Screa...	Disneys ...	55		108	6,072	156	Steel	Sit Down	2001	newest	Y	1	Anahe...	
17	Scream!	Six Flags...	63	150	141	3,985	180	Steel	Sit Down	2003	newest	Y	7	Valencia	
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Data Visualization

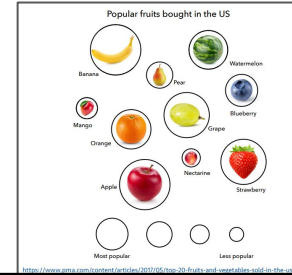
Why might a data scientist represent data in this way? (a piece of art, not just a line graph)

Consider the various ways that you have encountered data, what drew you to examining the data closer?

What does this make you think about in creating your own data visualizations?



Data Visualization By [Jill Pelto](#)

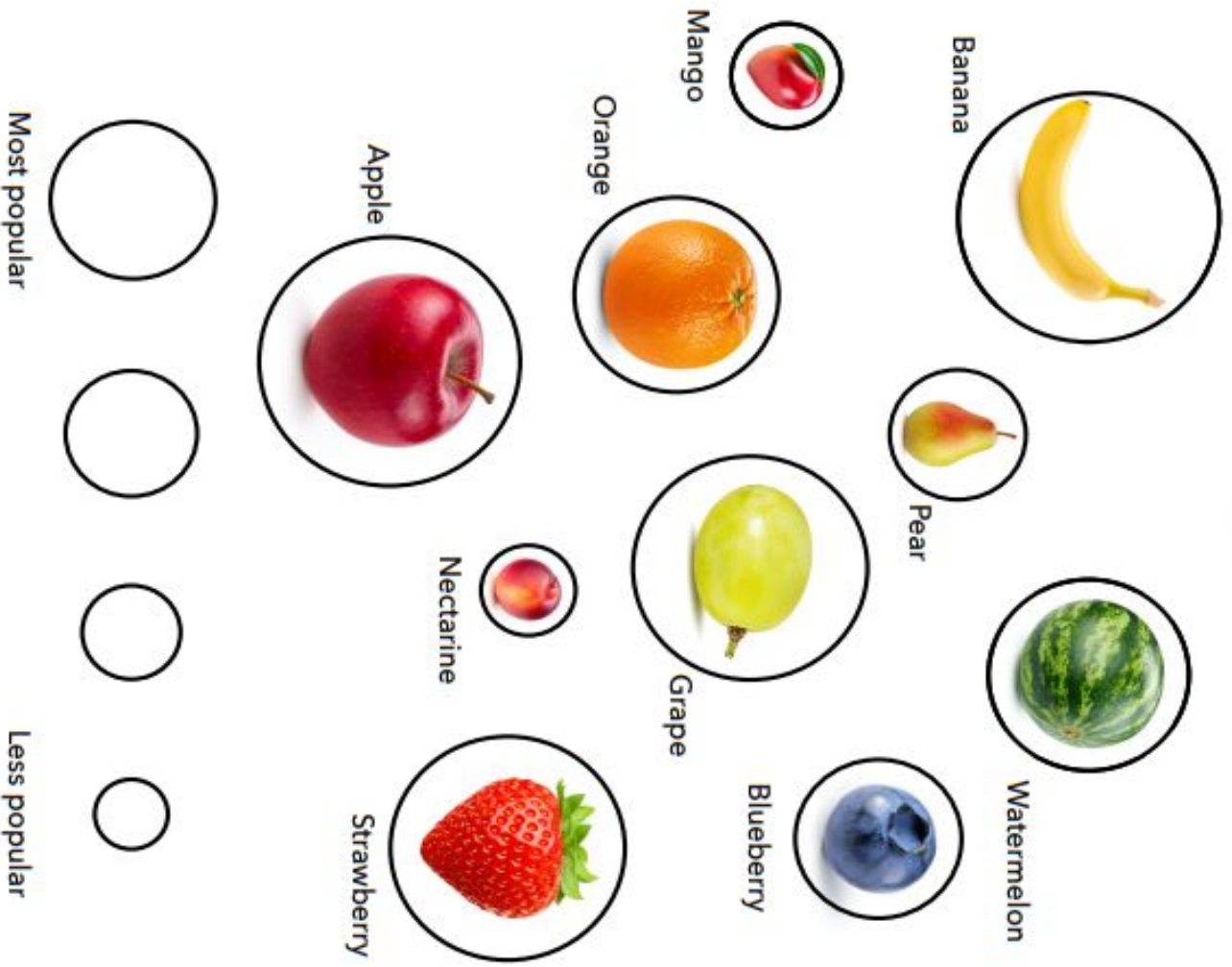


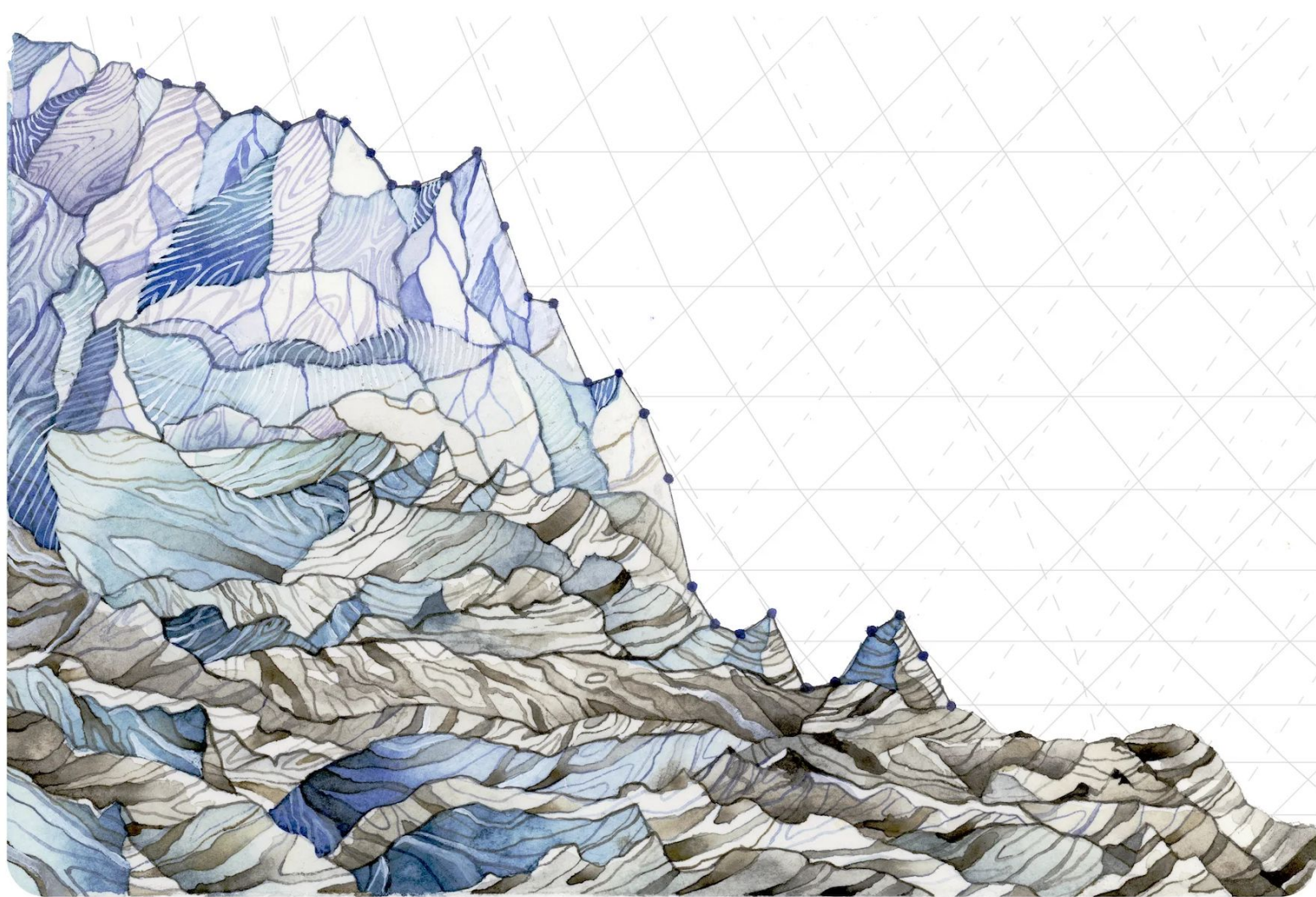
With your trio,

- Say hello :)
- What patterns do you notice?
- What surprises you or stands out most in this data?

1st Rotation Responses	2nd Rotation Responses
3rd Rotation Responses	4th Rotation Responses

Popular fruits bought in the US





Sample of US Roller Coasters Across Years

Roller Coasters (18 cases, 139 hidden)

States (1 ca

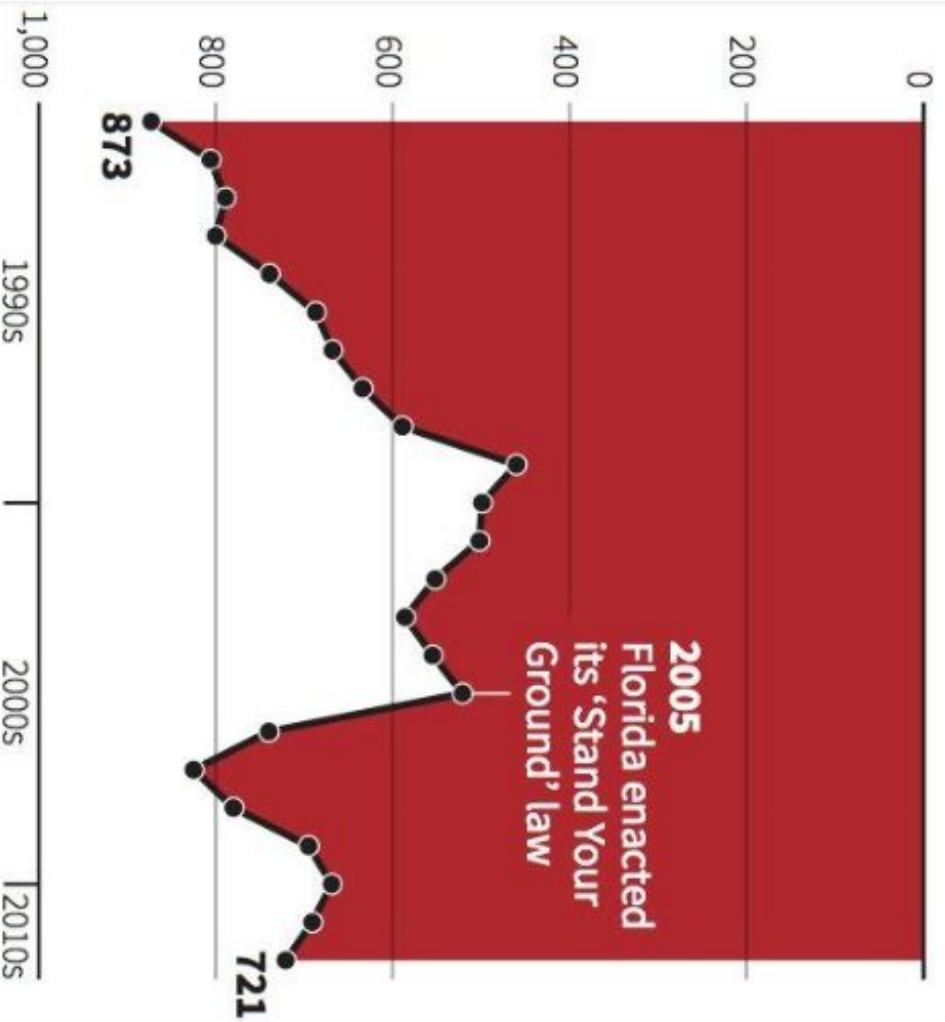
State

California

		Coaster	Park	Top Speed (mph)	Max Height (ft)	Drop (ft)	Length (ft)	Duration (sec)	Type	Design	Year Opened	Age Group	Inversion s	Num of ...rsions	City
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Gun deaths in Florida

