

# Deceptive Visualization



Michael Correll  
Tableau Research

# What is a "bad" visualization?



bad visualization



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# What is a "bad" visualization?

Google

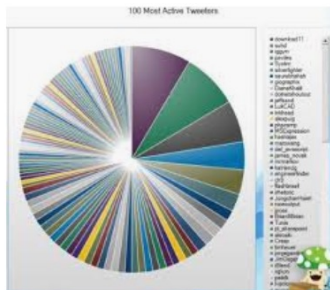
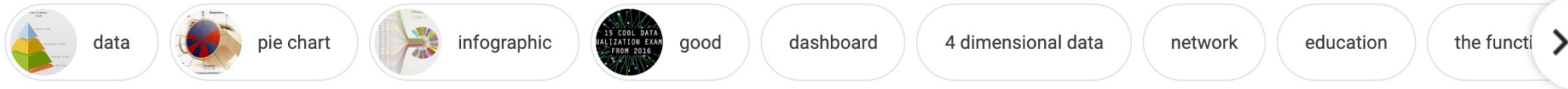
bad visualization



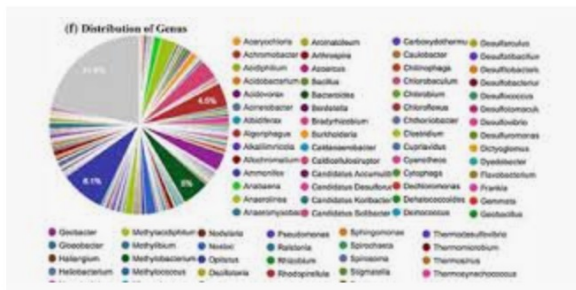
Sign in

All Images Videos News Shopping More Settings Tools

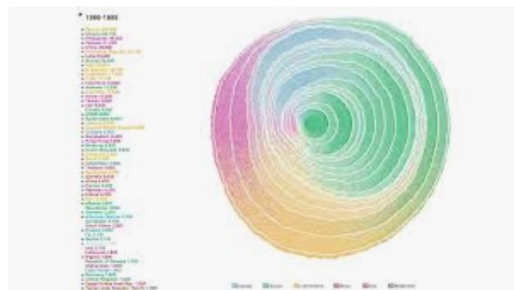
SafeSearch



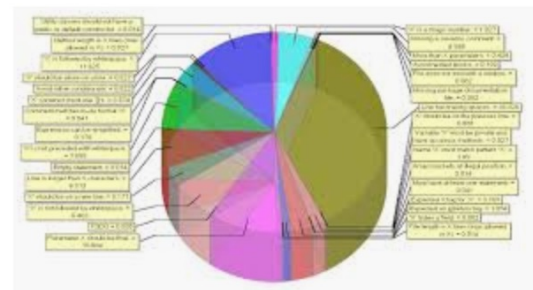
9 Worst Data Visualizations Ev...  
livingqlikview.com



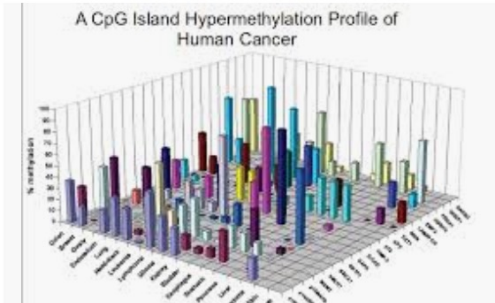
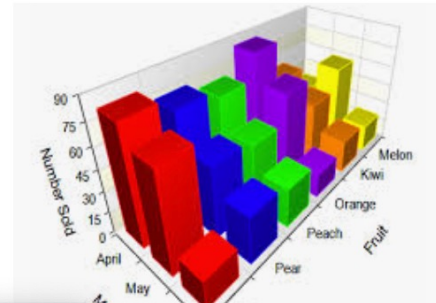
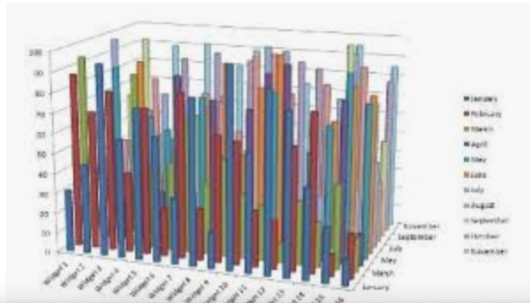
Data Stories: Avoiding Visualization ...  
tdwi.org



The Best and Worst Data Visualizations ...  
kdnuggets.com



Pin on Chartjunk Data Visualization  
pinterest.com



<https://tdwi.org/articles/2018/02/28/bi-all-visualization-fails.aspx>



“A great introduction to the use of statistics,  
and a great refresher for anyone who’s already  
well versed in it.” —**BILL GATES**

# HOW TO LIE WITH STATISTICS

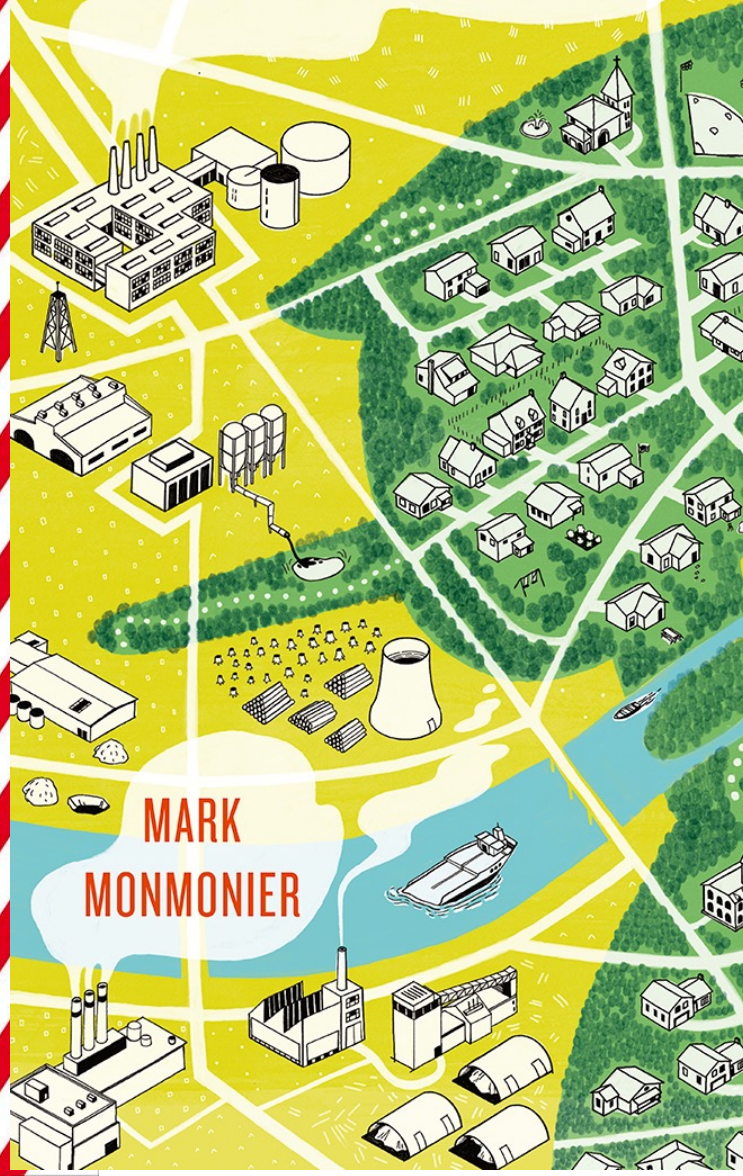


**DARRELL HUFF**

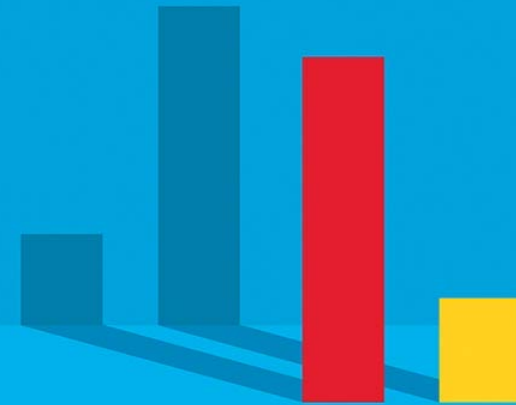
Illustrated by **Irving Geis**

An Honest-to-Goodness Bestseller

# HOW TO LIE WITH MAPS



# How Charts Lie



Getting Smarter about  
Visual Information

Alberto Cairo



Takeaway:

Visualizations are a form of communication.

You can lie, stretch the truth, and bullshit with visualizations, just like any form of communication.

The background features a minimalist, abstract pattern of black and grey geometric shapes. These include thin, hand-drawn style lines of various orientations, solid black circles of different sizes, and bold black 'x' marks. The shapes are scattered across the white background, creating a sense of movement and depth. The central text is framed by several horizontal lines, some of which are slightly wavy, suggesting a hand-drawn or layered aesthetic.

# DARK PATTERNS

*(They're Everywhere)*

# Dark Patterns

The screenshot shows a web browser window displaying the Softpedia page for 'OnyX for Mac'. The page features a dark blue navigation bar with 'SOFTPEDIA' and menu items like 'DESKTOP', 'MOBILE', 'WEB', and 'NEWS'. Below the navigation, there's a breadcrumb trail: 'Softpedia > Mac > System Utilities > OnyX'. A red 'ALERT' banner for '2016 Holiday Giveaways!' is visible. The main content area is titled 'OnyX for Mac' and includes a 'DOWNLOAD' button, download statistics (177,446 downloads), and a star rating (5.5/5). A large 'Start Download' section contains a 'DOWNLOAD NOW' button and a three-step process: '1. Click Download', '2. Run the quick scan', and '3. Enjoy your clean Mac'. Below this, there are tabs for 'EDITOR'S REVIEW', 'DOWNLOAD', 'SPECIFICATIONS', and 'CHANGELOG'. A '100% CLEAN' badge is also present. The main text describes OnyX as a 'Free OS X application designed to help you perform a large variety of optimization, maintenance, and customization tasks via a very simple and intuitive interface'. A sidebar on the left contains sections for 'CURRENT VERSION' (OnyX 3.2.1), '17 SCREENSHOTS', and 'IN-DEPTH REVIEW'. At the bottom right, there is a 'Download Cleaner' advertisement featuring an image of a person using a laptop and the text 'Download Cleaner'.



# Dark Patterns


The image shows a screenshot of the Softpedia website for the application 'Onyx for Mac'. The browser address bar shows 'mac.softpedia.com/get/System-Utilities/Onyx.shtml'. The website has a dark blue header with 'SOFTPEDIA' and navigation links for 'DESKTOP', 'Mac', 'MOBILE', 'WEB', and 'NEWS'. A navigation breadcrumb shows 'Softpedia > Mac > System Utilities > Onyx'. An alert banner at the top right says 'ALERT 2016 Holiday Giveaways!'. The main content area features a large 'DOWNLOAD' button with a download icon, highlighted by an orange box. Below it, the current version is 'Onyx 3.2.1' and it has '177,446 downloads' and a '5.5/5' rating. A 'Start Download' section includes a 'DOWNLOAD NOW' button and a three-step process: '1. Click Download', '2. Run the quick scan', and '3. Enjoy your clean Mac'. The page also includes an 'EDITOR'S REVIEW' section with a '100% CLEAN' badge and a 'REPORT MALWARE' link. A description states: 'Free OS X application designed to help you perform a large variety of optimization, maintenance, and customization tasks via a very simple and intuitive interface'. A sidebar on the left contains links for '17 SCREENSHOTS', 'IN-DEPTH REVIEW', 'FILE SIZE: 34.8 MB', 'RUNS ON: macOS 10.12 or later (Intel only)', 'CATEGORY: Home | System Utilities', and 'DEVELOPER:'. A vertical 'STICKY' label is on the right. At the bottom right, there is a 'Download Cleaner' advertisement with an image of a person using a laptop.



Zone Kaiwei Ni factory  
Sponsored

**80% OFF**  
**BLACK FRIDAY SALE**



 Shop Now



Bad Visualizations

Incorrect Visualizations

Illegible Visualizations

Bullshit Visualizations

Unconventional Visualizations





# Bad Visualizations

## **Incorrect Visualizations**

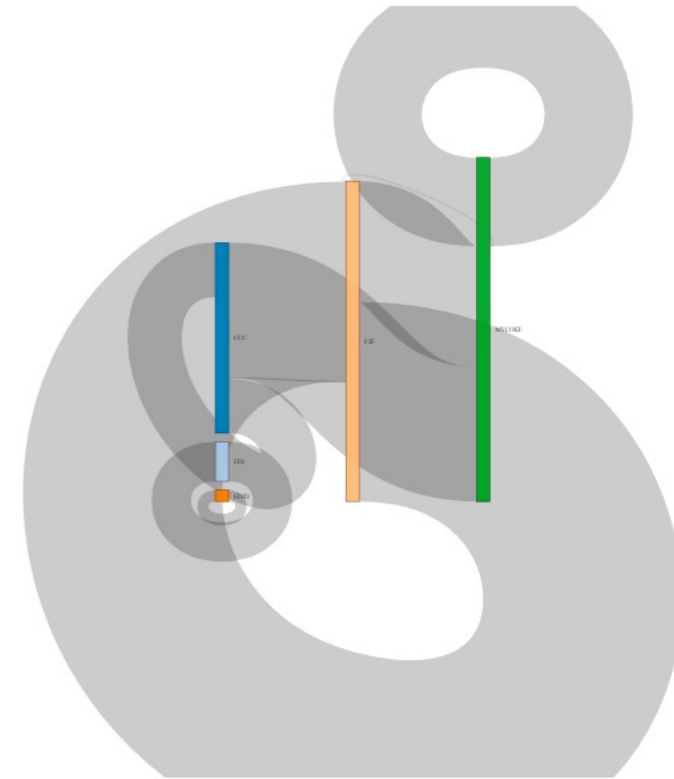
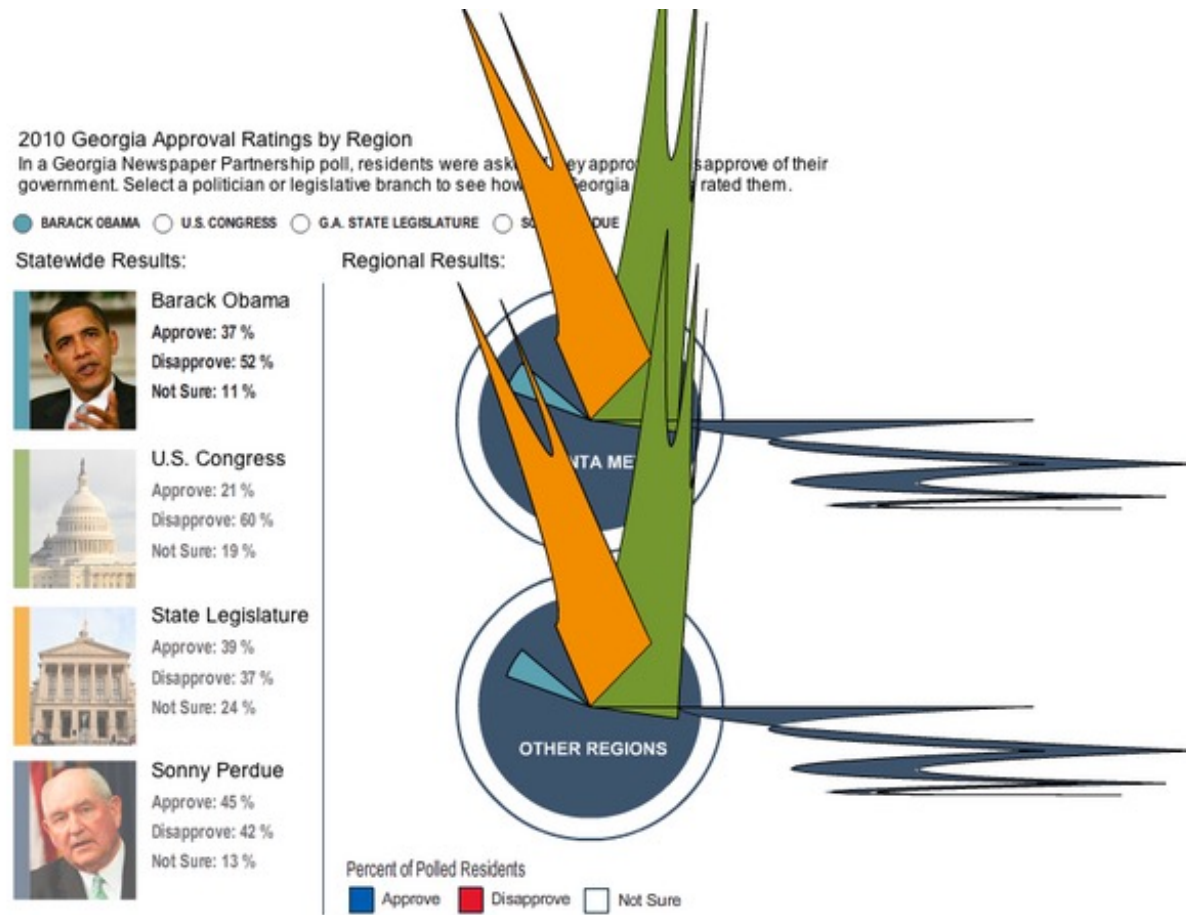
Illegible Visualizations

Bullshit Visualizations

Unconventional Visualizations



# Incorrect Visualization







HONG KONG



NEW DAY

NEW DAY

NEW DAY SATUR


AROUND THE WORLD


# GIANT HORNETS KILL 42 PEOPLE IN CHINA

LIVE CNN

RIGHT NOW

CHICAGO  71°

DETROIT  66°

HOUSTON  77°

HEALTH EVALUATION IN MIRIAM CAREY'S HOME AFTER DC C

CNN.com



**RIGHT NOW**

**FOX 10**  
**AccuWeather**

**TEMPERATURES**

Wickenburg  
**2385**

Cave Creek  
**2960**

Surprise  
**1350**

Deer Valley  
**65**

Fountain Hills  
**1665**

Glendale  
**66**

Scottsdale  
**64**

Buckeye  
**66**

Goodyear  
**64**

Sky Harbor  
**64**

Mesa  
**63**

Apache Junction  
**64**

Ahwatukee  
**1270**

Chandler  
**63**

Gateway  
**63**

Queen Creek

Maricopa  
**63**

Florence  
**1625**

**FOX 10**

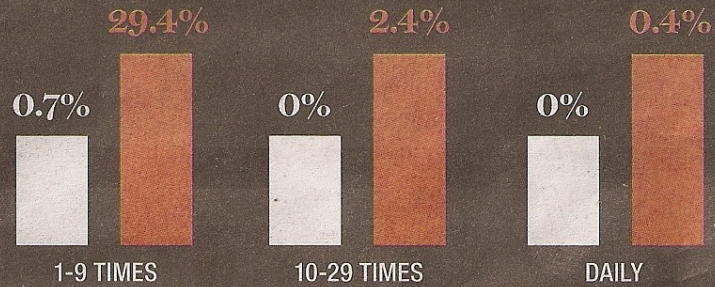
12:20 64°



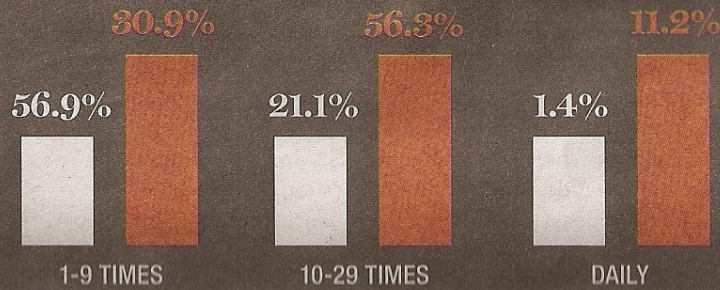
# BY THE NUMBERS

The National Collegiate Health Assessment was taken by 1,000 UCSB students in Spring 2009. Participants were asked how frequently they used substances over the past 30 days. Numbers in white reflect actual student use, while red numbers indicate perceived substance use. The average age of participants was 20 years and approximately 99 percent were full-time students.

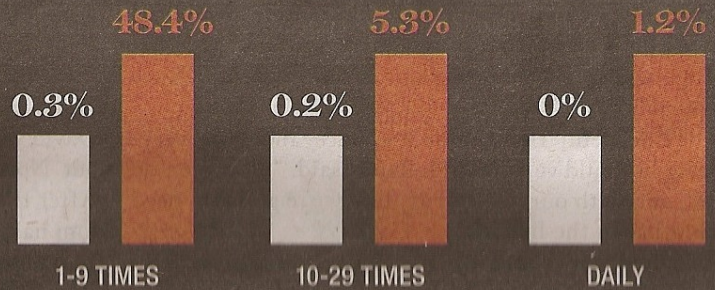
## OPIATES



## ALCOHOL



## COCAINE

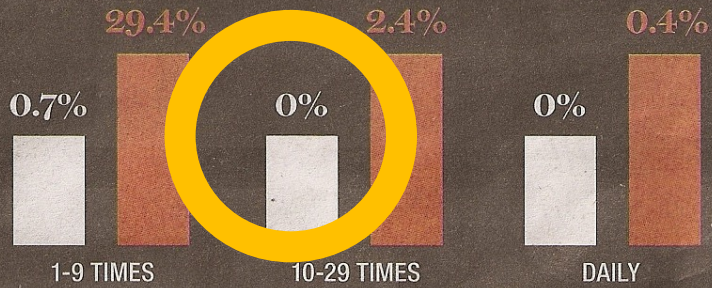




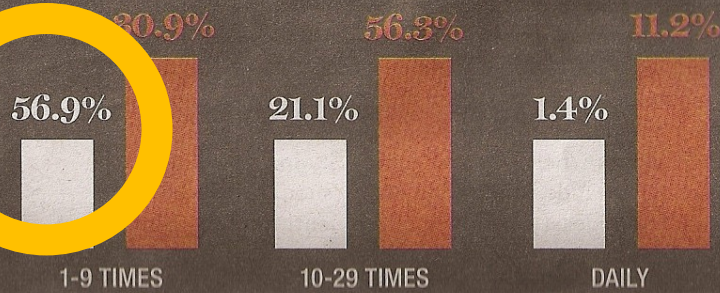
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## OPIATES



## ALCOHOL



## COCAINE

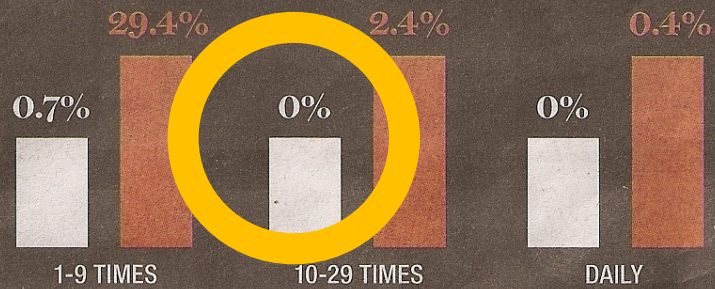




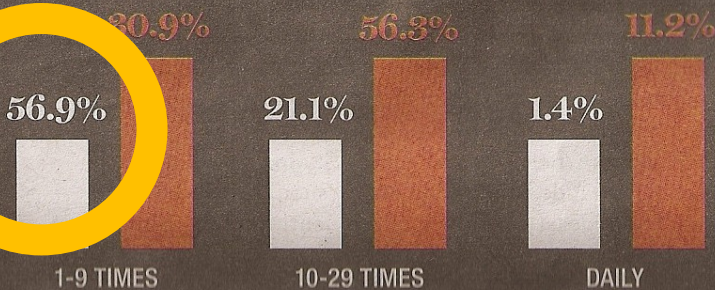
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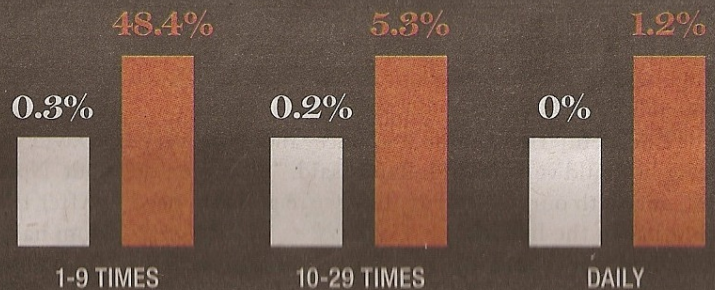
## OPIATES



## ALCOHOL



## COCAINE



## Opiates

## Alcohol

## Cocaine

	1-9 Times		10-29 Times		Daily	
Rate	Actual	Perceived	Actual	Perceived	Actual	Perceived
Opiates	0.7%	29.4%	0.0%	2.4%	0.0%	0.4%
Alcohol	56.9%	30.9%	21.1%	56.3%	1.4%	11.2%
Cocaine	0.3%	48.4%	0.2%	5.3%	0.0%	1.2%



# UNEMPLOYMENT RATE

## UNDER PRESIDENT OBAMA



# UNEMPLOYMENT RATE

## UNDER PRESIDENT OBAMA



# UNEMPLOYMENT RATE

## UNDER PRESIDENT OBAMA



# UNEMPLOYMENT RATE

## UNDER PRESIDENT OBAMA





# UNEMPLOYMENT RATE

## UNDER PRESIDENT OBAMA



# UNEMPLOYMENT RATE

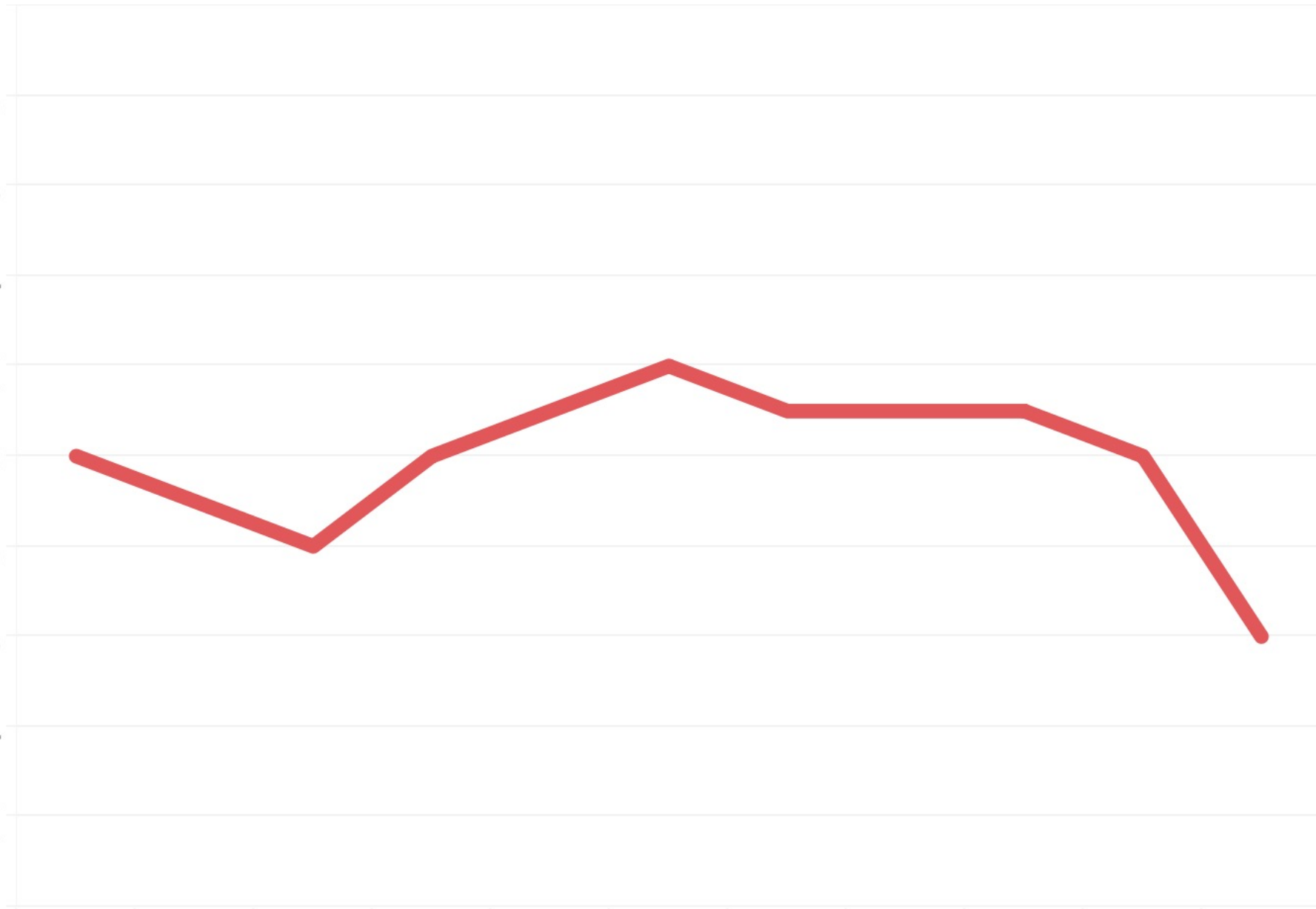
## UNDER PRESIDENT OBAMA



Unemployment

9.8  
9.6  
9.4  
9.2  
9.0  
8.8  
8.6  
8.4  
8.2

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov





# Incorrect Visualizations

People assume that visualizations properly encode their data

...if we violate that assumption, we can do anything we want.

