

# VISUALIZATION

Stripping the Dread from the Graphics



# elmundo.es (Spain), 2000-2005

## Mars Exploration Rover: Misión a Marte

Portada | Introducción | El Marte

**Estructura**  
El vehículo, de 155 kg de peso, tiene una vida útil de 90 días marcianos (un poco más largos que los de la Tierra). Puede avanzar 100 metros por jornada. Puesto que su batería se alimenta de luz solar, sólo está operativo durante el día.

Fuente: NASA / Agencia Espacial Europea / Alberto Cairo

## Esgrima

Portada | Introducción | Modalidades | Equipamiento | Materias | Historia

**El área y las reglas básicas**  
El primer combatiente que consiga 5 tocos en las rondas preliminares y 15 tocos en la eliminación directa gana el combate.

Fuente: Fencing (ABC Black London) / Fencing (Brian Pinna) / EIMUNO Alberto Cairo

## El calamar gigante

Portada | El animal | Hábitat y distribución | Comparativa de longitudes

**El calamar gigante**  
El Architeuthis es el invertebrado más grande que existe. Suele vivir a grandes profundidades, por lo que nunca se lo ha observado en su hábitat natural. Todos los especímenes que se han realizado sobre él se han hecho a partir de restos.

Fuente: SeaWorld Inc. / guatemaladivertida.com / EIMUNO Alberto Cairo

## Cassini-Huygens: cita con Saturno

Portada | La misión | Saturno

**Sonda Cassini**  
El proyecto Cassini comenzó a gestarse en 1982 como misión que completaría observaciones anteriores (de sondas Voyager o del Hubble).

Peso total con combustible	5.712 kg
Peso sin combustible	2.135 kg
Peso de sonda Huygens	350 kg
Ranurada hasta Saturno	3.506 mil. km
Lanzamiento	15 octubre 1997
Llegada	1 julio 2004
Misión Huygens en Titán	24 diciembre 2004
Duración de la misión principal	4 años
Coste de la misión	3.000 mil. de \$

Fuente: NASA / Space.com / EIMUNO Alberto Cairo

## Los portaaviones clase 'Nimitz'

Portada | Datos | Estructura | Despegue | Aterrizaje | Radar

**Estructura del buque**  
Los portaaviones clase 'Nimitz' tienen un puntal de más de 12 pisos (unos 40 metros). Se suelen dividir en diversas cubiertas de carga, de hangares, etc.

Fuente: Fantasy / US Navy (Shark) / EIMUNO Alberto Cairo

## Masacre en Madrid

Portada | Introducción | Atocha | El Pozo | Santa Eugenia | Glorieta Carlos V

**7 explosiones en Atocha**  
En la vía 2, un C-1, esperaba para salir con destino a Alcobendas. El tren que se dirigía a Chamartín (línea C-1) estaba en la entrada de la estación en el momento del atentado.

Fuente: EIMUNO Alberto Cairo

## La presa de las Tres Gargantas

Portada | El río | Construcción | La presa

**Potencia instalada**  
En MW: 17.680 (Presa instalada del embalse) vs 18.050 (Presa hidroeléctrica instalada en España (2001)).

**Capacidad del embalse**  
Millones de litros: 39.300.000 (Capacidad del embalse) vs 4.300.000 (Caudal anual de agua en lagunas españolas).

Fuente: Agencia / EIMUNO Alberto Cairo

## Tiro con arco

Portada | Arco y flechas | Diosa y turismo | Disparo | Prueba su justicia

**Disparo**  
El arquero debe controlar con total precisión sus movimientos. En cada disparo repite exactamente los del anterior. Además de los accesorios mostrados, se permite el uso de sujetamuecas y salvatajes (petos).

Fuente: Manual de tiro con arco (Tiro) / Sports (Flecha) / EIMUNO Alberto Cairo

## Tiroteo en Ciudad Lineal

Portada | Los hechos

**El tiroteo**  
El primer sicario se sienta tras las víctimas y les dispara tres ráfagas con su Kalashnikov (la policía ha recogido más de 50 casquillos de bala). Uno de los hombres sobrevive a los primeros disparos, pero el asesino lo remata en el suelo. Según algunos testigos, una de las víctimas intentó repeler la agresión con una pistola, pero no pudo disparar.

Fuente: EIMUNO Alberto Cairo / Mariano Zabala



# UNC-Chapel Hill, 2005-2010

The screenshot shows the website for the UNC School of Journalism and Mass Communication. At the top left is the UNC logo and the school's name. To the right are navigation links: Directory, Park Library, Student Resources, UNC, Webcam, Jobs, and Give. Below this is a dark navigation bar with links: I am..., Academics, Research, News & Events, Resources & Directories, and About. A search bar is on the right. The main content area features a large image of a woman, Joan Cates, with a blue text box overlay that reads: "NIH-funded project at UNC to see if texts, games and web portals can increase HPV vaccination". Below this is a white text box: "Joan Cates will lead a team to communicate the importance of vaccinating against the most common sexually transmitted infection in the U.S." Below the main content is a "News & Events" section with three items: 1. "JE SUIS CHARLIE" with the caption "Journalism school deans respond to the Charlie Hebdo attack". 2. A photo of a trophy with the caption "UNC J-school students place in Hearst broadcast, photojournalism and writing competitions". 3. A photo of Stuart Scott with the caption "Stuart Scott, 1965 - 2015". To the right of these items is a Twitter post from @UNCJschool: "RT @Sarah\_Kaylan: Learning about the basics of #visualcontent and framing in #JOMC 221 today! @UNCJschool http://t.co/ta2null2rb". At the bottom right are social media icons and a "1 of 10" indicator.



# Editora Globo, Época magazine (Brazil) 2010-2011

## DIAGRAM NEWS IN PERSPECTIVE

### Brazil's Demographic Opportunity

How Brazil can take advantage of a future with fewer children per couple.

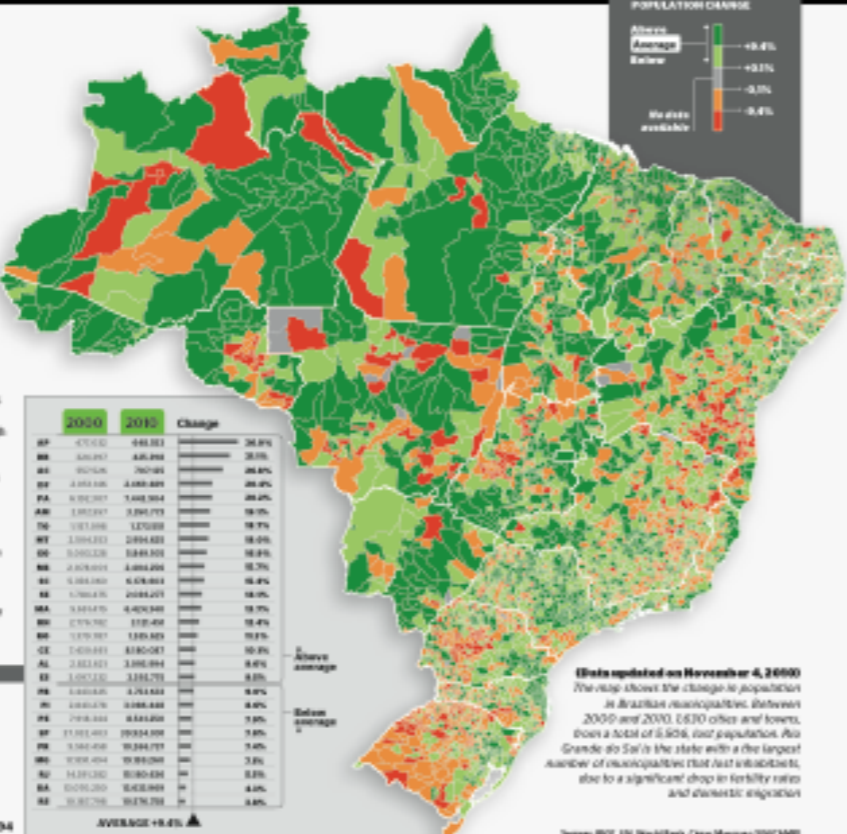
Alberto Cairo, Francisco Lima, Marco Verge

**PRELIMINARY DATA FROM THE 2010 CENSUS** creates an interesting picture of the changes that the 1.8-billion population has gone through in the past ten years. Brazil's population grew at an average 1.7% between 2000 and 2010, but the fertility rate is below 2.1 children per woman, the minimum to keep a population from shrinking. According to César Marques, a demographer from the University of Campinas, the main challenge Brazil will face in the future is how to maintain a healthy social security system if the number of older and retired people will likely be much larger than it is today. Read on to learn about all the variables at play in this story.

#### 1. BRAZIL'S POPULATION IS BIGGER

The 2010 Census has revealed a 0.4% population increase between 2000 and 2010. The differences between states, as you can see on the chart on the right, are noticeable. Most rich states, such as São Paulo and Rio, didn't grow as fast as the ones in the north-east.

State	2000	2010	Change
AC	471,142	443,351	-5.9%
AM	3,242,952	3,431,494	5.8%
AP	967,546	787,245	-18.4%
BA	4,143,448	4,459,454	7.7%
CE	5,932,287	5,494,354	-7.2%
DF	2,492,247	2,794,773	12.1%
ES	3,593,231	3,594,433	0.0%
GO	2,993,228	2,934,433	-1.9%
MA	2,476,011	2,494,434	0.7%
MG	17,443,448	17,476,434	0.2%
MS	2,764,476	2,694,434	-2.5%
MT	3,144,476	3,434,434	9.2%
PA	7,171,476	7,171,434	-0.0%
PE	7,171,476	7,171,434	-0.0%
PI	3,144,476	3,144,434	-0.2%
PR	10,144,476	10,144,434	-0.0%
RS	10,144,476	10,144,434	-0.0%
SC	7,171,476	7,171,434	-0.0%
SE	2,476,011	2,476,011	0.0%
SP	41,443,448	41,443,434	-0.0%
TO	1,144,476	1,144,434	-0.4%
<b>Average</b>			<b>+0.4%</b>



#### 2. BUT THE FERTILITY RATE IS MUCH LOWER THAN EXPECTED

A study in 2004 estimated that in 2010, the fertility rate would be 2.4 children per woman, on average. But new data collected by the IBGE prove that the fertility rate is already 1.5, below the threshold called "replacement rate". When the fertility rate drops below this number, the population of a country will eventually start to shrink and grow older.

#### 3. AS A CONSEQUENCE, POPULATION WILL STOP GROWING

Forecasts made in 2004 anticipated that Brazil's population would stop growing in 2040. But the most recent data from the IBGE suggests that this could happen much earlier, in 2030.