Number of murders committed using firearms



Source: Florida Department of Law Enforcement

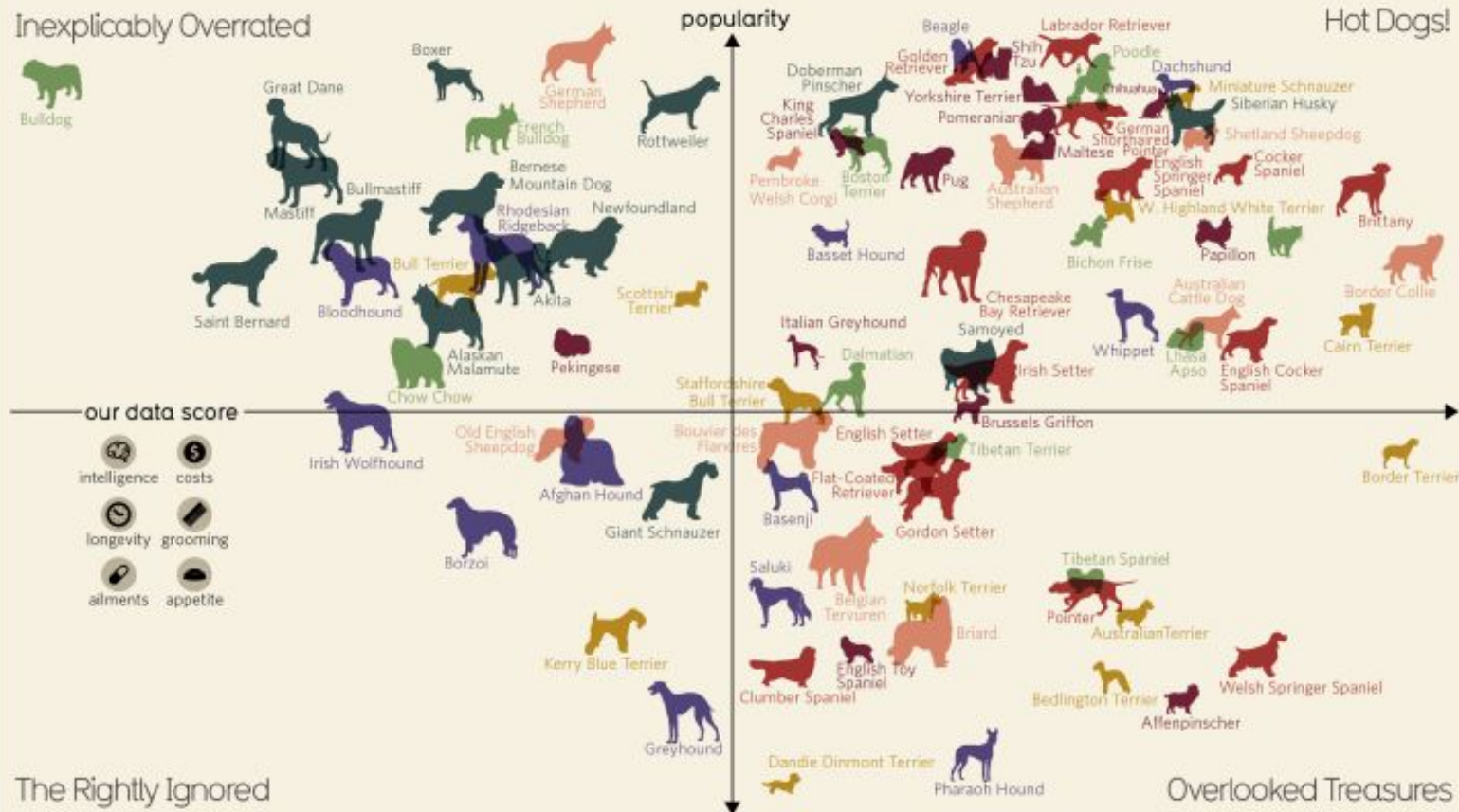
C. Chan 16/02/2014

REUTERS

<https://www.youcubed.org/resource/data-literacy/>

Card Sort Sections A, B, & C

Best in Show: The Ultimate Data Dog

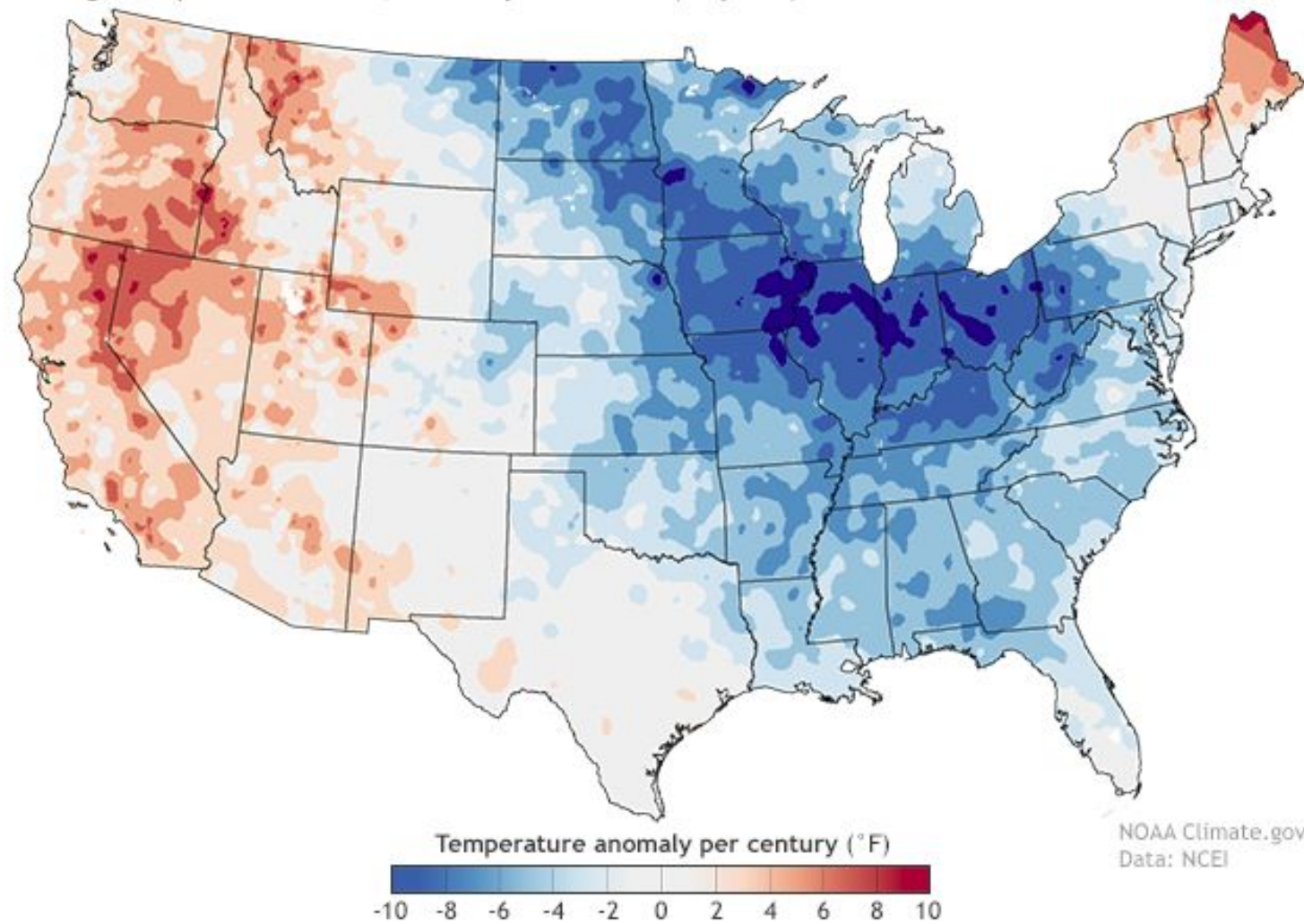


David McCandless / informationisbeautiful.net

source American Kennel Club

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

Average temperature trends, February 1987-2016 (30 years)



By grade level, what percent of students were on track for college-level learning without needing remedial classes?

State Total
2024-25

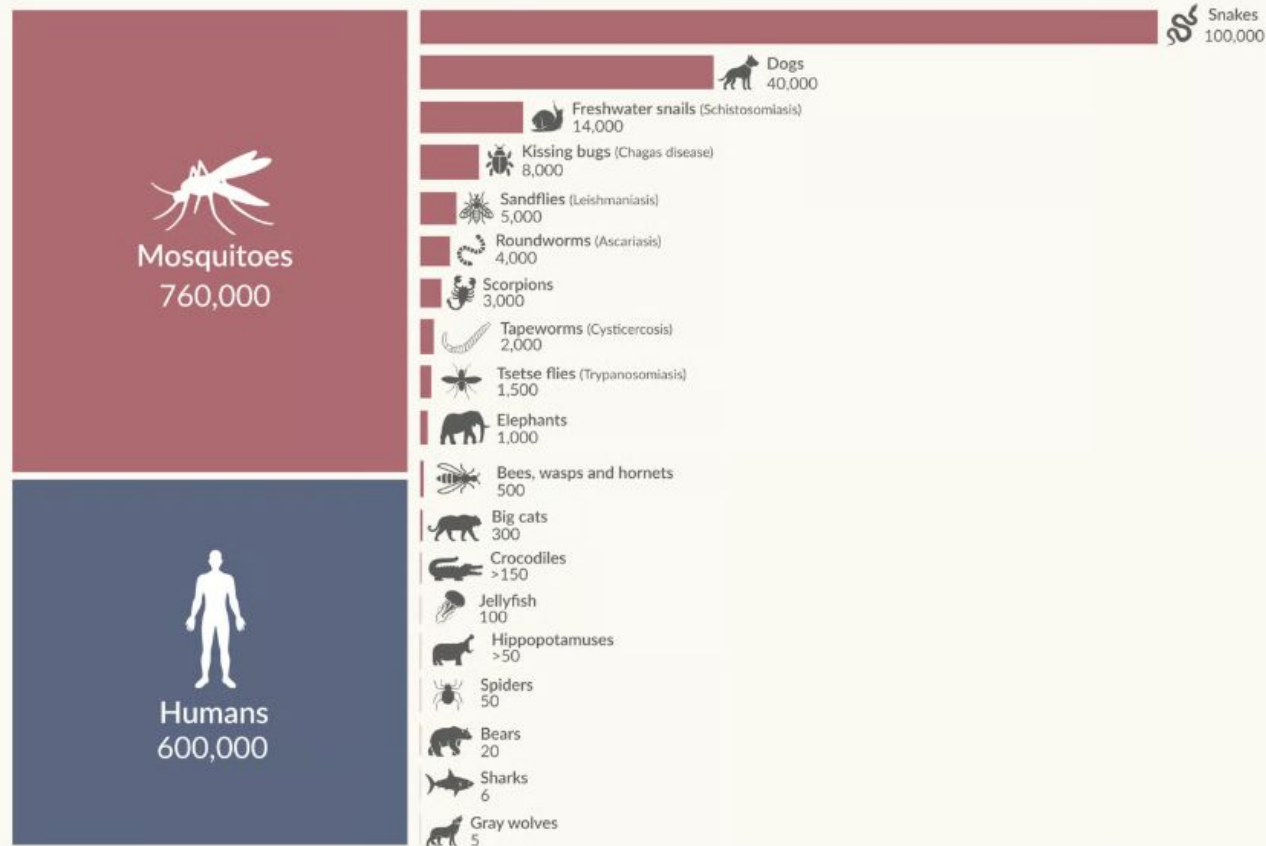
		General (SBA and WCAS)		Alternate (WA-AIM)	
ELA	3rd Grade		47.8%		33.9%
	4th Grade		49.4%		31.0%
	5th Grade		52.9%		24.3%
	6th Grade		47.7%		32.2%
	7th Grade		50.4%		31.3%
	8th Grade		48.5%		34.5%
	10th Grade		58.9%		37.3%
Math	3rd Grade		51.2%		31.2%
	4th Grade		48.3%		36.6%
	5th Grade		41.9%		40.2%
	6th Grade		38.6%		35.9%
	7th Grade		39.2%		43.8%
	8th Grade		35.5%		31.2%
	10th Grade		30.8%		53.6%
Science	5th Grade		51.4%		14.7%
	8th Grade		42.1%		17.7%
	11th Grade		36.9%		35.0%

This dashboard provides detailed information about student performance on the Spring assessments. Student performance in each subject is scored as a level 1, 2, 3, or 4. Level 3 or 4 scores indicate the student is on track for college-level learning without needing remedial classes.