Bad Visualizations

Incorrect Visualizations

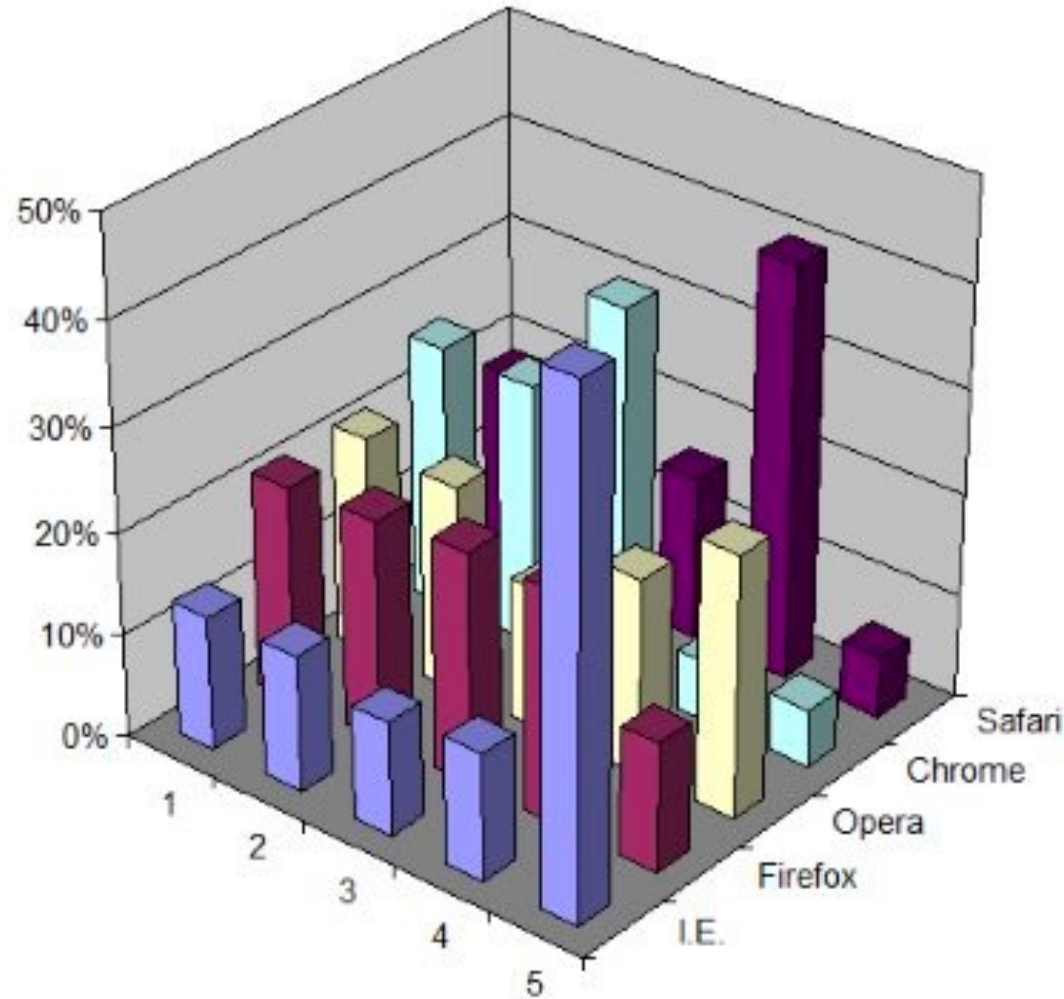
**Illegible Visualizations**

Bullshit Visualizations

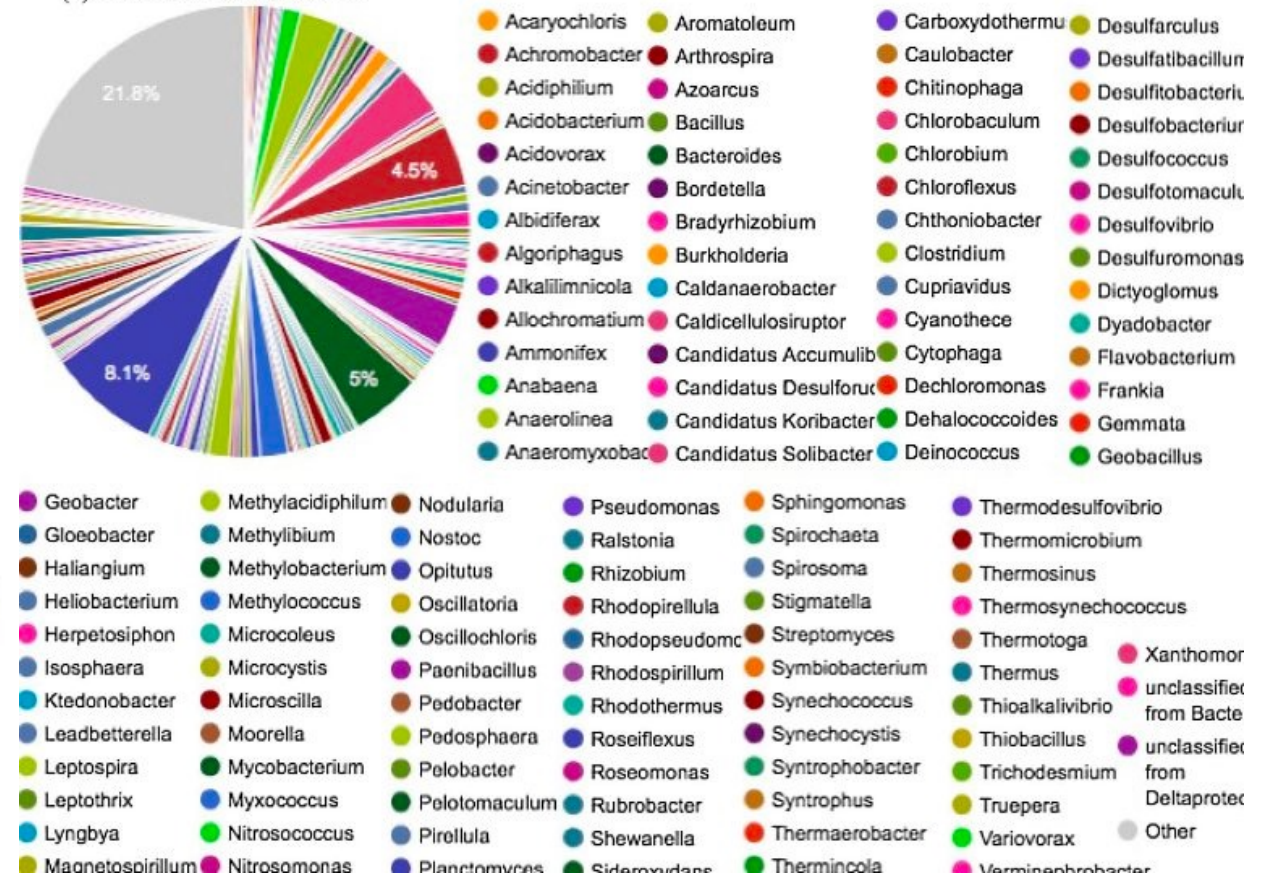
Unconventional Visualizations



# Illegible Visualization



(f) Distribution of Genus







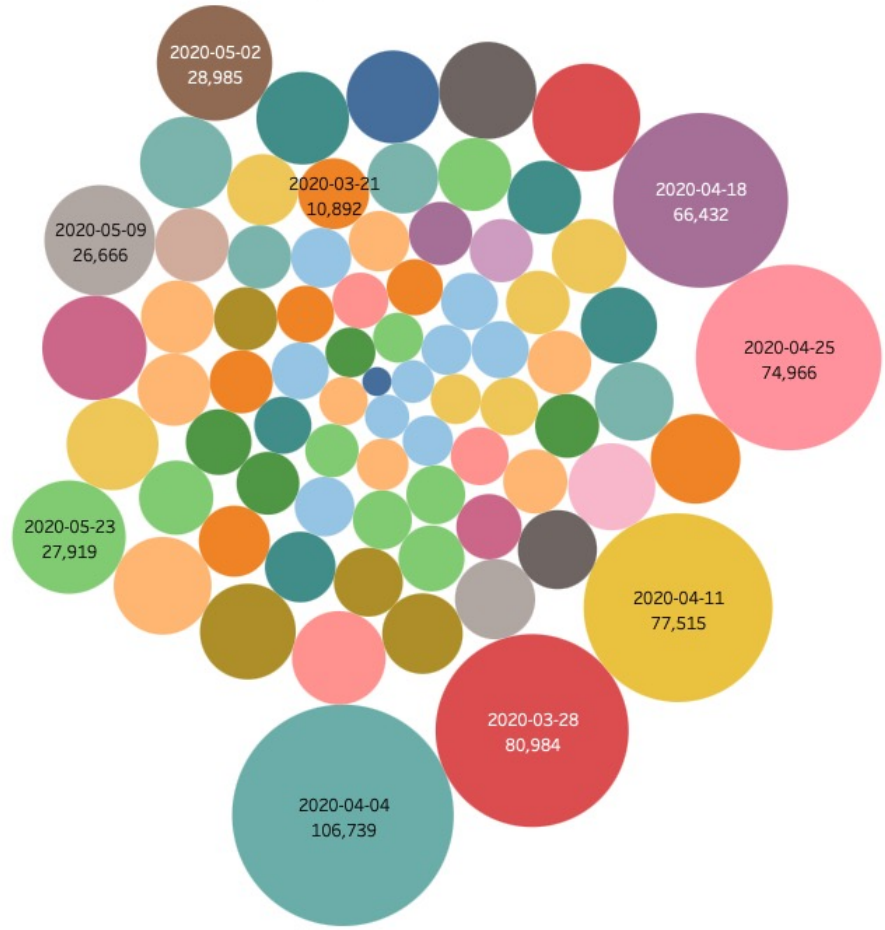
## Interactive Weekly Unemployment Insurance Claims

Initial\_Claims\_byCounty | **Historical**

County  
Total

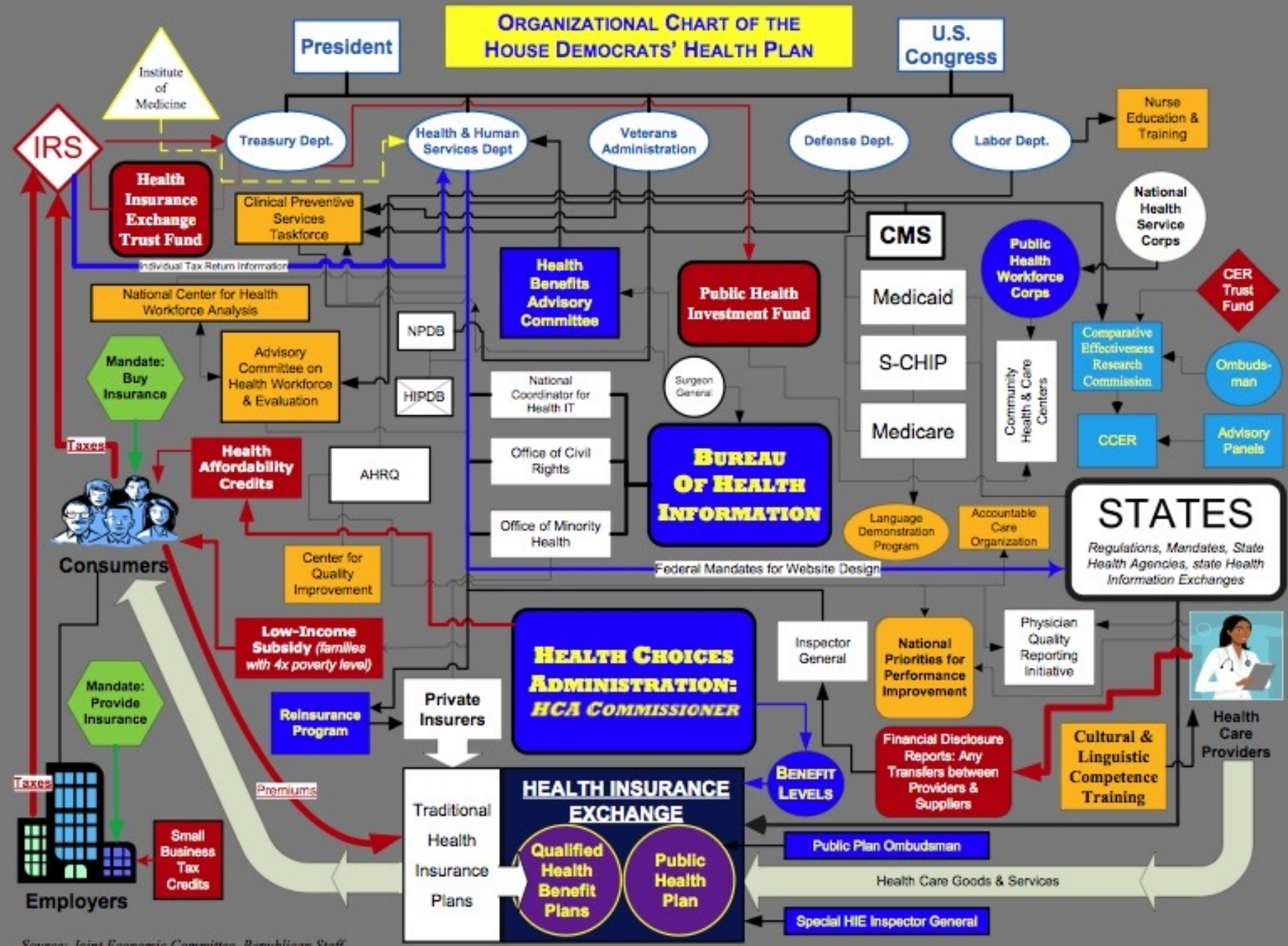
### Historical Initial Claims by Week

2020-12-26	5,506
2021-01-02	10,986
2021-01-09	14,084
2021-01-16	11,983
2021-01-23	11,615
2021-01-30	12,664
2021-02-06	13,464
2021-02-13	12,087
2021-02-20	11,395
2021-02-27	11,624
2021-03-06	13,592
2021-03-13	16,506
2021-03-20	13,994
2021-03-27	18,710
2021-04-10	10,909
2021-04-17	8,983
2021-04-24	8,704
2021-05-01	10,325
2021-05-08	10,841
2021-05-15	9,377
2021-05-22	8,698
2021-06-05	7,290
2021-06-12	6,847
2021-06-19	7,108
2021-06-26	5,816
2021-07-03	7,295
2021-07-10	5,435
2021-07-17	4,254
2021-07-24	3,977
2021-07-31	6,793
2021-08-07	6,196
2021-08-14	5,469
2021-08-21	5,407
2021-08-28	5,431
2021-09-04	5,095



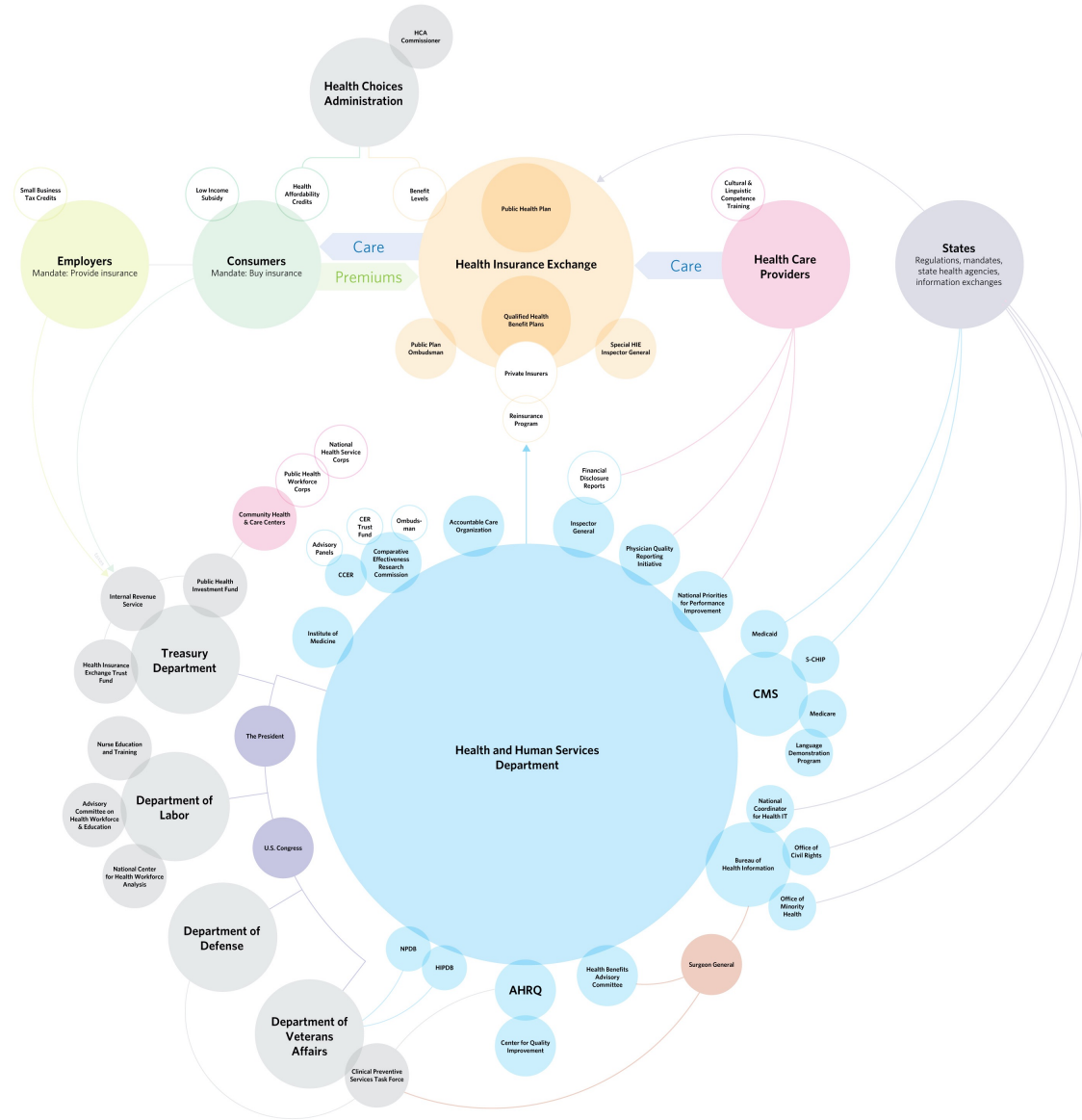
Week Ending date

- 2020-03-14
- 2021-07-24
- 2021-07-17
- 2021-09-04
- 2021-08-21
- 2021-08-14



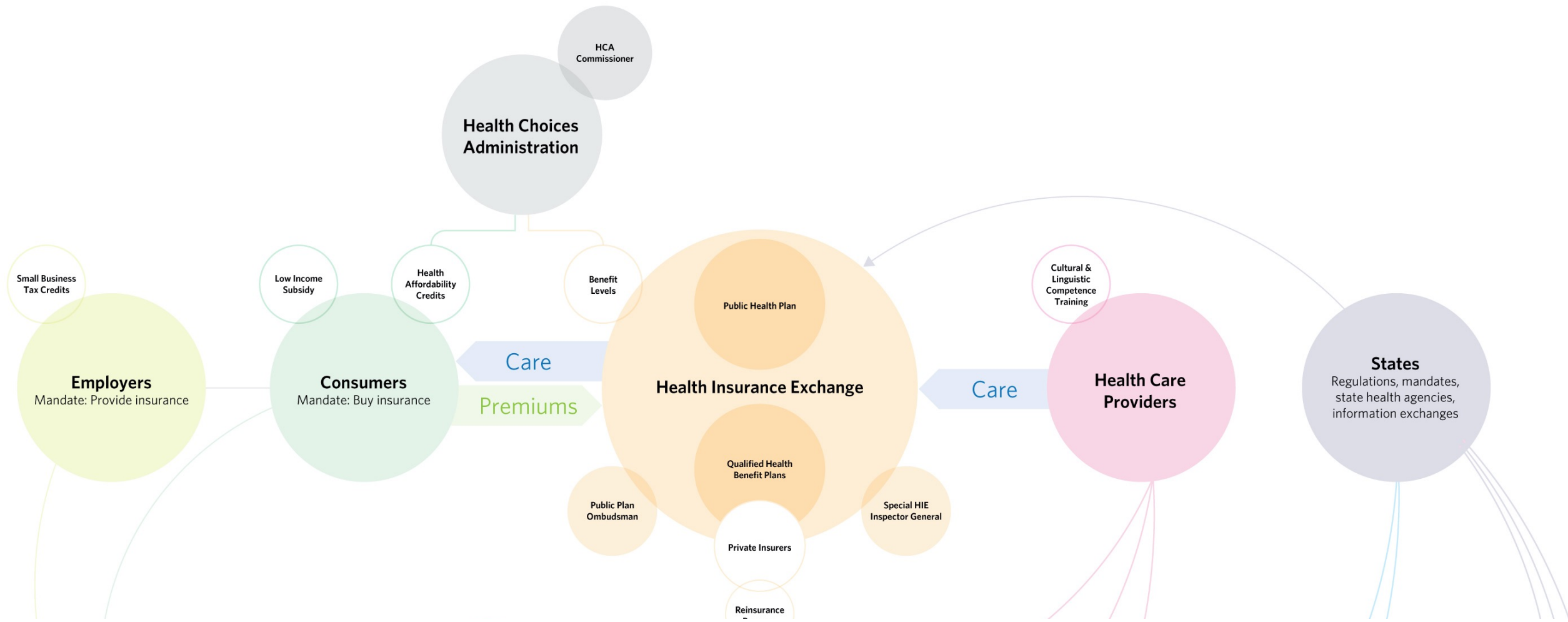
Source: Joint Economic Committee, Republican Staff  
 Congressman Kevin Brady, Ranking House Republican Member

# Organizational Chart of the House Democrats' Health Plan



**“Do not fuck with graphic designers” – Robert Palmer**





**“Do not fuck with graphic designers” – Robert Palmer**

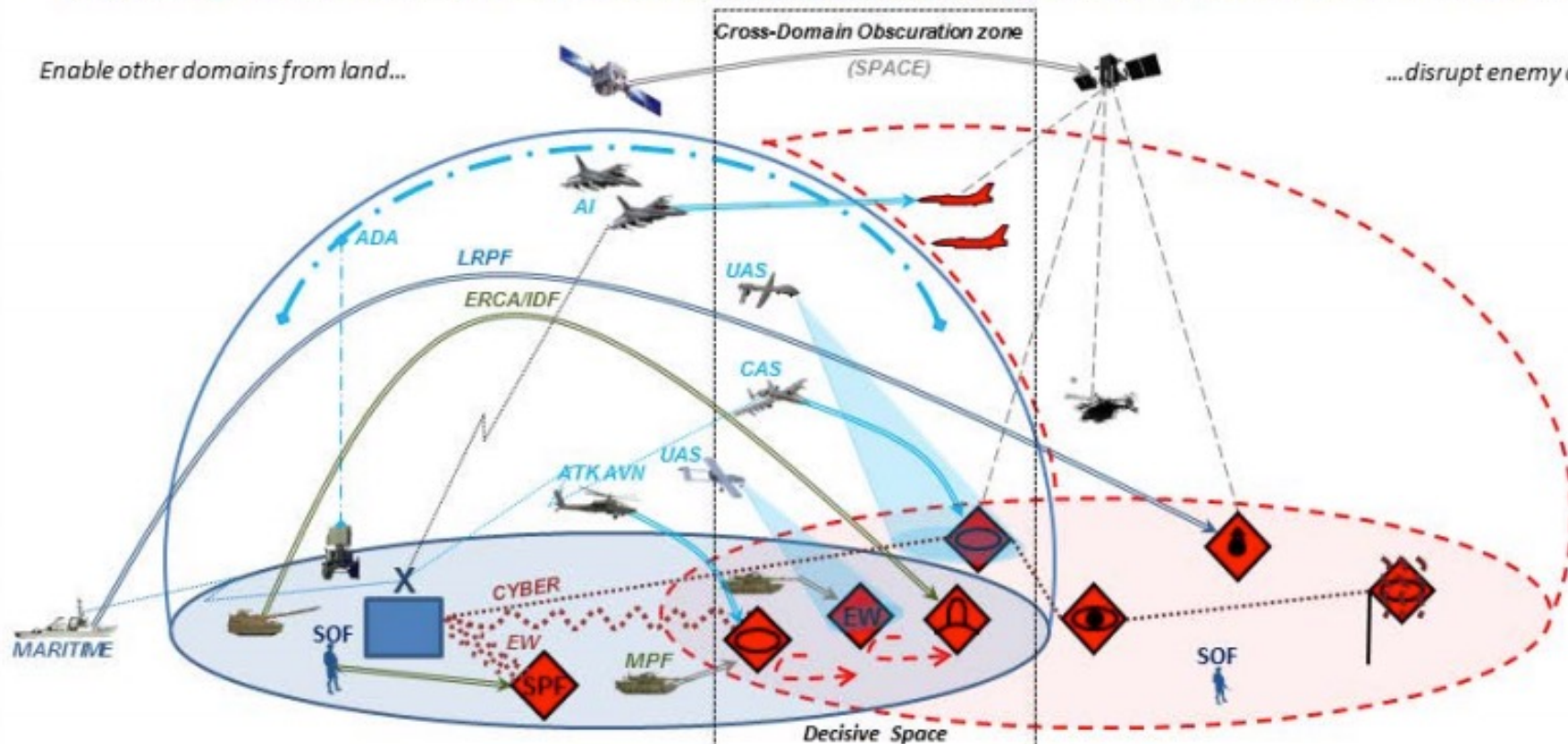
# Cross-Domain Obscuration

The use of tactics, materials, or technologies in the land, air, cyberspace (to include information and EW), space, and maritime domains that degrade threat sensor capability within selectable portions of the EMS to prevent an enemy or adversary from detecting and effectively targeting friendly units, combat platforms, and key assets.

Create synergy across all domains to increase relative combat power and disrupt enemy ability to employ capabilities across domains

Enable other domains from land...

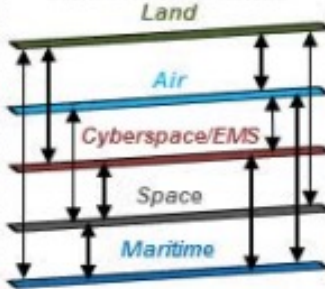
...disrupt enemy cohesion



## Domain Capabilities

- Mobile, Lethal, and Protected BCT formations/Air Defense (SHORAD), Cyberspace, EW & Space Access/ Multi-Domain Obscuration
- Joint fires / Counter-Air / ISR / EW / Communications
- Obscuration, Network Protection, Signal Reconnaissance
- Assured PNT/Imagery/Communications/Missile Warning/Signals Reconnaissance
- Provide Long Range Precision Fires / Sealift / Protect Seabase (Counter Air/TBM), EW, C2/Signal

## Cross-Domain




Create Cross-Domain Synergy

## Combined Domain Effects

- Defeat threat in close combat / Deny threat Air freedom of action (enable Blue Air) / Detect & Defeat Cyber/Space
- Destroys threat air capabilities, Attrit Threat ground forces / Enable ground with ISR, EW & Communications
- Conceal Digital/EMS signature / Disrupt Threat ADA & IDF Systems / Identify threat signal
- Protect friendly and deny enemy PNT (NAVWAR) / Identify threat locations (Reconnaissance) / D3 enemy comms
- Destroy deep targets / protect ISB / enable STRAT-OPN movement





A GREAT LUNESTA NIGHT  
MIGHT HELP YOU BECOME  
A MORNING PERSON AGAIN.

Wake up refreshed and recharged  
after a good night's sleep.  
Non-marcotic LUNESTA has helped  
so many who have trouble sleeping:

- Fall asleep fast
- Stay asleep
- Wake up ready to start the day

LUNESTA is by prescription only.  
Individual results may vary.

Find out how to improve  
your sleep habits at [lunesta.com](http://lunesta.com)  
Or call 1-800-LUNESTA

**Lunesta**  
eszopiclone  
LUNESTA TABLETS

*A great tomorrow starts tonight.*

**IMPORTANT SAFETY INFORMATION:**

LUNESTA helps you fall asleep quickly, so take it right before bed. Be sure you have at least eight hours to devote to sleep before becoming active. Until you know how you'll react to LUNESTA, you should not drive or operate machinery. Do not take LUNESTA with alcohol. Call your doctor right away if after taking LUNESTA you walk, drive, eat or engage in other activities while asleep. In rare cases severe allergic reactions can occur. Most sleep medicines carry some risk of dependency. Side effects may include unpleasant taste, headache, drowsiness and dizziness. You are encouraged to report negative side effects of prescription drug to the FDA. Visit [www.fda.gov/medwatch](http://www.fda.gov/medwatch) or call 1-800-FDA-1088. See important patient information on the next page.

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**ARE  
YOU  
KIDDING  
YOURSELF?**

**IF YOU STILL HAVE HIGH CHOLESTEROL,  
YOU MAY BE IN DEEPER WATER THAN YOU THINK.**

The fact is, high cholesterol is a serious condition in both women and men. If you haven't lowered your high cholesterol enough, it's time to stop kidding yourself.

When healthy diet and exercise are not enough, adding Lipitor may help:

- Along with diet, Lipitor has been shown to lower bad

**IMPORTANT SAFETY INFORMATION:**  
LIPITOR is not for everyone. It is not for those with liver problems. And it is not for women who are nursing, pregnant or may become pregnant.

If you take LIPITOR, tell your doctor if you feel any new muscle pain or weakness. This could be a sign of rare but

**INDICATION:**  
LIPITOR is a prescription medicine that is used along with a low-fat diet. It lowers the LDL ("bad" cholesterol) and triglycerides in your blood. It can raise your HDL ("good" cholesterol) as well. LIPITOR can lower the risk for heart attack, stroke, certain types of heart surgery, and chest pain in patients



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# Illegible Visualizations

People will get lost in the details or overwhelmed by complexity

...if we make things intentionally complex people then people will just assume we know what we're talking about or will be too dazed to check too closely.