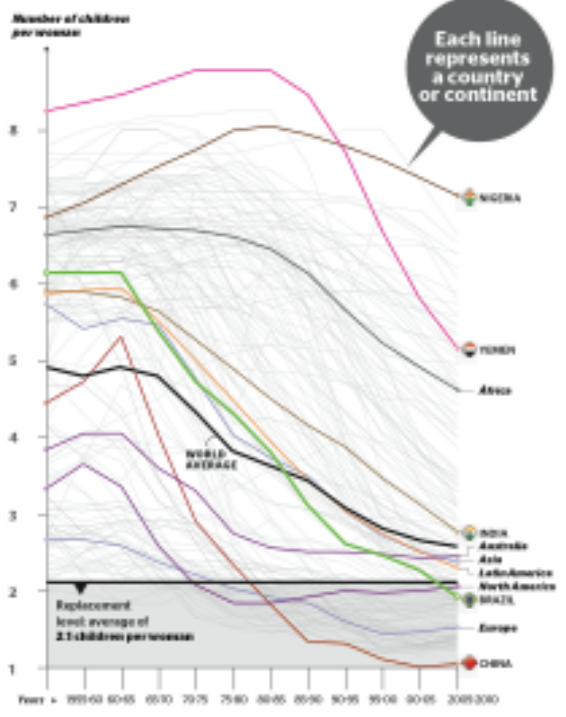


#### 4. —AND IT WILL BECOME OLDER—

Comparing the current population pyramid with the one predicted for 2050 shows a significant shift towards an older population structure.

#### How Brazil can transform the population challenge into an opportunity

- As the population ages, the proportion of people of working age increases. The country will therefore have more people producing wealth of the labor market can absorb them and fewer children to consume investments. It's a window of opportunity, because in some cases the number of people of working age to fall back when older people are leaving the market.
- The population under 15 years of age is falling today. A smaller number of students in public schools will facilitate the quality of teaching, if the amount invested in education stays the same.
- Educational policy focused on low-income youth favors the formation of more skilled workforce and greater social mobility.
- In the future, Brazil will reach the stage of Europe and Japan, which struggle to support their elders. This is why it's so important to prepare a more balanced retirement system, which will include retirement at a later age.

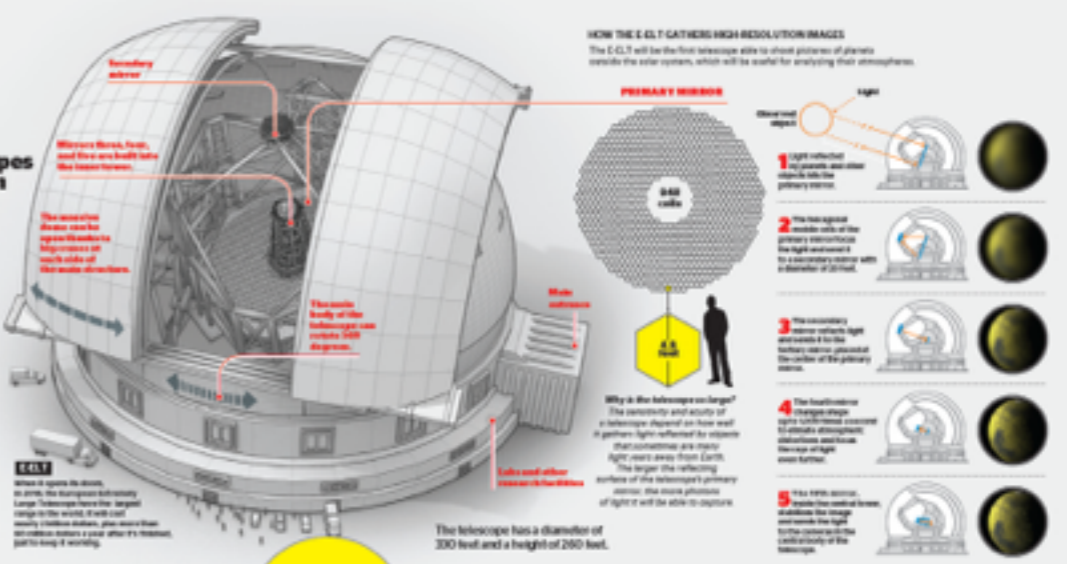


## Diagram NEWS IN PERSPECTIVE

### 400 years after Galileo, mega-telescopes rule space exploration

A new generation of observatories is under construction. Brazil needs to decide if it's going to be part of this new revolution in astronomy.

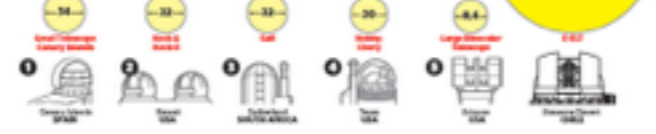
Peter Weiss, Alberto Cairo, Carmen More  
In 1609, Galileo Galilei perfected the telescope, created in 1608 by Hans Lippershey. Galileo's telescope had a lens of 17 inches. Today, the largest telescopes are in Hawaii and northern Chile. Equipped with mirrors 24 to 30 feet in diameter, they allow the observation of galaxies billions of light years away from us, but with little clarity. In a new generation of mega-telescopes is being built. The largest is the European Extremely Large Telescope (E-ELT), an initiative of the European Space Agency that is under construction in the Atacama Desert in Chile, and will open in 2026. The Ministry of Science and Technology of Brazil defends participation in the project, but the huge investment has unleashed concerns in other areas of the government. The total cost for Brazil would be \$300 million over 20 years.



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#### THE SUPER TELESCOPE RANKING

The E-ELT is a giant compared to the existing mega-telescopes. Its primary mirror is four times the size of the one in the largest telescope in the Canary Islands, Spain.



#### TELESCOPES WITH BRAZILIAN INVOLVEMENT

Brazil participates in just two of the largest telescopes.



#### OTHER LARGE TELESCOPE UNDER CONSTRUCTION

Besides the E-ELT, there are other projects in development.



## Diagram NEWS IN PERSPECTIVE

### Brazilian Population Grows More in Prisons

With 236 inmates per 100,000 people, Brazil has one of the largest prison populations.

Alberto Cairo, Francisco Lima, Marco Verge  
BRAZIL IS ONE of the worldwide ranking of countries with the largest prison populations. Data released by the Ministry of Justice this week reveal that Brazil had 484,207 inmates in June 2010. Only the US, with 2.3 million, and China, with 1.6 million, have larger prison systems. According to the United Nations Office on Drugs and Crime, Brazil is one of the countries where prison population has grown most rapidly in the world. Between 2007 and 2010, it increased by 10.7% (see chart on the right), while the overall population growth was 0.96% in the same period. Even considering the new prisons that are being built, Brazil has reached a deficit of 200,000 jail spaces.

#### 1. Between 1997 and 2007, Brazil experienced the 10th largest increase in prison population in the world



#### RANKING OF AMERICAN COUNTRIES



#### 2. The trend continued since 2007...

The rate of inmates per 100,000 people has gone down in 10 out of 12 states plus the Federal District.



#### 3. ...but government has not been able to create jail spaces at the same pace

Brazil's jails are packed. A comparison between the variation of inmates and the number of jail spaces reveals that neither the federal government nor the states have been able to avoid overcrowding. The only exception is Rio de Janeiro.





Why visualization?





# the functional art

2012

an introduction to  
information graphics  
and visualization



# the truthful art

data, charts, and maps  
for communication

alberto cairo

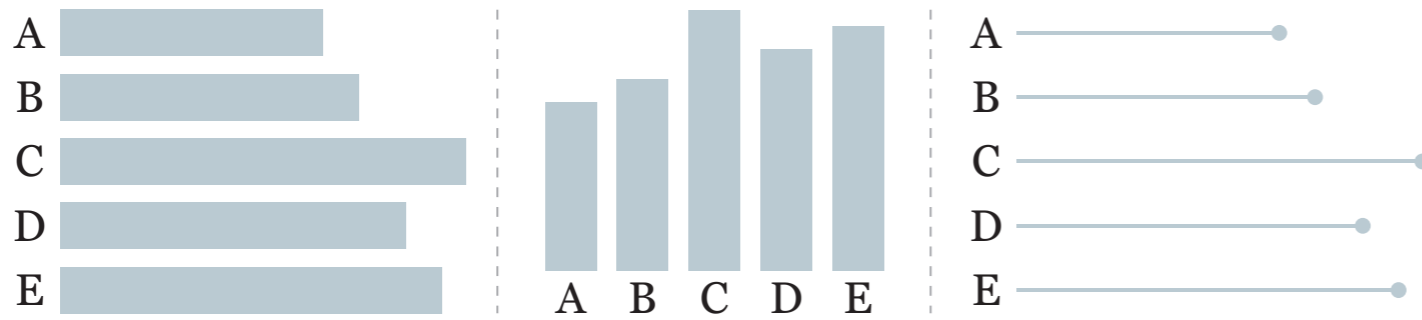
"Welcome to Alberto's world. Cairo has done it all in *The Functional Art*: theory, practice, examples. And he's done it brilliantly. It is the most comprehensive and sensible book yet on real-world information graphics; we won't need another one for a long time."  
Nigel Holmes, former graphics director for *Time* magazine  
and founder of Explanation Graphics

A visualization is a graphical representation designed to enable exploration, analysis, or communication