What are the world's deadliest animals?

Estimates for the number of humans killed by different animals in 2023.

Our World
in Data



Note: This is not an exhaustive list. Estimates come with significant uncertainty, and are used for relative magnitude comparisons. Figures have been rounded to not overstate accuracy.

Data sources: IHME, GBD (2025); World Health Organization; CrocAttack; ISAF; and others. See our full documentation at https://docs.owid.io/projects/eti/analyses/deadliest_animals/

OurWorldinData.org — Research and data to make progress against the world's largest problems.

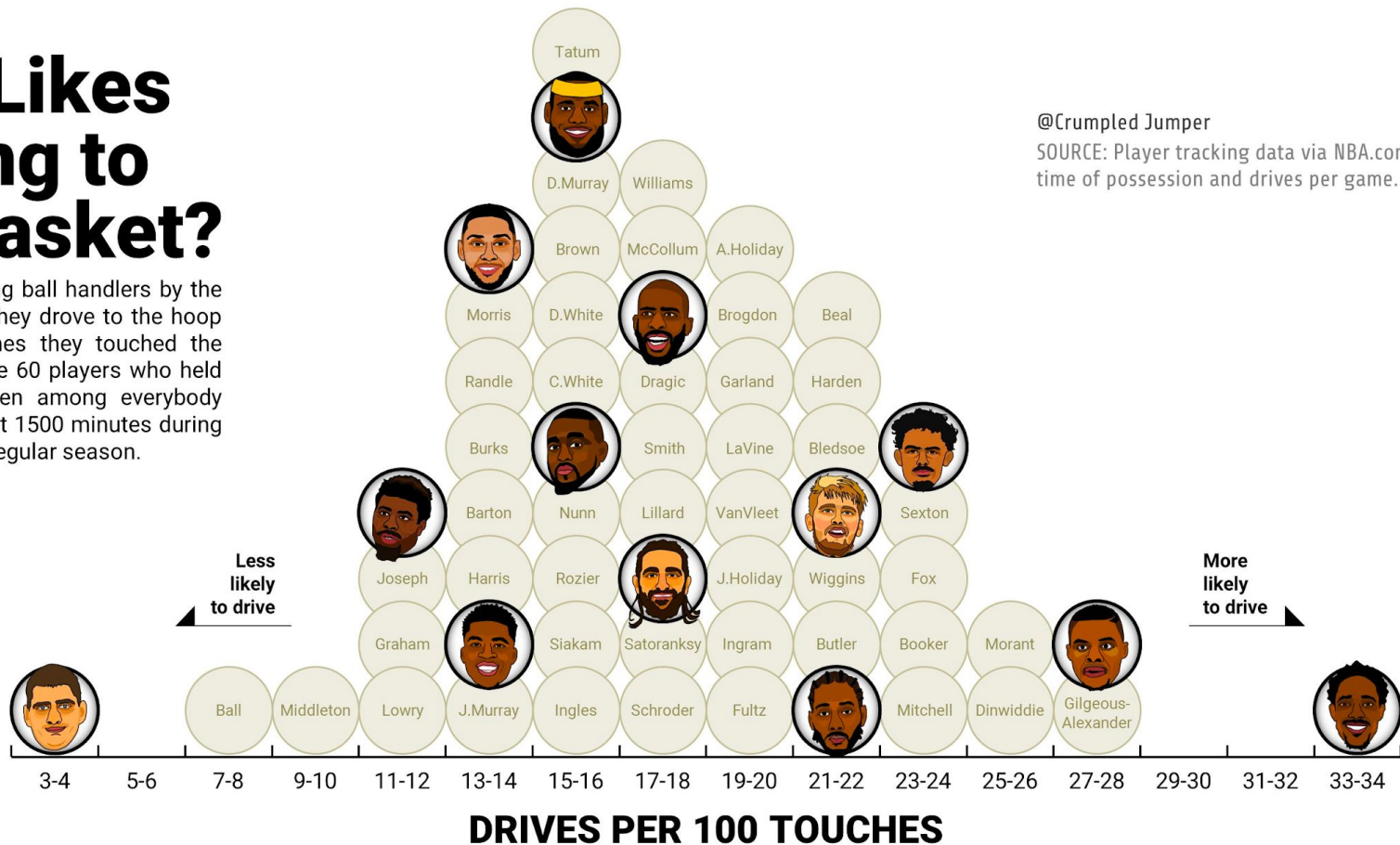
Licensed under CC-BY by the authors Hannah Ritchie and Fiona Spooner.

Who Likes Driving to the Basket?

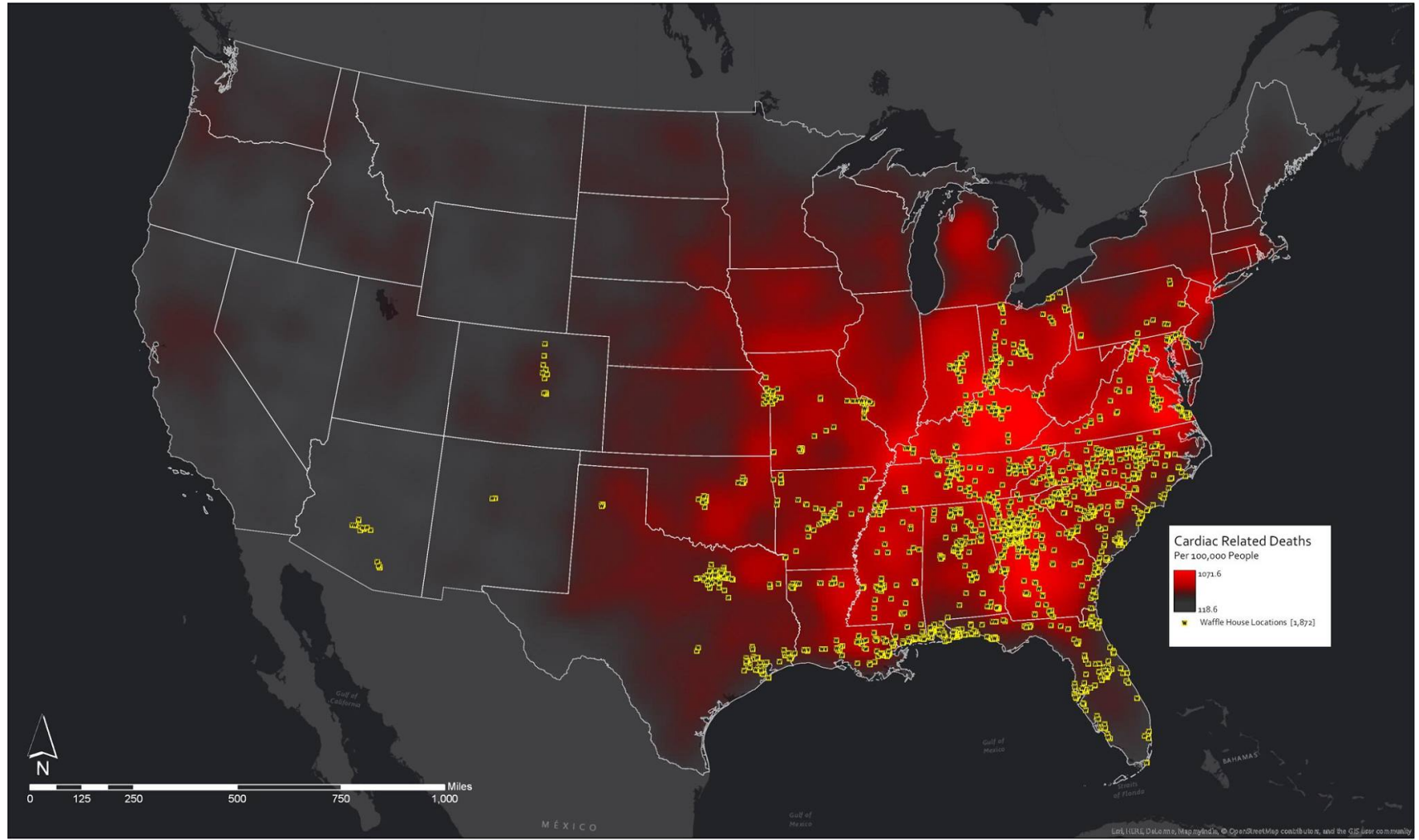
A histogram sorting ball handlers by the number of times they drove to the hoop for every 100 times they touched the ball. Looking at the 60 players who held the ball most often among everybody who played at least 1500 minutes during the 2019-20 NBA regular season.

@Crumpled Jumper

SOURCE: Player tracking data via NBA.com:
time of possession and drives per game.