Bad Visualizations

Incorrect Visualizations

Illegible Visualizations

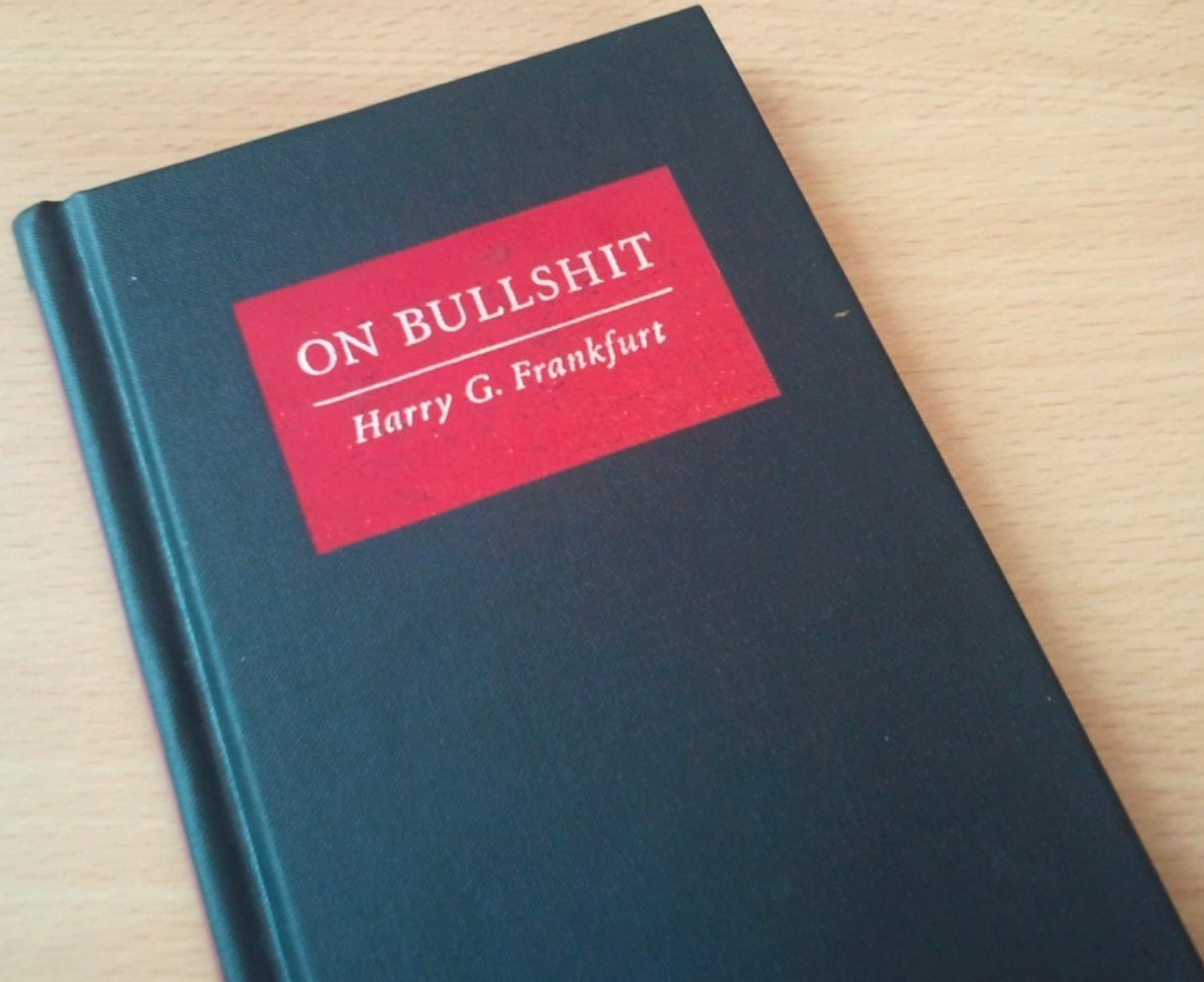
**Bullshit Visualizations**

Unconventional Visualizations





# Bullshit Visualization



## Lie:

“No, officer, I wasn’t speeding”

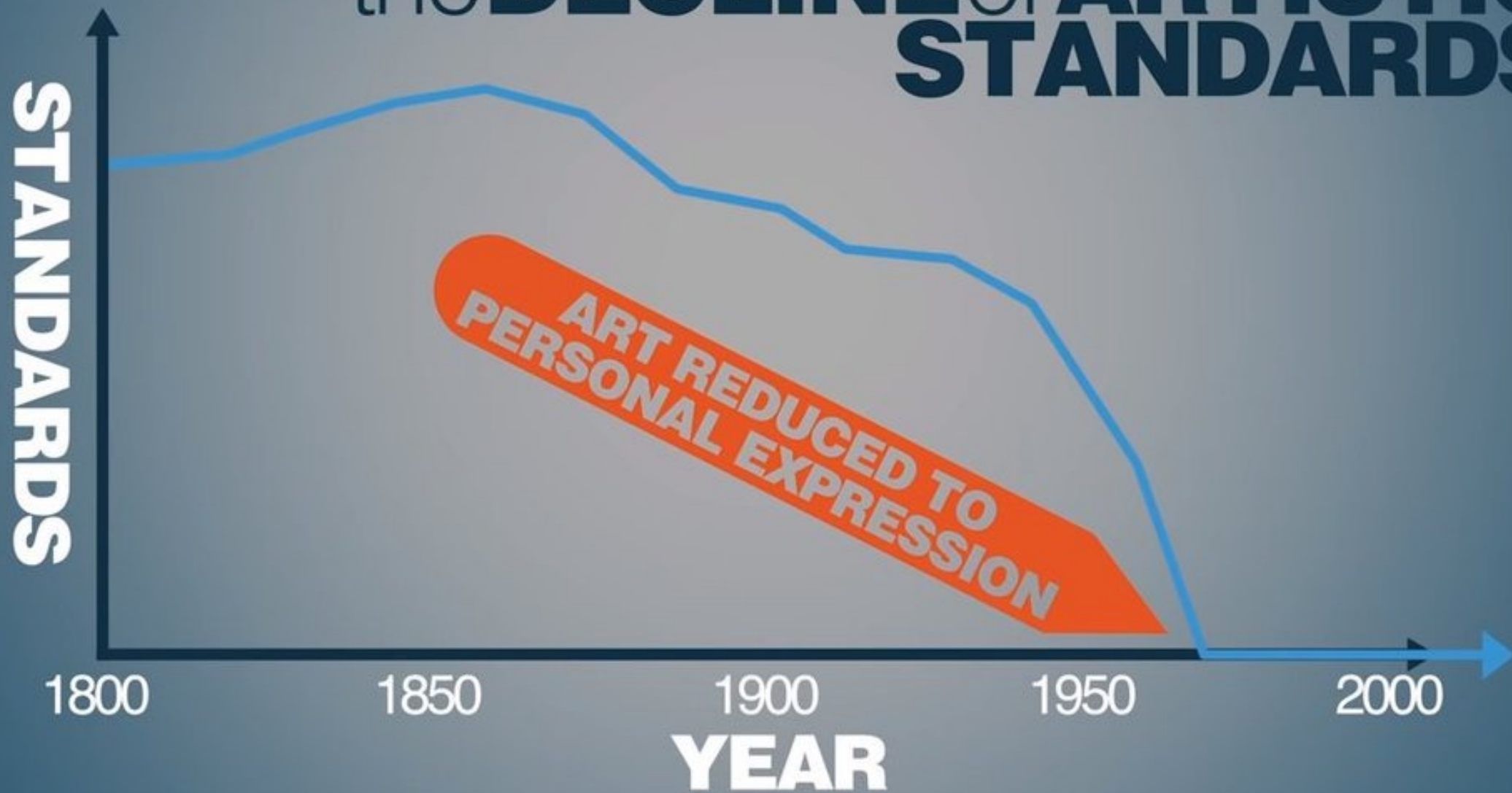
(you know the truth, but intentionally say something you know is untrue)

## Bullshit:

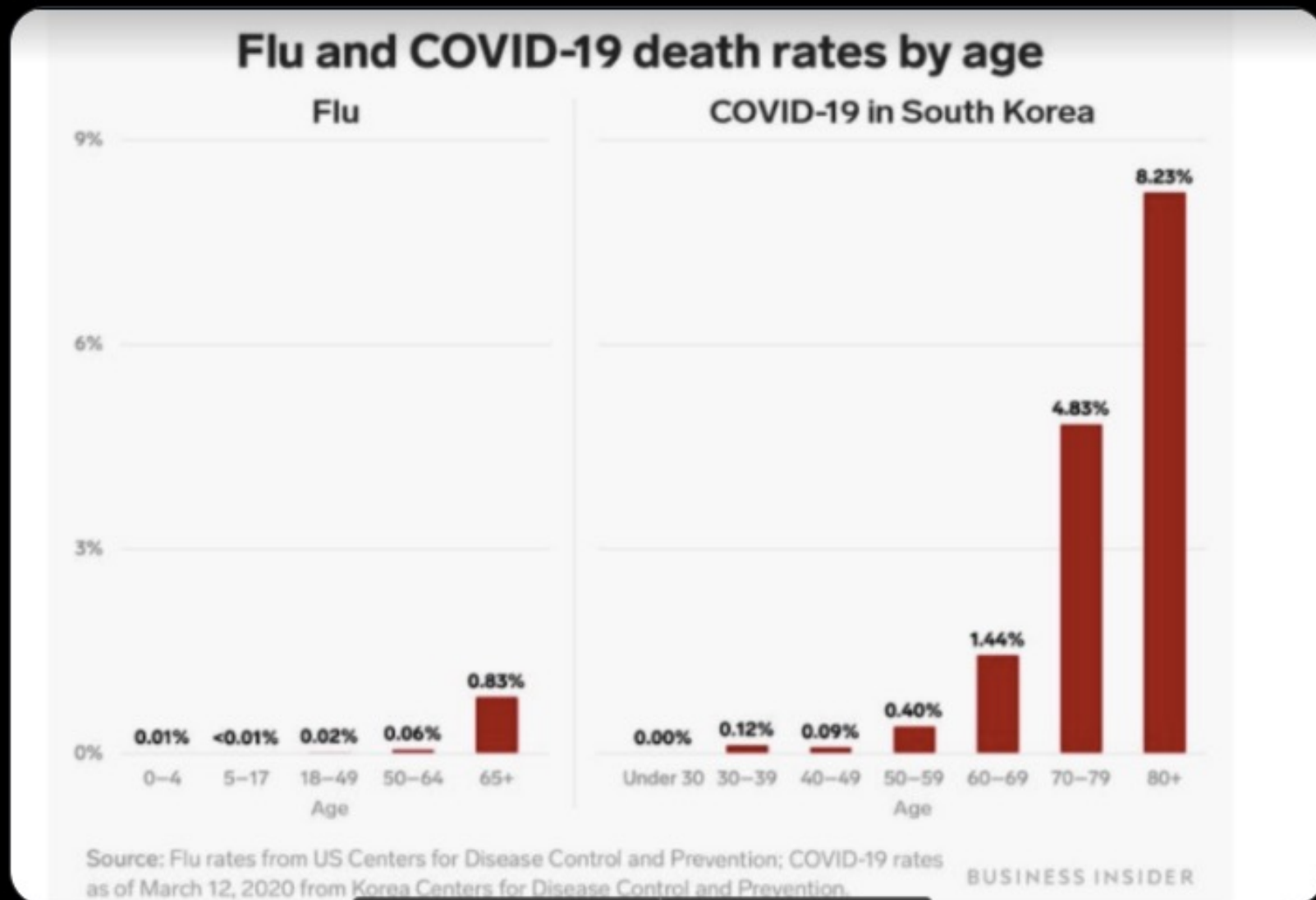
“The party was lame anyways, it’s good I wasn’t invited”

(you don’t know or don’t care about the truth, but intentionally say something you hope is persuasive)

# the **DECLINE** of **ARTISTIC STANDARDS**



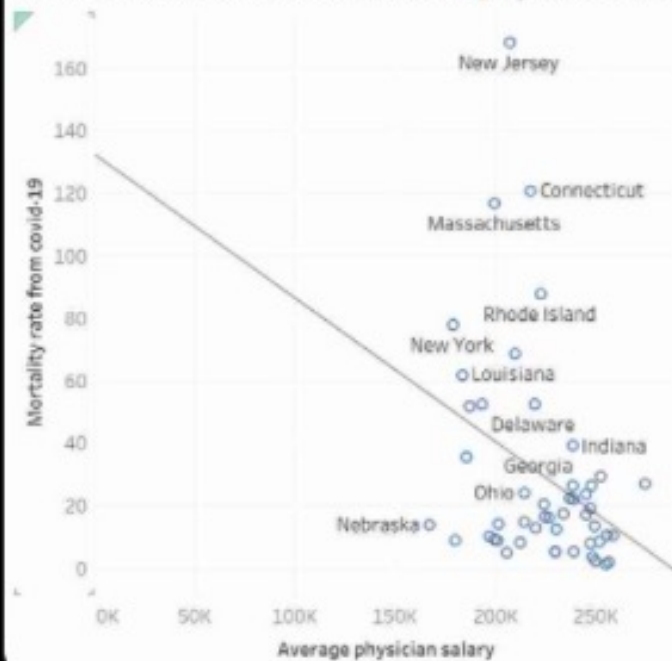
For people under 60, coronavirus is LESS dangerous than the seasonal flu:



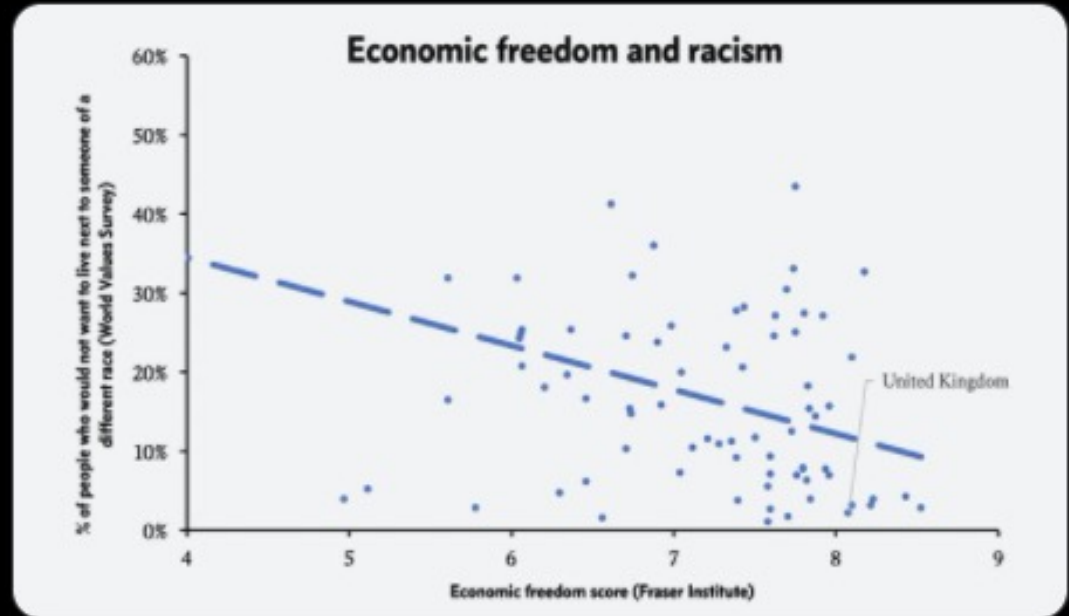


States where physicians are highly paid have lower Covid-19 mortality per capita.

Relation across states between physician salary and covid-19 mortality

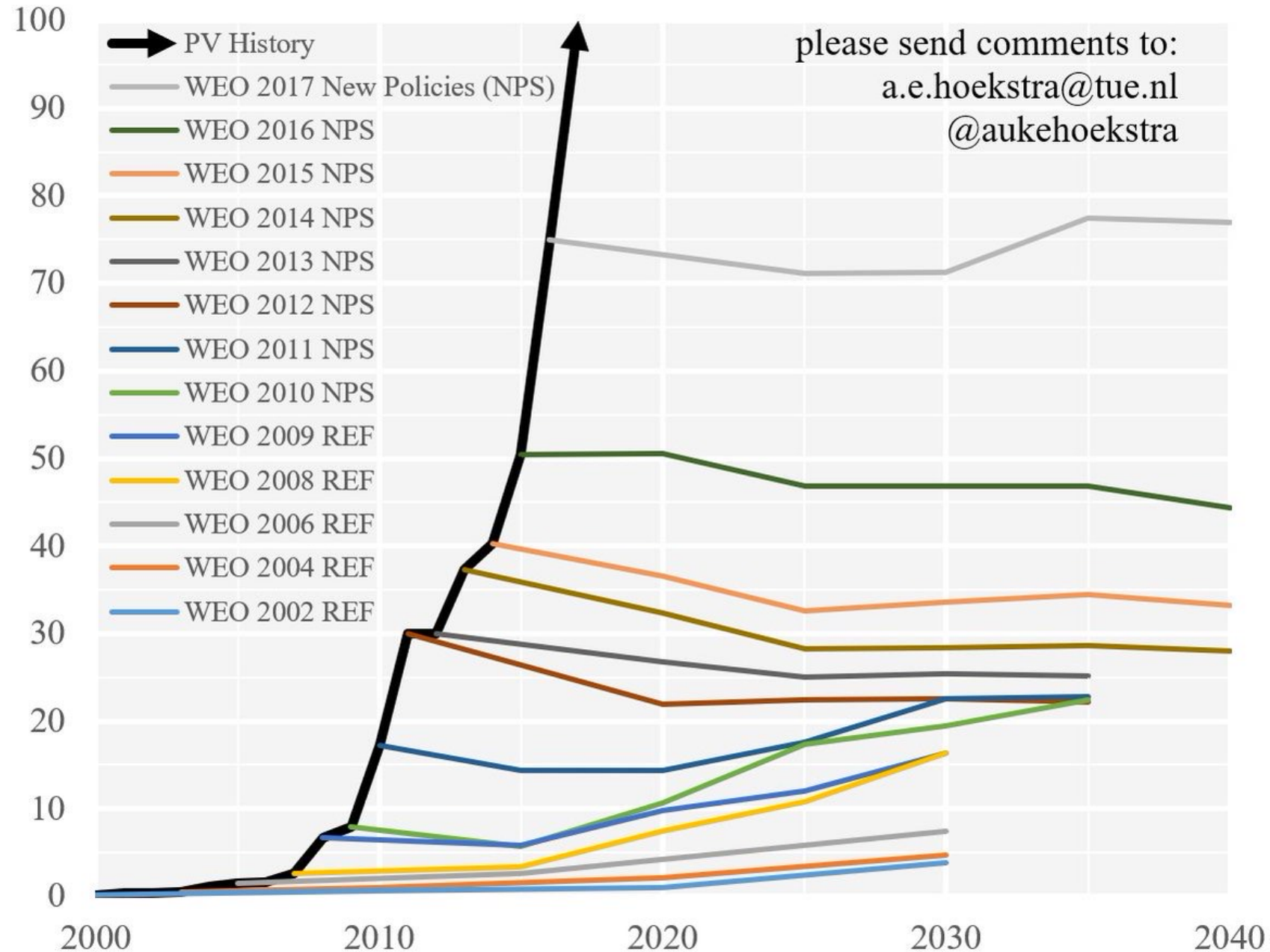


Fact check: Countries with more economic freedom have less racist attitudes, according to the World Values Survey.

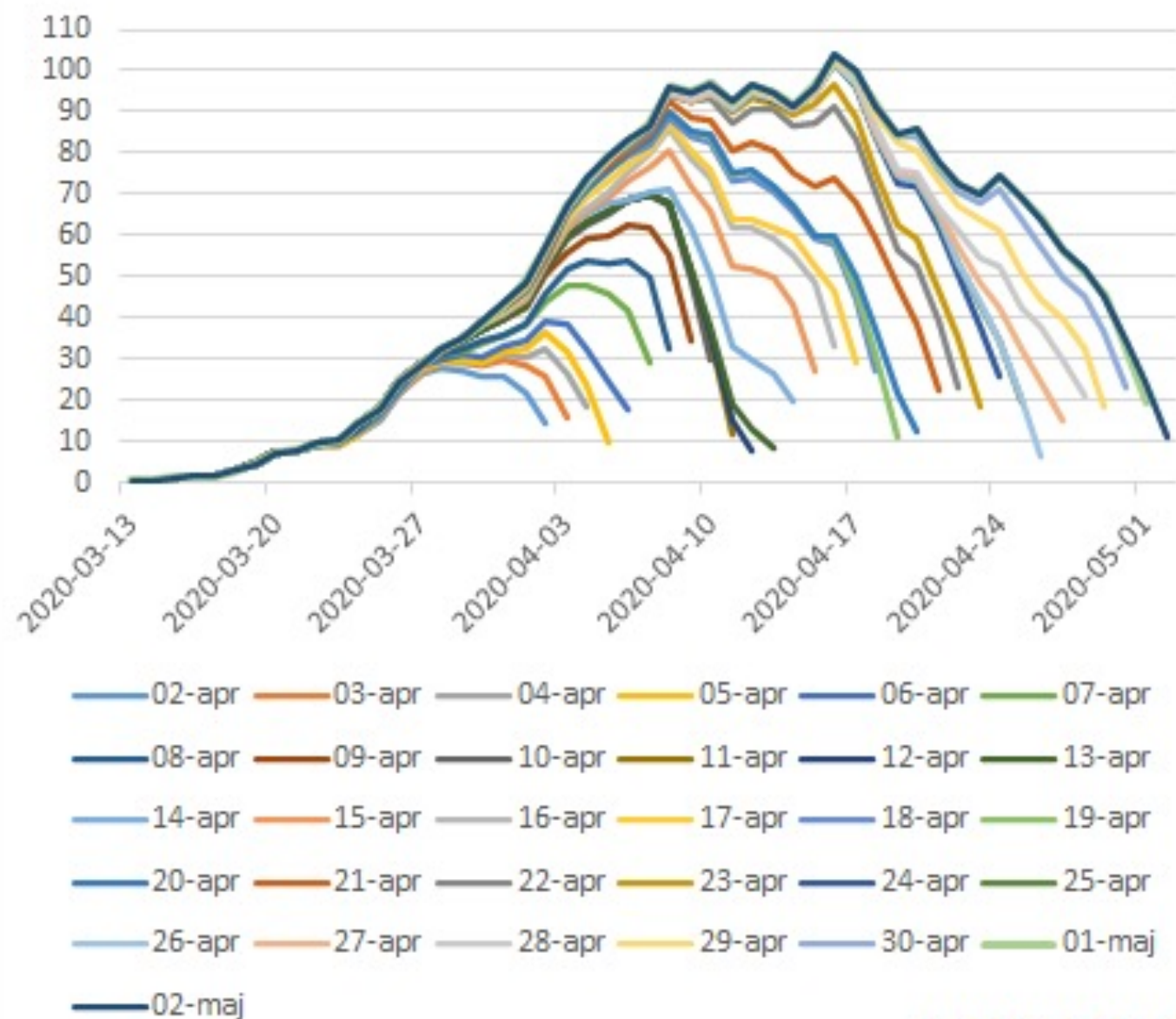


# Annual PV additions: historic data vs IEA WEO predictions

In GW of added capacity per year - source International Energy Agency - World Energy Outlook



Sweden Covid-19 deaths per day  
Rolling 3-day average  
source: Folkhälsomyndigheten, daily spreadsheet







These indicators display data from campus COVID-19 testing by the University Health Service, Occupational Health Services and campus surveillance programs. Additional cases in U-M students, faculty, and staff are identified by the Washtenaw County Health Department and are noted in light blue, for cases from August 13 forward. Data is refreshed as it becomes available and excludes Michigan Medicine employees. Data is for the Ann Arbor campus and begins March 8, 2020.

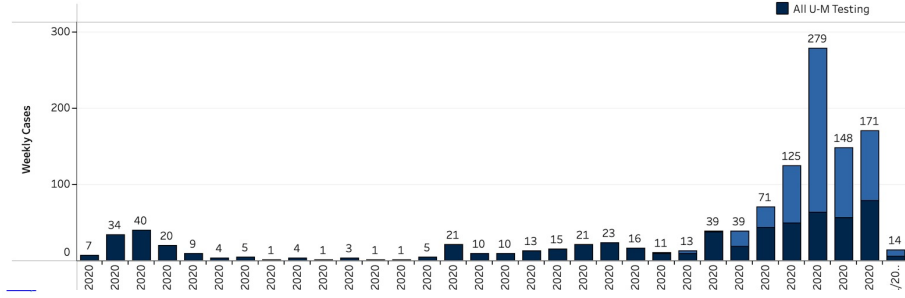
**Click to Change Display** **Select Weeks to Display**

Show Campus Totals  Show Student v Non-Student Data

(All) Non-student data represents faculty, staff and alumni tested through UHS or OHS. This may include employees working remotely.

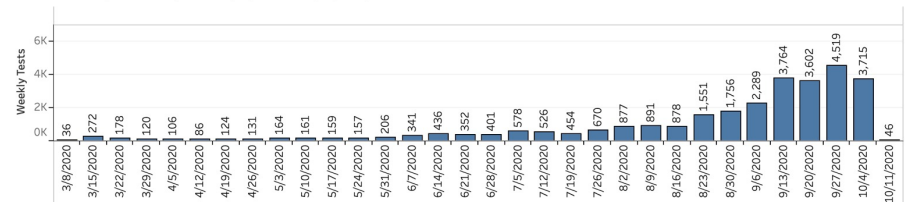
**Onset Date of Cases, by Week**

Axis shows weekly start date (Week of: 3/10/2020 to 10/11/2020)



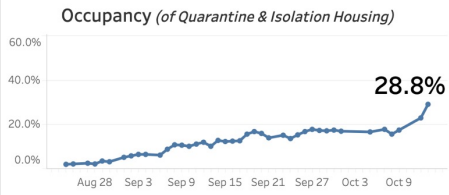
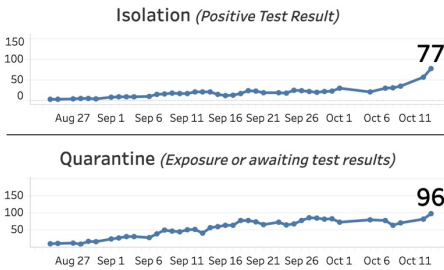
**Weekly Testing**

Axis shows weekly start date (Week of: 3/10/2020 to 10/11/2020)



Includes data from testing performed by UHS, OHS, Athletics or CSTP. Data sources are detailed here <https://campusblueprint.umich.edu/dashboard/about-the-data>.

**UM Quarantine & Isolation Housing**



Total U-M Positive  
Last 14 Days  
**126**

Total U-M Positive  
Since March 8  
**639**



These indicators display data from campus COVID-19 testing by the University Health Service, Occupational Health Services and campus surveillance programs. Additional cases in U-M students, faculty, and staff are identified by the Washtenaw County Health Department and are noted in light blue, for cases from August 13 forward. Data is refreshed as it becomes available and excludes Michigan Medicine employees. Data is for the Ann Arbor campus and begins March 8, 2020.

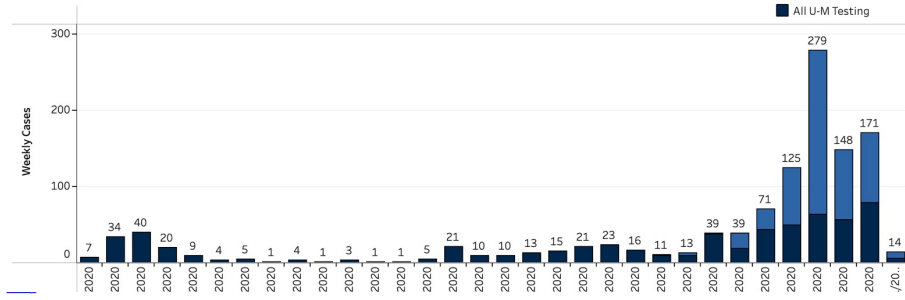
Click to Change Display  Show Campus Totals  Show Student v Non-Student Data

Select Weeks to Display (All)

Non-student data represents faculty, staff and alumni tested through UHS or OHS. This may include employees working remotely.