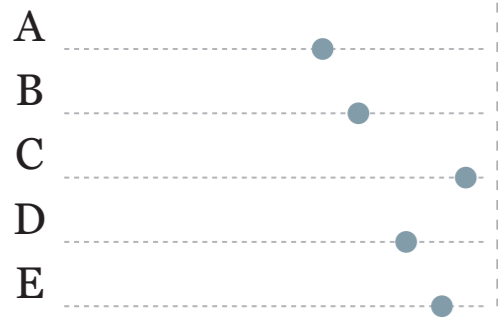
2016



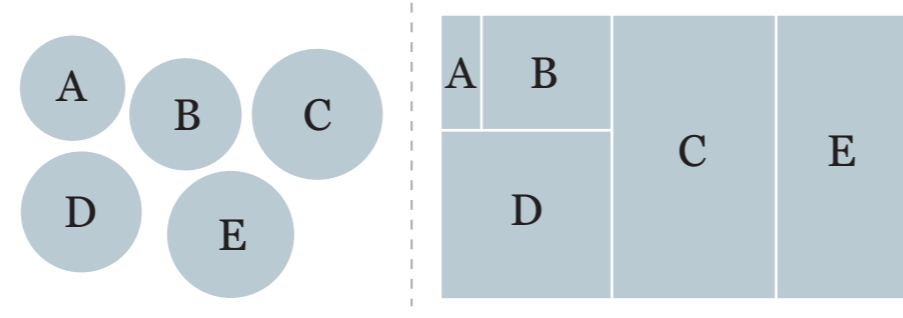
## *Length or height*



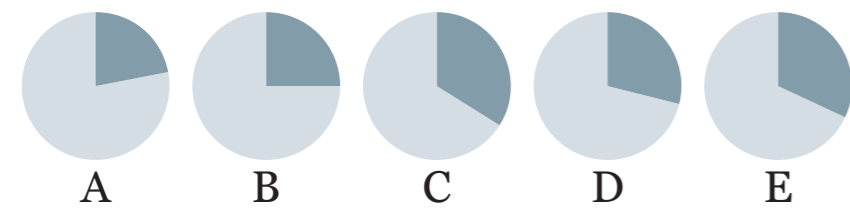
## *Position*



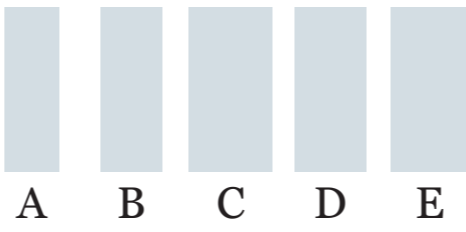
## *Area*



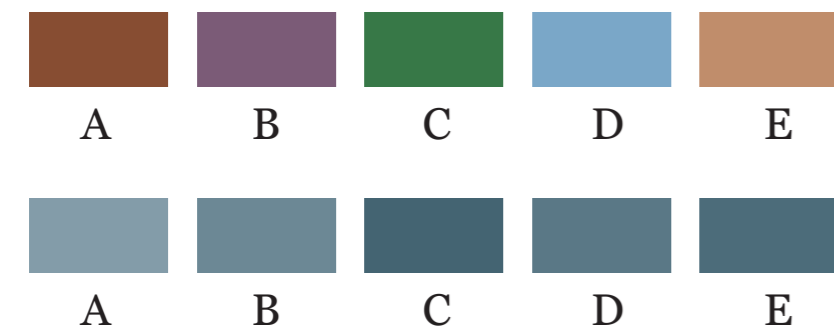
## *Angle/area*



## *Line weight*



## *Hue and shade*



Figures represented  
in all these graphics:  
22%, 25%, 34%, 29%, 32%



“The median score is 72 over 100”  
Result: Unhappy students

Based on Richard Thaler’s “Misbehaving: The Making of Behavioral Economics”

“The median score is 72 over 100”  
Result: Unhappy students

“The median score is 96 over 137”  
Result: Happy students!

Based on Richard Thaler’s “Misbehaving: The Making of Behavioral Economics”



warming.ods - OpenOffice.org Calc

File Edit View Insert Format Tools Data OOoStat Window Help

Arial 10 B / U

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1		Measure																
2																		
3	Year	Quelccaya Ice Co	Quelccaya	Quelccaya	Quelccaya	Svalbard	West Gree	Tasmania	north ggr	NA treelin	Southeast U.S.	Southeast	Southeast	Yakutia D	Fennosca	Northern Urals	Dendro	density
4	1400	-17.00	0.94	-18.40	1.32	34.90	-0.56	14.60	-0.36	0.72	374.00	455.00	428.00	7.81	-0.55	0.38		
5	1401	-16.80	1.25	-17.60	1.58	39.50	-0.64	14.60	-0.54	0.72	265.00	344.00	354.00	8.80	0.14	-0.02		
6	1402	-16.50	1.25	-17.10	1.05	44.20	0.37	14.80	0.06	0.72	240.00	425.00	443.00	6.00	0.68	-0.29		
7	1403	-15.70	1.25	-17.40	0.78	48.80	0.25	14.50	0.91	0.72	349.00	372.00	340.00	6.61	0.59	-1.81		
8	1404	-15.20	0.93	-17.30	1.56	51.40	-0.49	14.30	0.11	0.72	324.00	383.00	429.00	7.34	0.88	-0.81		
9	1405	-19.00	1.09	-17.50	1.04	52.70	-0.04	15.40	-0.24	0.87	318.00	368.00	381.00	4.84	0.91	-0.59		
10	1406	-20.10	1.55	-17.40	0.78	54.00	0.54	15.50	0.02	1.03	363.00	403.00	402.00	4.83	0.82	0.22		