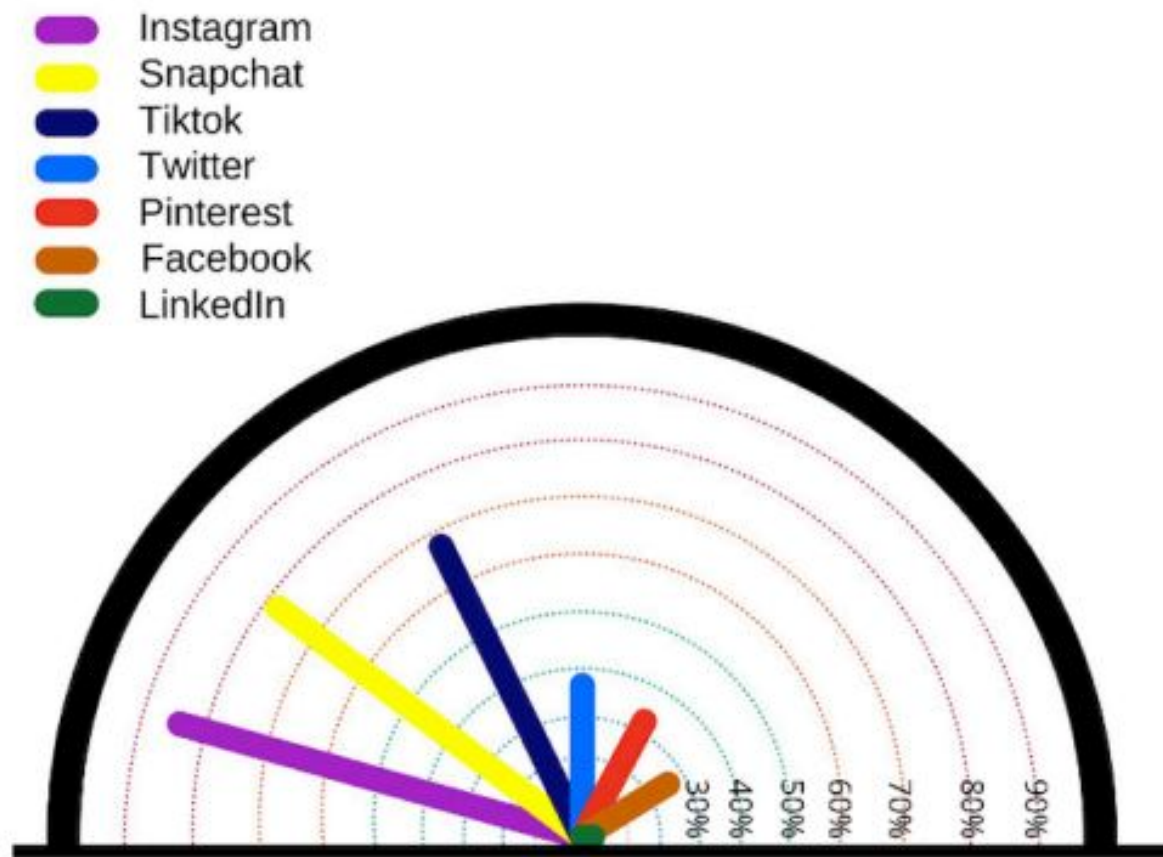


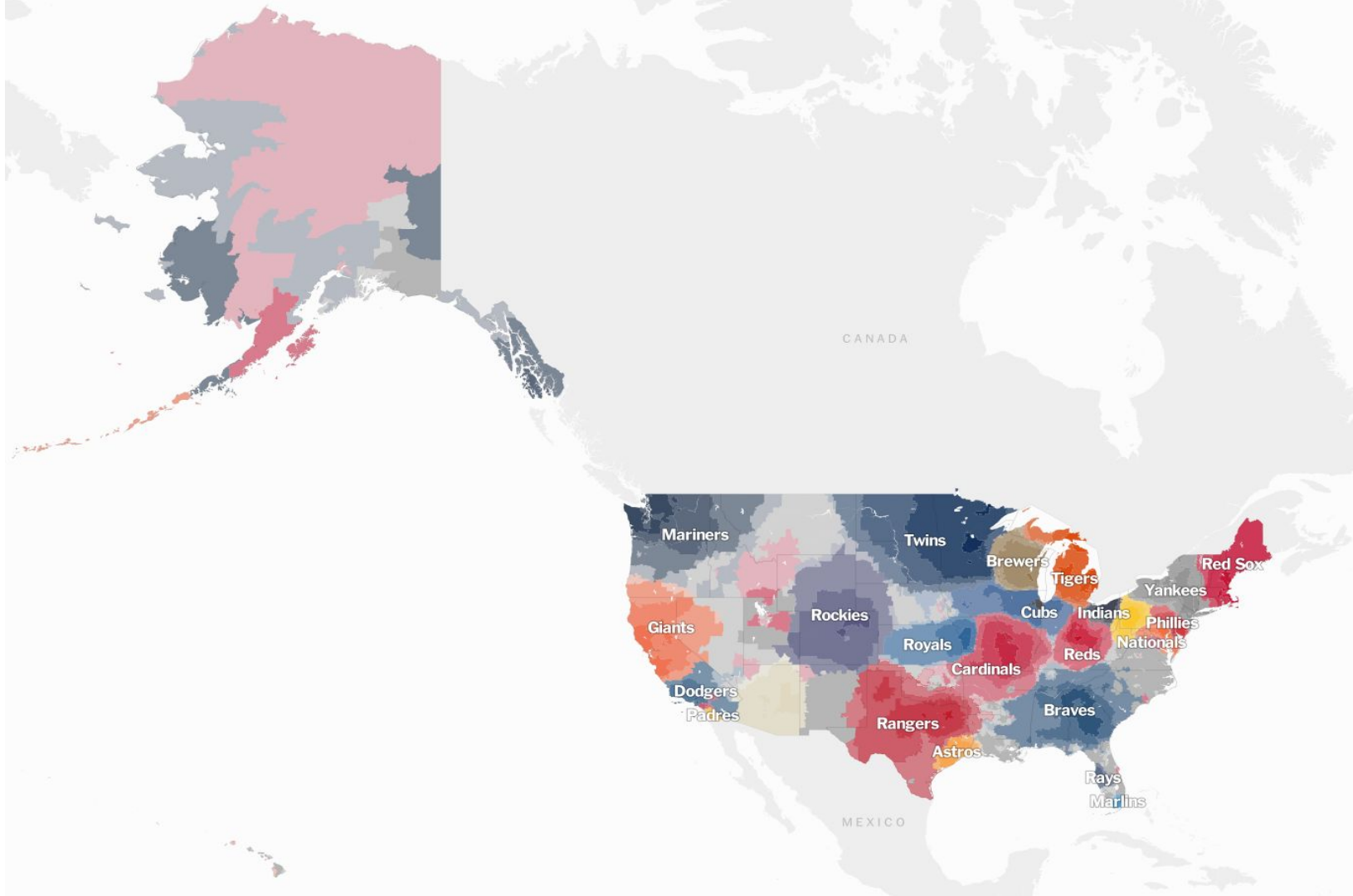
Cardiac Related Deaths During 2013 in the Contiguous USA Compared to Waffle House Locations



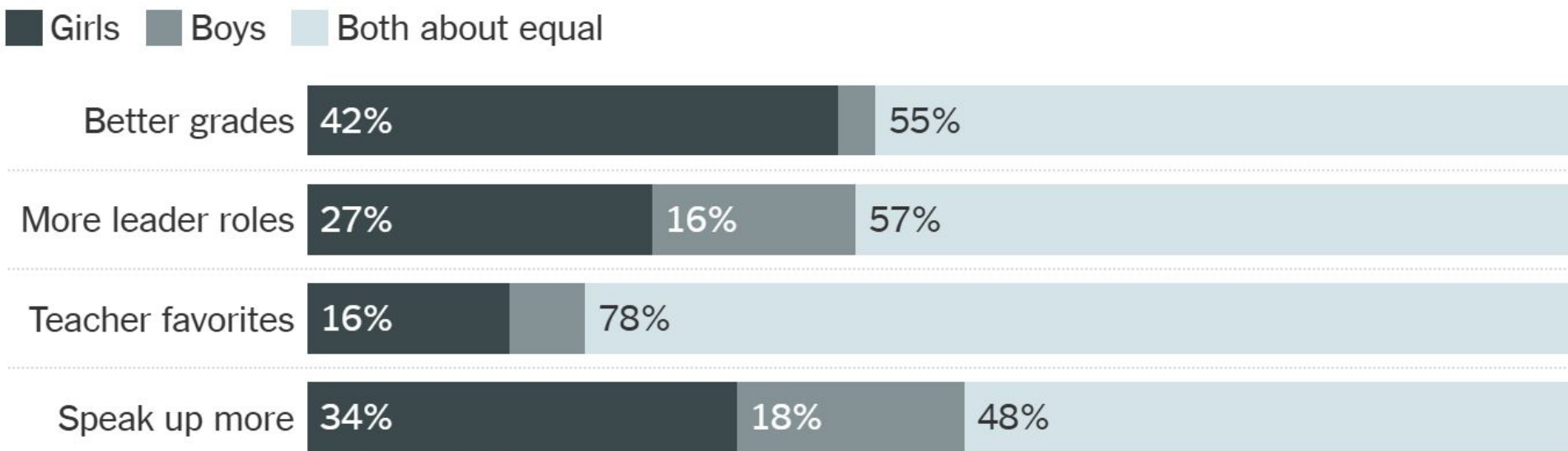
7 in 10 American Teens Use TikTok

% of U.S. teens who use the following social media platforms at least once a month

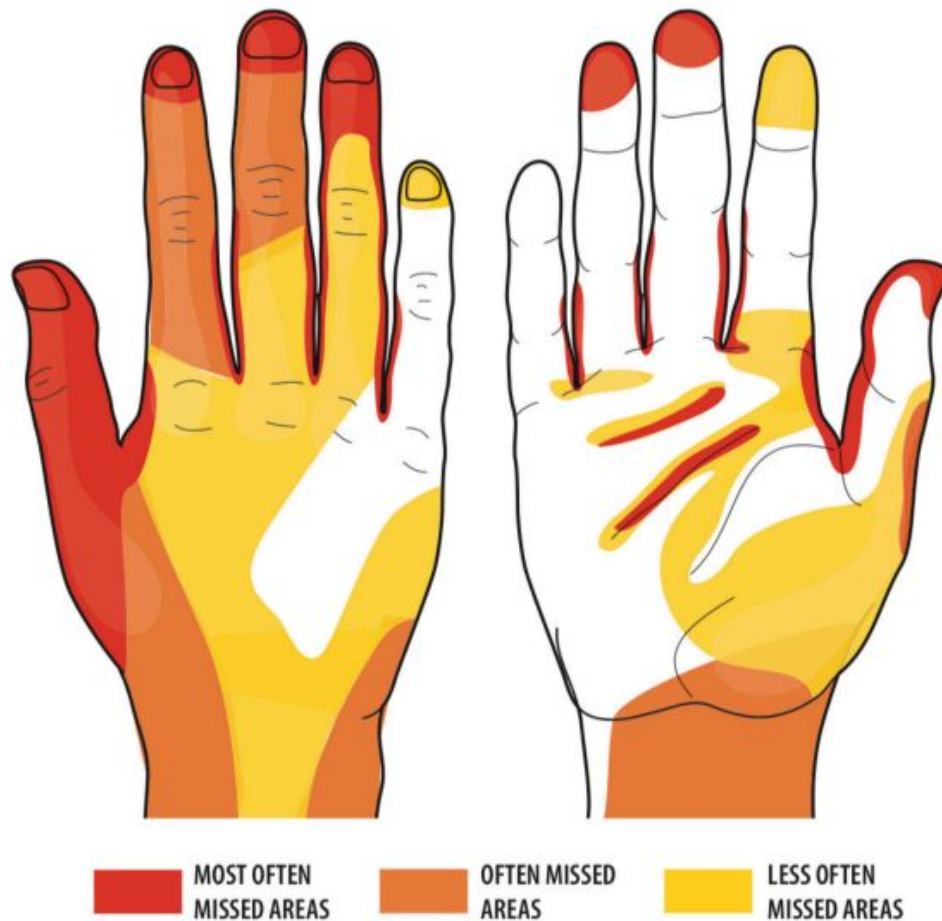




U.S. teenagers ages 13 to 17 were asked whether boys or girls excelled in various categories at their school.