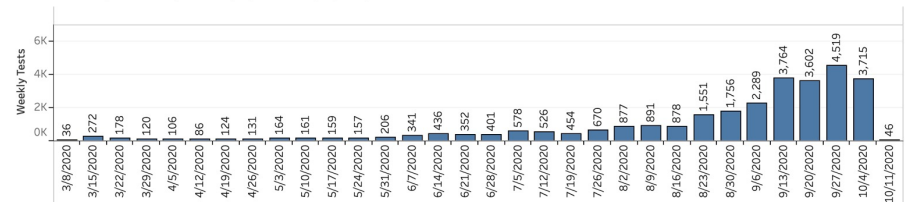
Onset Date of Cases, by Week

Axis shows weekly start date (Week of: 3/10/2020 to 10/11/2020)



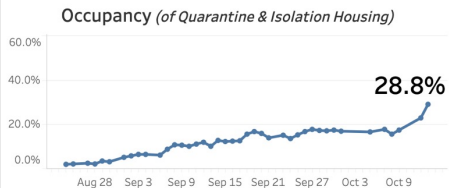
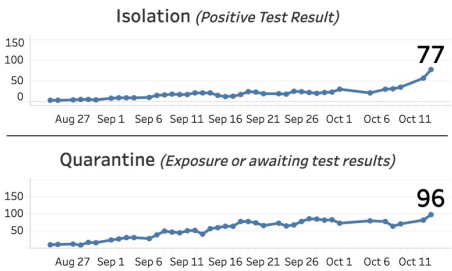
Weekly Testing

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UM Quarantine & Isolation Housing



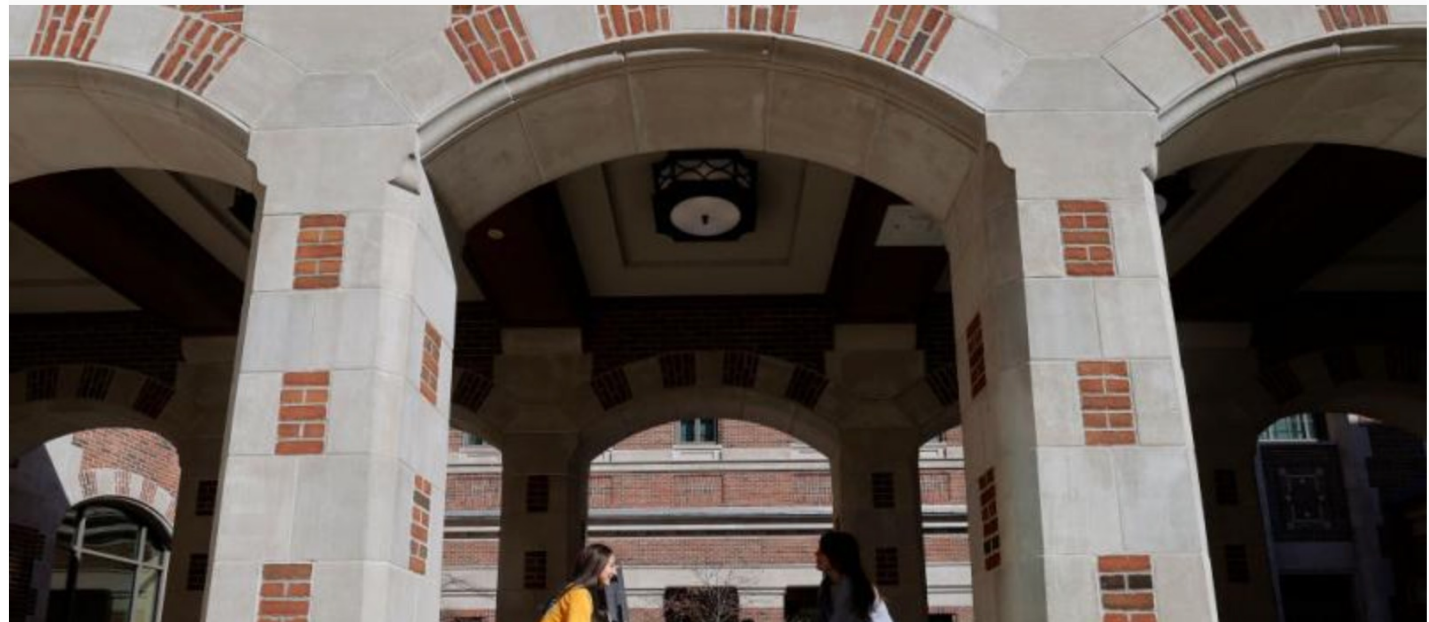
Total U-M Positive  
Last 14 Days  
**126**

Total U-M Positive  
Since March 8  
**639**

# 'Close to Open Revolt'

Graduate students and RAs at the University of Michigan are on strike over the university's COVID-19 response.

By Lilah Burke // September 16, 2020



# Consultation Theater

University of Michigan faculty members say administrators have not been transparent about reopening decisions.

By Lilah Burke // September 4, 2020

# Bullshit Visualizations

You can just make stuff up with no connection to reality

...show stuff that looks like data but isn't

...assume a conclusion and pretend it's true

...or give people data they can't do anything with



# Bad Visualizations

Incorrect Visualizations

Illegible Visualizations

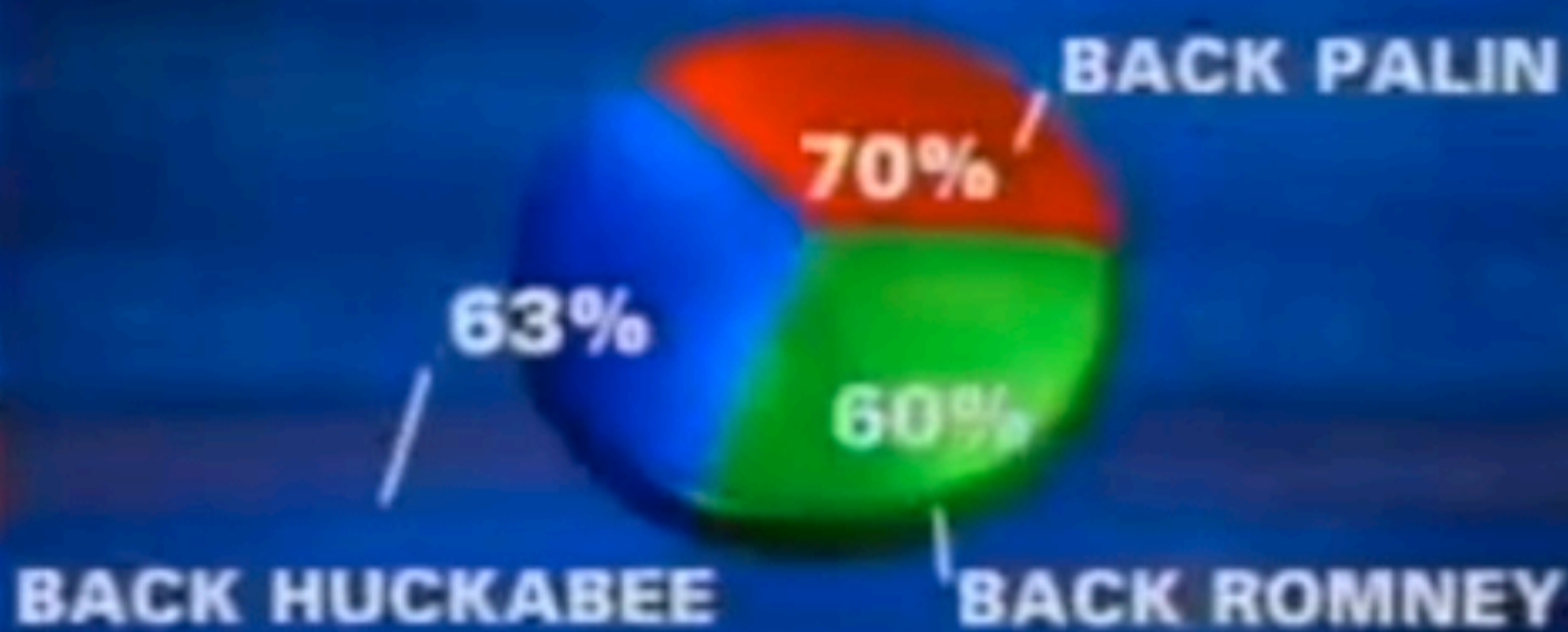
Bullshit Visualizations

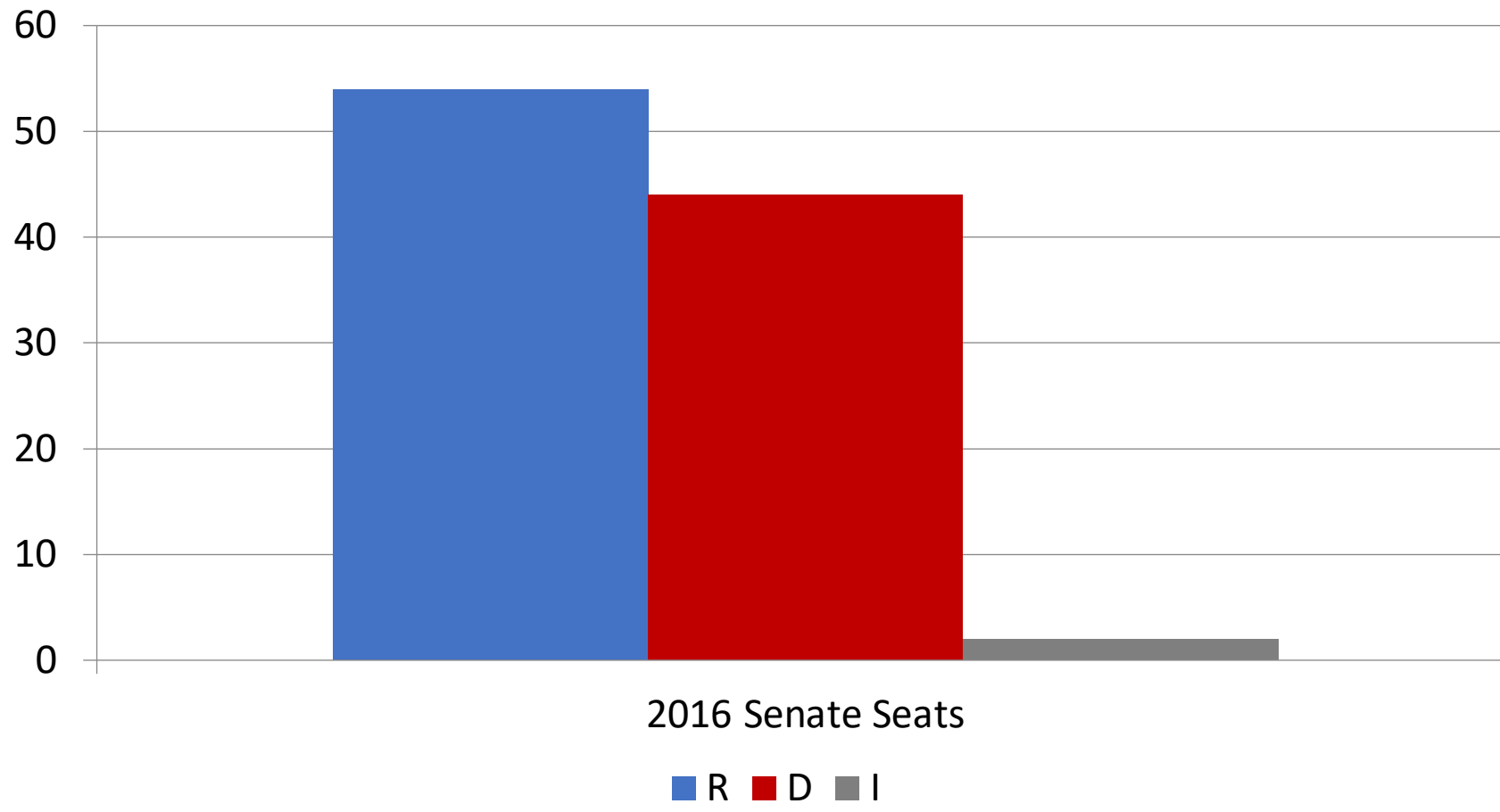
**Unconventional Visualizations**



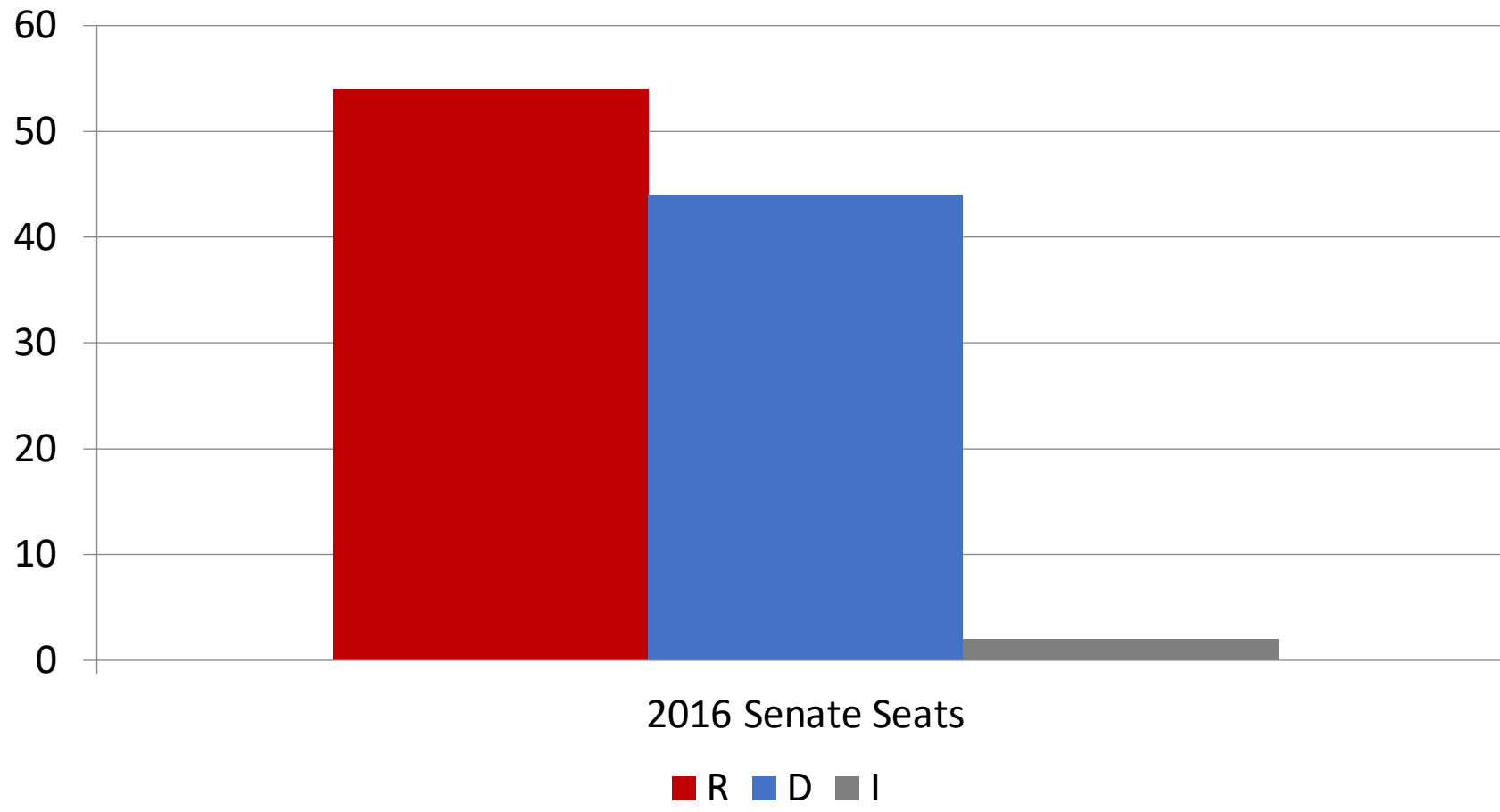
# 2012 PRESIDENTIAL RUN

GOP CANDIDATES

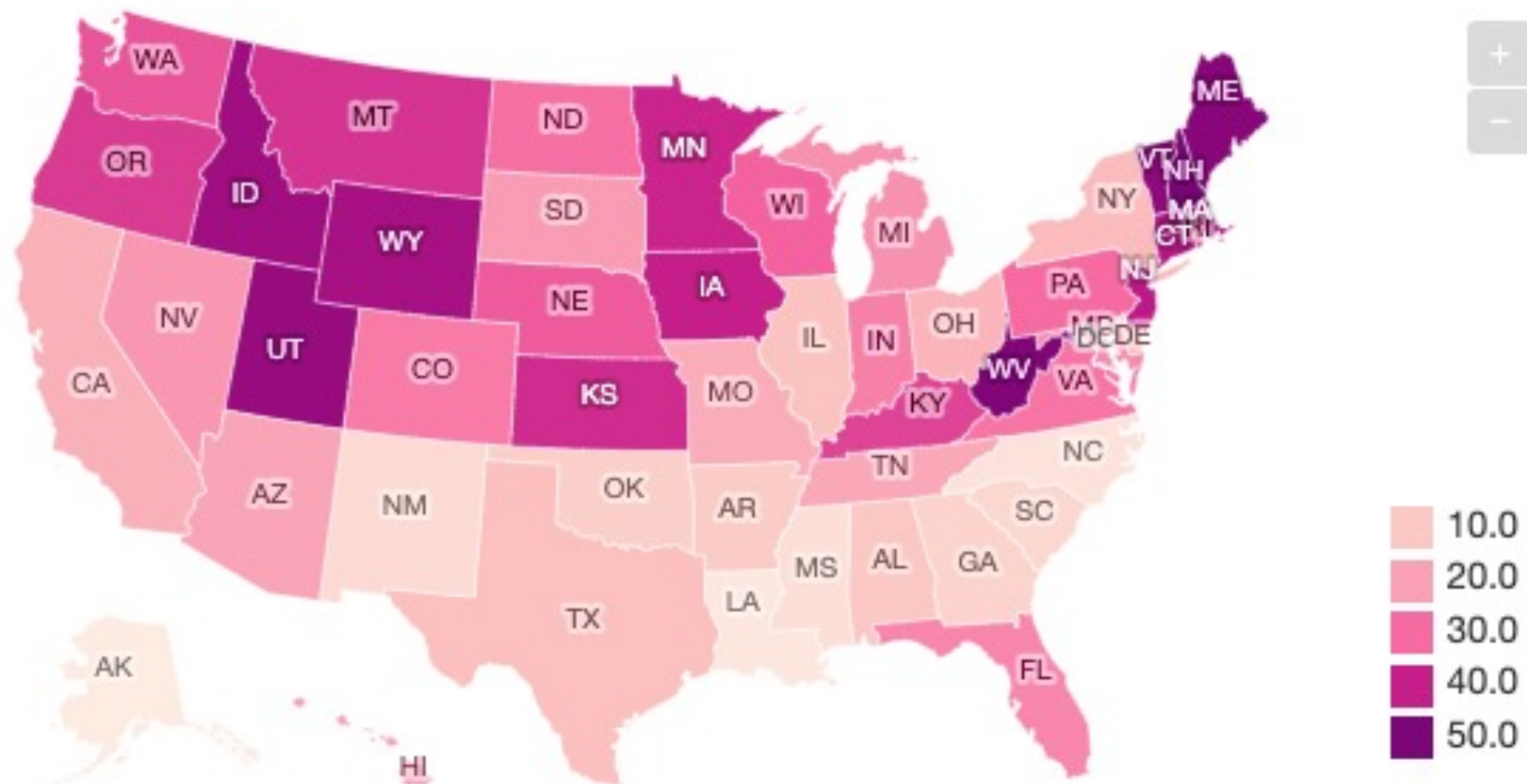




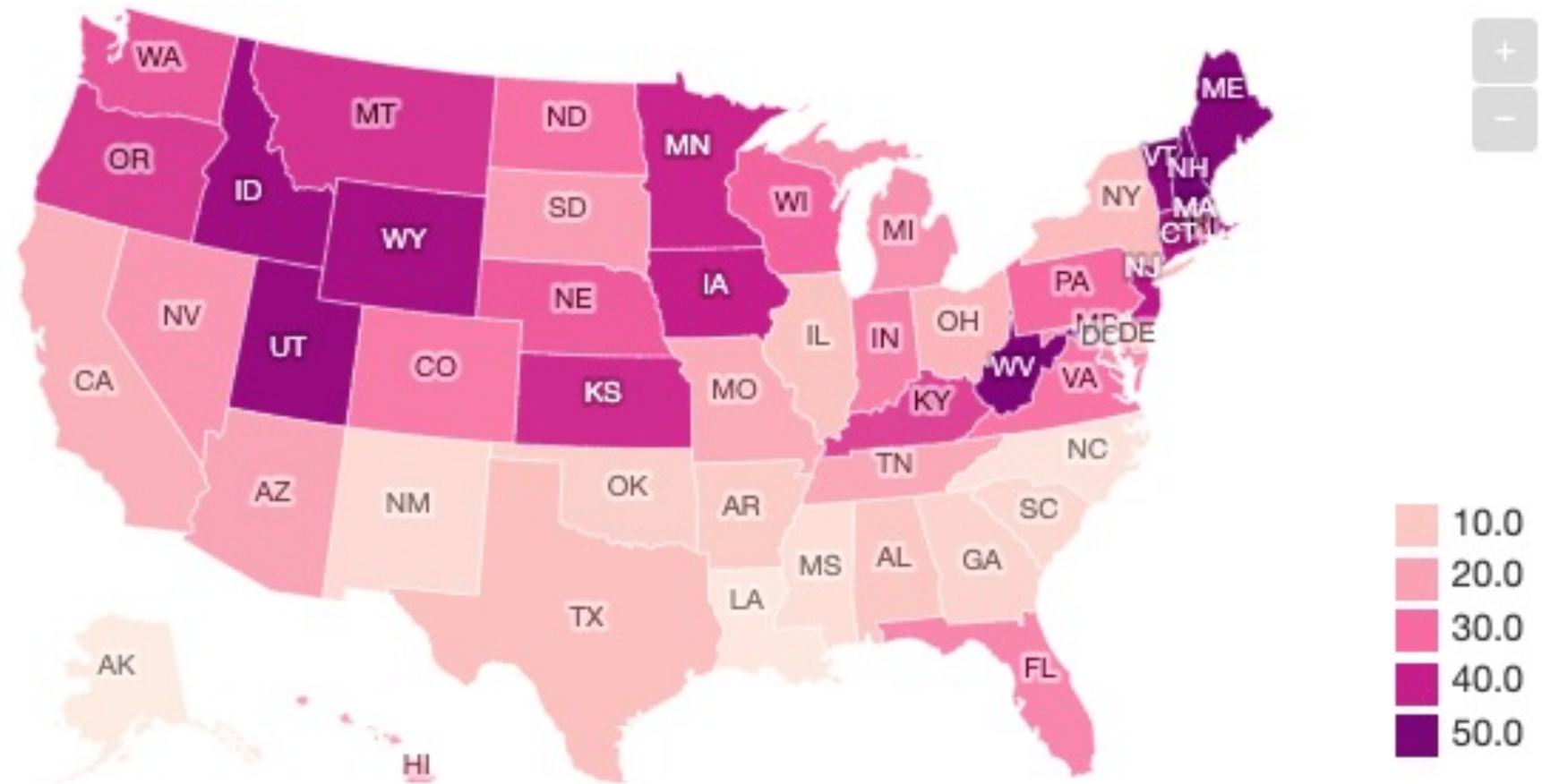




Which states have the most STIs?



## Which states have the most STIs?

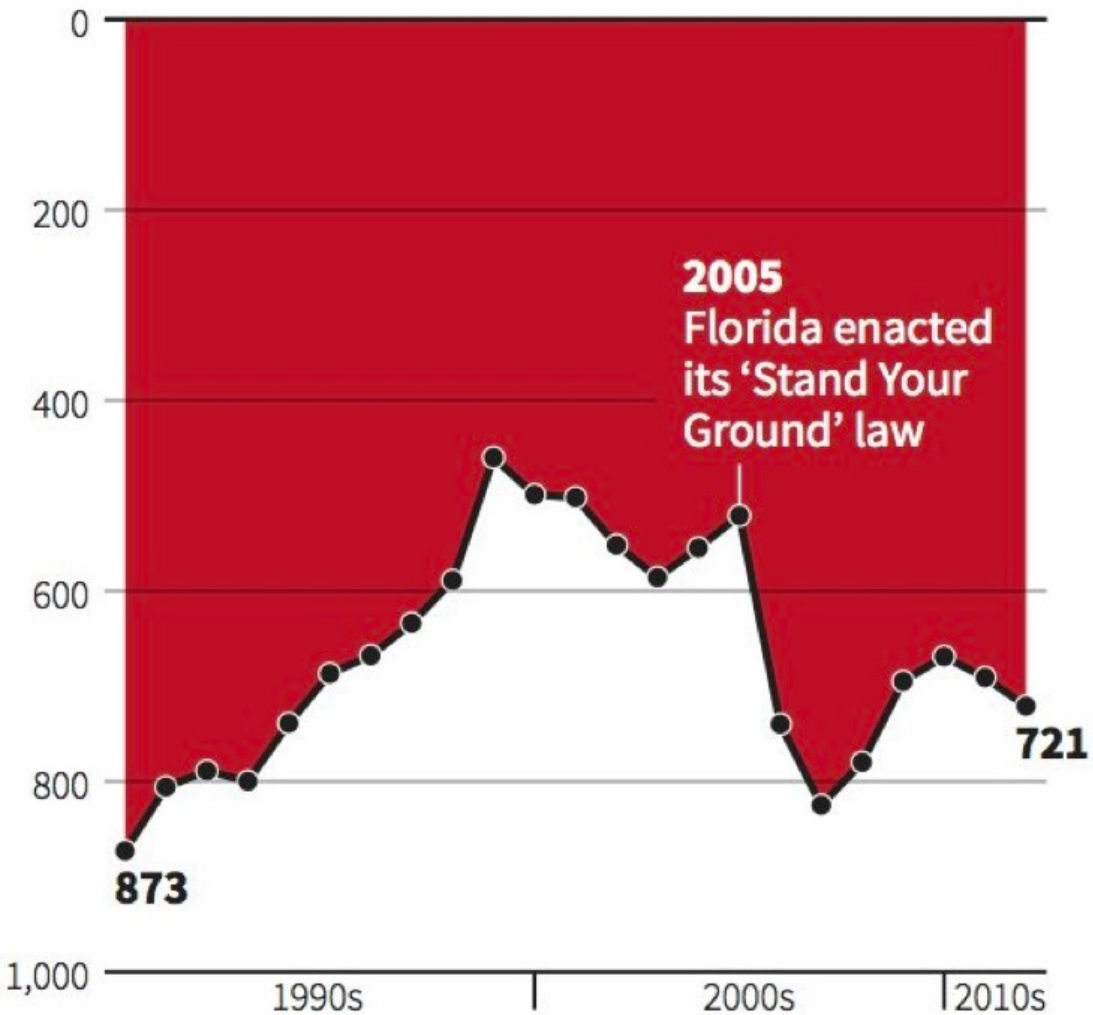


“Each state has been rated from one to 50: the higher the score, the smaller the proportion of STIs. So on the map - the darker the colour, the smaller the rate of STIs.”