warming.ods - OpenOffice.org Calc

File Edit View Insert Format Tools Data OOoStat Window Help

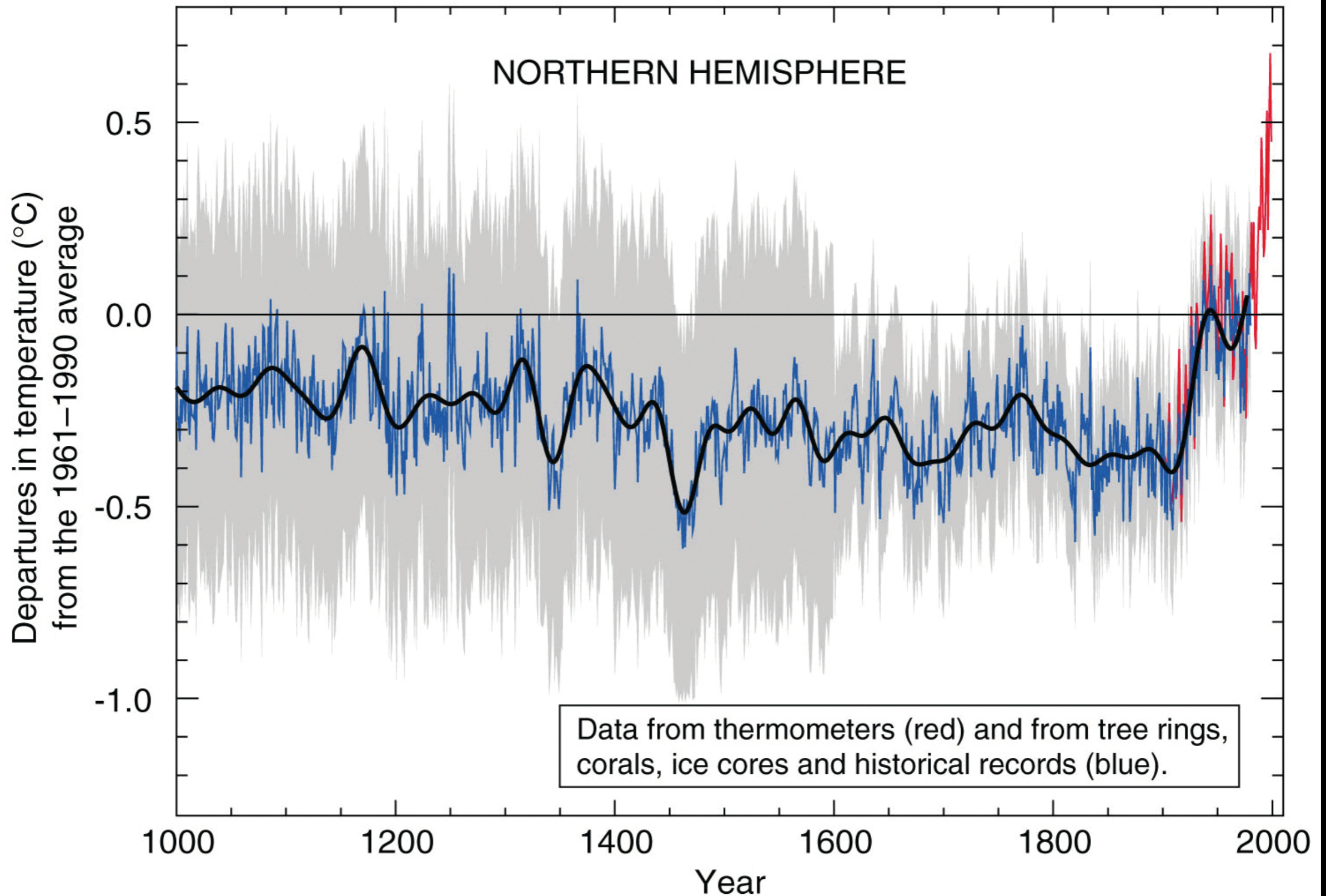
Arial 10 B / U

N29

	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1	PC_1	PC_2	PC_3	PC_4	PC_5	PC_6	PC_7	PC_8	PC_9	PC_10	PC_11	PC_12	PC_13	PC_14	PC_15
2	1.09	1.23	-0.57	-2.11	0.09	-1.23	0.4	-1.12	-0.63	-1.12	-0.34	-0.79	0.02	-0.13	-0.53
3	-1.68	0.86	0.38	-1.32	-0.1	-0.26	1.39	-0.77	-0.97	-0.79	0.4	0.11	-0.72	-0.15	-0.11
4	-0.53	1.66	-0.82	-1.46	0.51	0.71	-0.68	0.28	-0.72	0.36	0.9	1.42	-1.02	0.06	-0.61
5	-0.46	1.97	-0.93	-2.19	0.95	0.45	0.06	1.2	-0.26	1.78	-0.21	-0.36	1.17	-0.34	-0.3
6	-0.19	2.05	-0.03	-1.63	0.63	-0.39	1.03	0.08	-1.56	0.83	0.19	-0.8	-1.17	-0.78	0.17
7	-0.37	0.72	-2.2	-0.31	-0.87	0.34	-0.97	0.96	-1.12	0.03	0.72	-0.11	0.03	0.76	0.3
8	0.72	0.58	-1.87	0.35	-0.16	0.61	-1.83	1.19	-0.77	-0.38	0.96	0.34	1.7	1.39	0.32
9	-2.6	-0.26	-0.78	0.47	-0.76	0.55	-0.43	0.6	-1.17	0.37	0.42	-0.03	-0.81	-0.35	0.36
10	1.24	0.37	-0.62	1.45	-0.5	0.92	-1	0.58	-0.18	-0.57	0.16	-1.17	-0.05	-0.29	-0.64
11	-1.63	1.31	-1.51	0.86	0.59	0.24	-0.94	0.77	0.12	0.19	0.25	-0.45	-0.78	-0.14	0.21
12	-0.97	0.5	-0.12	0.64	-1.04	0.42	-0.72	0.17	-1	2.42	-0.19	0.24	0.05	-0.18	0.22
13	-0.54	1.45	0.57	0.61	-0.08	1.46	0.09	0.81	-1.33	1.69	0.63	0.24	0.67	-0.39	0.33
14	-1.93	0.6	0.19	0.23	2.48	-0.11	-0.81	-0.78	-0.1	0.45	-0.98	1.63	-0.95	0.74	-0.13
15	0.03	0.79	1.53	0.79	0.18	-0.05	-0.42	0.27	-1.65	-0.7	-0.2	-0.22	-0.24	1.58	0.59
16	-0.23	-0.24	0.08	0.56	0.48	0.52	-1.86	-0.31	-0.68	0.1	-1.2	-0.23	-0.2	-0.03	0.15
17	0.7	0.86	-1.46	0.23	-0.17	0.87	-0.32	1.09	-0.03	0.09	-0.22	0.64	-0.14	-0.19	-0.13
18	-0.13	1.13	-0.54	1.36	-0.34	0.71	-0.1	1.27	-1.21	1.19	-0.89	-0.64	0.36	-0.62	-0.8
19	0.05	0.73	0.61	1.33	-0.42	0.58	-0.7	-0.62	-0.06	-0.13	0.95	-0.74	0.85	0.62	0.56
20	1.83	0.54	-0.82	1.04	-0.01	0.75	-1.19	0.12	-1.01	0.52	-0.7	-0.44	0.5	-0.26	0.33
21	0.2	-0.3	-0.56	-0.15	-0.18	1.3	0.17	1.21	-0.13	0.79	-0.25	-0.04	0.5	0.2	-0.17
22	-0.38	0.04	-0.91	-0.71	0.08	0.39	-0.55	1.07	-0.24	0.01	-0.07	0.71	0.74	1.2	-0.16
23	-1.81	-0.83	-0.04	-0.71	-0.69	0.72	0.16	1.02	-1.2	-0.34	0.92	0.2	-1.04	0.08	-0.16
24	-0.26	-0.23	-1.75	-0.99	-1.87	0.51	-0.08	-0.49	-0.52	-1.35	-0.94	-0.85	0.3	-0.51	0.57
25	-1	0.64	-0.47	-0.91	-0.96	0.88	-0.06	-0.1	-1.26	-1.01	-0.84	-0.14	0.44	-0.73	-0.17
26	0.24	0.94	0.49	-1.07	1.51	1.15	0.13	1.27	-1.86	0.07	-0.38	0.75	0.55	-1.4	-0.57
27	0.97	1.19	-0.44	-0.76	1.81	-0.17	-0.31	0.88	-2.28	-0.87	-0.11	0.3	0.31	0.22	-0.14
28	-0.55	1.09	0.34	-1.03	-1.17	0.58	-0.75	0.55	-1.34	0.34	-0.82	1.13	-0.6	0.26	-0.01
29	-2.33	0.35	0.15	-0.96	-0.52	1.3	0.5	0.93	-1.17	-0.21	1.18	0.21	0.05	-0.4	-0.05
30	0.17	0.21	-0.36	-0.98	-1.38	0.87	1.04	0.7	0.13	-0.83	0.14	-0.87	0.27	0.39	1.25
31	1.77	0.52	0.55	-1.4	-1.22	0.71	0.09	0.31	-0.67	-0.43	1.73	-0.99	0.23	-0.62	0.72
32	1.1	0.66	-0.46	-0.56	-0.25	1.34	0.43	-0.17	0.41	-0.44	0.22	0.66	-1.49	-0.95	0.08
33	-2.82	0.78	-0.45	-0.75	0.52	0.86	0.54	0.33	0.35	0.61	1.03	0.53	0.1	-0.56	0.49
34	1.15	1.72	-0.87	-0.7	-1.21	0.54	1.47	-1.02	-0.74	0.65	0.78	0.56	-2.16	0.18	0.42
35	-0.71	0.64	-0.6	1.22	-1.02	0.48	1.53	0.03	-0.12	0.5	0.09	0.6	-1.25	1.28	0.29
36	1.55	0.23	-1.15	1.02	0.5	0.15	0.35	1.17	-0.43	0.8	0.61	1.03	-0.32	0.65	-0.19
37	1.59	0.23	-2.06	1.07	-1.23	1.77	0.5	1.31	0.33	0.54	0.3	0.13	-0.59	-1.01	0.7
38	0.24	-1.47	-1.62	1.37	-0.61	0.75	0.48	1.98	0.57	-0.2	0.78	0.53	0.8	-0.29	-0.64
39	0.07	0.79	-0.48	0.56	0.44	0.11	0.67	1.81	-0.45	0.52	0.49	-0.25	0.98	0.77	-1.25
40	-0.69	-0.16	-0.26	-0.28	-0.11	0.42	0.61	0.79	-0.05	0.65	0.32	-0.67	-0.61	-1.19	-0.03
41	1.56	0.83	1.13	-0.33	0.36	-0.4	0.15	-1.32	-0.59	-0.5	0.08	-0.53	0.36	-0.94	-0.16
42	-2.42	0.5	0.23	-0.4	-1.16	1.47	1.01	-1.25	-0.94	1.33	-0.97	0.17	-0.39	-0.61	0.31
43	1.44	2.48	1.17	0.78	0.26	1.44	-0.03	0.31	-0.17	-0.84	0.24	0.39	1.09	0.02	-0.32
44	-1.8	0.92	0.08	0	-0.06	-0.74	-0.5	0.25	-0.52	0.11	-0.79	0.15	-0.54	0.53	0.06
45	1.18	1.5	0.31	0.56	0.07	-0.01	-0.1	0.52	0.27	-0.94	-0.59	0.83	0.12	1.49	-0.35
46	-0.47	0.26	0.2	1.28	-0.74	1.57	-0.24	0.72	0.95	-0.27	-1.43	-1.56	-0.11	0.1	-0.3
47	-1.2	0.23	-0.18	-0.55	1.58	0.48	1.16	-1.38	-0.99	1.16	-0.81	0.75	-0.58	-0.77	0.37
48	-0.31	1.35	-0.62	-0.5	0.86	-0.02	0.99	0.09	0.43	0	-0.66	-0.74	0.83	-0.5	0.35

observed temps Proxy Variables 1400-1980 Principal Components of Proxy Variables Merge Temperat





**Michael E. Mann, Raymond S. Bradley, and Malcolm K. Hughes**  
Intergovernmental Panel on Climate Change (IPCC), Third Report, 2001



Latest News

The labor market is tightening. Will that mean raises for employees?  
13 MINUTES AGO

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33 MINUTES AGO

Why erratic schedules are one of the worst parts of low-wage work  
43 MINUTES AGO

The Republican Party doesn't



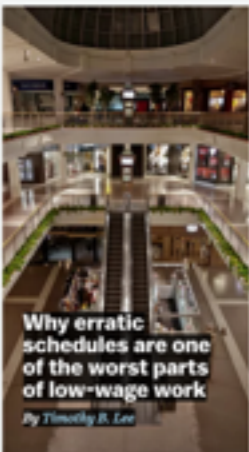
The Republican Party doesn't want to believe its voters agree with Trump. But they do.

By Eric Klein



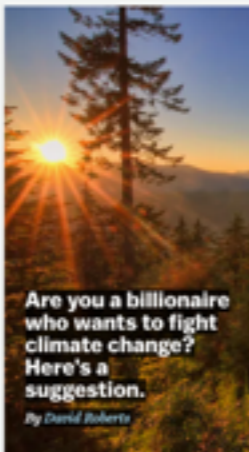
The labor market is tightening. Will that mean raises for employees?

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By NATE SILVER



\$56.1 MILLION

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INTERACTIVES

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TheUpshot

EDITED BY DAVID LEONHARDT  
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Republicans Say They Are Happier With Their Marriages

By DAVID LEONHARDT

About 67 percent of self-identified Republicans report having a "very happy" marriage, compared with 60 percent of Democrats, an analysis finds.



How to Know Whether to Believe a Health Study

By AUSTIN FRANK

Two key questions: What method did the researchers use? How similar am I to the people examined?



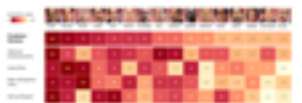
Are You Smarter Than Other New York Times Readers?

By DAVID LEONHARDT and KEVIN QUEALY

Who's Winning the G.O.P. Campaign?

Polls get most of the attention, but at this early stage, endorsements and fund-raising are more important.

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An explosion at a major religious shrine at the center of Bangkok's shopping district has killed at least 15 people and injured 80, according to...

Adam Pasick | 35 mins ago

Jeff Bezos memo: If Amazon was the company the New York Times described, employees would be "crazy to stay"



# How Y'all, Youse and You Guys Talk

What does the way you speak say about where you're from?  
Answer all the questions below to see your personal dialect map.

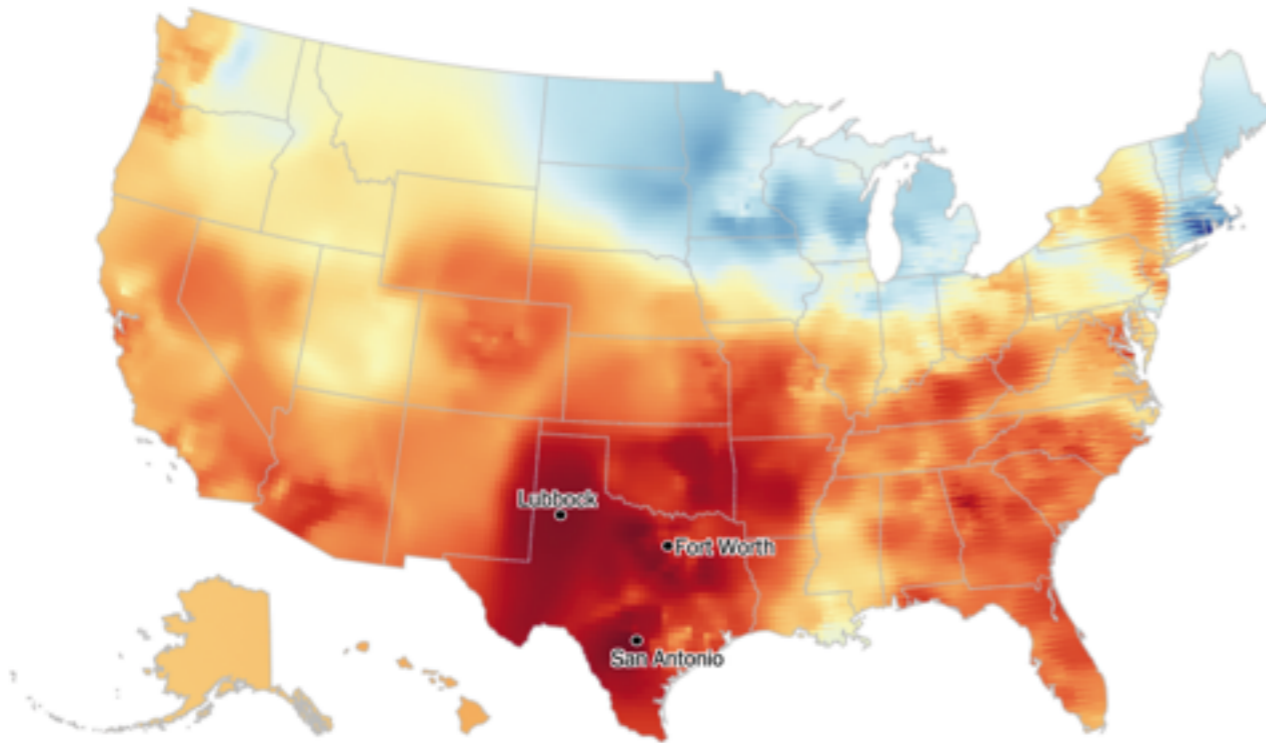
## Your Map

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

Least similar Most similar

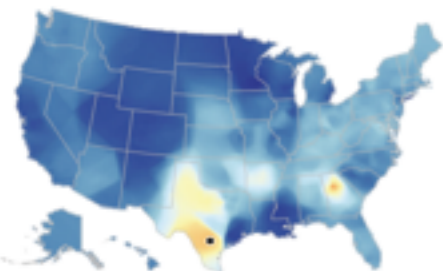
Show least similar

SHARE YOUR MAP:   



These maps show your most distinctive answer for each of these cities.