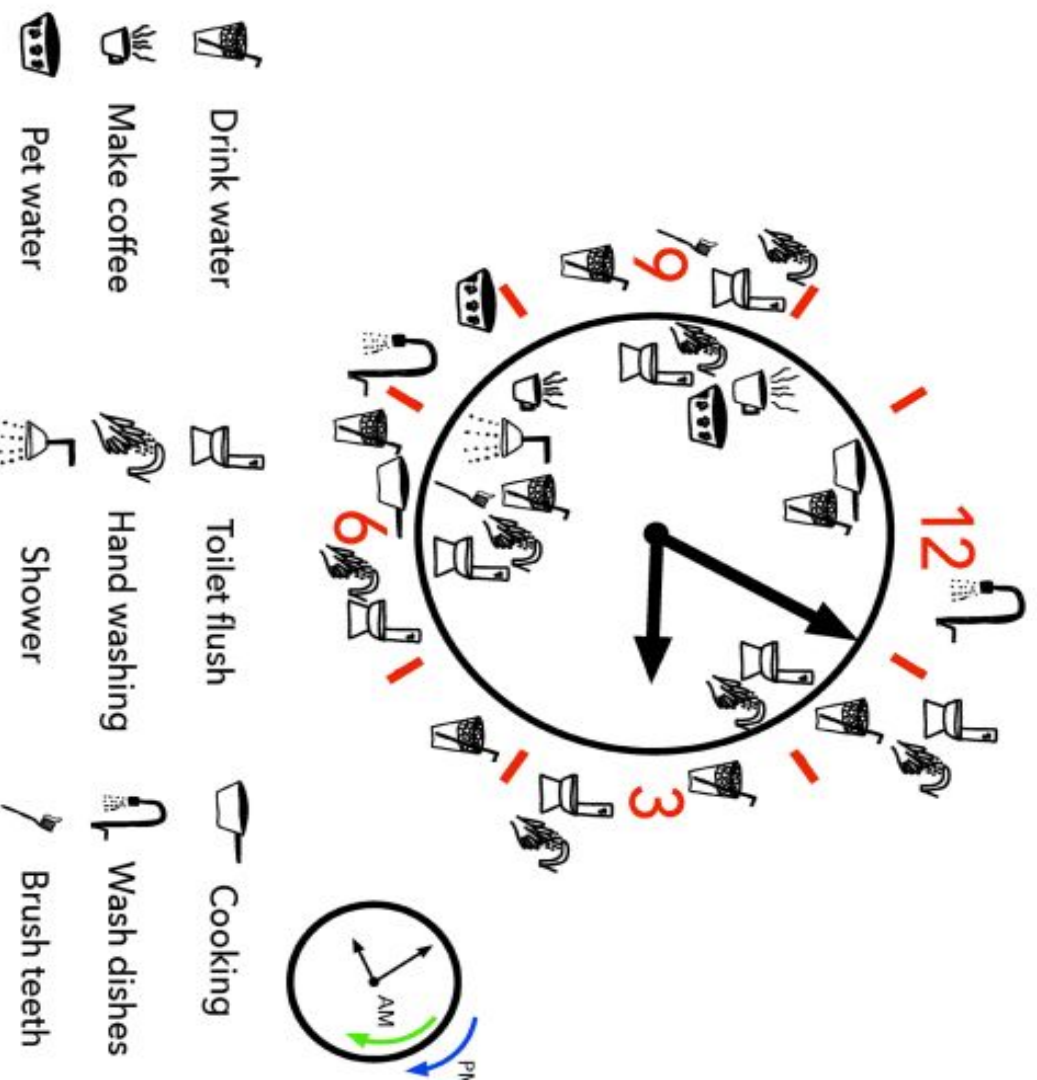


Note: Survey conducted Sept. 18-Oct. 10. Homeschooled teens not included. Shares of respondents who did not offer an answer are not shown. • Source: Pew Research Center • By The New York Times



Reference: Taylor, L.J. An evaluation of handwashing techniques. *Nursing Times*. January 1978.

The water I use in 24 hours



Batman: The Multimedia Knight

Percentage of U.S. respondents who were first introduced to Batman through each medium



- **24** Comic book or graphic novel
- **25** Live-action TV
- **17** Animated TV
- **15** Movie
- **3** Video game
- **3** Action figures
- **1** Other
- **13** Don't know

Data collected in March 14-15, 2019, of 1,208 U.S. adults

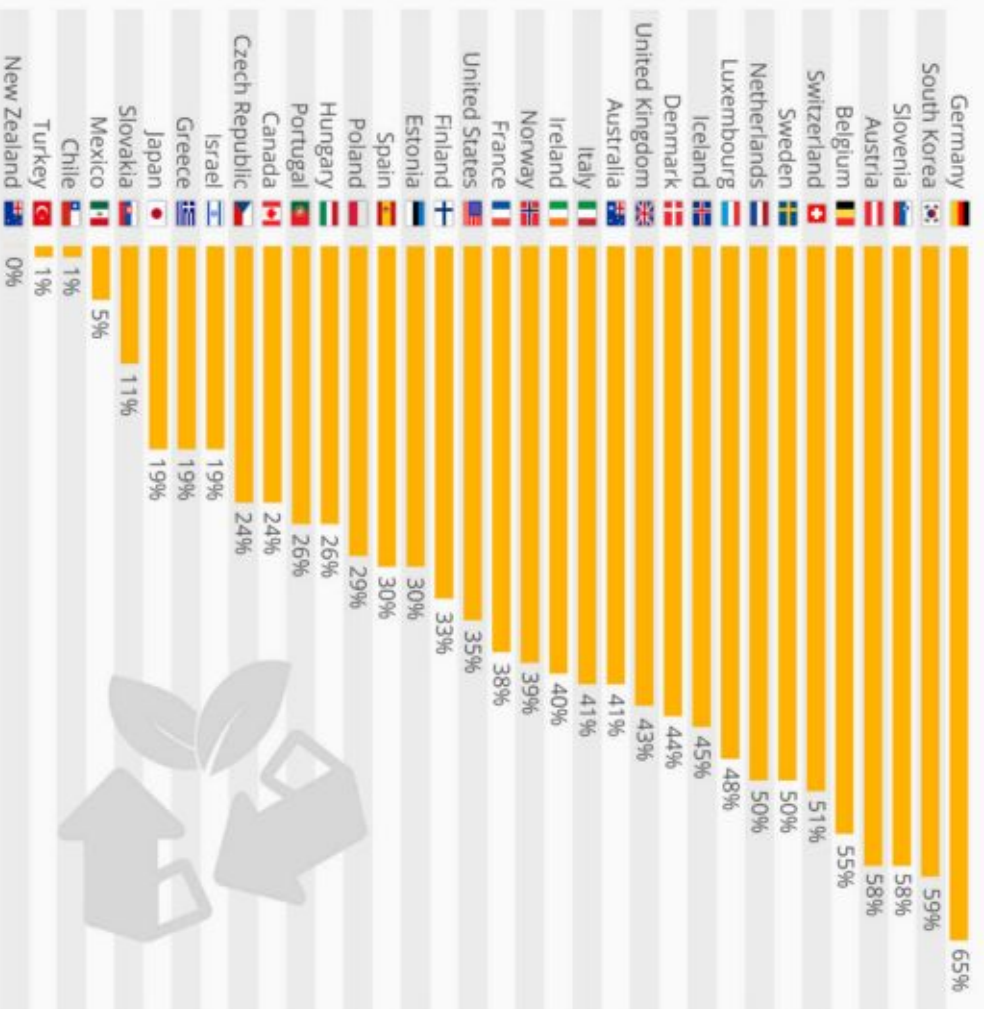
Source: YouGov



statista

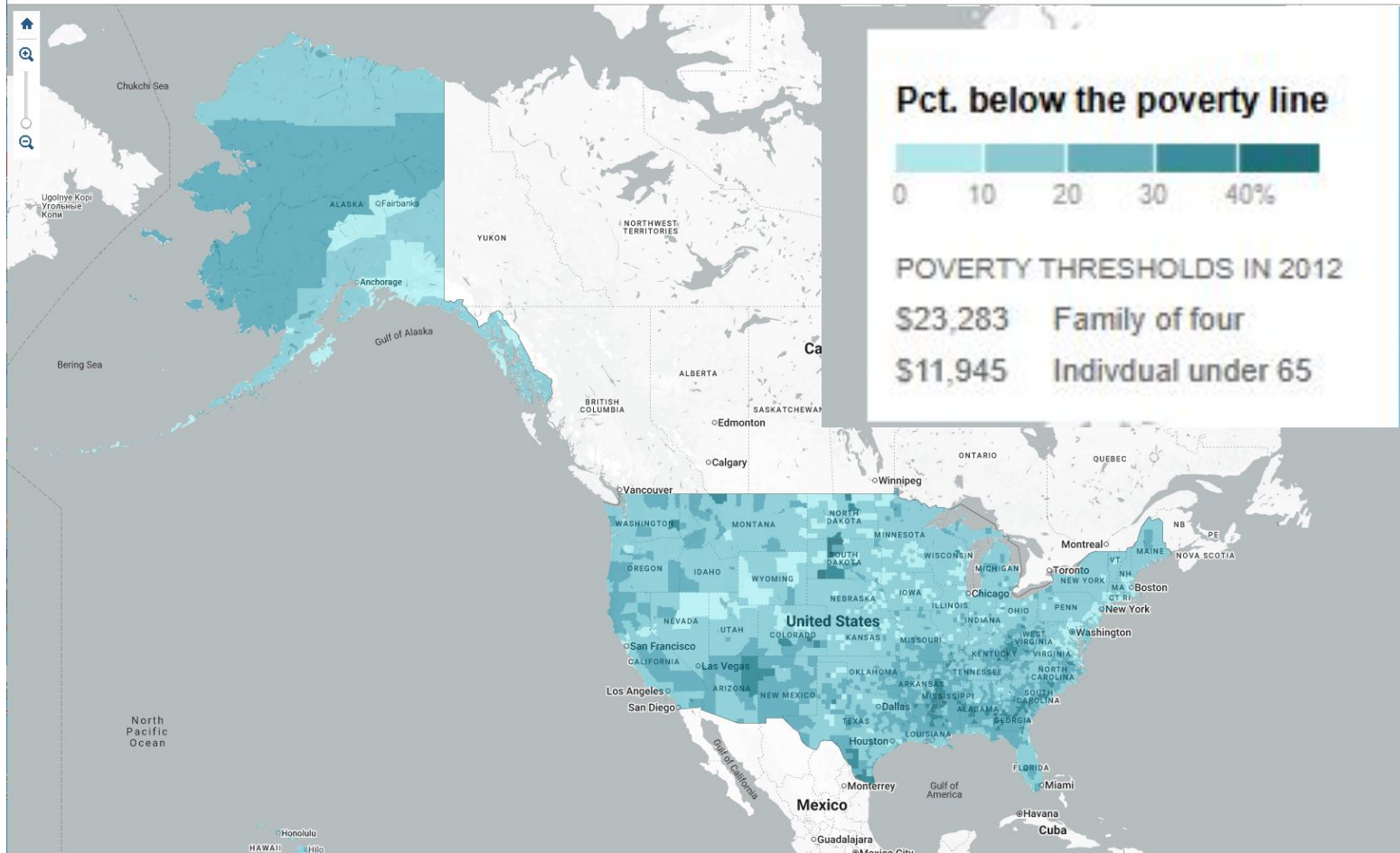
The Countries Winning The Recycling Race

Recycled & composted waste as a share of total municipal waste in OECD countries (2013)



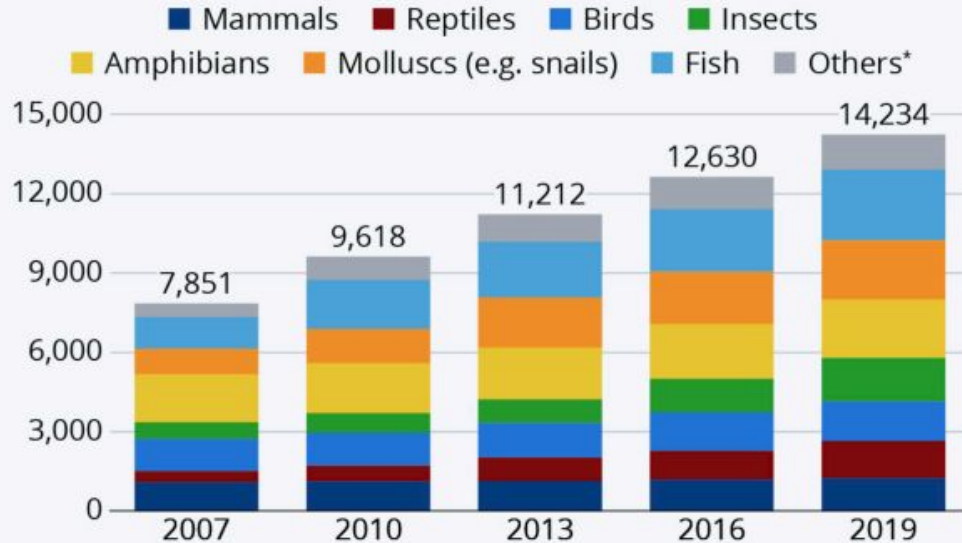
Mapping Poverty in America

Data from the Census Bureau show where the poor live.