# Gun deaths in Florida

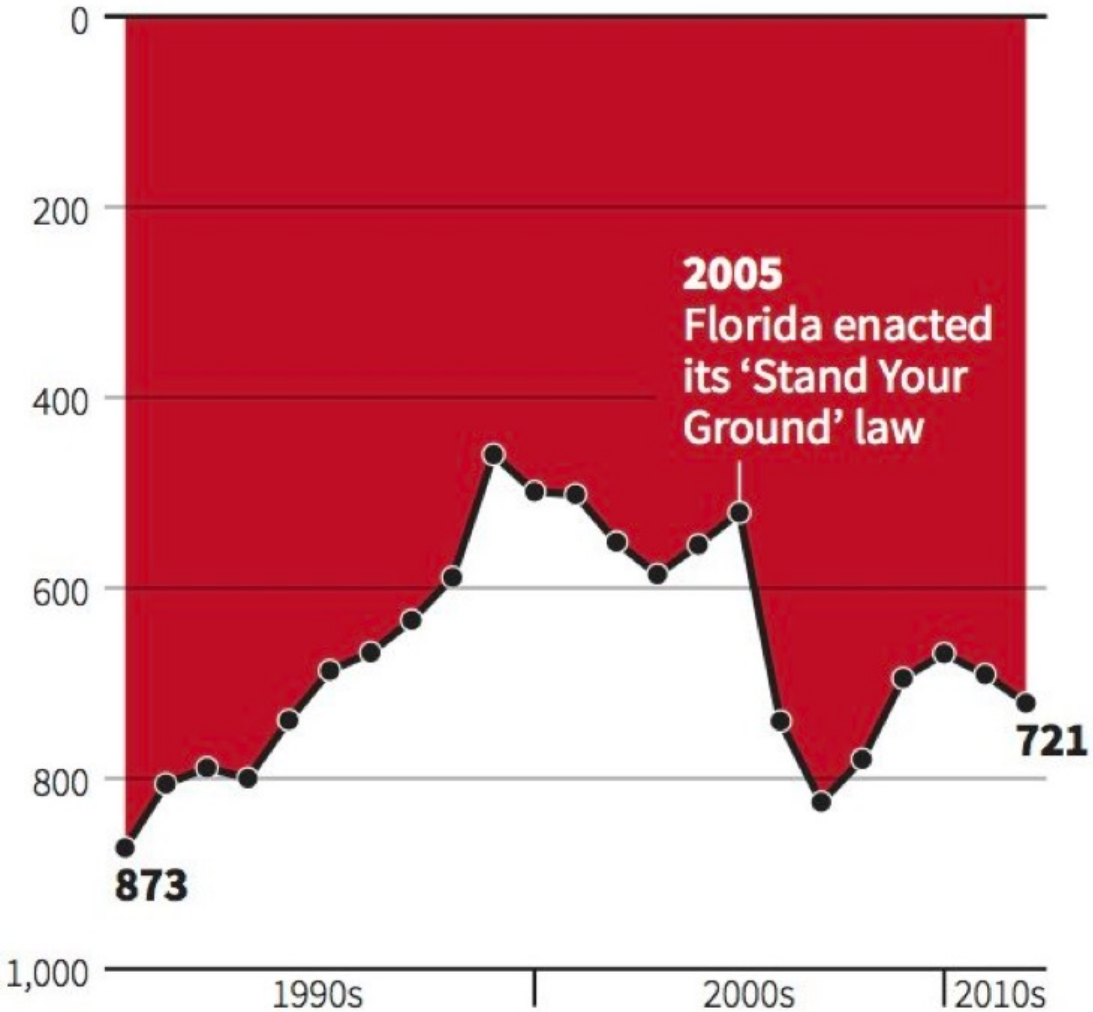
Number of murders committed using firearms



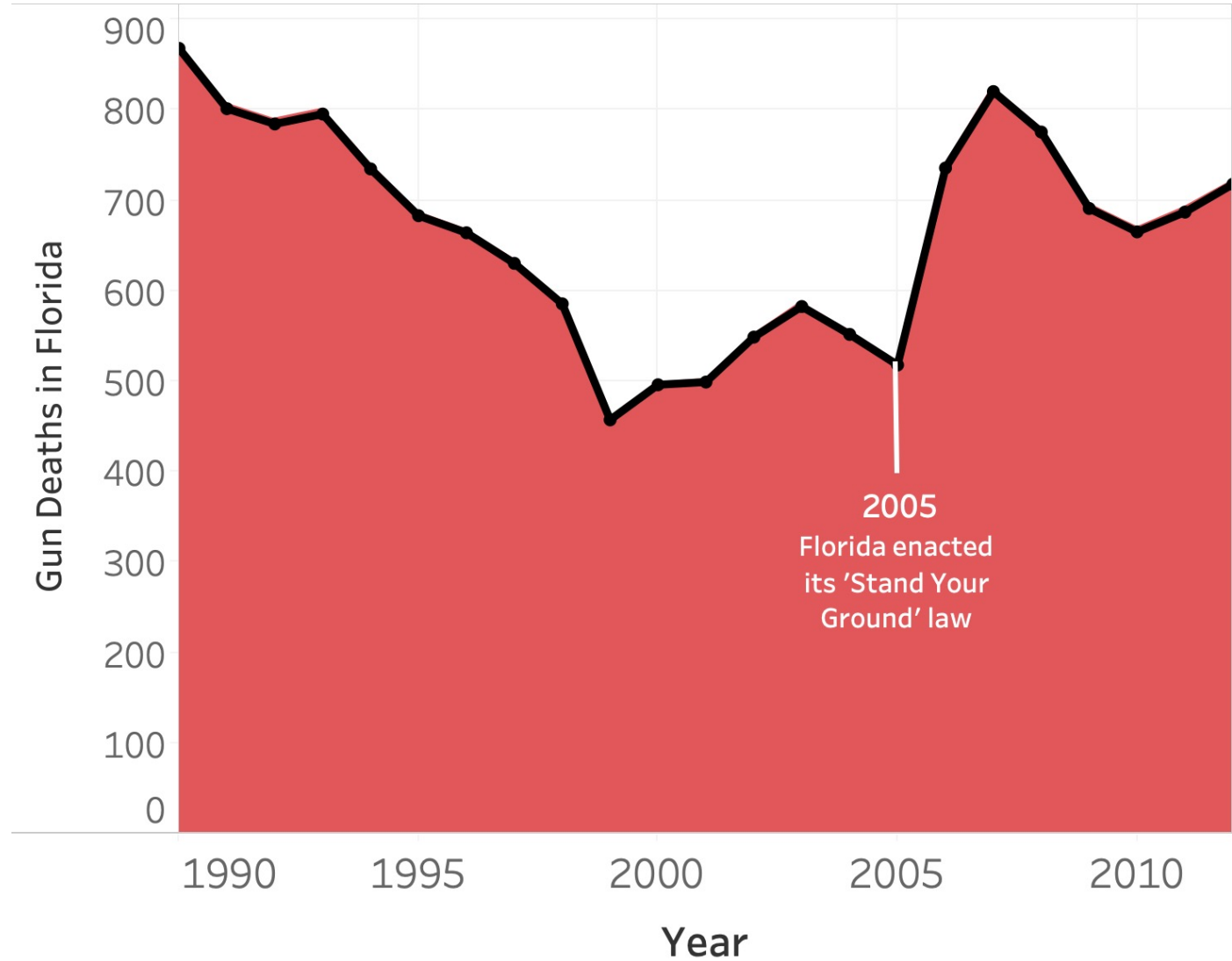
Source: Florida Department of Law Enforcement

# Gun deaths in Florida

Number of murders committed using firearms

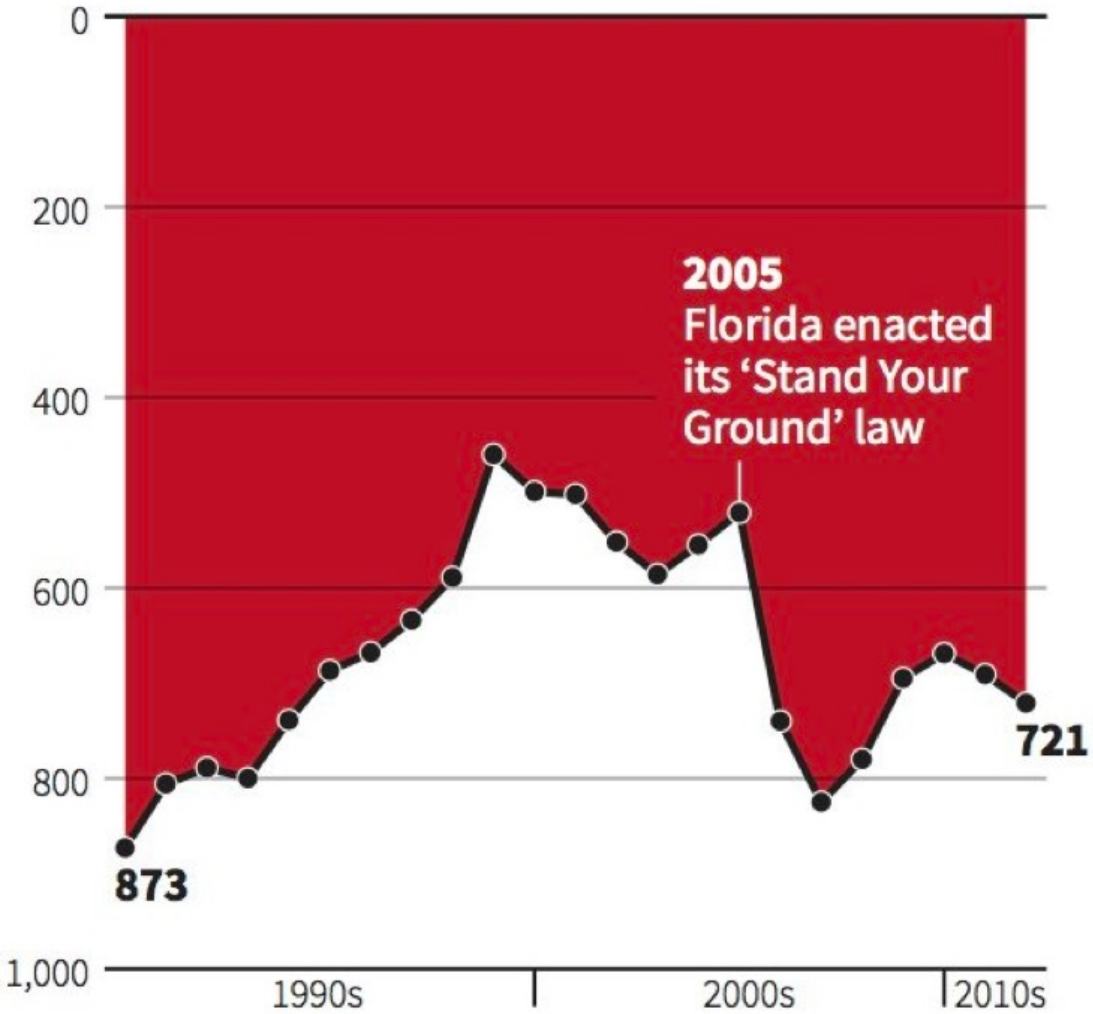


Source: Florida Department of Law Enforcement



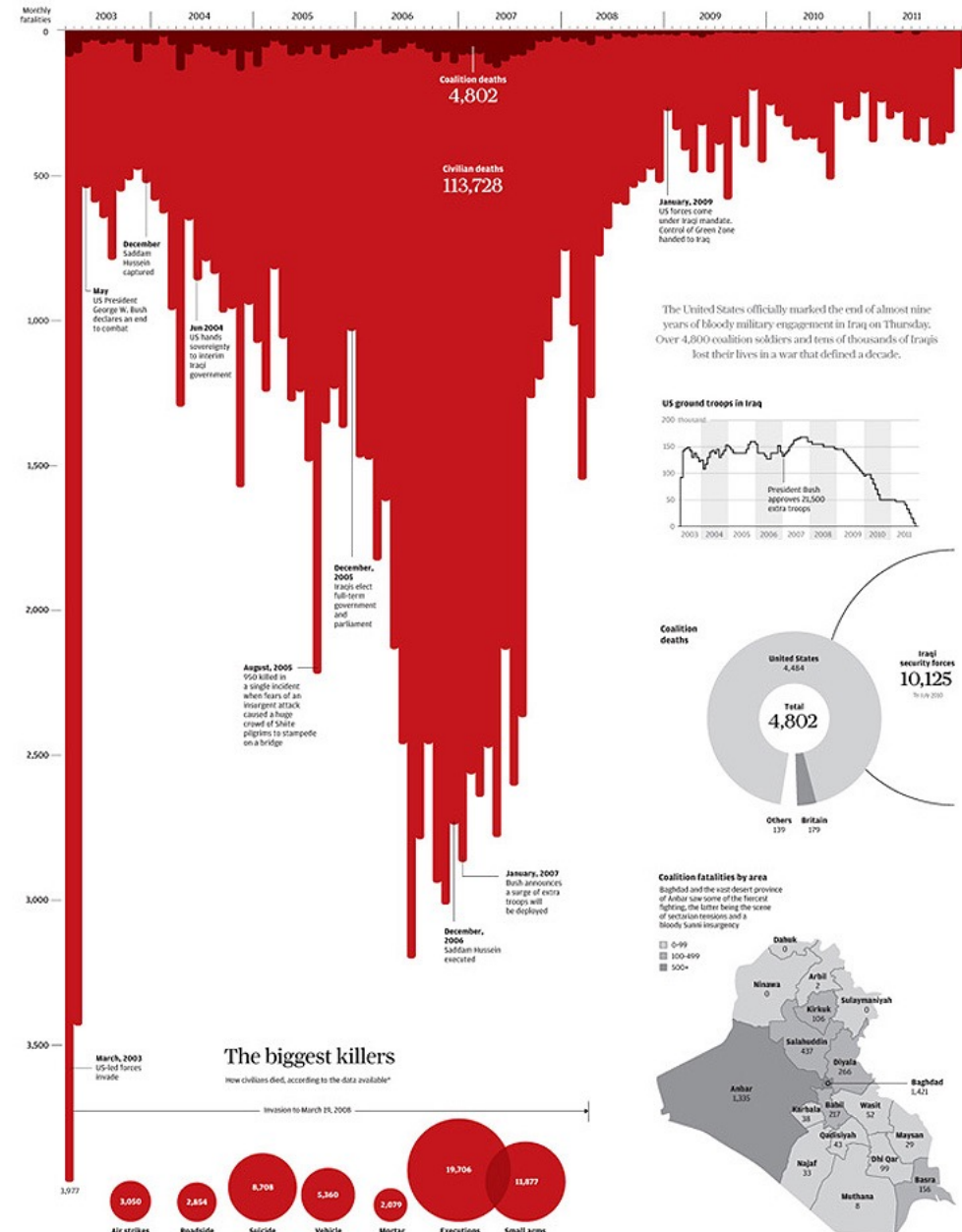
# Gun deaths in Florida

Number of murders committed using firearms



Source: Florida Department of Law Enforcement

# Iraq's bloody toll

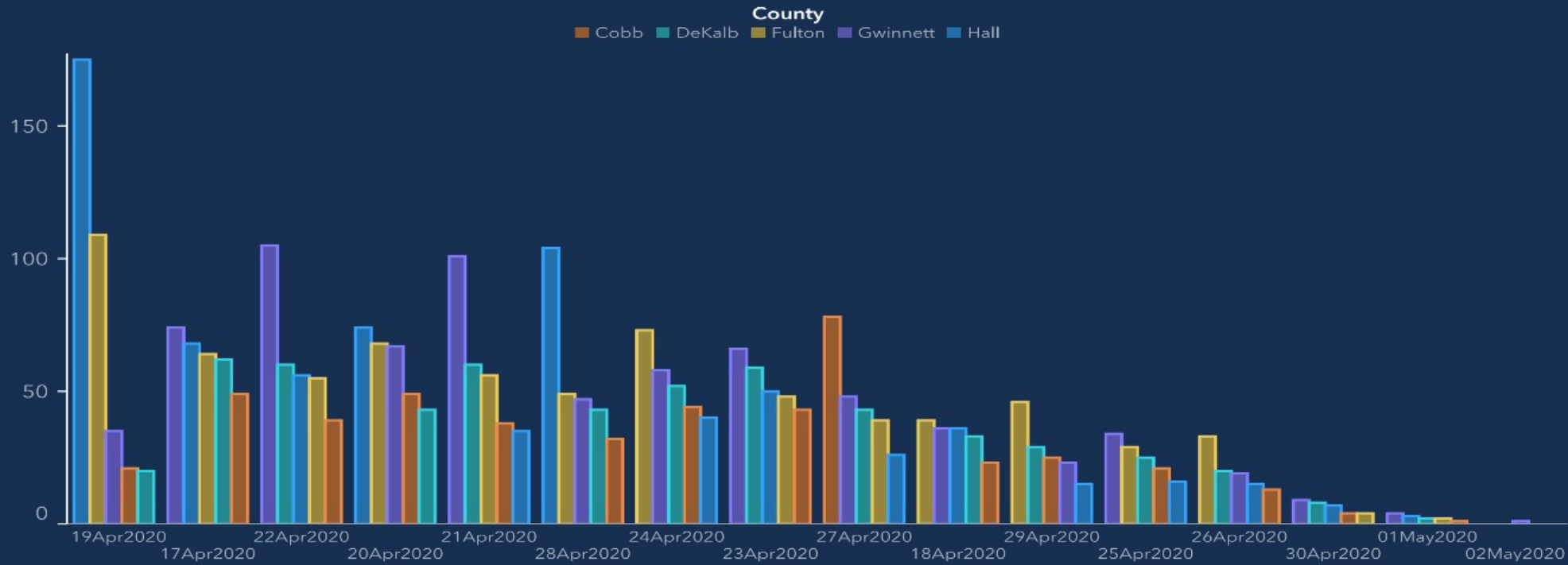




# Convention Manipulation

## Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases

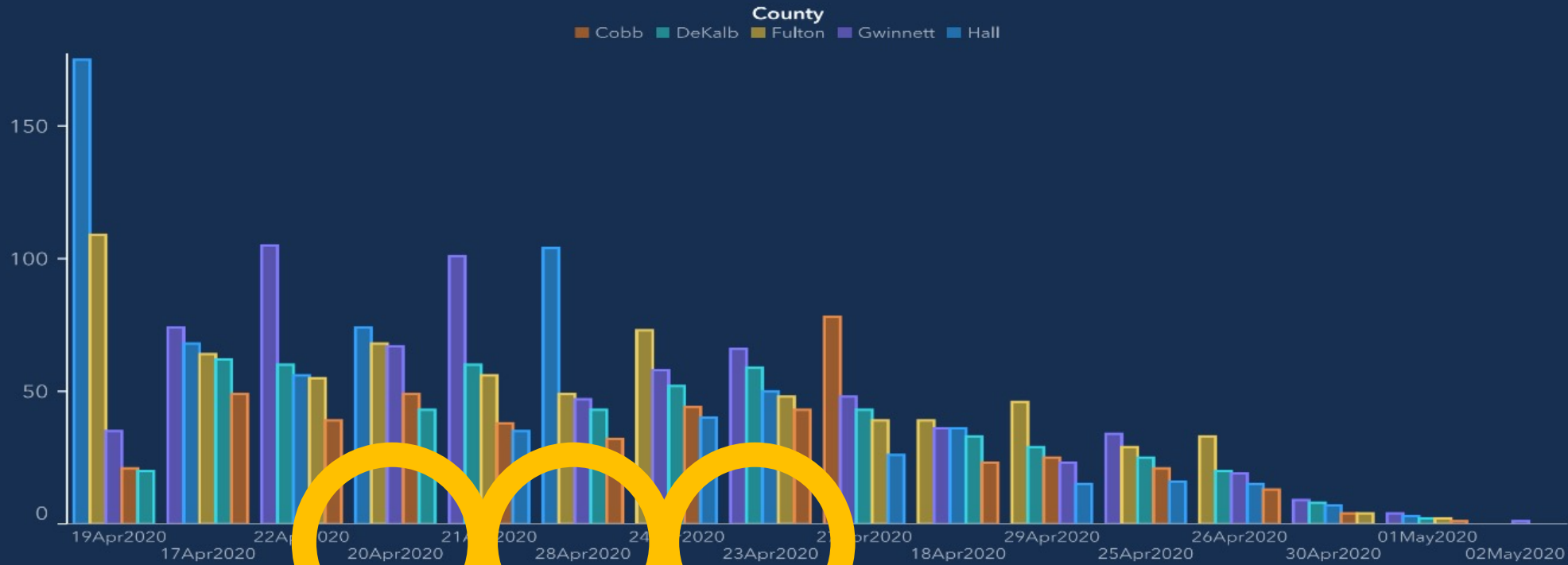
The chart below represents the most impacted counties over the past 15 days and the number of cases over time. The table below also represents the number of deaths and hospitalizations in each of those impacted counties.



# Convention Manipulation

## Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases

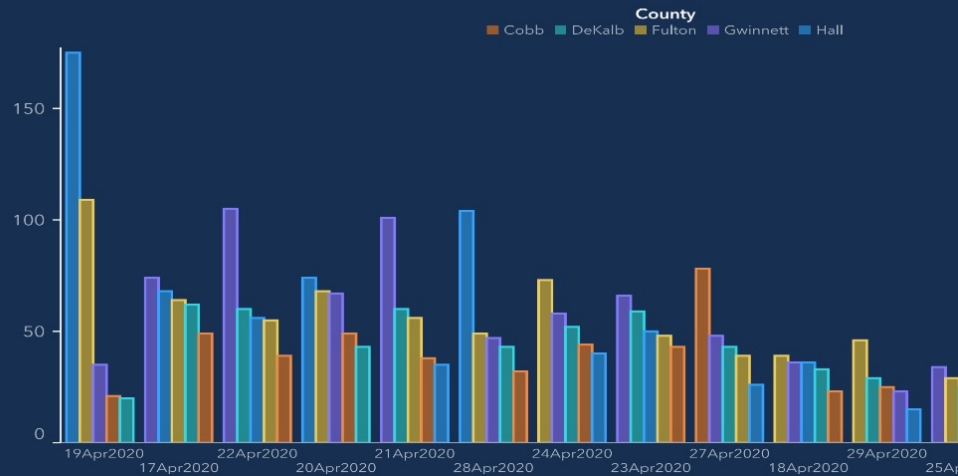
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# Convention Manipulation

## Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases

The chart below represents the most impacted counties over the past 15 days and the number of cases over time. The table below also represents the number of deaths and hospitalizations in each of those impacted counties.



**Candice Broce**

@candicebroce

Replying to @petecorson and @AJCInteractives

The x axis was set up that way to show descending values to more easily demonstrate peak values and counties on those dates. Our mission failed. We apologize. It is fixed.

1:38 PM · May 11, 2020 · Twitter for iPhone

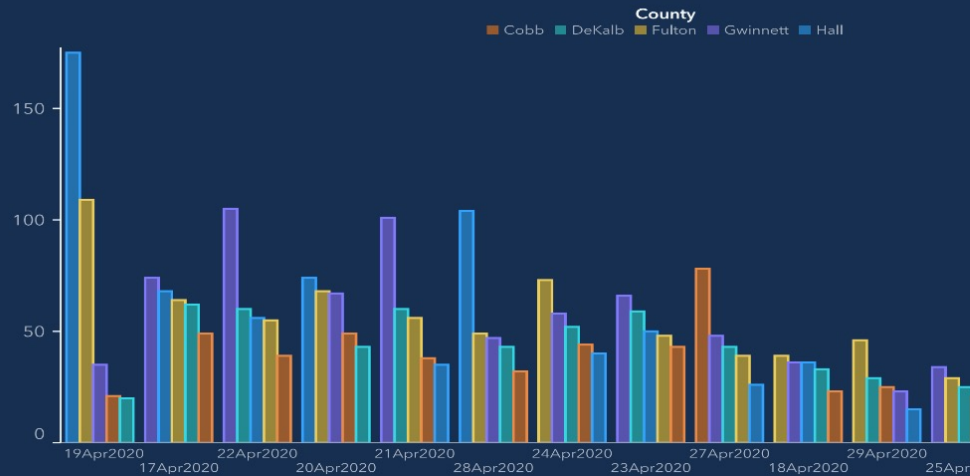
14 Retweets 50 Quote Tweets 28 Likes



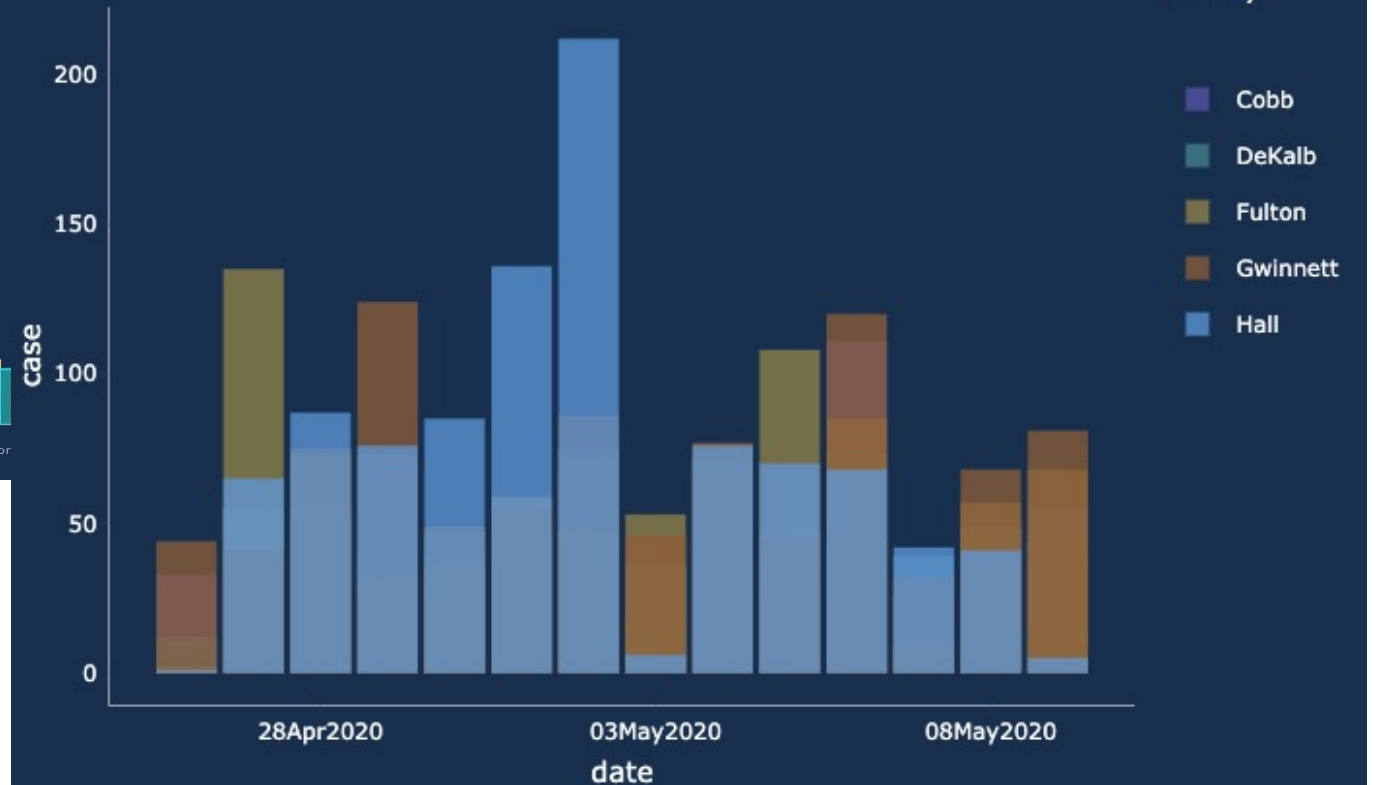
# Convention Manipulation

Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases

The chart below represents the most impacted counties over the past 15 days and the number of cases represents the number of deaths and hospitalizations in each of those impacted counties.



Top 5 Counties with the Greatest Number of Confirmed COVID-19 Cases



Redesign from Lucy D'Agostino McGowan

<https://livefreeordichotomize.com/2020/05/17/graph-detective/>

# ITHACA TIMES

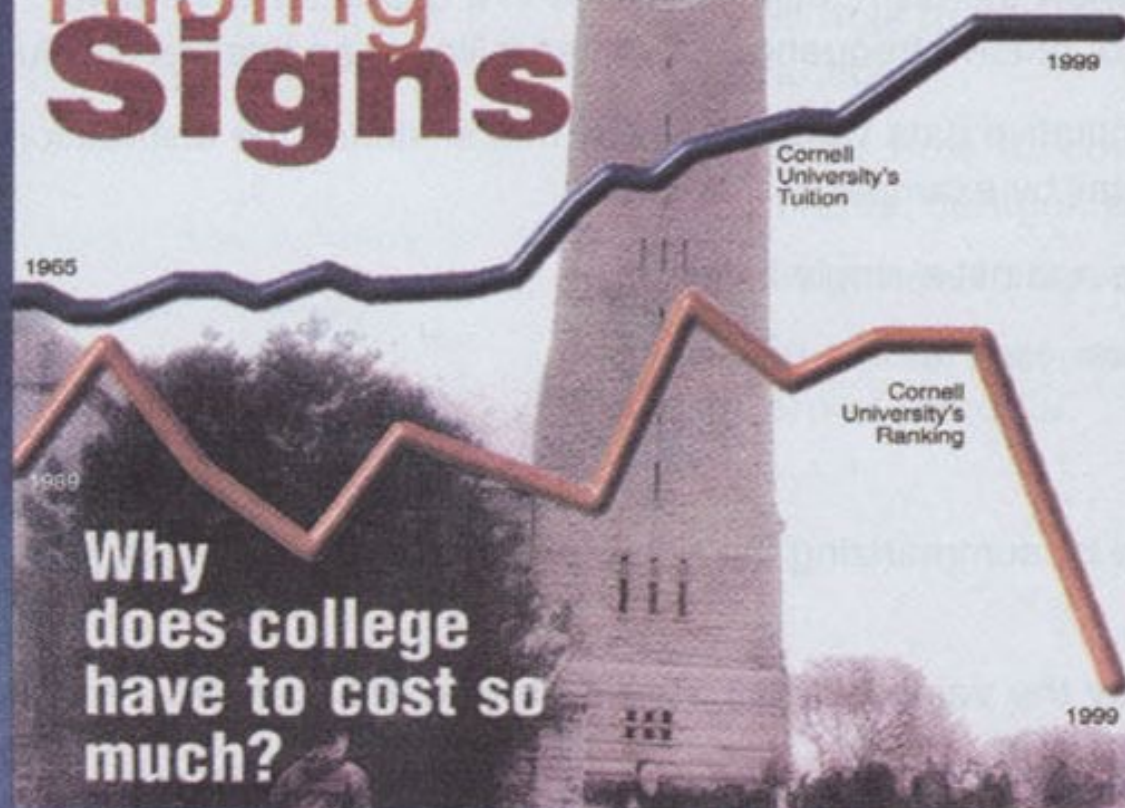
Visit us online at <http://www.ithacatimes.com>

Planning Board approves  
Widewaters development

IC students occupy Job Hall

Cayuga Vocal Ensemble  
ushers in the holidays with  
"Judas Maccabaeus"

## Rising Signs



Why  
does college  
have to cost so  
much?