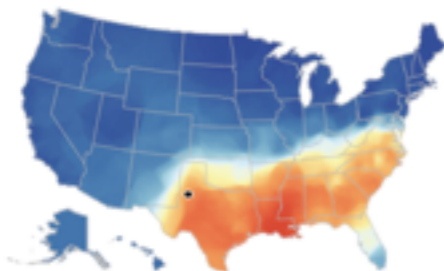
SAN ANTONIO



What do you call the small road parallel to the highway?

access road

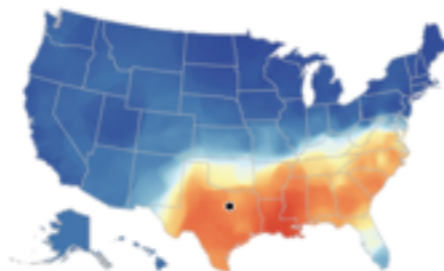
LUBBOCK



How would you address a group of two or more people?

y'all

FORT WORTH



How would you address a group of two or more people?

y'all

# SPEAKING AMERICAN\*



\*How Y'all, Youse, and You Guys Talk

A Visual Guide

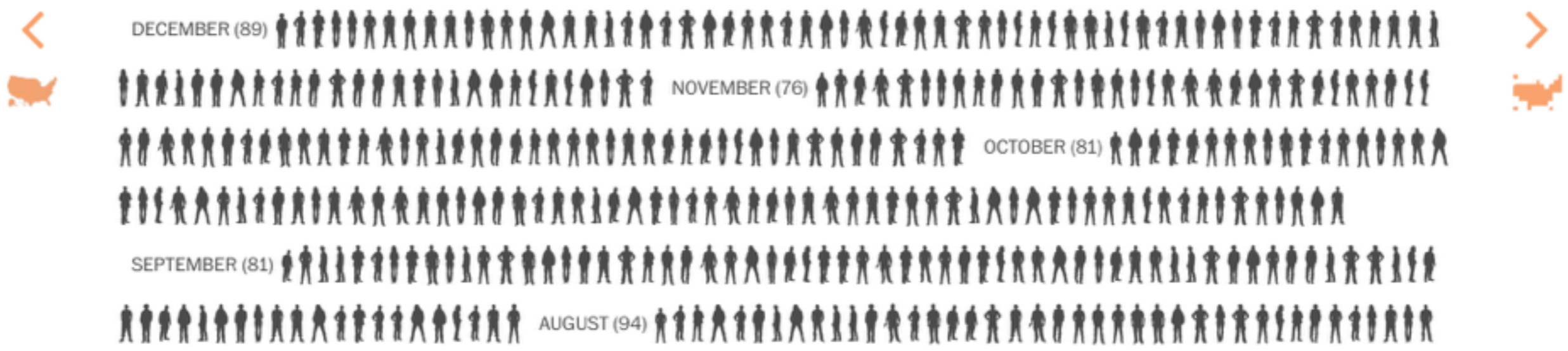
JOSH KATZ

<http://www.nytimes.com/interactive/2013/12/20/sunday-review/dialect-quiz-map.html>

STATE	GENDER	RACE	AGE
AL AK AZ AR CA CO CT DE DC	Male 948	White 494	Under 18 18
FL GA HI ID IL IN IA KS KY	Female 42	Black 258	18 to 29 330
LA ME MD MA MI MN MS MO MT	Unknown 0	Hispanic 172	30 to 44 353
NE NV NH NJ NM NY NC ND OH	<b>WEAPON</b>	Other 38	45 and up 277
OK OR PA RI SC SD TN TX UT	Deadly weapon 783	Unknown 28	Unknown 12
VT VA WA WV WI WY	Vehicle 54	<b>SIGNS OF MENTAL ILLNESS</b>	<b>THREAT LEVEL</b>
	Toy weapon 34	Yes 250	Attack in progress 730
	Unarmed 93	No or unknown 740	Other 216
	Unknown 26		Undetermined 44

^ TAP TO HIDE THESE FILTERS ^

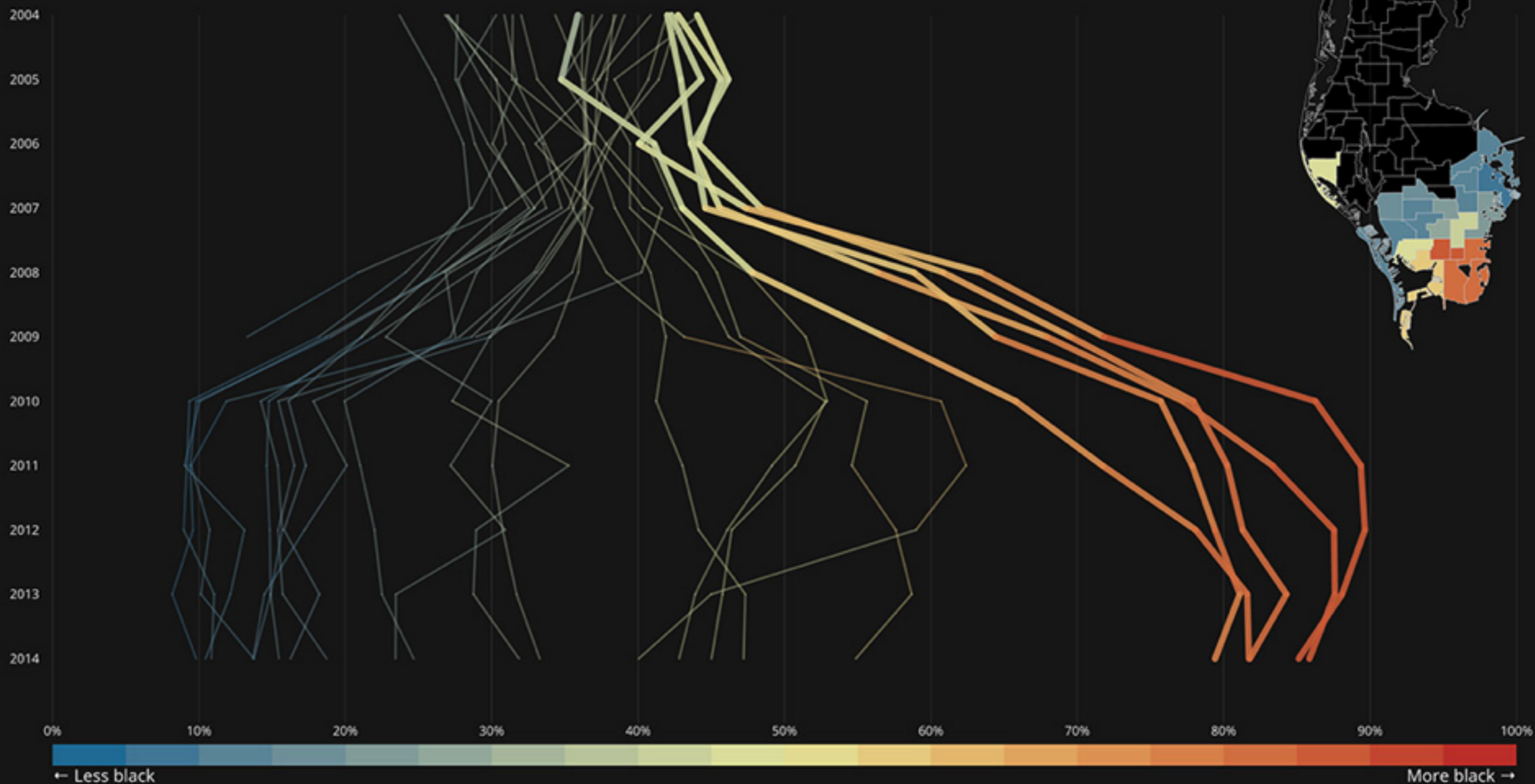
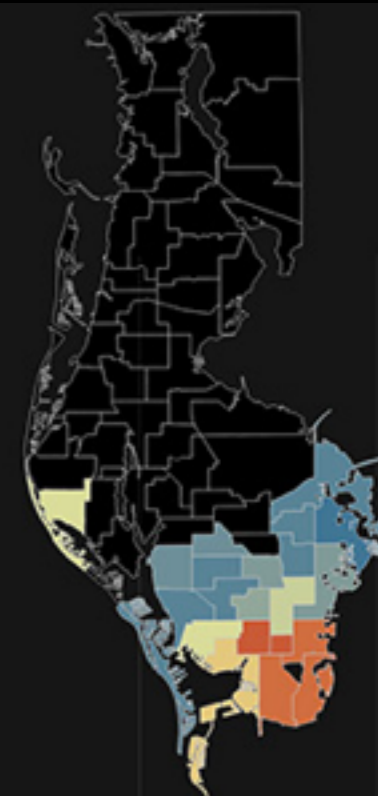
### SHOOTINGS BY POLICE PER MONTH IN 2015



<https://www.washingtonpost.com/graphics/national/police-shootings/>



Today, **Campbell Park, Fairmount Park, Lakewood, Maximo** and **Melrose** are the **most segregated** schools in Pinellas.



<http://www.tampabay.com/projects/2015/investigations/pinellas-failure-factories/chart-failing-black-students/>

Tools



Friday, November 11, 2016

## Now more than ever: Call out data and visualization bullshit

After the results of the election, we're going to witness a shit storm of bad data and misleading graphics, coming from all directions. If you follow this blog, if you've read my books, you already know where I stand: Every single one of us has a responsibility to call out bullshit, and to fight against it with reason and evidence, regardless of what agenda that bullshit is trying to push. We mustn't sit on the fence and witness the deluge of misinformation in ironic silence. That's irresponsible.



This will require our keeping an eye on all sorts of media publications to the left and to the right, even –or *particularly*– those that we deeply dislike.