The Number of Endangered Species is Rising

Number of animal species of the IUCN Red List, by class



* other invertebrate (spineless) animals, such as crustaceans, corals and arachnids (spiders, scorpions)

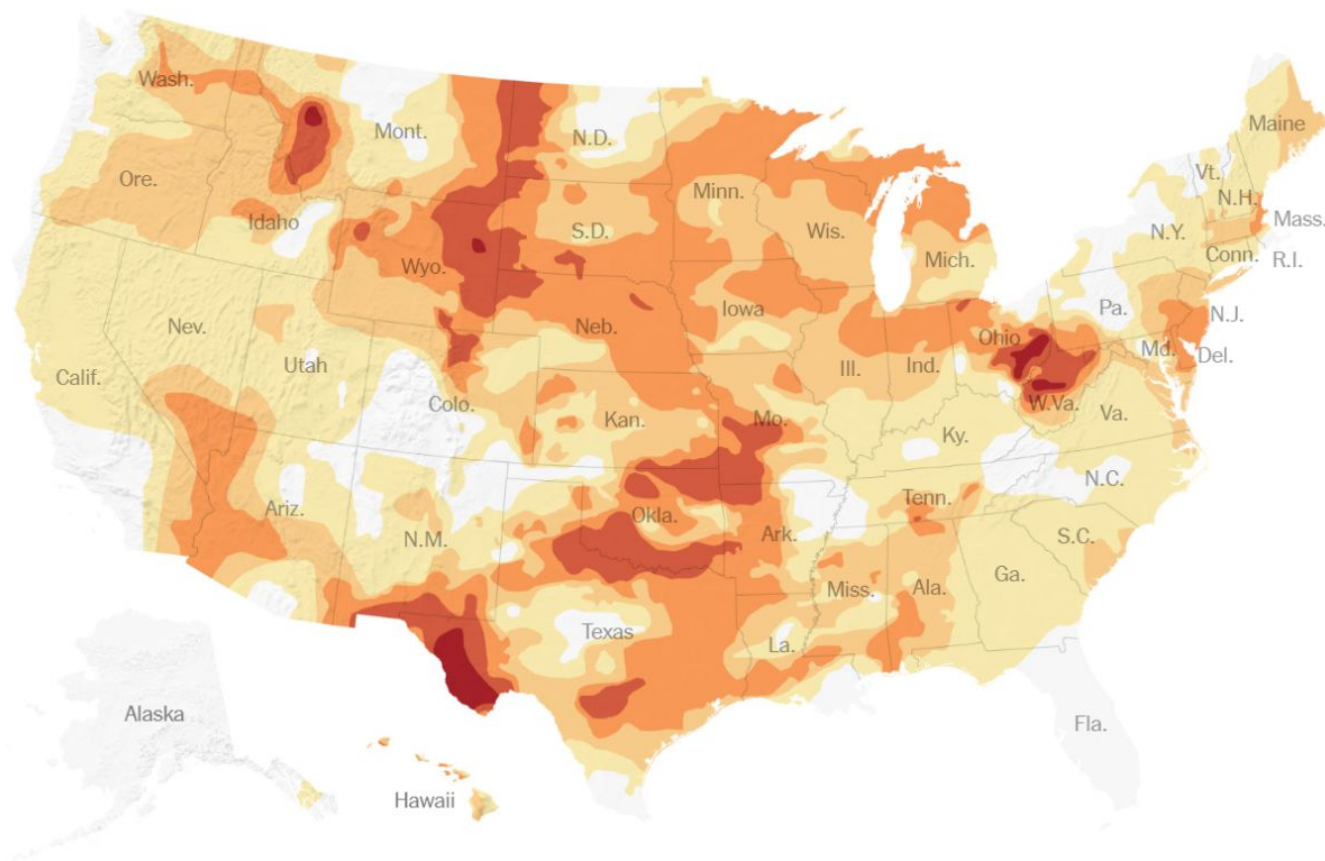
Source: IUCN Red List



statista

Widespread drought across the United States

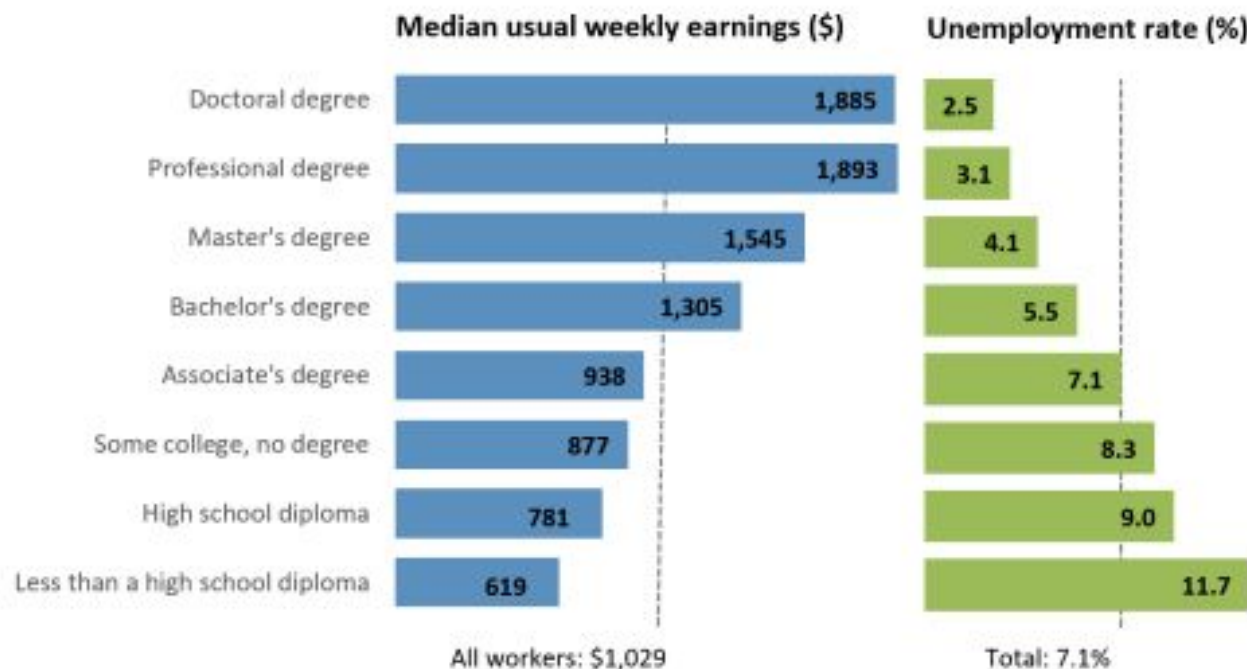
● Exceptional Drought ● Extreme ● Severe ● Moderate ● Abnormally Dry



Source: U.S. Drought Monitor • Conditions as of last week in October 2024.

By Mira Rojanasakul/The New York Times

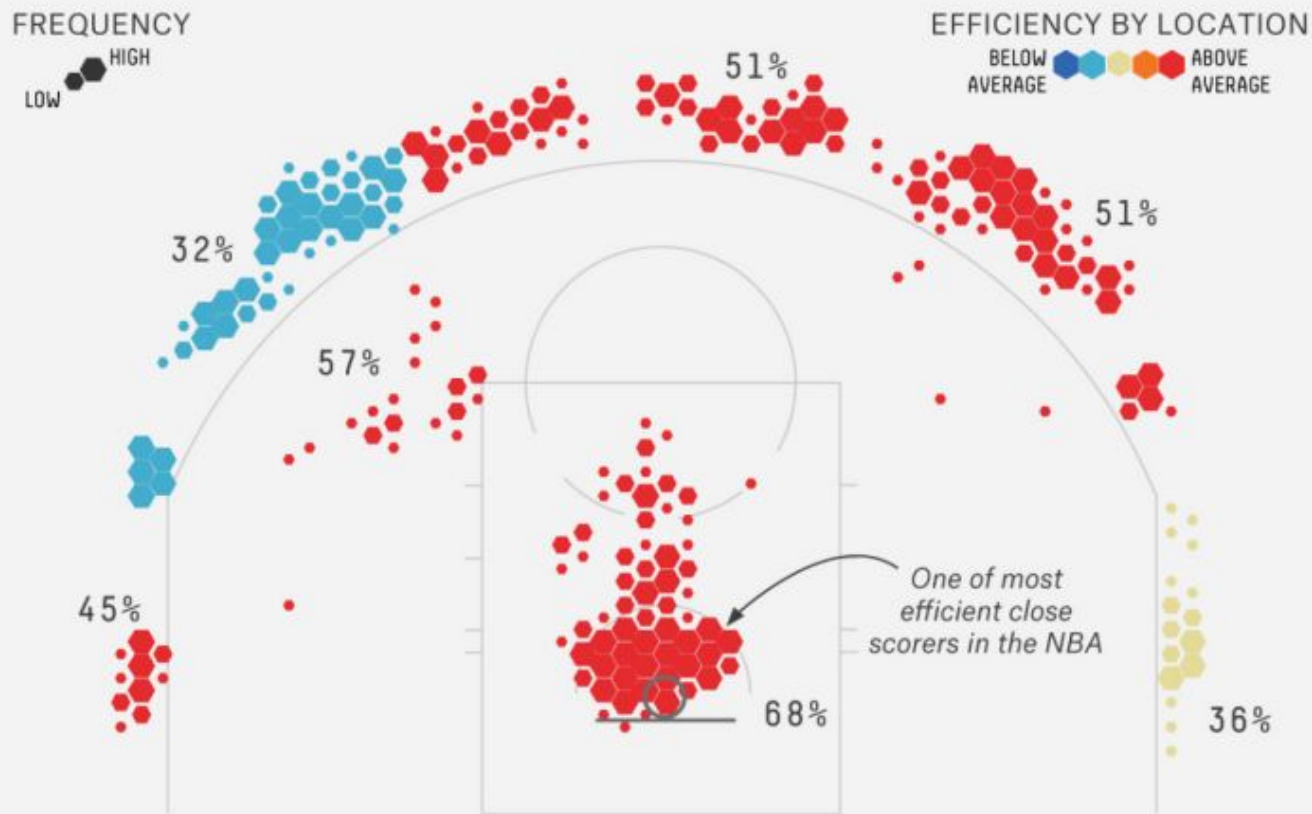
Earnings and unemployment rates by educational attainment, 2020



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.
Source: U.S. Bureau of Labor Statistics, Current Population Survey.