# ITHACA TIMES

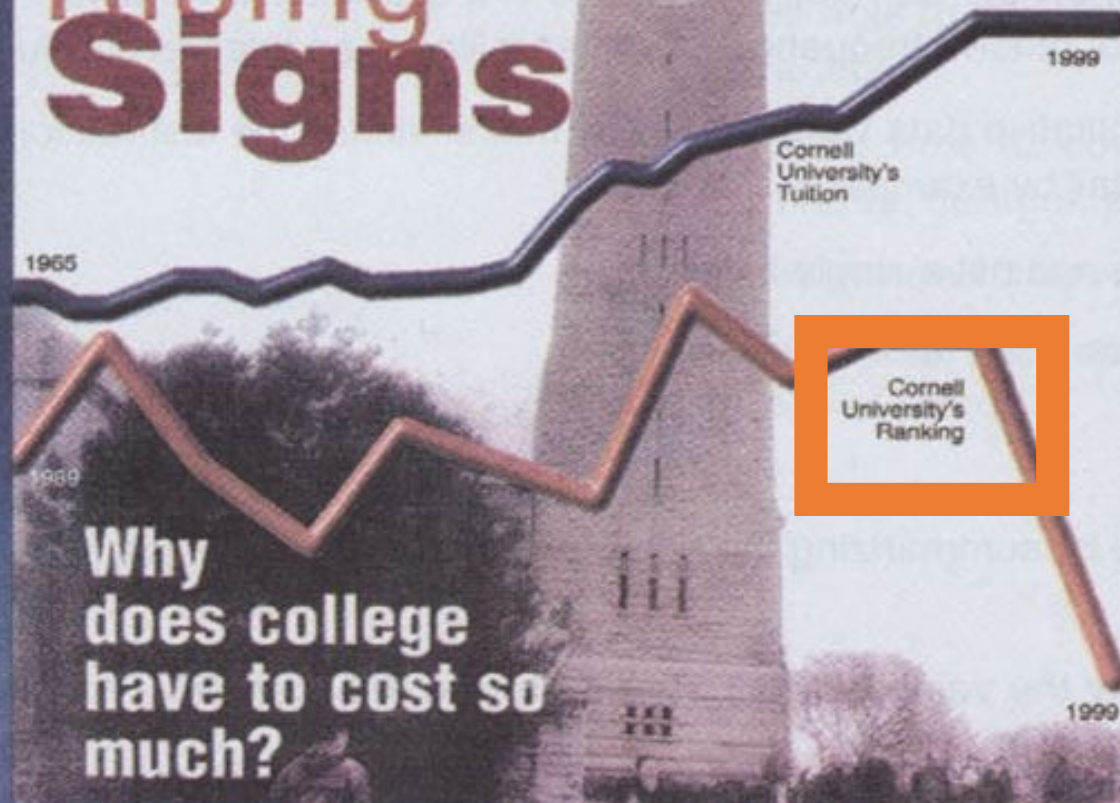
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Planning Board approves  
Widewaters development

IC students occupy Job Hall

Cayuga Vocal Ensemble  
ushers in the holidays with  
"Judas Maccabaeus"

## Rising Signs



1965

1969

1999

1999

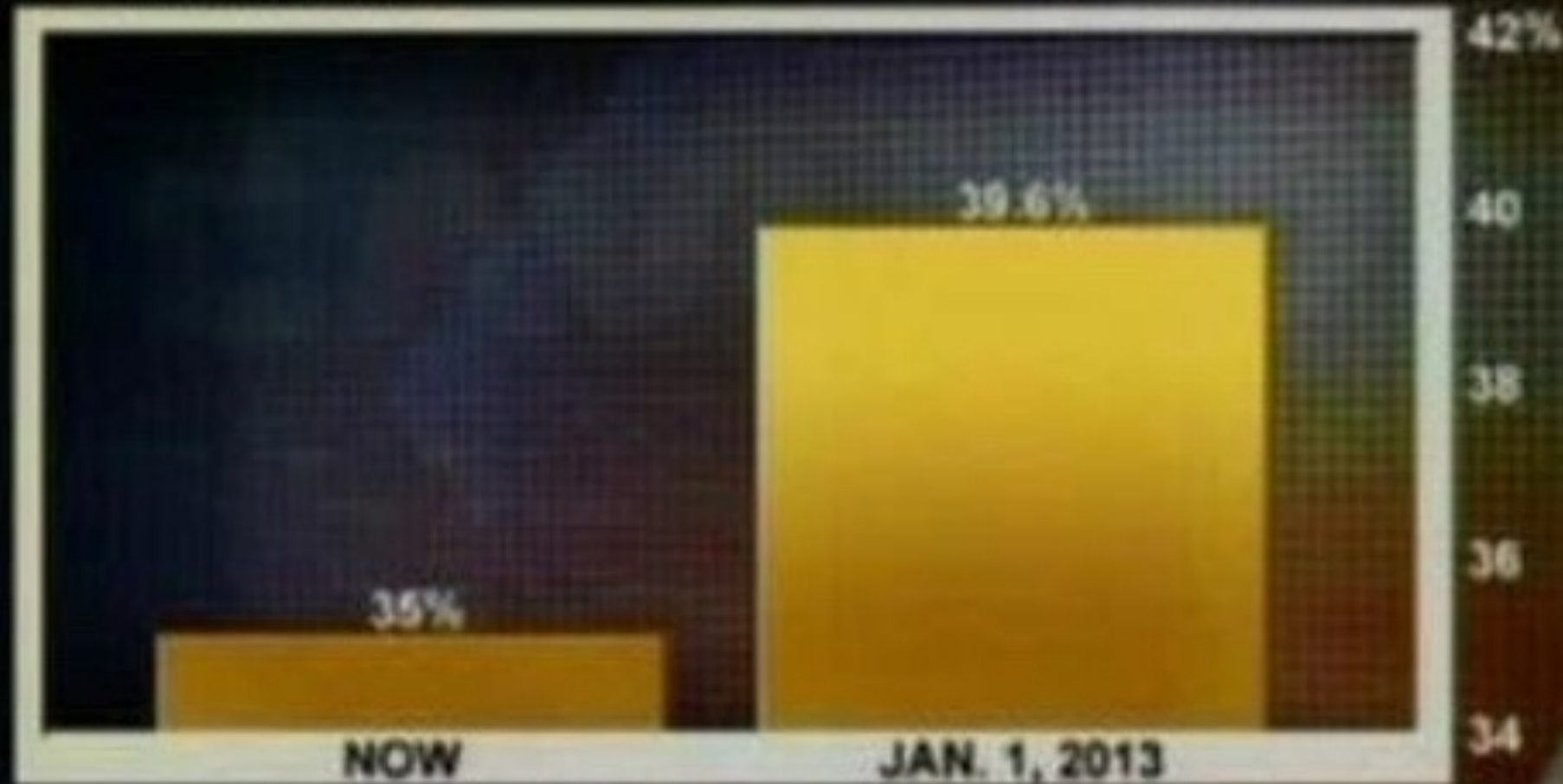
Cornell  
University's  
Tuition

Cornell  
University's  
Ranking

Why  
does college  
have to cost so  
much?



# TOP TAX RATE



8:01p ET

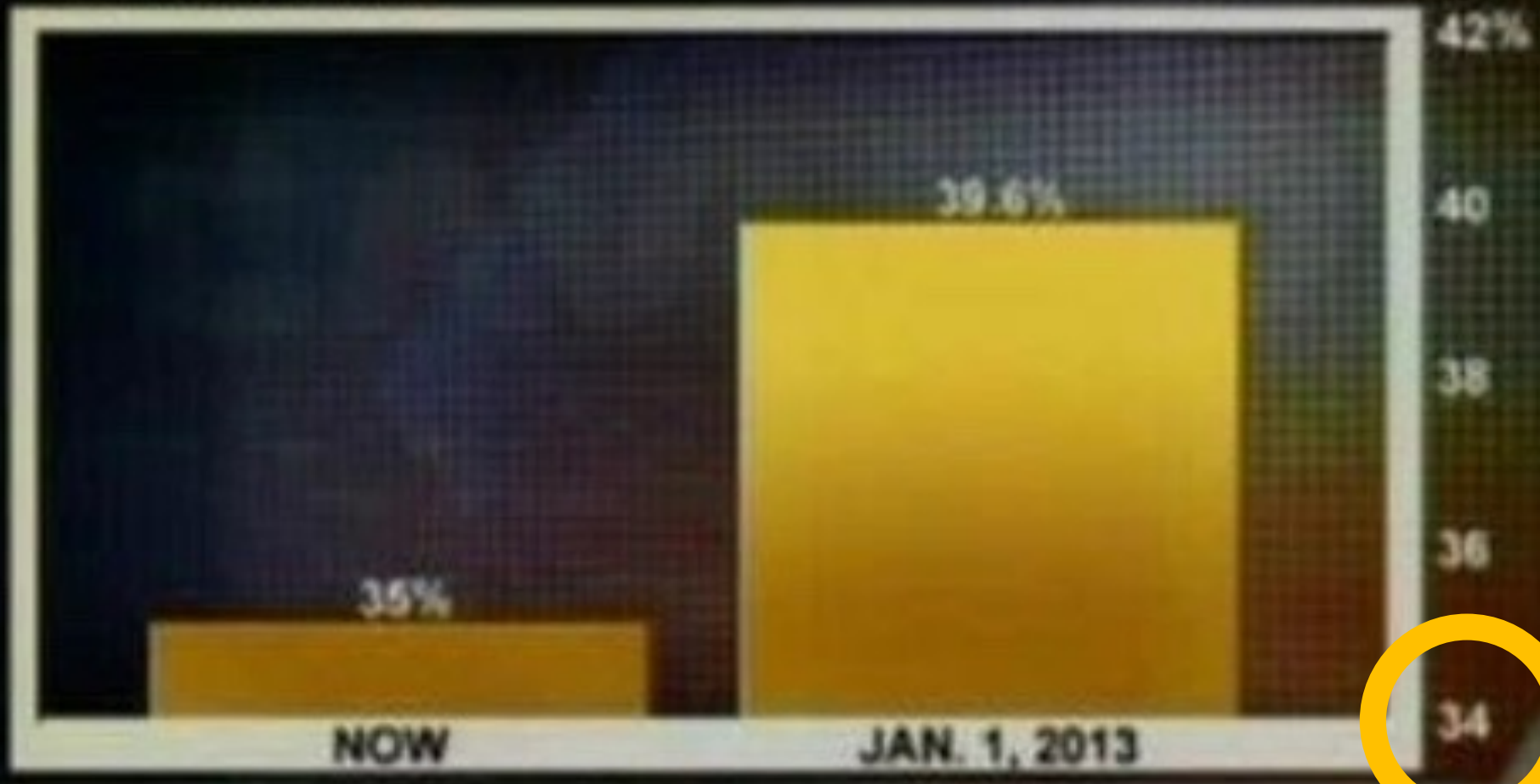
**FOX**

TOP STORIES

TECHNOLOGY

CONSUMER

# TOP TAX RATE



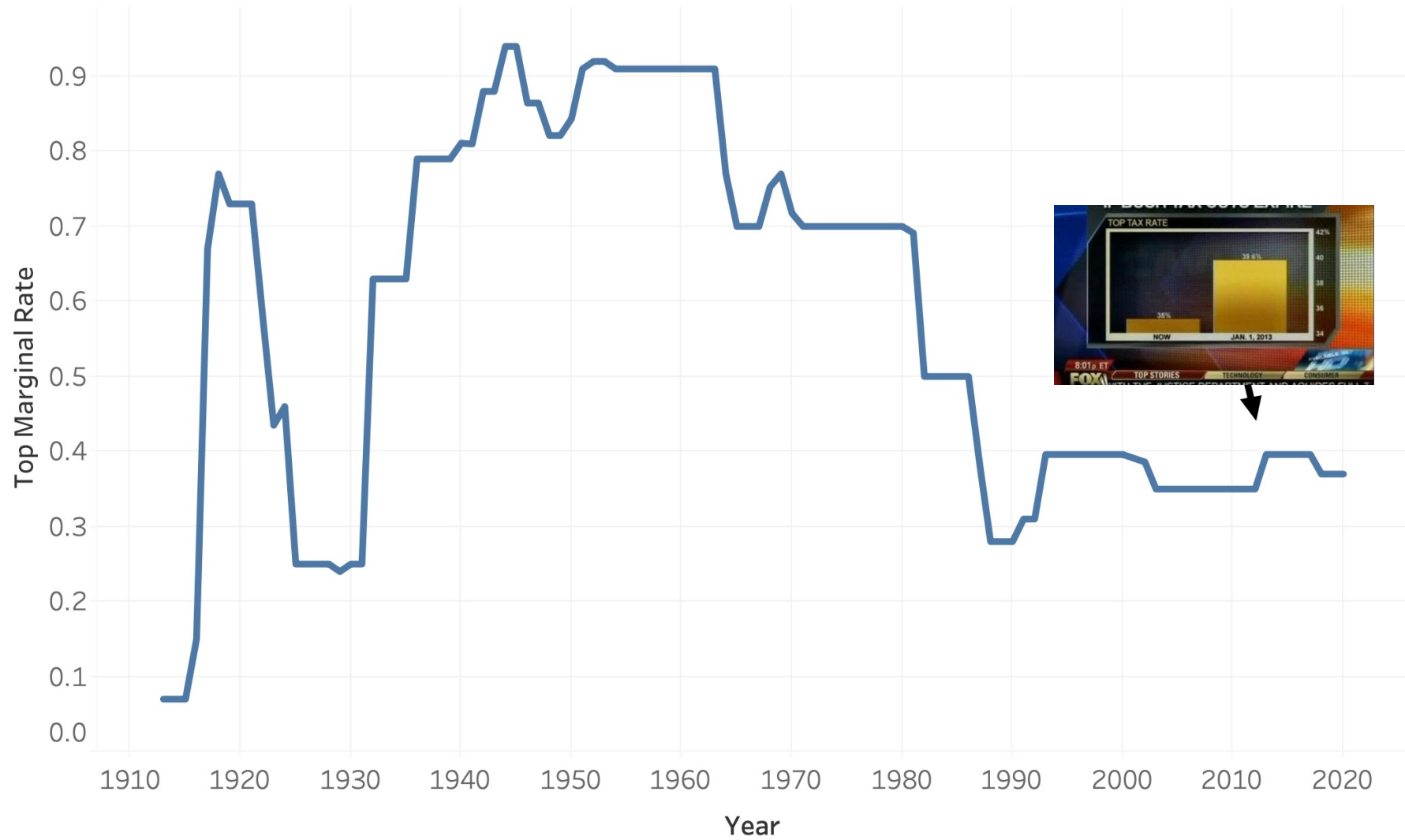
8:01p ET

**FOX**

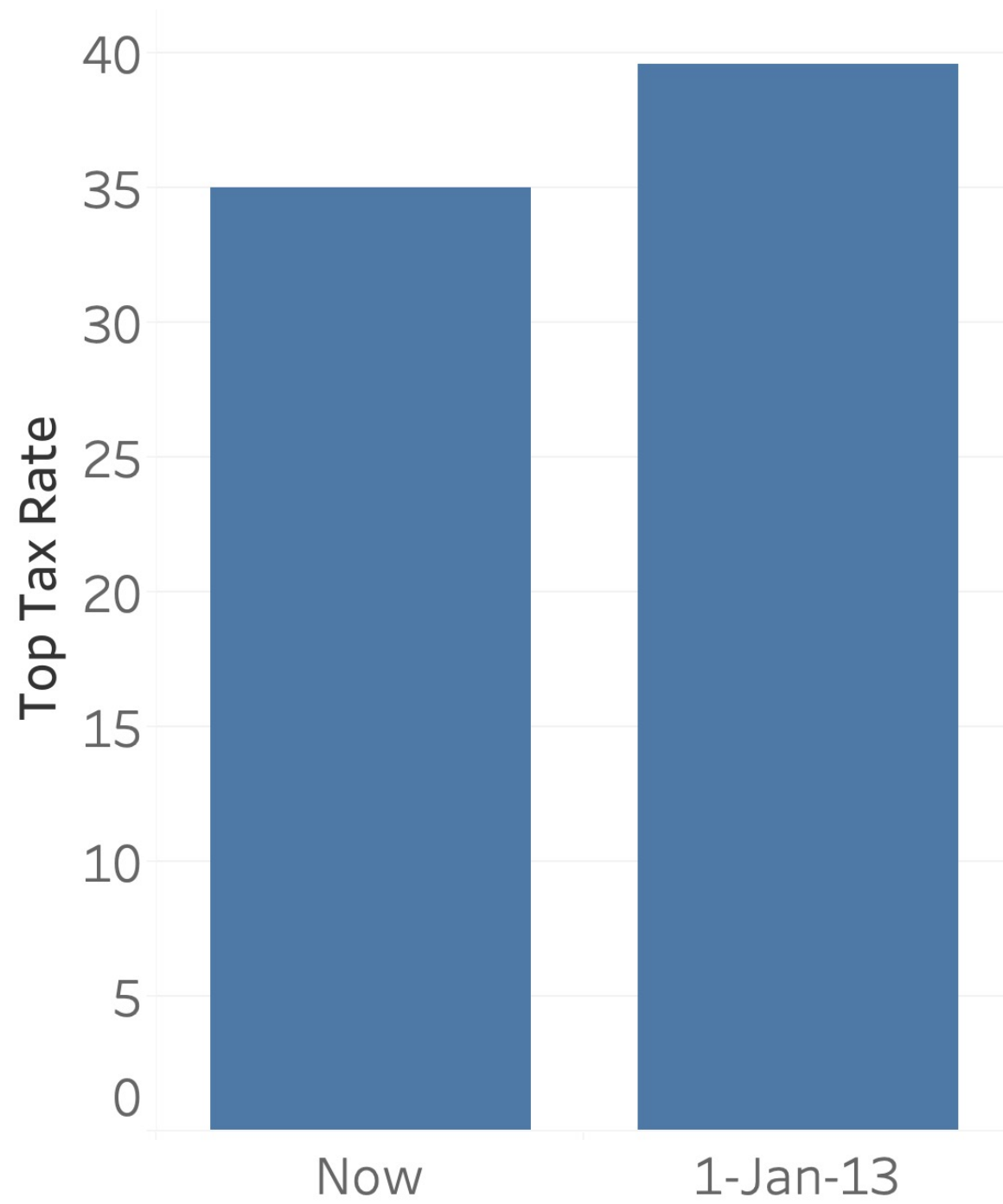
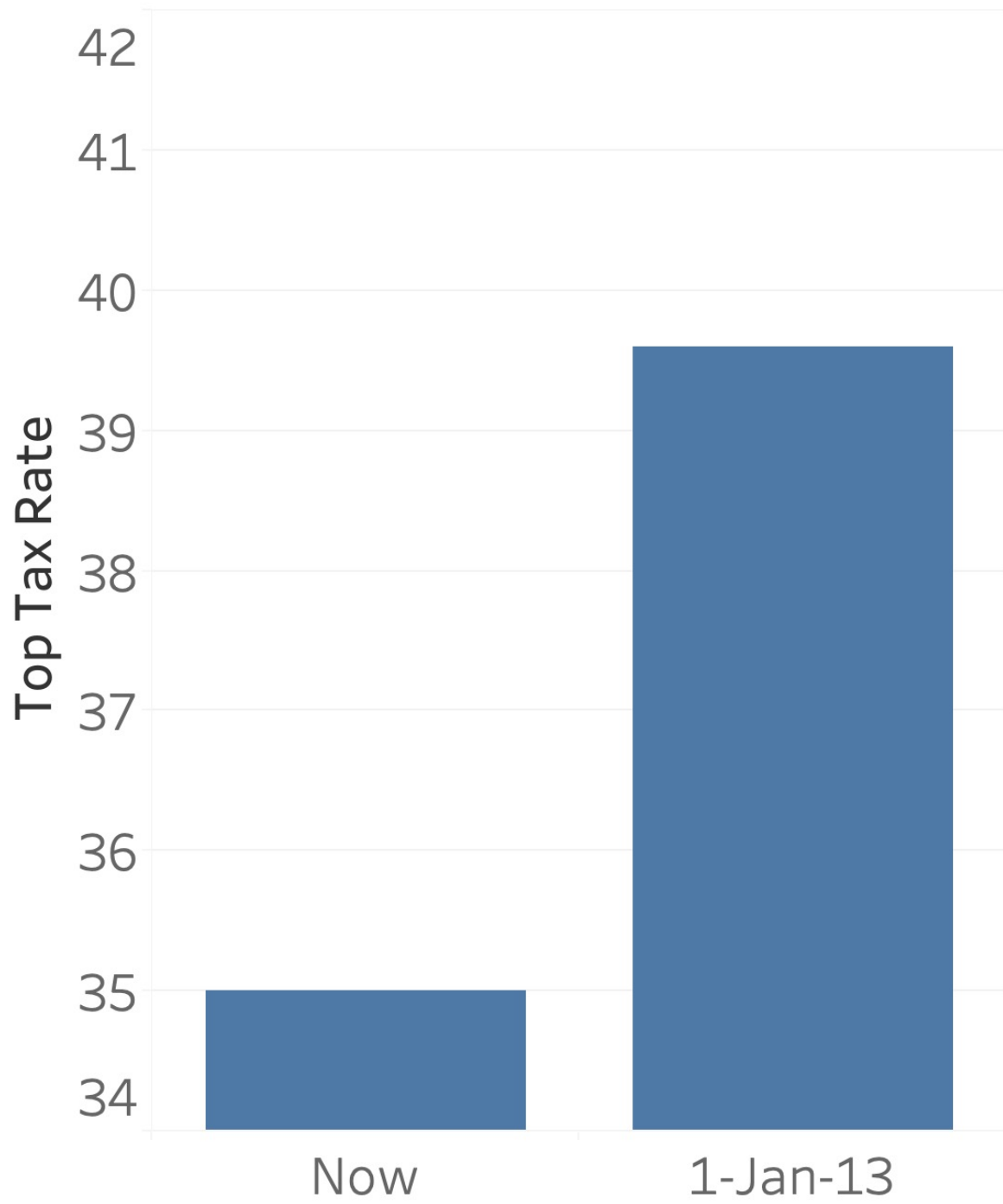
TOP STORIES

TECHNOLOGY

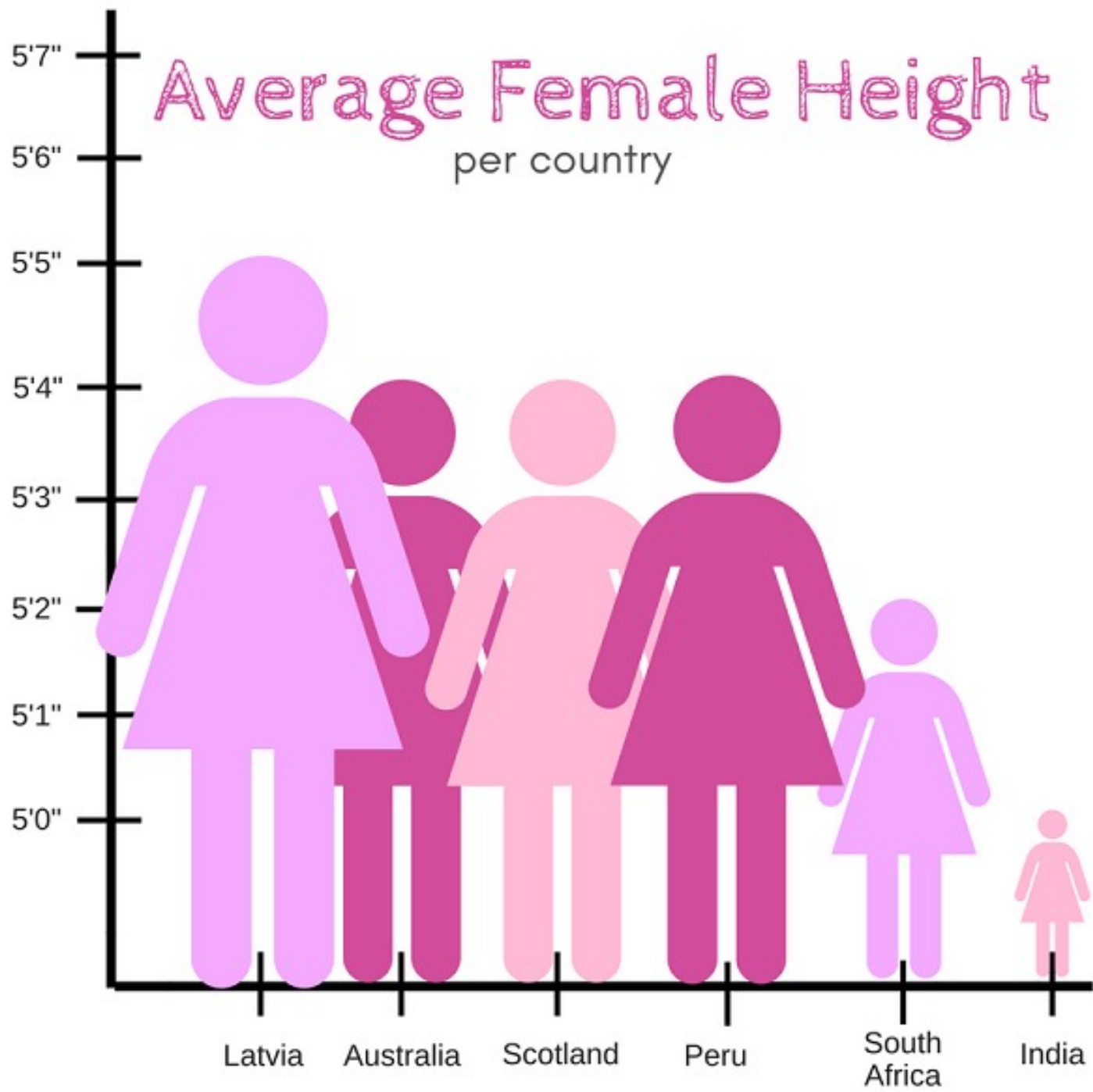
CONSUMER







# Average Female Height per country



# Average Annual Global Temperature in Fahrenheit 1880-2015

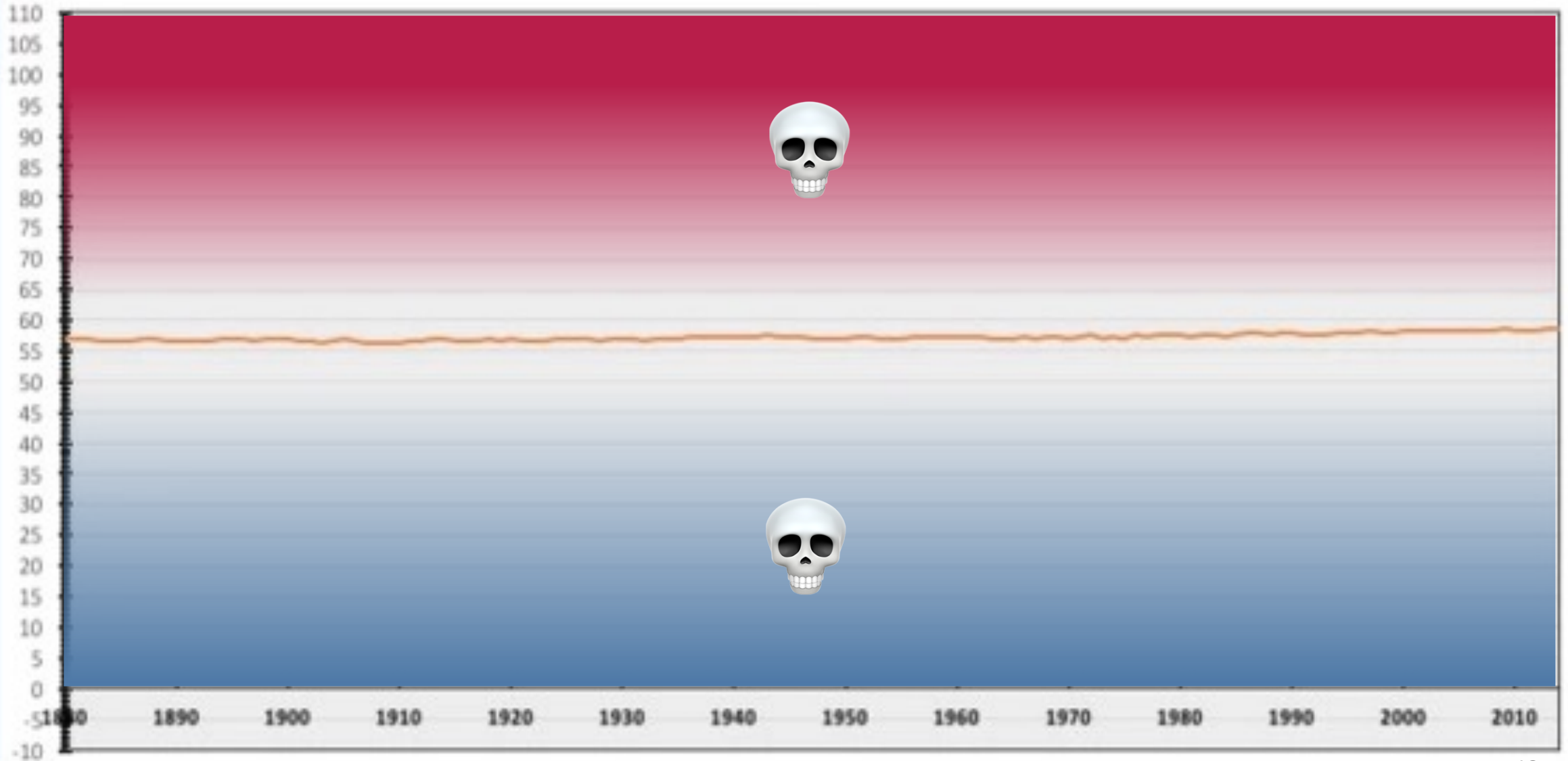




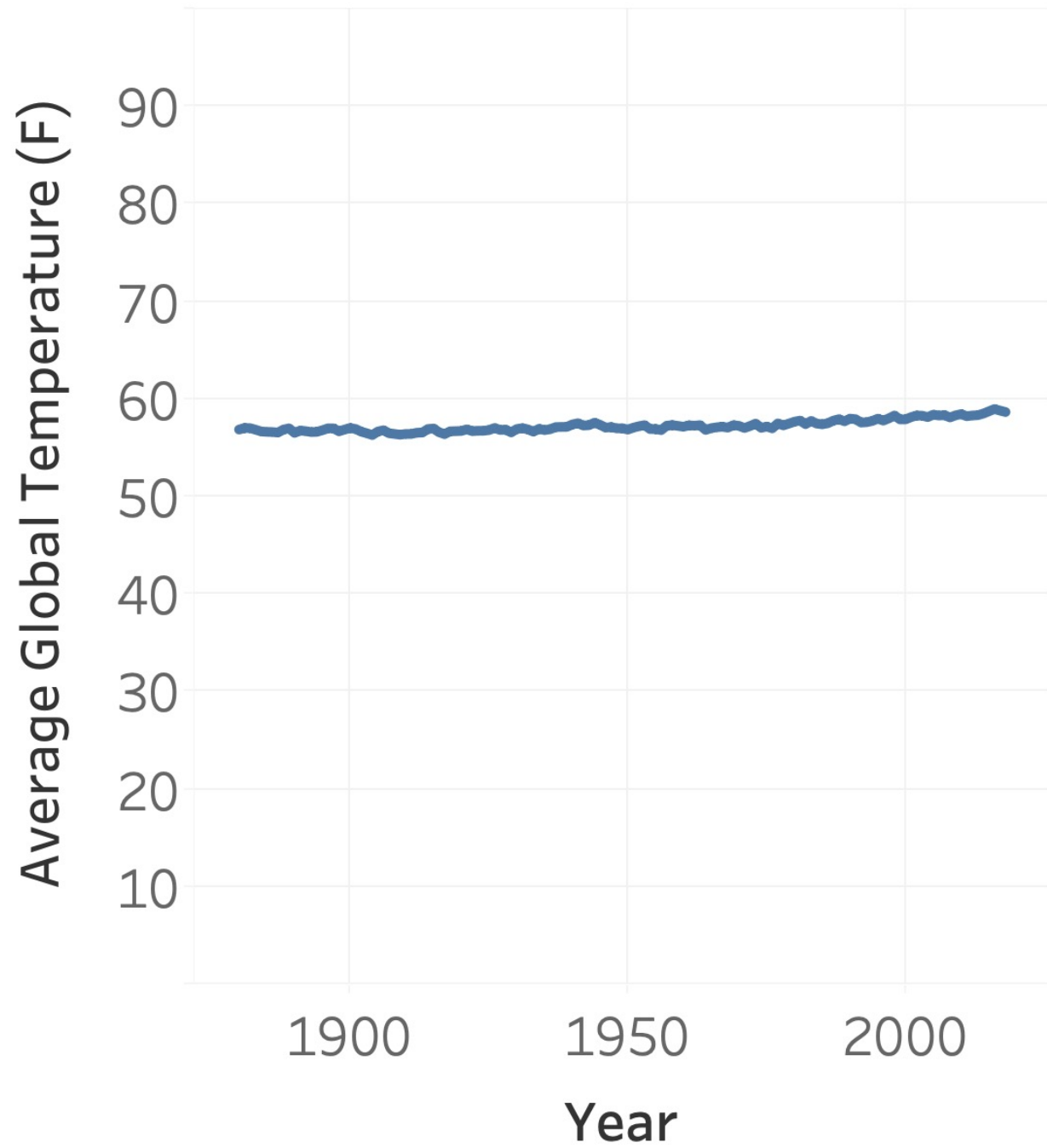
# Average Annual Global Temperature in Fahrenheit 1880-2015