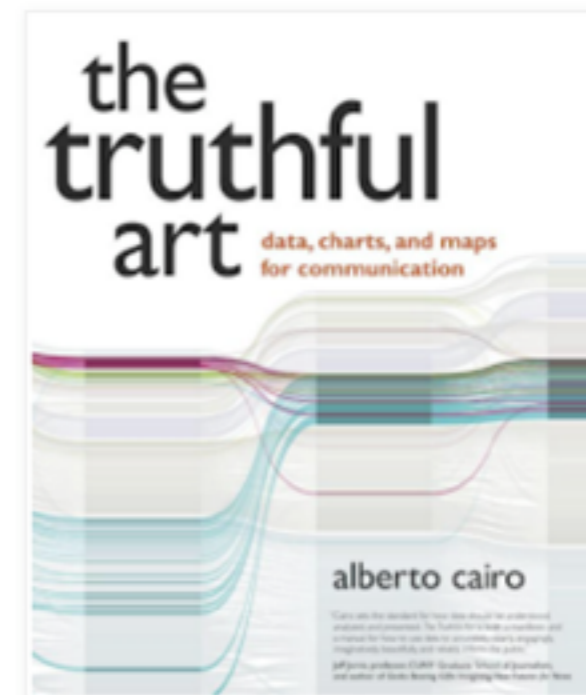
Here's an example: I visited the #buildTheWall hashtag on Twitter, and saw that people were spreading **this story and video** by **Infowars**. Read the story and watch the video to understand how crooks like **Alex Jones** are unashamedly using every trick in the data trickster textbook to manipulate their audience: First, confounding correlation and causation –sanctuary cities mean more Democratic vote, when it's likely the other way around: liberal cities are more protective of undocumented immigrants;– second, talking about a “sea of red” on a map, when Jones and his colleagues know perfectly well that geographical *area* isn't proportional to population *density*. The blue areas have a much larger population than the red ones.

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The Functional Art book





Getting Started:

- R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred [CRAN mirror](#).
- If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

News:

- **R version 3.1.2** (Pumpkin Helmet) has been released on 2014-10-31.
- [The R Journal Volume 6/1](#) is available.
- [useR! 2014](#), took place at the University of California, Los Angeles, USA June 30 - July 3, 2014.
- **R version 3.0.3** (Warm Puppy) has been released on 2014-03-06.
- [useR! 2015](#), will take place at the University of Aalborg, Denmark, June 30 - July 3, 2015.

This server is hosted by the [Institute for Statistics and Mathematics](#) of [WU](#) ([Wirtschaftsuniversität Wien](#)).

With Datawrapper you add the power of data to your stories



- Line chart
- Bar chart
- Stacked bar chart
- Map
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# Tell meaningful data stories with Quadrigram

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## Easily explore data and discover trends without learning complex software

ChildrenPerWoman by Region subset by Leap.Year

[1952]

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## Bring your data to life with Microsoft Power BI

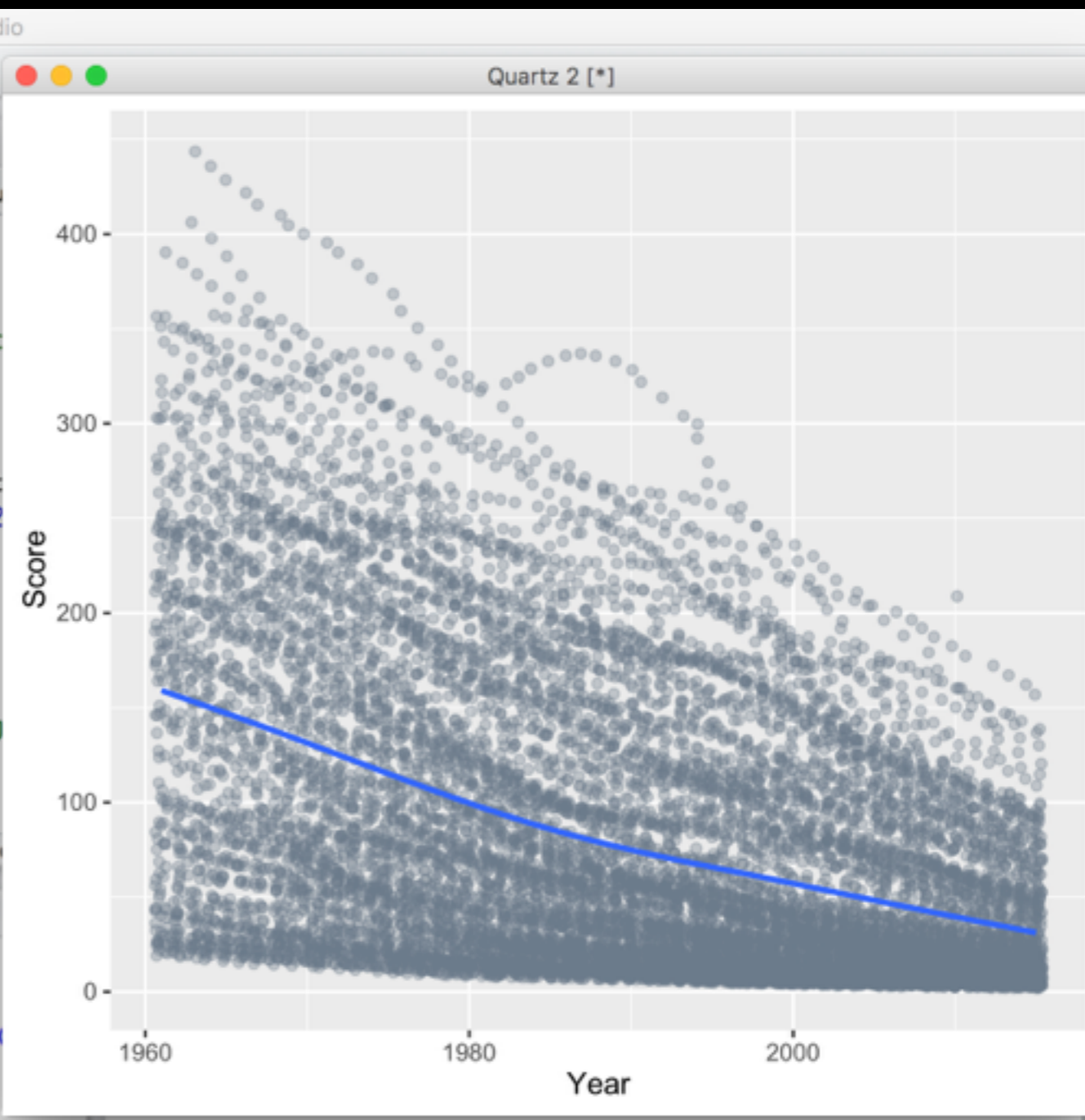
Microsoft Power BI transforms your company's data into rich visuals for you to collect and organize so you can focus on

tableau public

DATA IN. BRILLIANCE OUT.

# R + Adobe Illustrator

```
RStudio  
Go to file/function  
WaterAccess.R × ForestAreaMAP.R × childMortality.R × Analysis >>  
Source on Save Run Sou  
1 library(tidyr)  
2 library(ggplot2)  
3  
4 data_child <- read.csv("/Users/albertocairo/Desktop/1R_HTML_CSS_JS/R/c  
5 str(data_original)  
6  
7  
8 data_child_long <- reshape(data_child, direction="long", varying=list  
9 idvar=c("Country"), timevar="Year", times=1961:2  
10 data_child_long  
11  
12 hist(data_child_long$Score)  
13  
14  
15 write.csv(data_child_long, "/Users/albertocairo/Desktop/1R_HTML_CSS_J  
16 |  
17  
18 #STRIP PLOT  
16:1 (Top Level) R S  
Console ~/ ↻  
>  
> #STRIP PLOT  
> plotMortality<- ggplot(data_child_long, aes(x=Year, y=Score))+geom_jitter(  
=I(1/3), color="slategray4")+geom_smooth(se=FALSE)  
> plotMortality
```



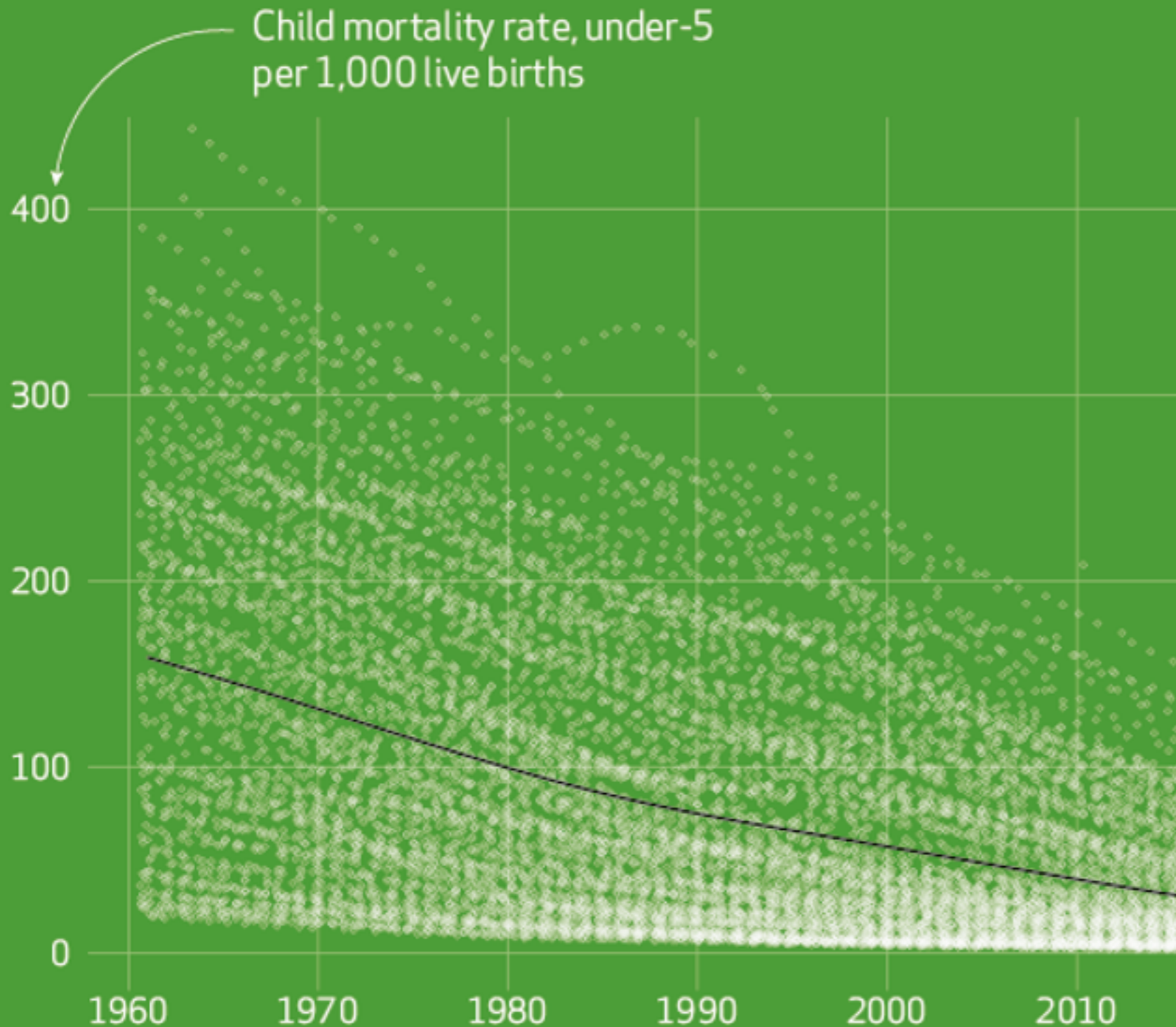
Completely free (and no-coding-required) alternative:  
InZight + InkScape