Stephen Curry Is One Of The Best

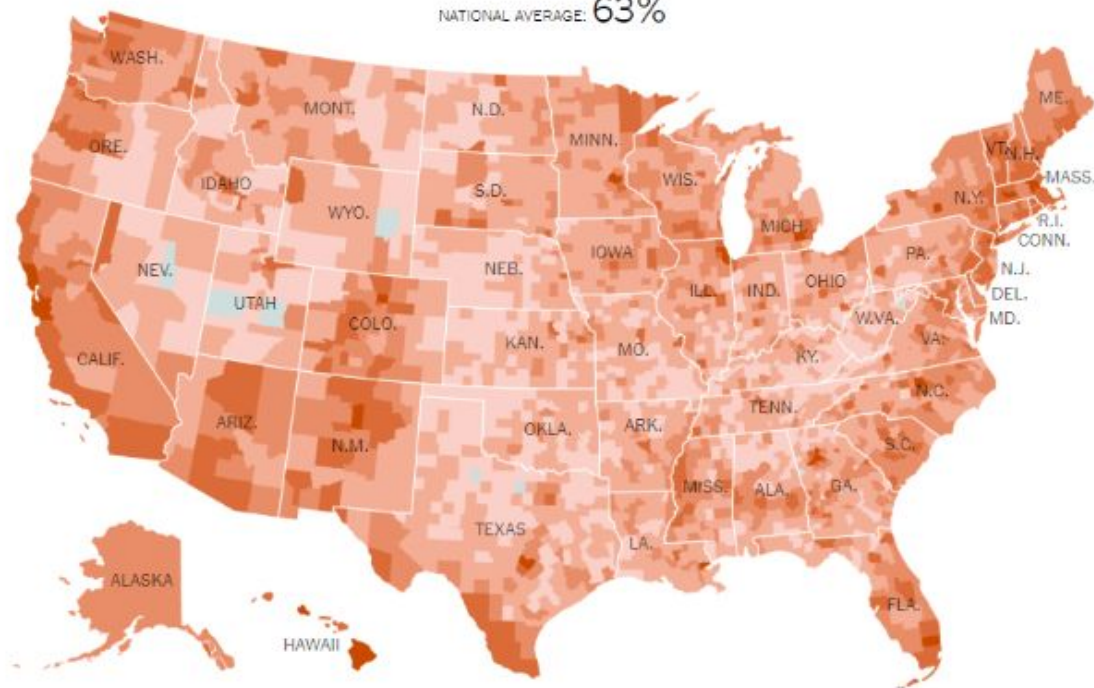
All of his shots, 2015-16 regular season



Percentage of adults who support requiring utilities to produce 20 percent of electricity from renewable sources



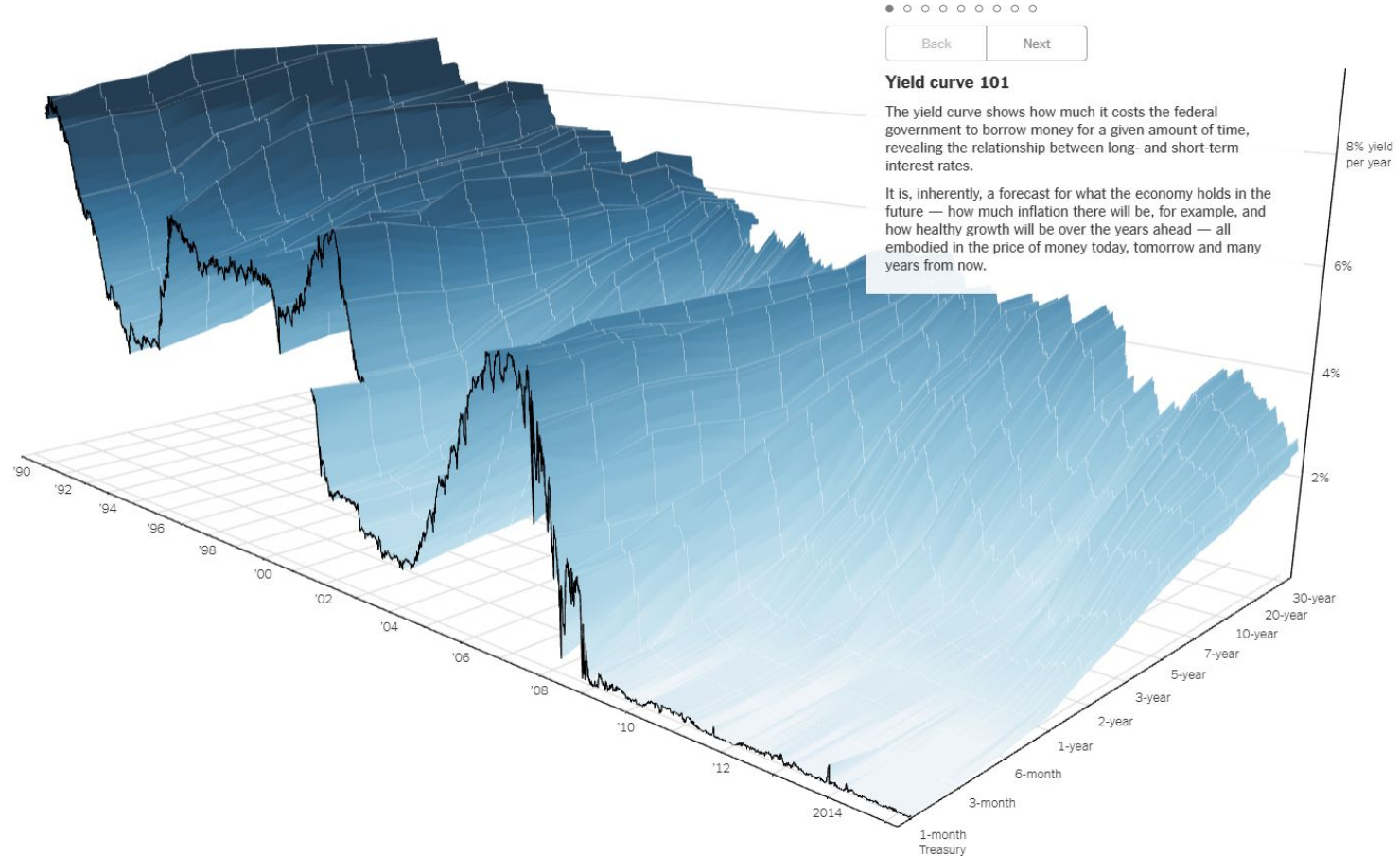
NATIONAL AVERAGE: 63%



County-level opinion data are estimates based on survey responses from more than 22,000 American adults (age 25 and older) collected between 2008 and 2018. Source: Yale Program on Climate Change Communication

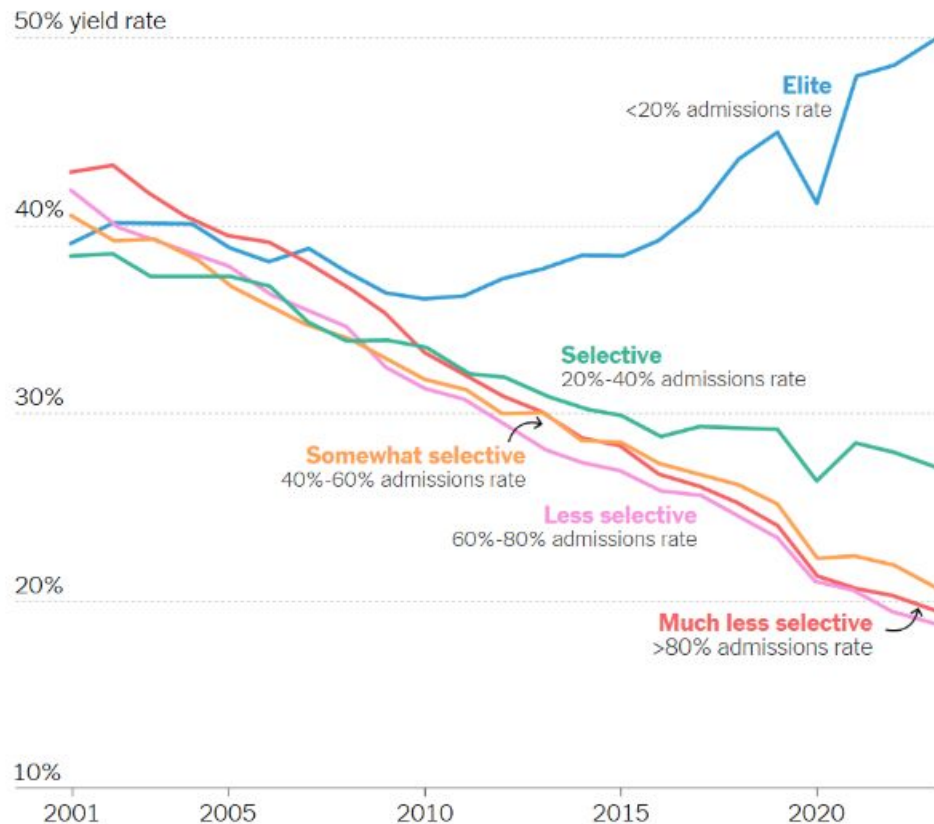
A 3-D View of a Chart That Predicts The Economic Future: The Yield Curve

By GREGOR AISCH and AMANDA COX MARCH 18, 2015



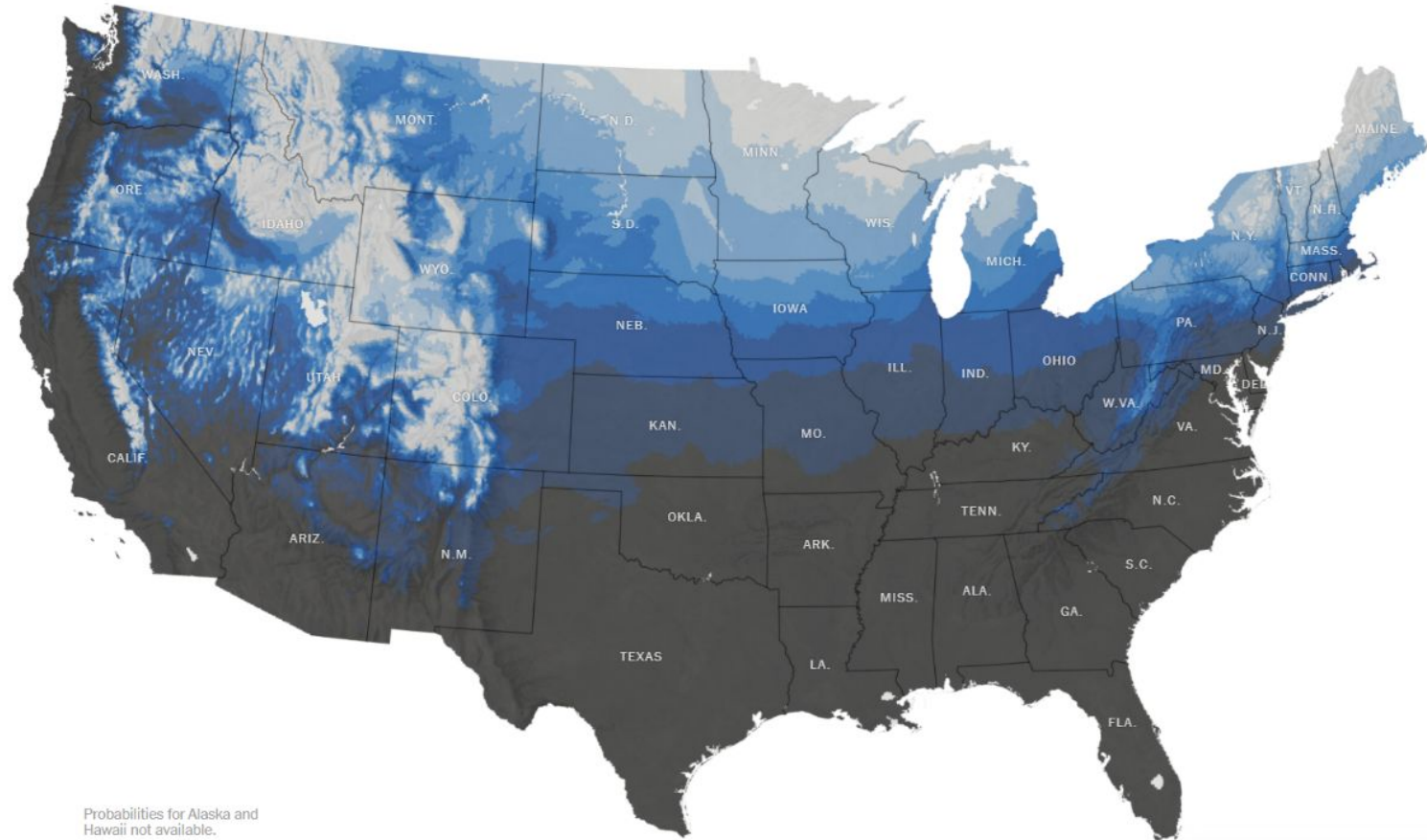
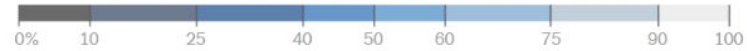
Yield Rate at U.S. Colleges, by Selectivity

The yield rate is the percentage of admitted students choosing to enroll.