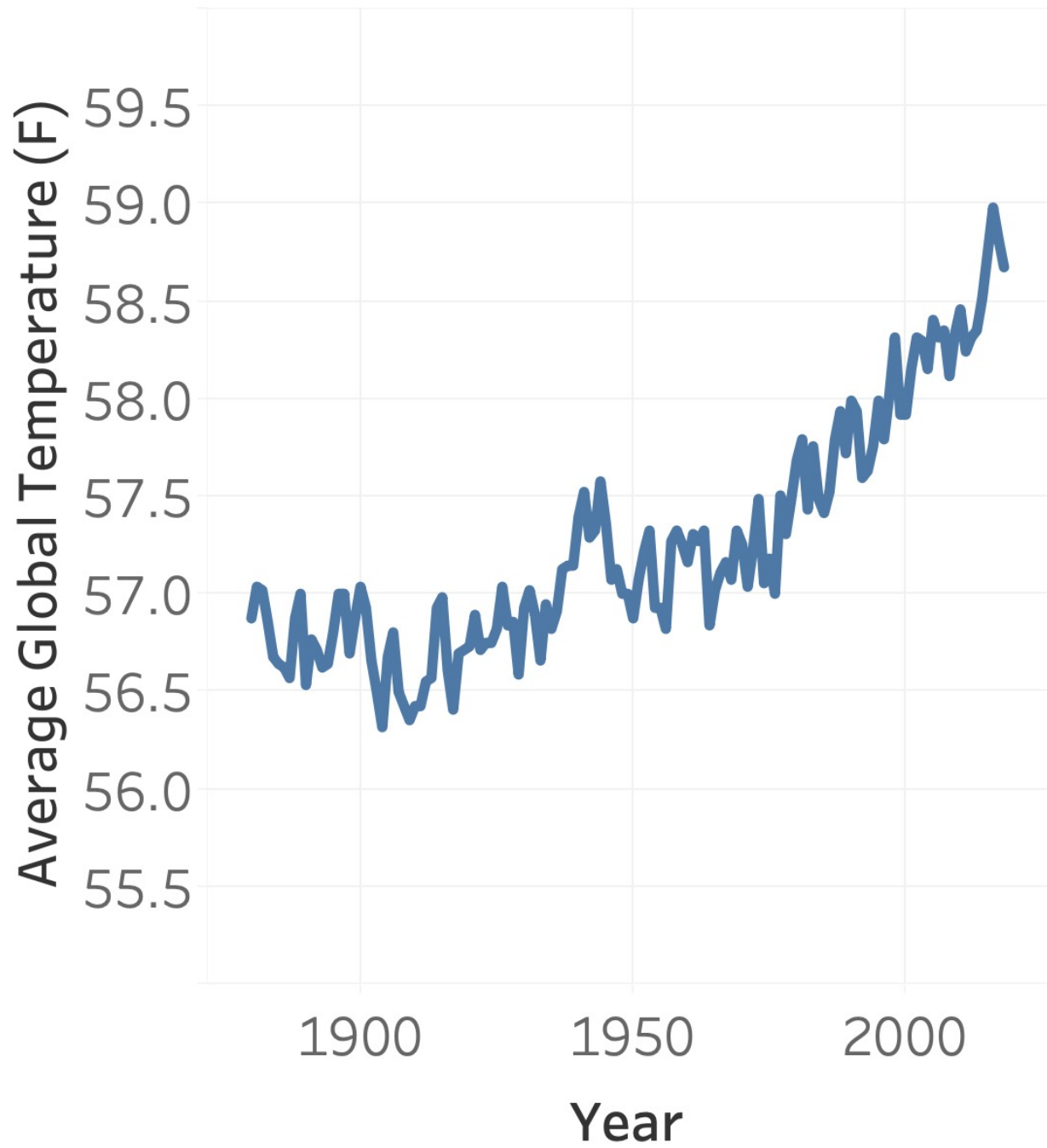
# Average Annual Global Temperature in Fahrenheit 1880-2015



NRO



NRO (Truncated)





# Unconventional Visualizations

People have tacit conventions on how they interpret charts  
(around colors, axes, slopes)

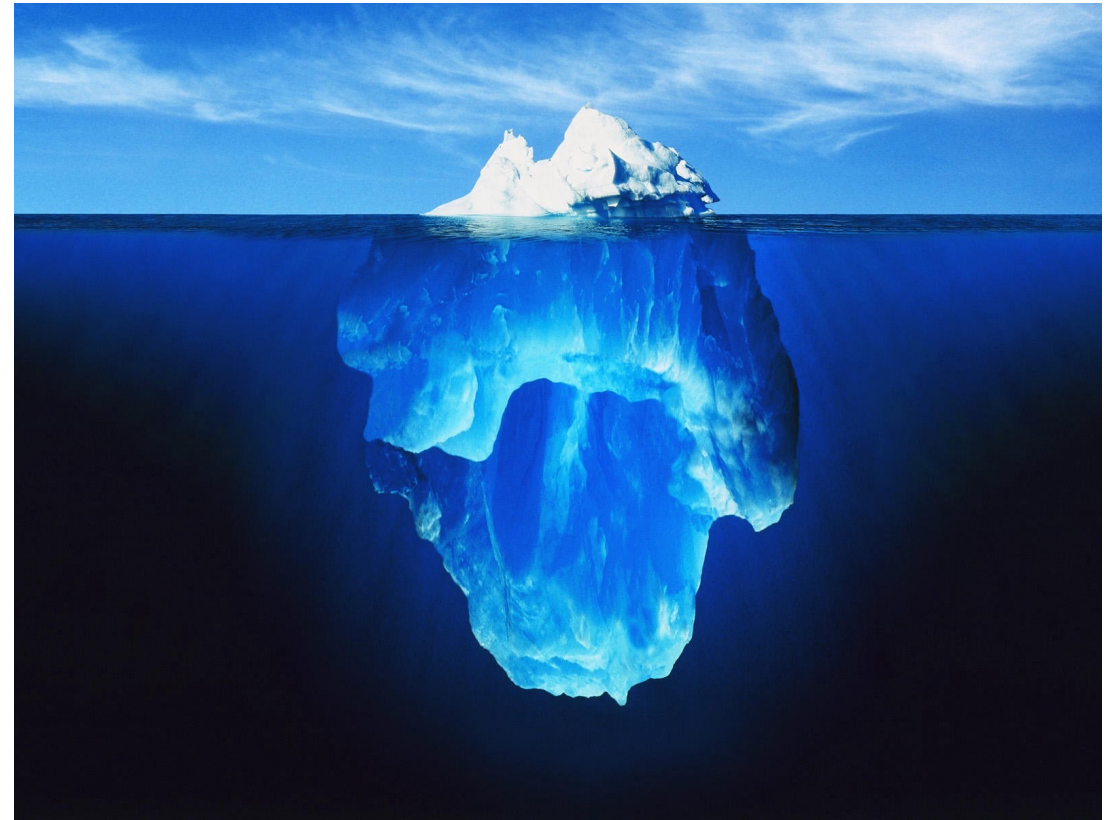
...if you violate those conventions, you can catch people off guard.

# Other Types of Bad Visualizations

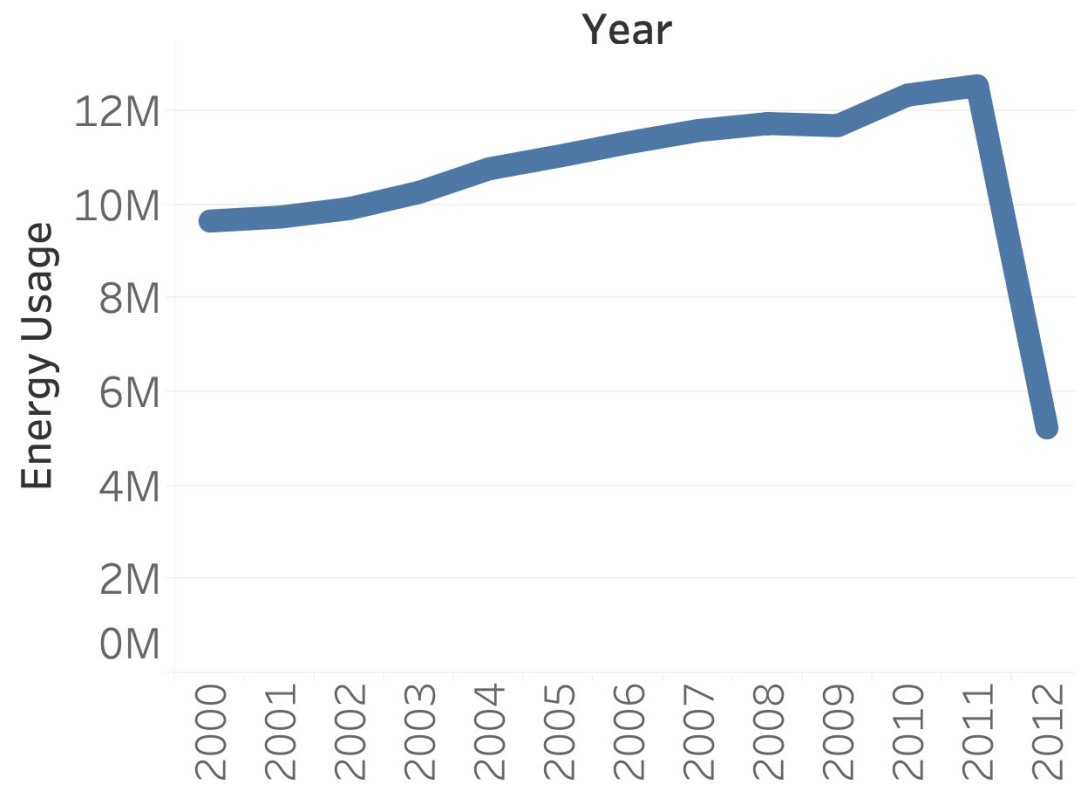
Fragile Visualizations?

Inhuman Visualizations?

Visualization White Lies?

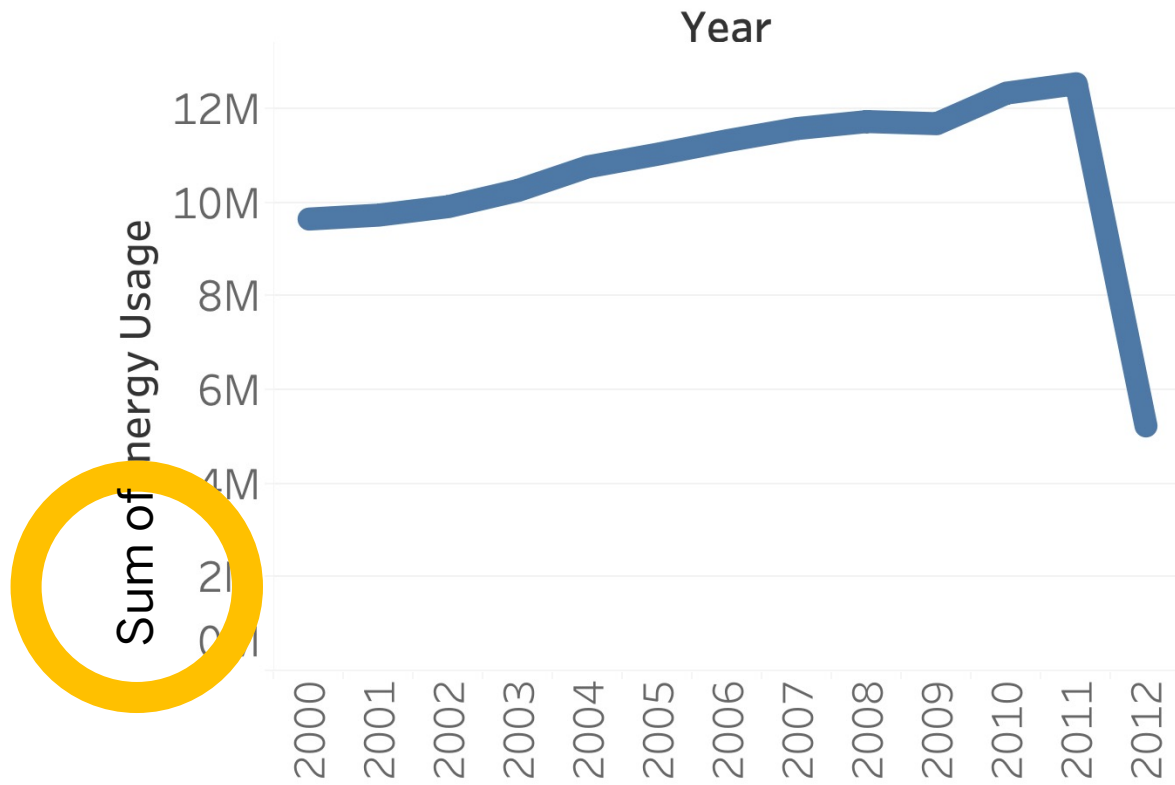


Energy Usage Down?

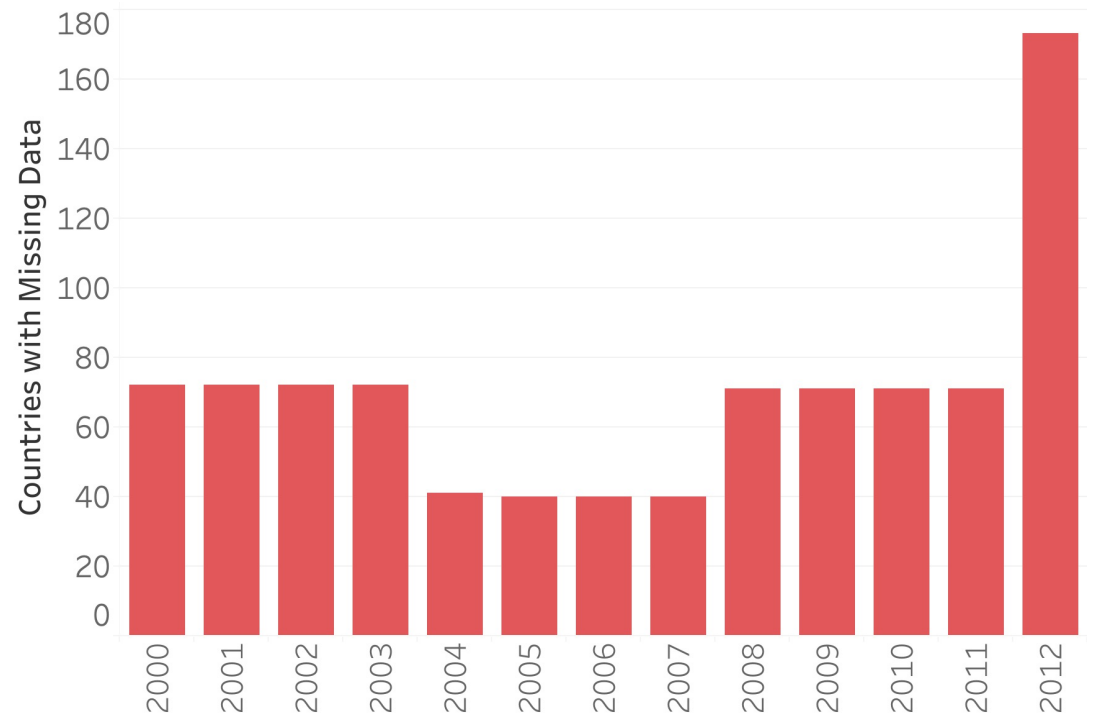
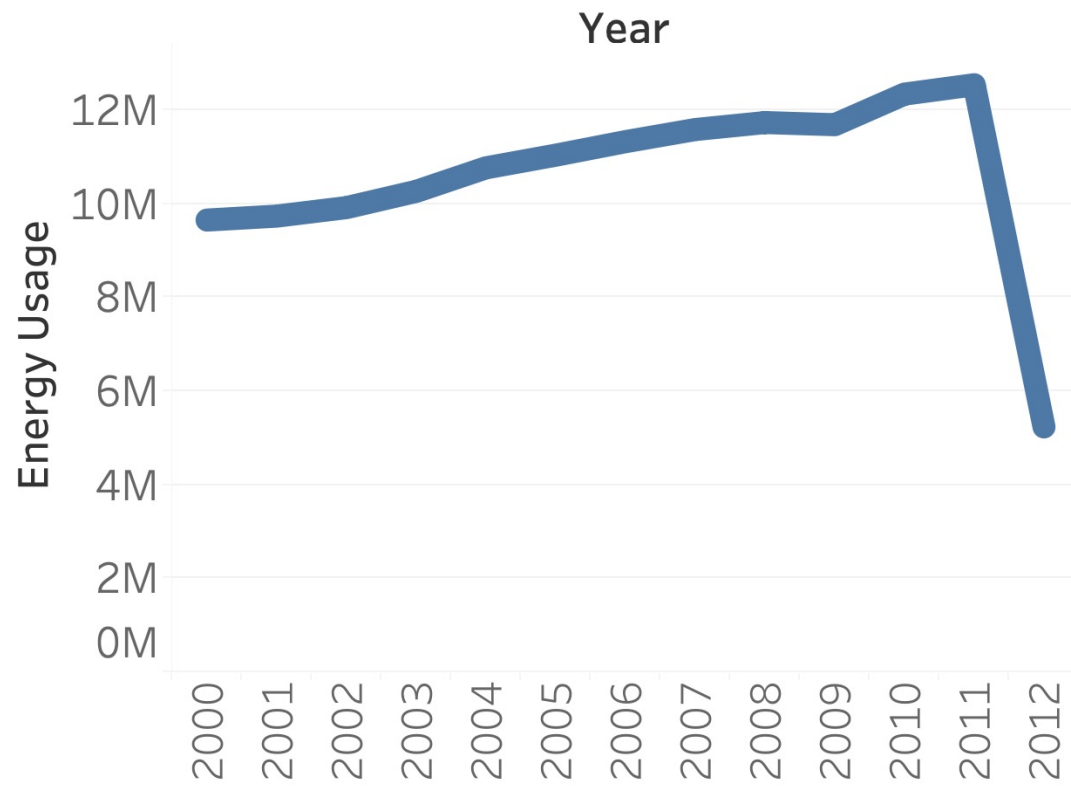




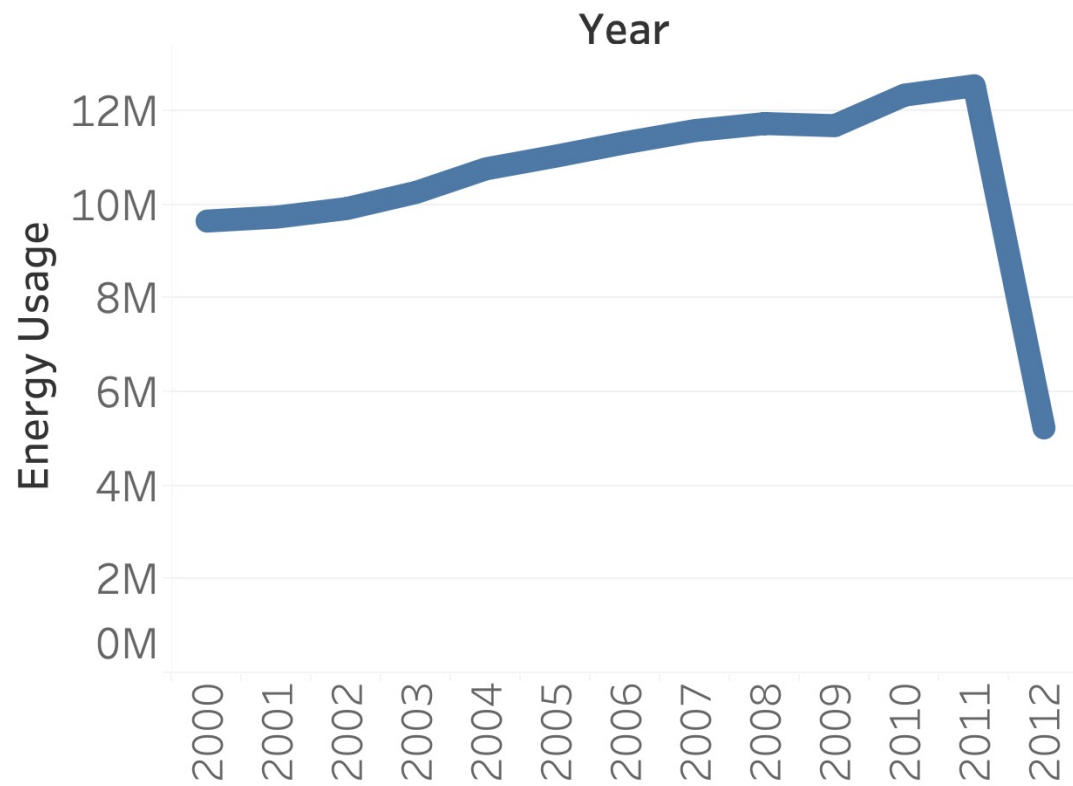
Energy Usage Down?



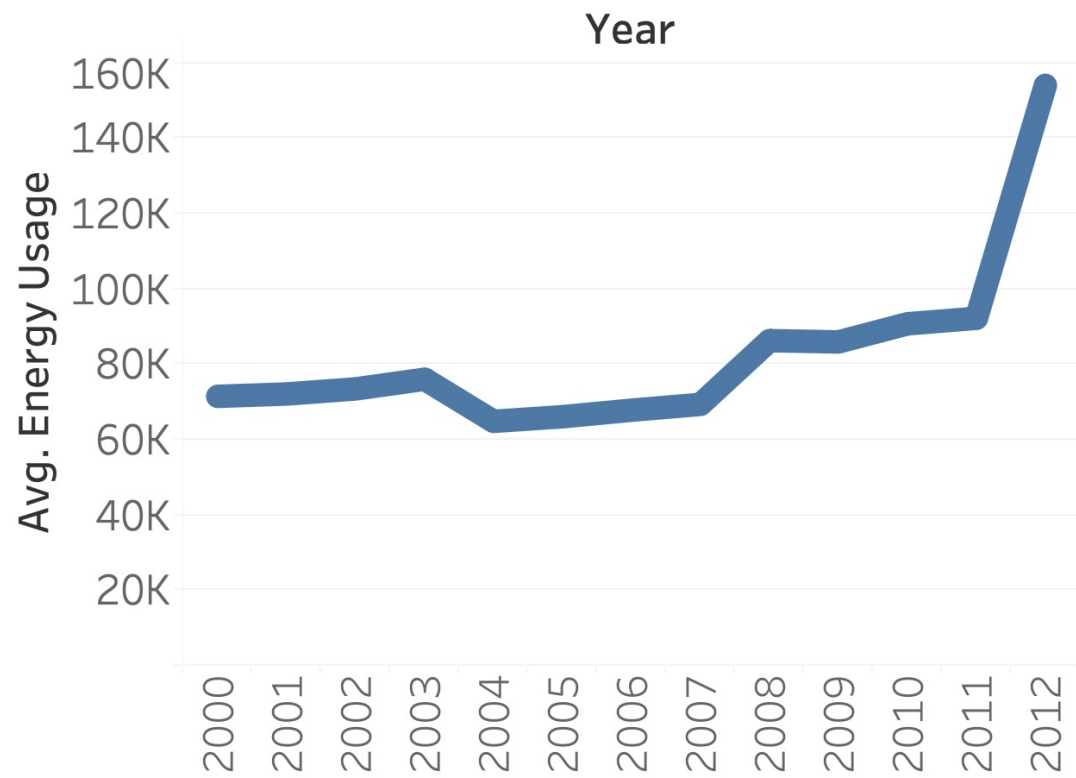
### Energy Usage Down?



Energy Usage Down?



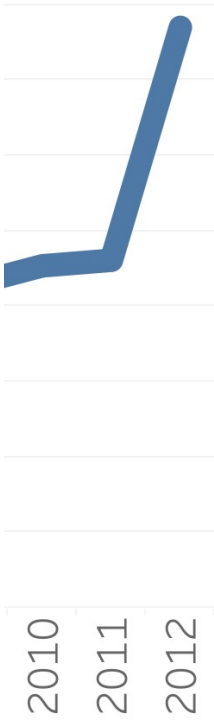
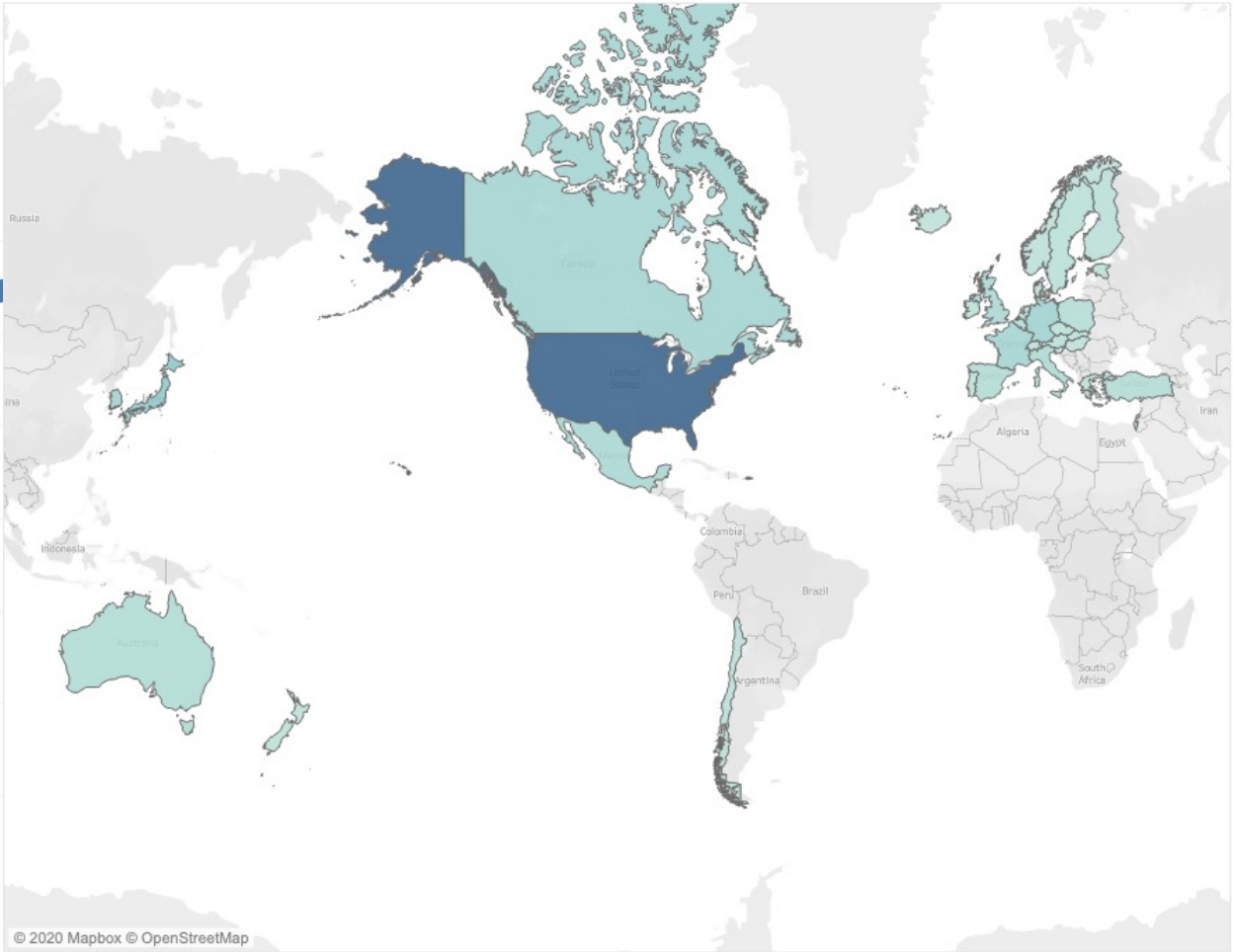
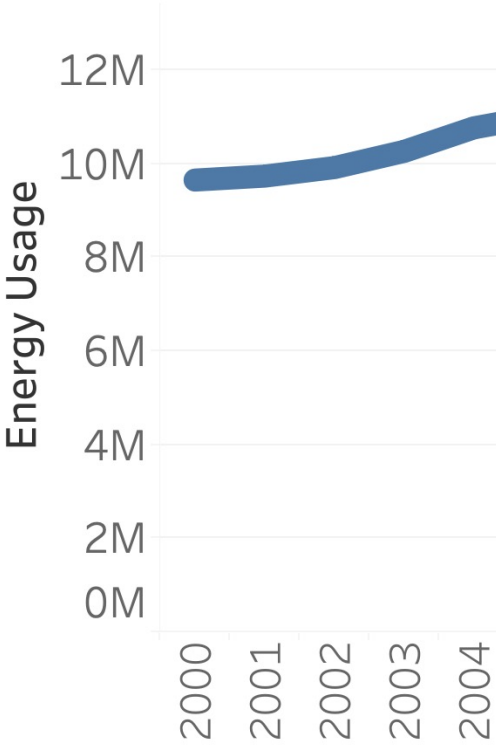
Energy Usage Up?