# GOOD HEALTH AND WELL-BEING

**TARGET:** By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to no more than 12 per 1,000 live births and mortality of children under 5 to no more than 25 per 1,000 live births



## HOW TO READ THIS CHART

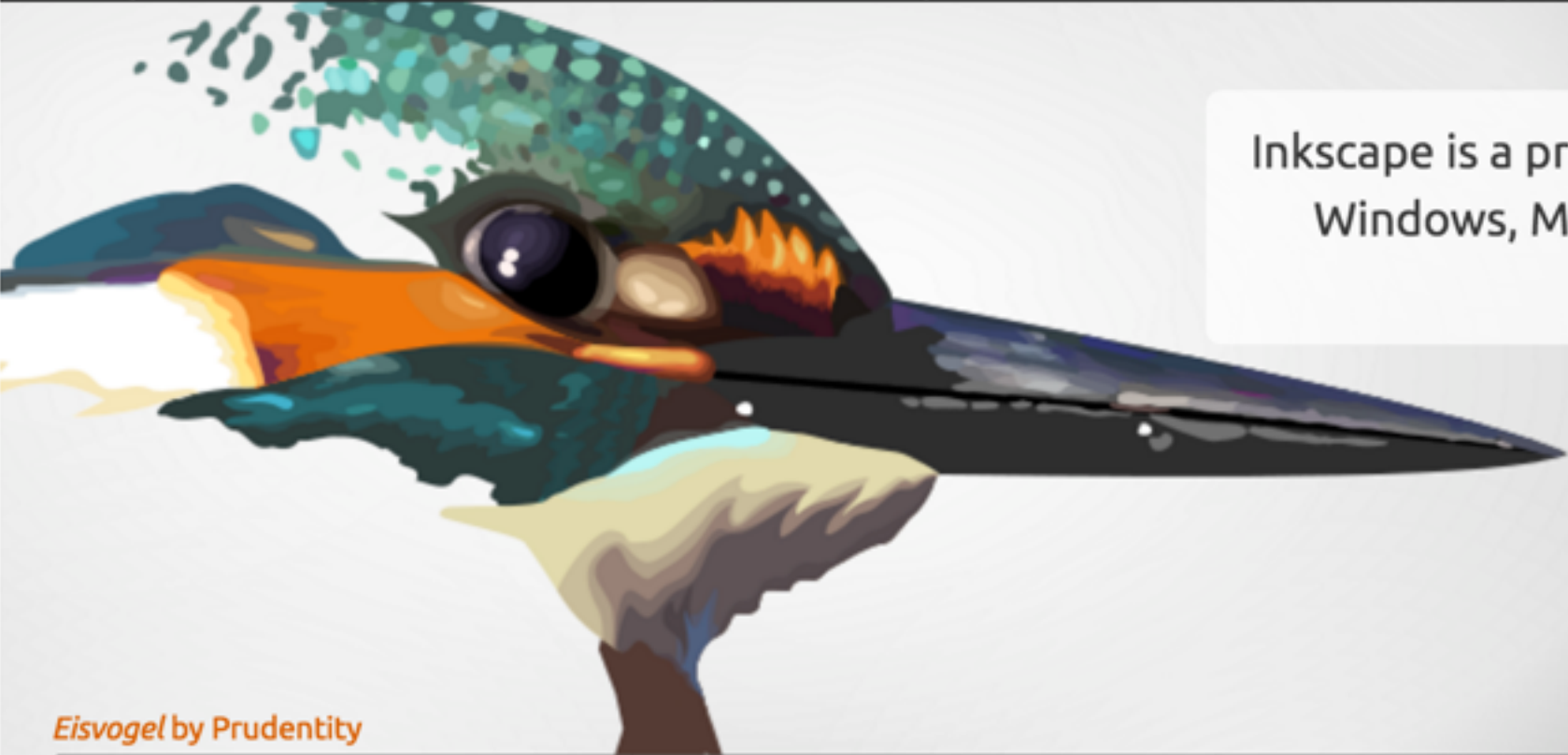
1. Each circle is a country
2. The position of each country on the vertical axis is the number of children per 1,000 live births who die before the age of 5.

**Trend**



# INKSCAPE

*Draw Freely.*

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Inkscape is a professional vector graphics editor for Windows, Mac OS X and Linux. It's free and open source.

[Download](#)

Current stable version: 0.91

*Draw Freely.*

*Eisvogel by Prudentity*

## Overview



What is Inkscape and how can I get it?

## Features



Find out what Inkscape is capable of

## Gallery



Showcase of creations from the community

## Learning Resources



Resources to help you get the most out of Inkscape

<https://inkscape.org/en/>



# QGIS

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<http://www.qgis.org/en/site/>

# Hans Rosling [www.gapminder.org](http://www.gapminder.org)

<http://www.gapminder.org/videos/200-years-that-changed-the-world-bbc/>

# GAPMINDER

a fact-based worldview

GAPMINDER WORLD

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IGNORANCE

DATA



## Refresh your world

Pour the sparkling fresh numbers into your eyes and upgrade your worldview.

EXAMPLES:

- Wealth & Health of Nations ▶
- CO<sub>2</sub> emissions since 1820 ▶
- Africa is not a country! ▶
- Is child mortality falling? ▶
- Where is HIV decreasing? ▶

**BUBBLE CHART** ▶





Easily **explore data** and **discover trends**  
*without* learning complex software

ChildrenPerWoman by Region subset by Leap.Year

[1952]

America

East Asia & Pacific

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[https://  
www.stat.auckland.ac.nz/  
~wild/iNZight/index.php](https://www.stat.auckland.ac.nz/~wild/iNZight/index.php)

<http://www.quadrigram.com/>

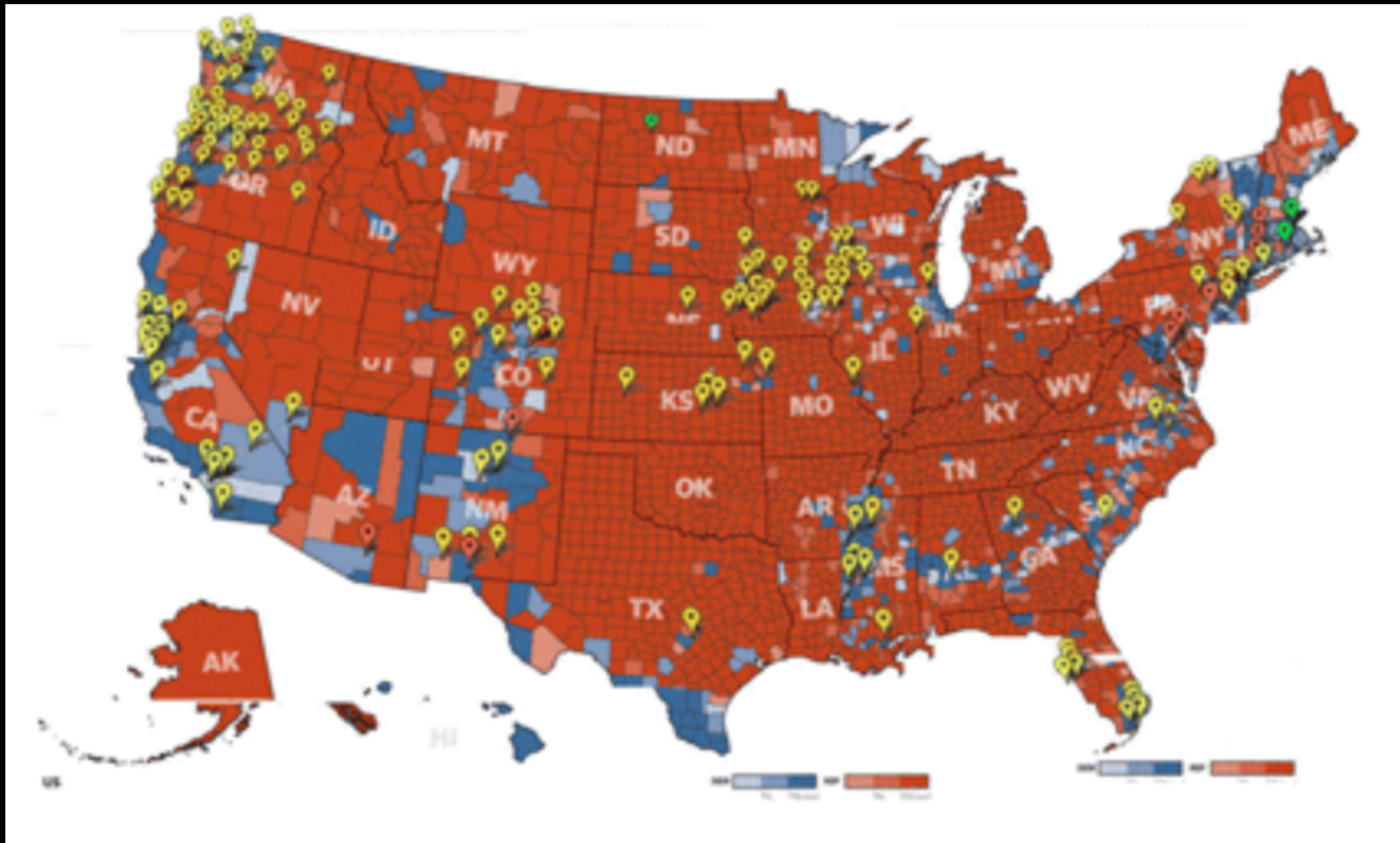
The core principles



## Good graphics...

1. They are based on good data
2. They attract readers' attention
3. They don't frustrate readers
4. They show the right amount of data

# This is bullshit



<http://www.thefunctionalart.com/2016/11/now-more-than-ever-call-out.html>



# DELIVERING THE FUTURE

Explore the world created by America's Internet and television innovators.