Source: U.S. Department of Education, National Center for Education Statistics • Note: Based on 2021 admission rates.

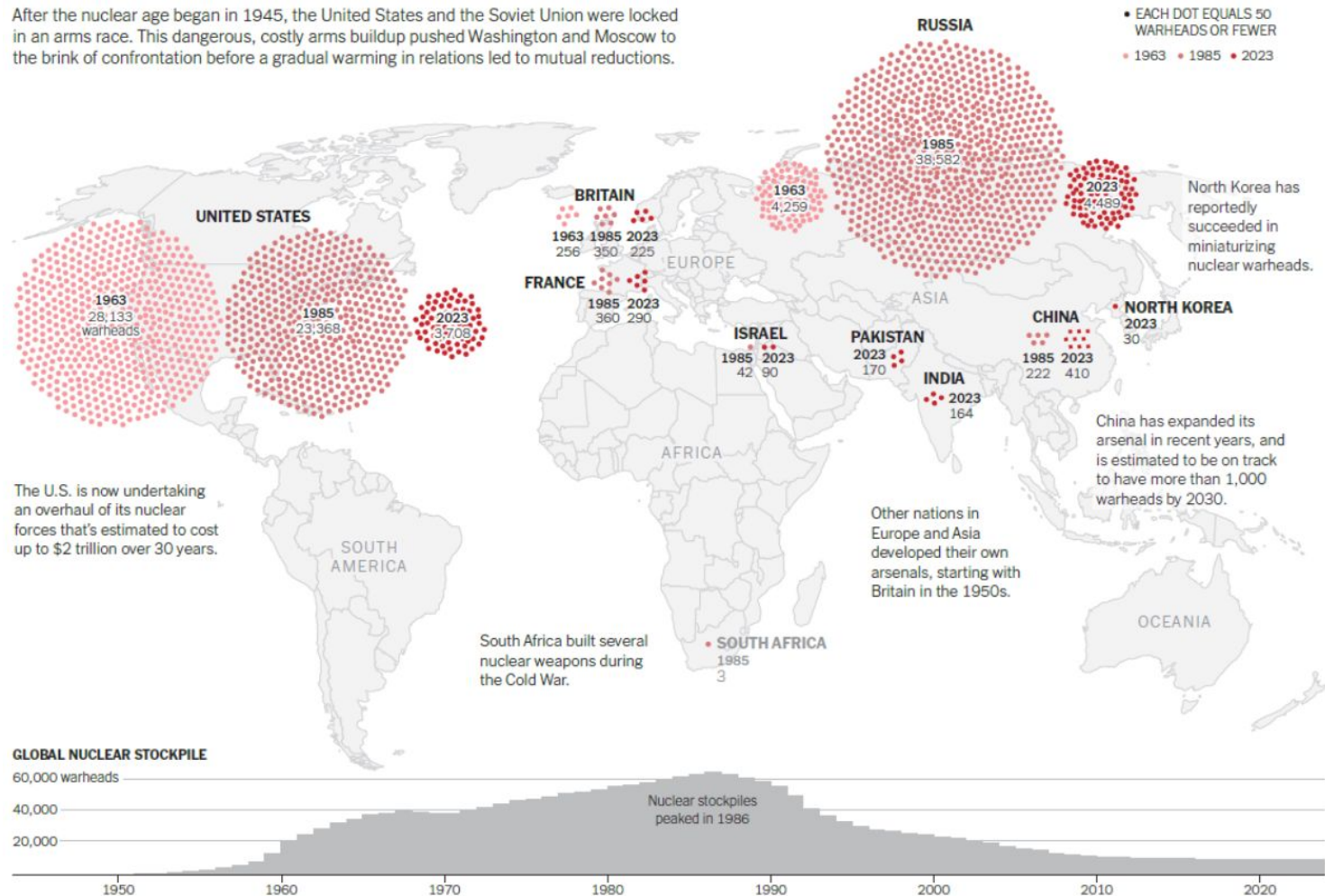
Historic probability of at least one inch of snow on Christmas



Probabilities for Alaska and Hawaii not available.

Global Nuclear Powers

After the nuclear age began in 1945, the United States and the Soviet Union were locked in an arms race. This dangerous, costly arms buildup pushed Washington and Moscow to the brink of confrontation before a gradual warming in relations led to mutual reductions.

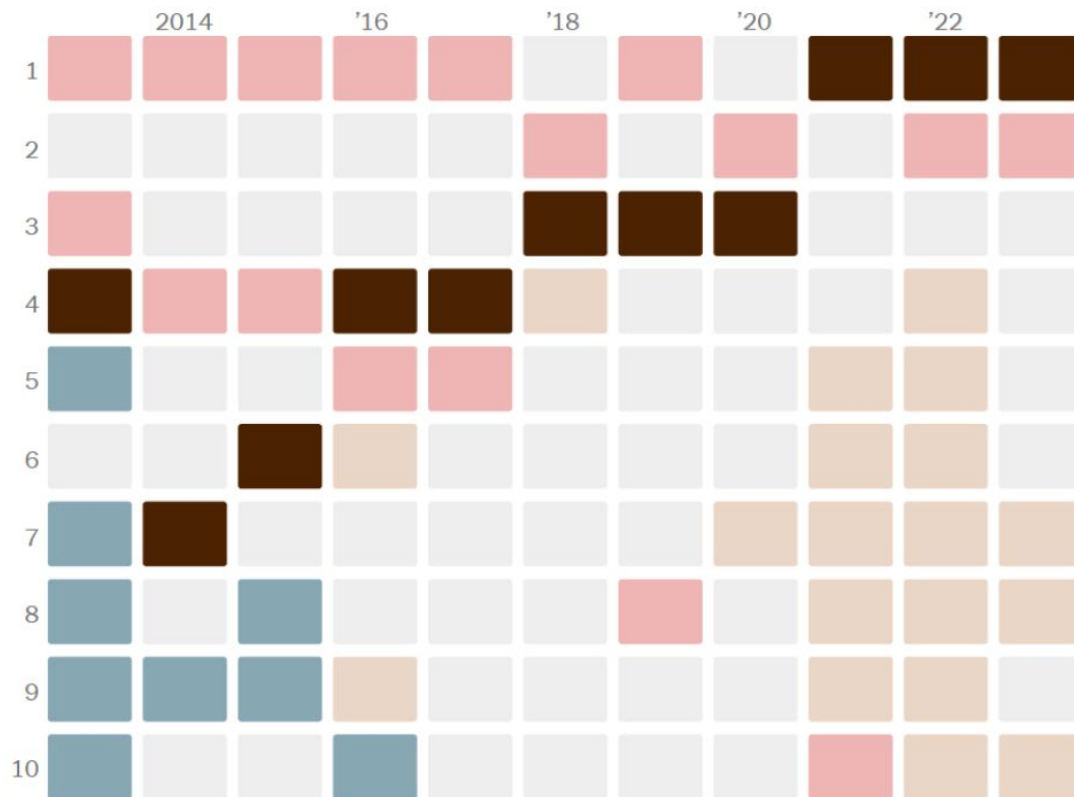


Note: Figures and dates are based on estimates of the number of warheads for military use. Source: Federation of American Scientists

QUOCTRUNG BUI AND TAYLOR MAGGIACOMO/THE NEW YORK TIMES

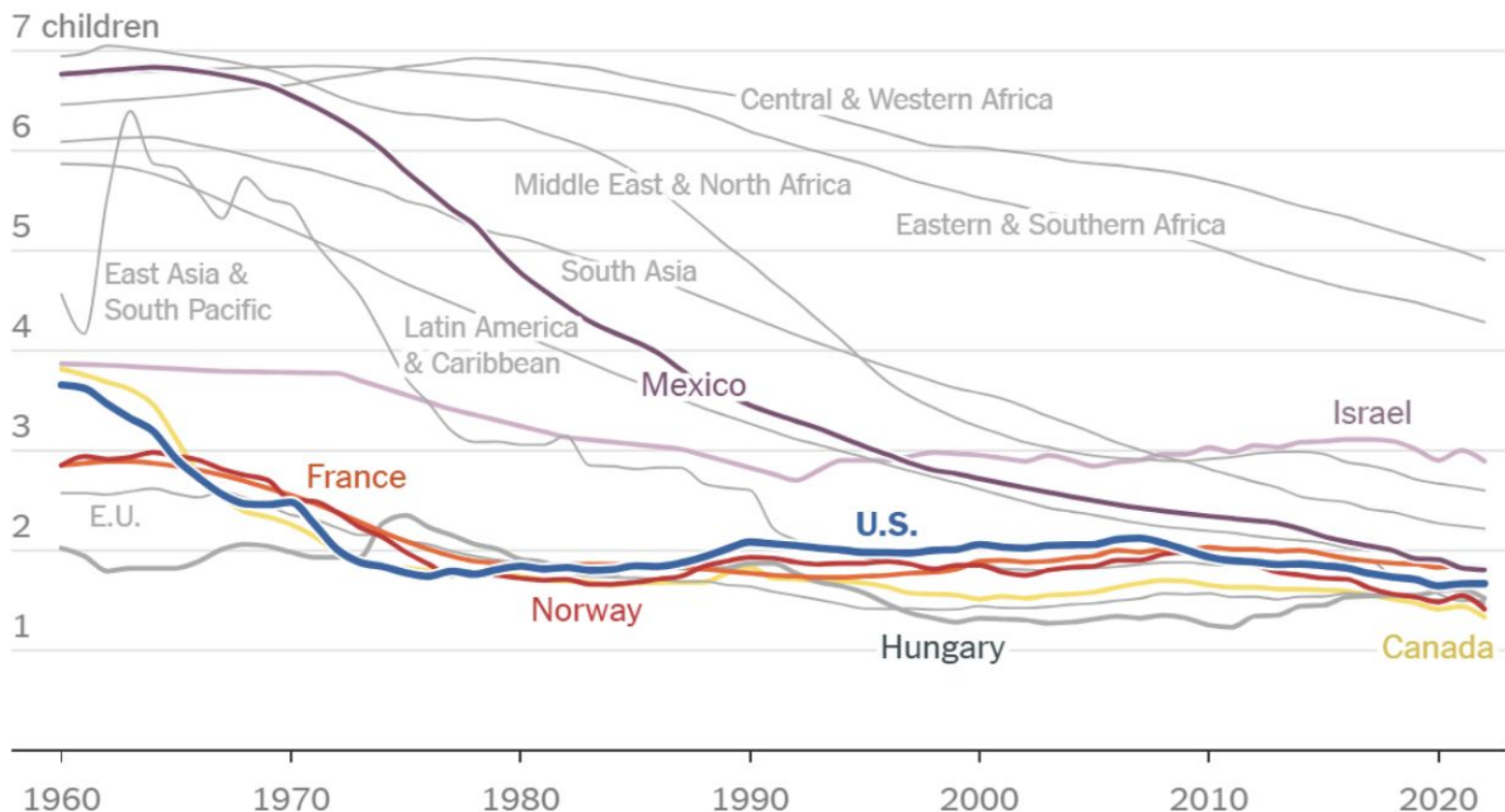
The 10 Most-Watched Nonsports Entertainment Programs, Ranked by Year

Broadcasts: ■ Macy's Parade ■ Academy Awards ■ "60 Minutes" ■ "NCIS" ■ Other



Note: Academy Awards programs also include red carpet broadcasts. Source: Nielsen By The New York times

The average number of children born to a woman in select countries and regions



E.U. refers to European Union countries, even before the bloc was formed. Source: The World Bank By The New York Times



Share of U.S. imports from China