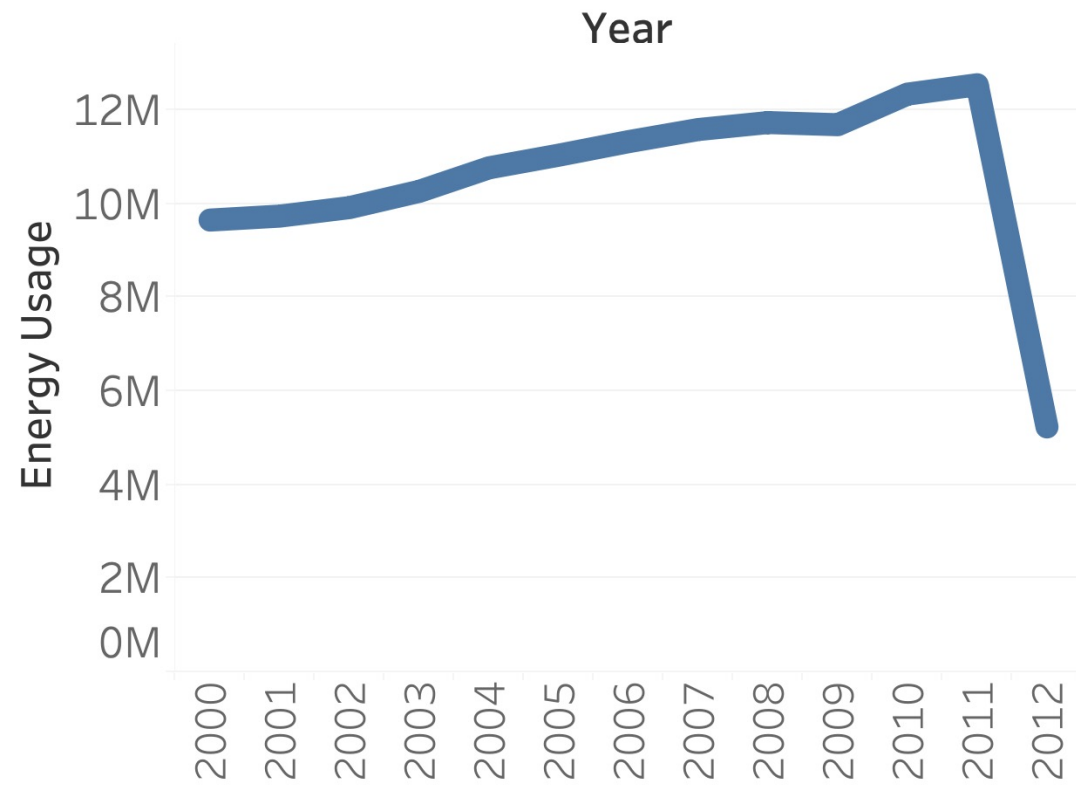


2012 Non-Nulls Are OECD Countries

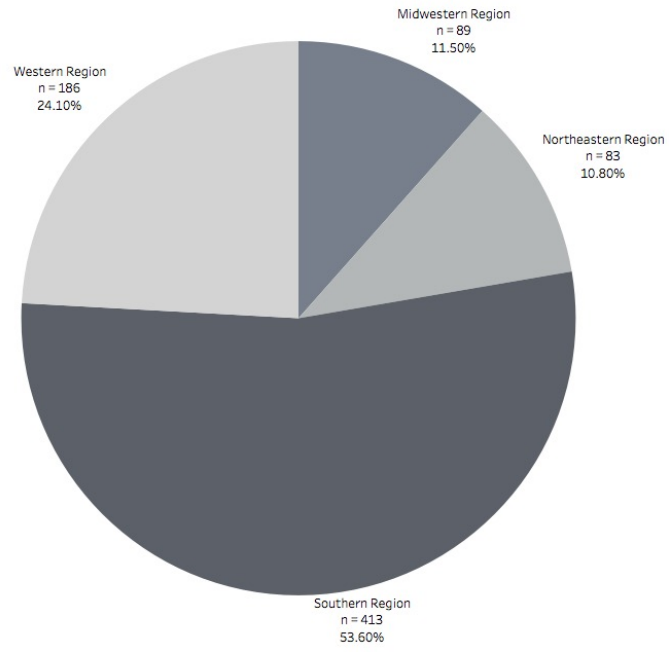
Energy Usage Down?



Energy Usage Down?

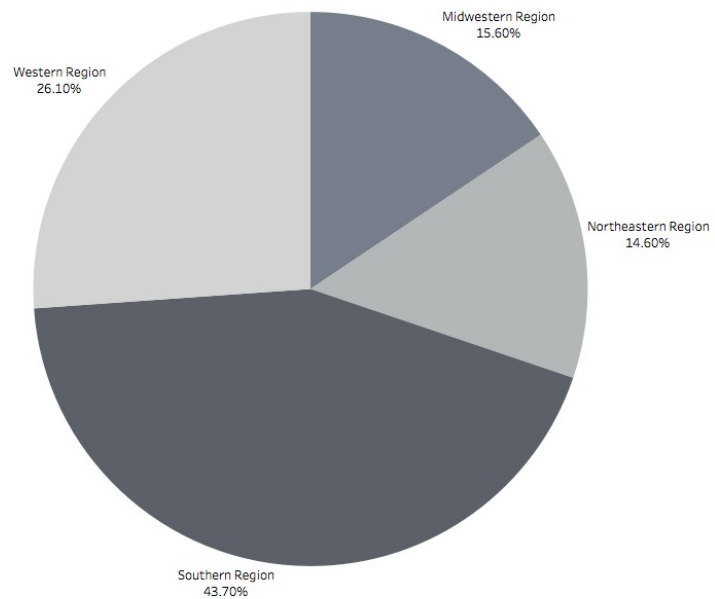


Logging fatalities and percentages by region, 1992-97

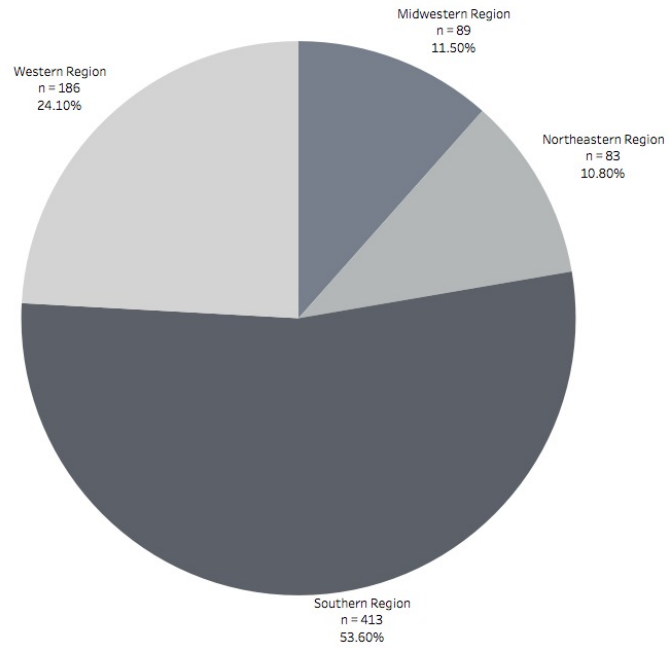


Sam Dragga & Dan Voss “Cruel Pies: The Inhumanity of Technical Illustrations”

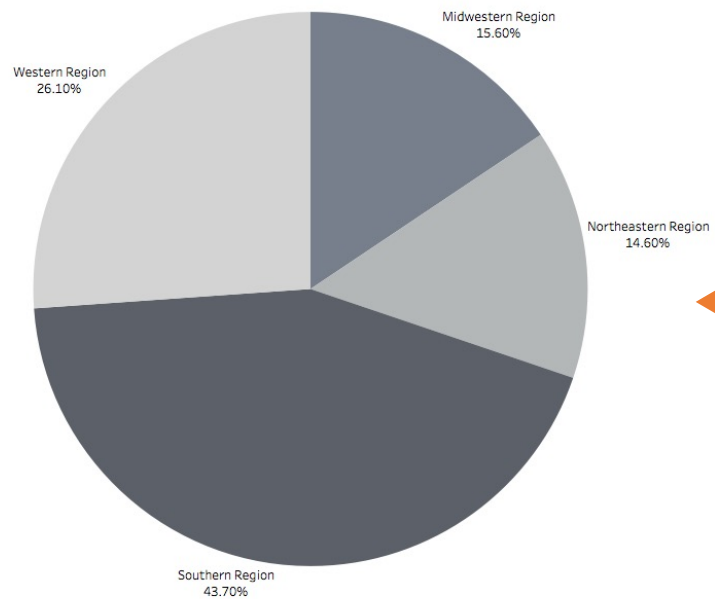
Logging employment percentages by region, 1992-97



Logging fatalities and percentages by region, 1992-97



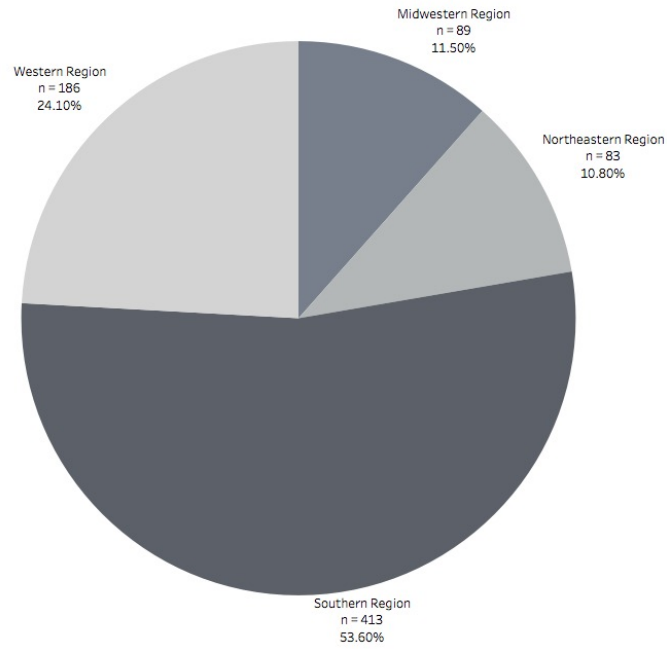
Logging employment percentages by region, 1992-97



← Where Your Employees Live

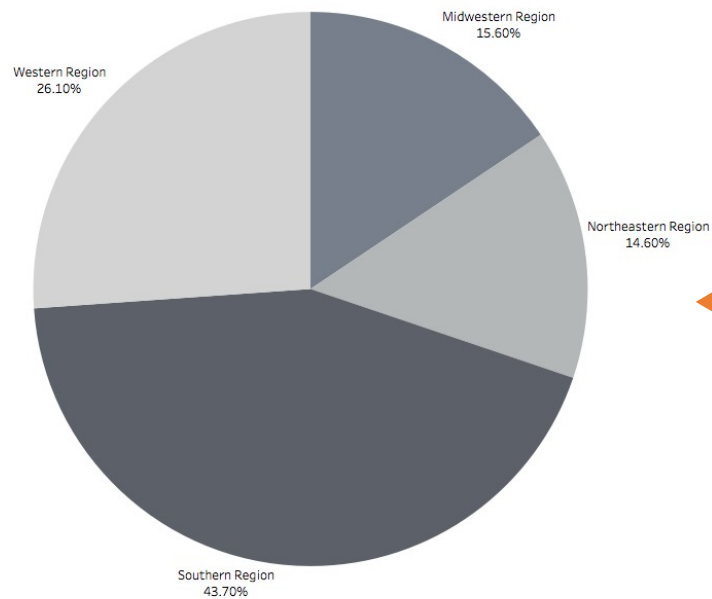


# Logging fatalities and percentages by region, 1992-97



← 771 Dead People

# Logging employment percentages by region, 1992-97

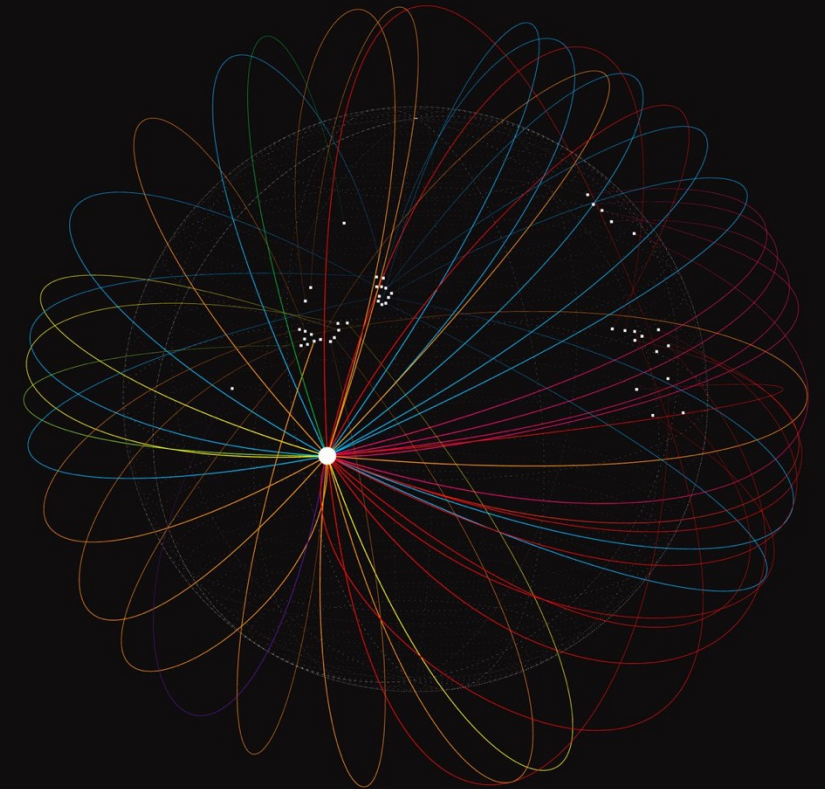


← Where Your Employees Live

# "The UnEmpathic Art"

I am just very skeptical of the idea that data visualization is a medium that can convey (or even care about conveying) or increase "empathy"

-Alberto Cairo



## HIROSHIMA

34° 23' 53" N, 132° 26' 32" E

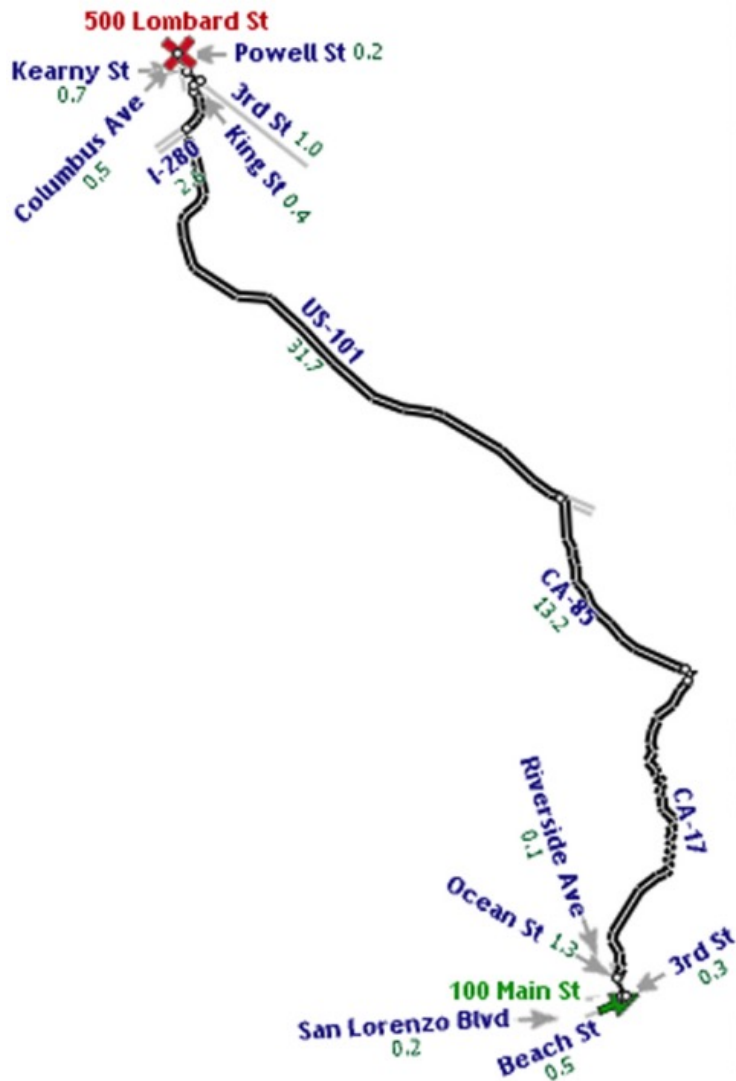
During the final stages of World War II in 1945, the United States conducted two atomic bombings against the cities of Hiroshima and Nagasaki in Japan, the first on August 6, 1945 and the second on August 9, 1945.

This graphic shows all the locations, geographically on the globe, of the events leading up to the dropping of the bomb. Each line is also colored so that it is easier to distinguish. The white large spot near the middle is Hiroshima and where the bomb hit. The smaller square spots are the locations of where the events happened on the Earth.

The shape of the graphic was inspired by the atom of Uranium 235, which was used in the bomb on Hiroshima.

- BRITAIN
- CANADA
- FRANCE
- GERMANY
- ITALY
- NORWAY
- SWITZERLAND
- UNITED STATES

# Visualization "White Lies"



# Wrap Up

Ways to mislead:

Breaking assumptions, expectations, conventions, drowning people in details... or just making stuff up.

Nuance:

Not every chart that breaks a "rule" is misleading

Not every chart that follows the "rules" is truthful





### Call Type Summary



Crimes Against Persons

21

Assault

8

Robbery

5

Threats

8



Assisting the Public

18



Drugs and Vice

17



Property Crime/Theft

75

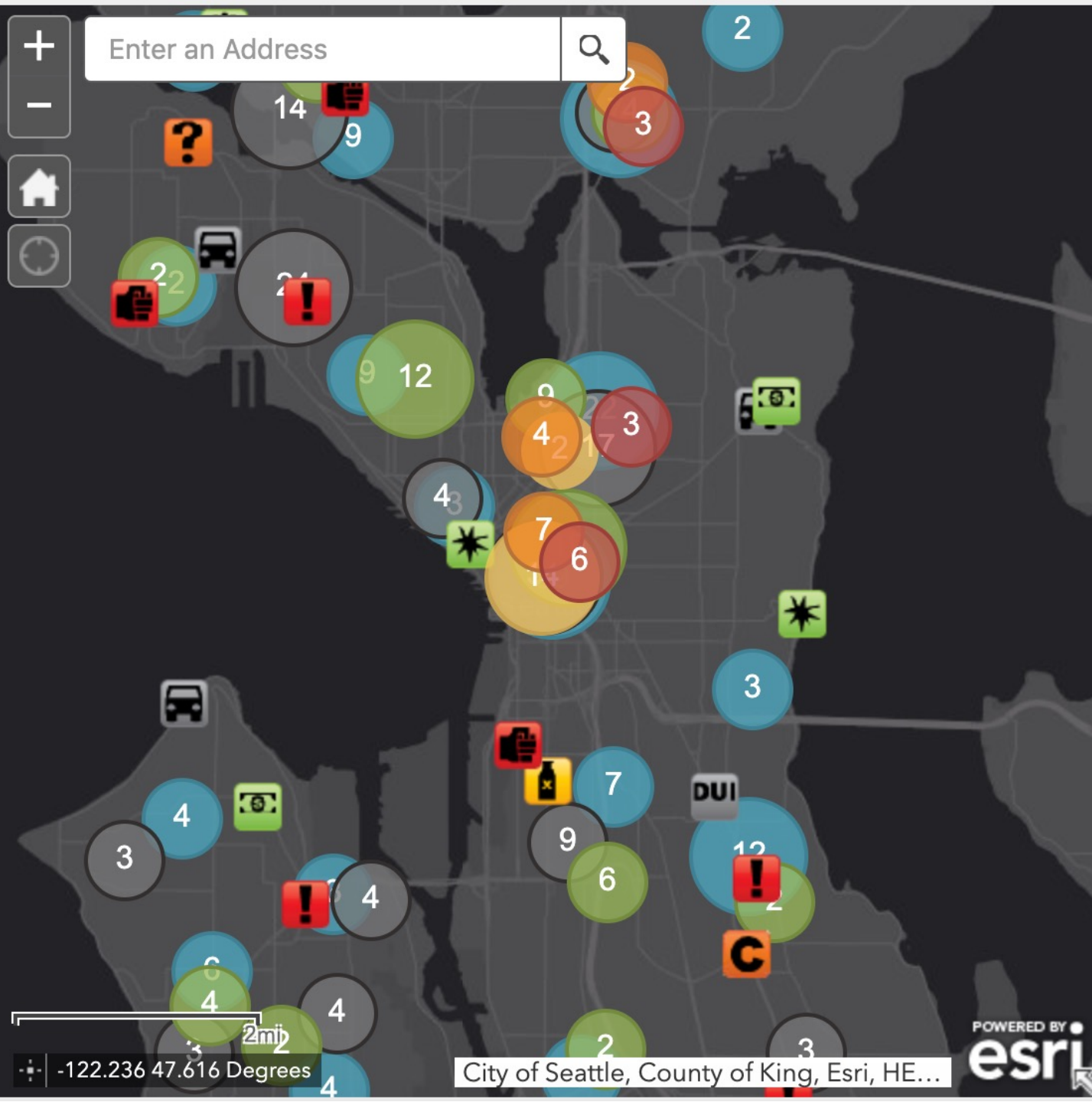


-

100



Enter an Address



-122.236 47.616 Degrees

City of Seattle, County of King, Esri, HE...





Add Map Labels

Remove Color-Coding



Hide Overlays

## 2010 Census Block Data

1 Dot = 1 Person

- White
- Black
- Asian
- Hispanic
- Other Race / Native American / Multi-racial

What am I looking at...?





# WHITE COLLAR CRIME RISK ZONES

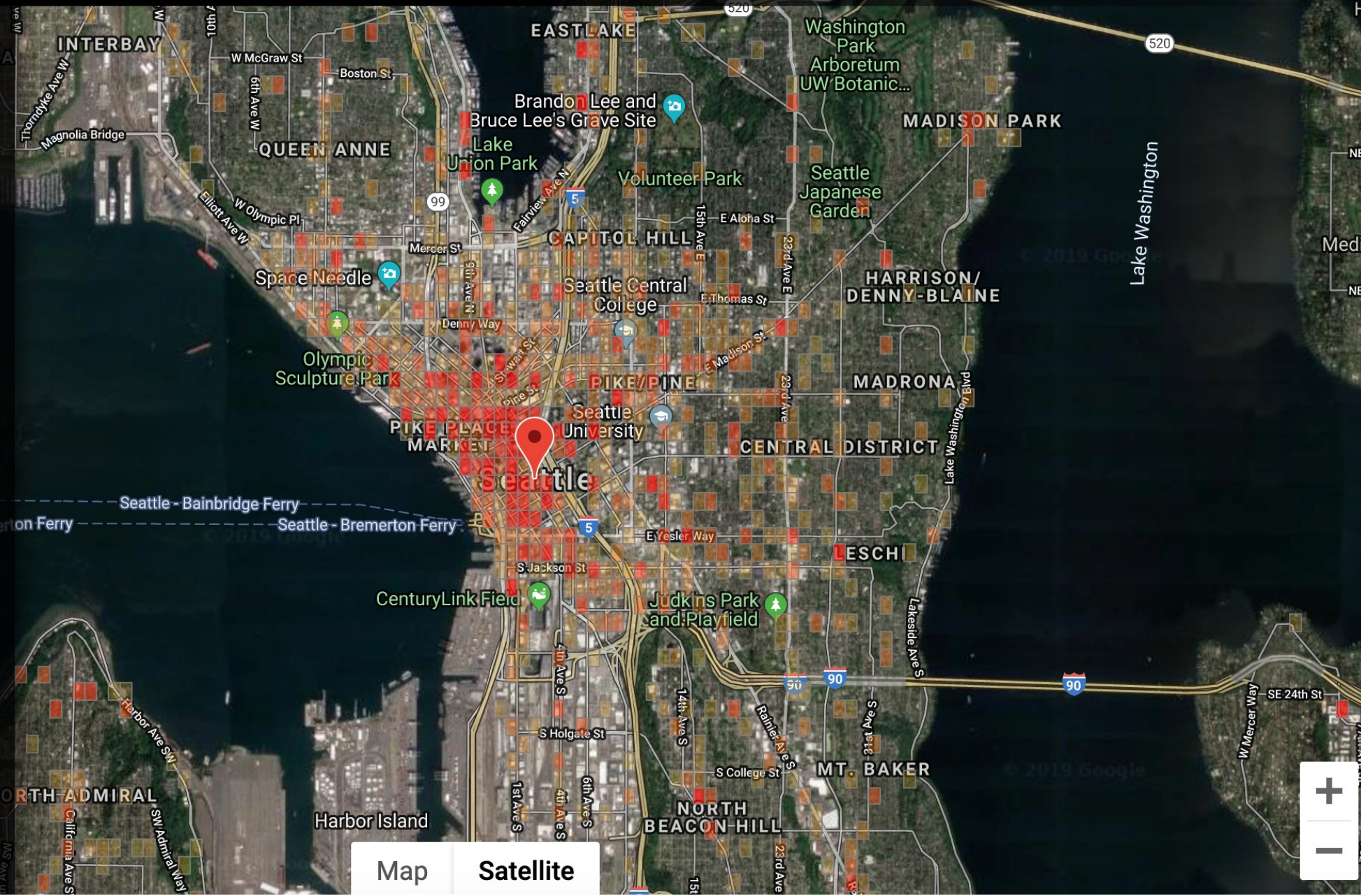
# THE NEW INQUIRY



White Collar Crime Risk Zones uses machine learning to predict where financial crimes are mostly likely to occur across the US. To learn about our methodology, read our [white paper](#).

By [Brian Clifton](#), [Sam Lavigne](#) and [Francis Tseng](#) for *The New Inquiry Magazine*, Vol. 59: **ABOLISH.**

Search



Map Satellite







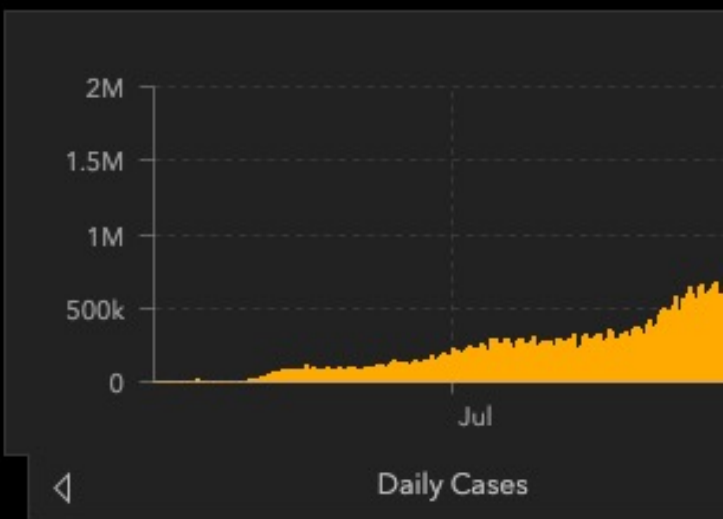
◀ Global Deaths ▶

◀ US Deaths, Recovered ▶

Cumulative Cases    Active Cases    Incidence Rate    Case-Fatality Ratio    Testing Rate

**191**  
countries/regions

Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#). Data sources: [Full list](#). Downloadable database: [GitHub](#), [Feature Layer](#).  
Lead by [JHU CSSE](#). Technical Support: [Esri Living Atlas team](#) and [JHU APL](#). Financial Support: [JHU NCEP](#), [JHU Center for Communications Programs](#), [JHU Center for Global Health](#), [JHU Center for Health Equity Promotion](#), [JHU Center for International Health](#), [JHU Center for Population Science](#), [JHU Center for Vaccine Development](#), [JHU Center for Workforce Development](#), [JHU Center for Health Systems Research and Analysis](#), [JHU Center for Health Equity Promotion](#), [JHU Center for International Health](#), [JHU Center for Population Science](#), [JHU Center for Vaccine Development](#), [JHU Center for Workforce Development](#), [JHU Center for Health Systems Research and Analysis](#).





# 100 years of world cuisine

38,000,000 deaths  
 100yearsofworldcuisine.com

25 conflicts  
 1915 - present



Armenian genocide 1915-16  
1,500,000 †

Korea war 1950-53  
3,500,000 †

Congo wars 1998-2003  
3,900,000 †

Biafran war 1967-70  
1,000,000 †

Sudanese civil war 1983-2005  
2,200,000 †

Gulag system 1929-53  
1,600,000 †

Wars in Indochina 1945-75  
6,000,000 †

Iraq 2003-2010  
100,000 †

Holodomor 1932-33  
3,000,000 †

North Korean famine 1990-ongoing  
2,000,000 †

Stalingrad 1942-43  
1,520,000 †

Khmer genocide 1975-79  
3,000,000 †

Romas 1941-45  
200,000 †

Holocaust 1941-45  
5,000,000 †

Expulsion of Germans after WW2 1944-45  
500,000 †

Yugoslav wars 1991-95  
130,000 †

Algeria war 1954-62  
960,000 †

9/11 attacks 2001  
2,997 †

Rwandan genocide 1994  
1,000,000 †

Iran-Iraq war 1980-88  
500,000 †

Partition of India 1947  
500,000 †

Immigration to Europe 1988-ongoing  
15,000 †

Mexican drug war 2006-ongoing  
30,000 †

Afghanistan 2001-ongoing  
40,000 †

Arab-Israeli conflict 1950-ongoing  
51,000 †

Chechen wars 1999-ongoing  
160,000 †