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POSITIONS

NEWS &  
EVENTS

WHO WE ARE

INDUSTRY  
DATA

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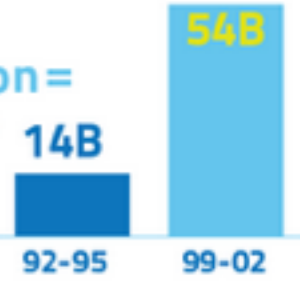
THE BEST ENTERTAINMENT IS FOUND ON CABLE



## CHECK THE NUMBERS

Get the Facts About Broadband  
Investment and Innovation

Less Regulation =  
More Industry  
Investment

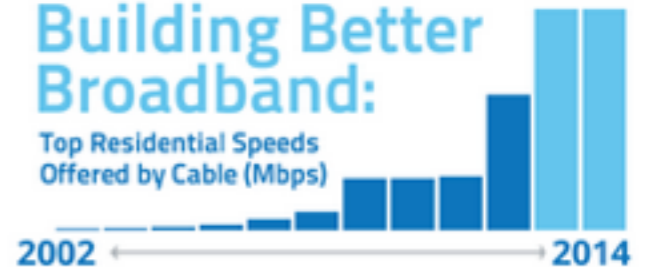


Total U.S. Broadband Industry  
Investment since 1999



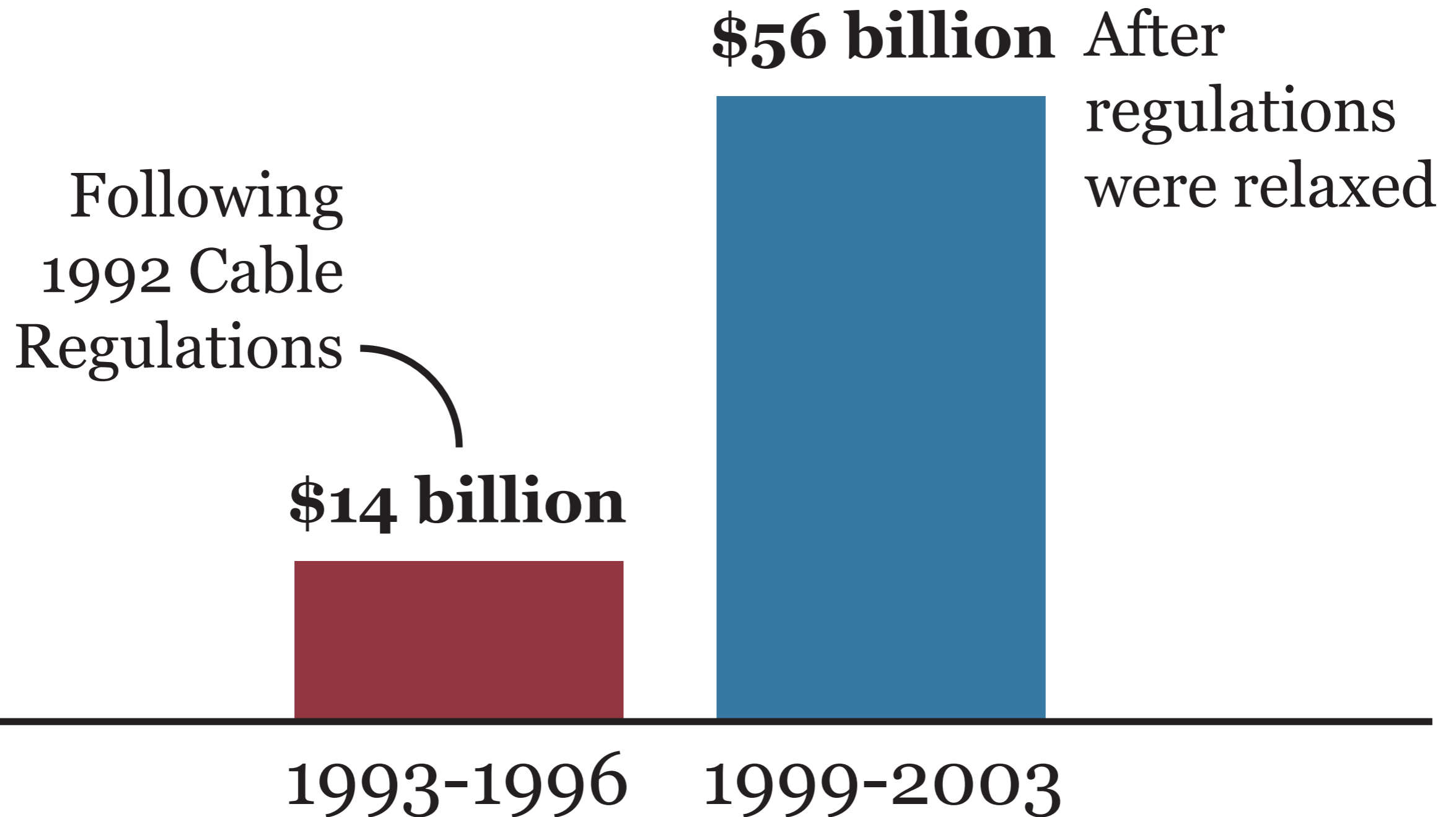
Building Better  
Broadband:

Top Residential Speeds  
Offered by Cable (Mbps)



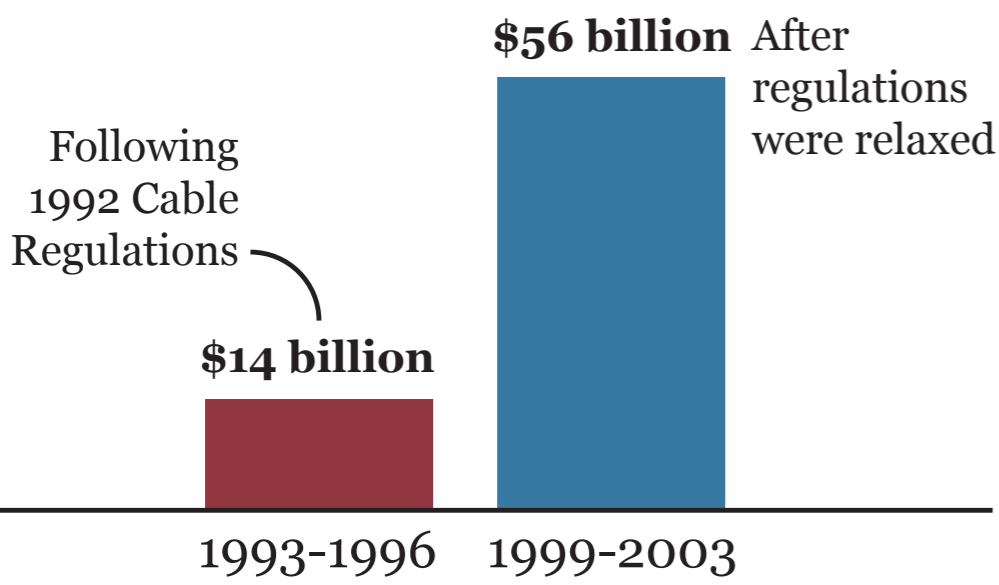
# Less regulation = More Industry Investment

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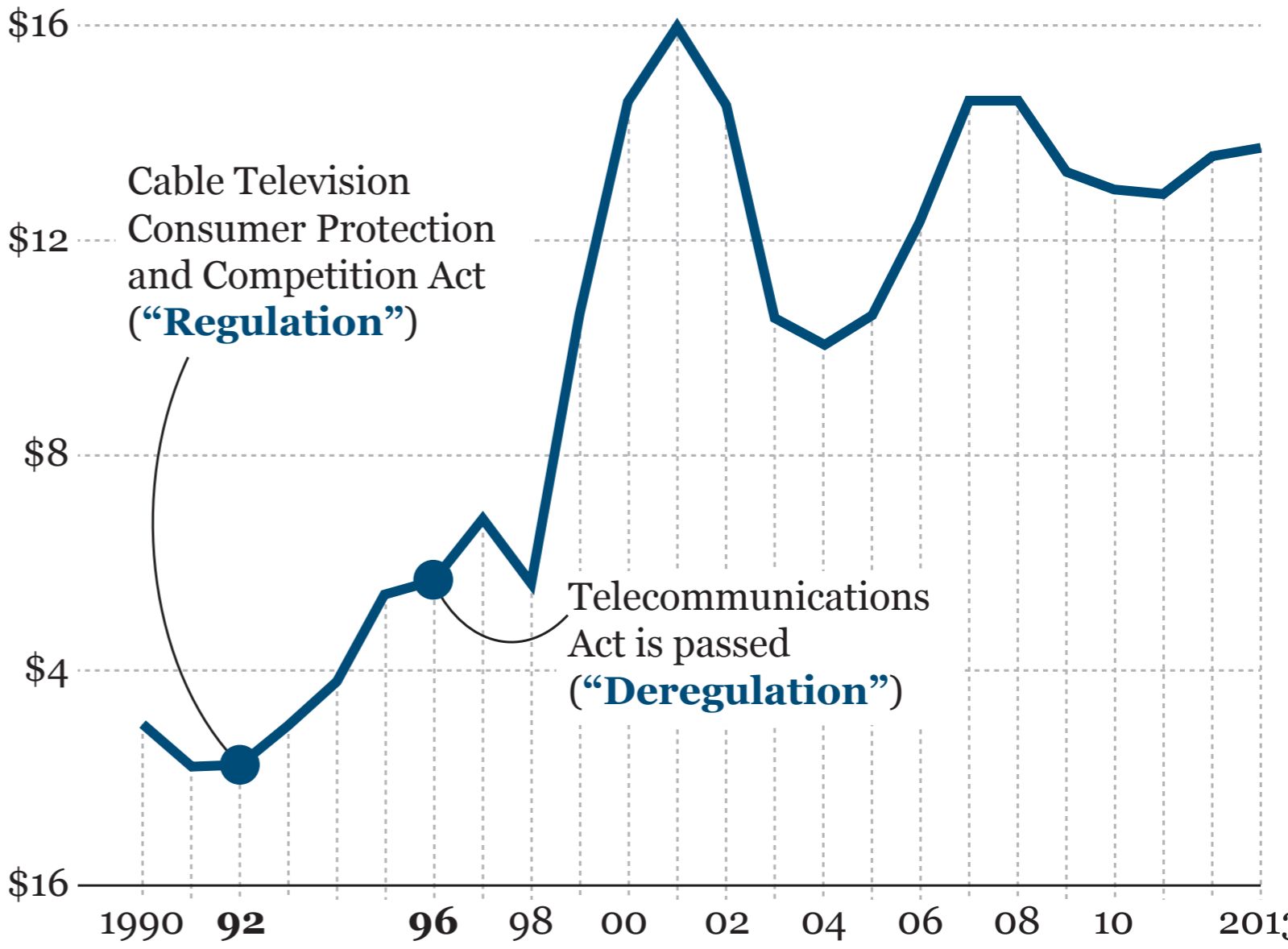
Based on a chart by the National Cable & Telecommunications Association

**Less regulation =  
More Industry Investment**



**Cable Industry Infrastructure Expenditures**

*In billions*

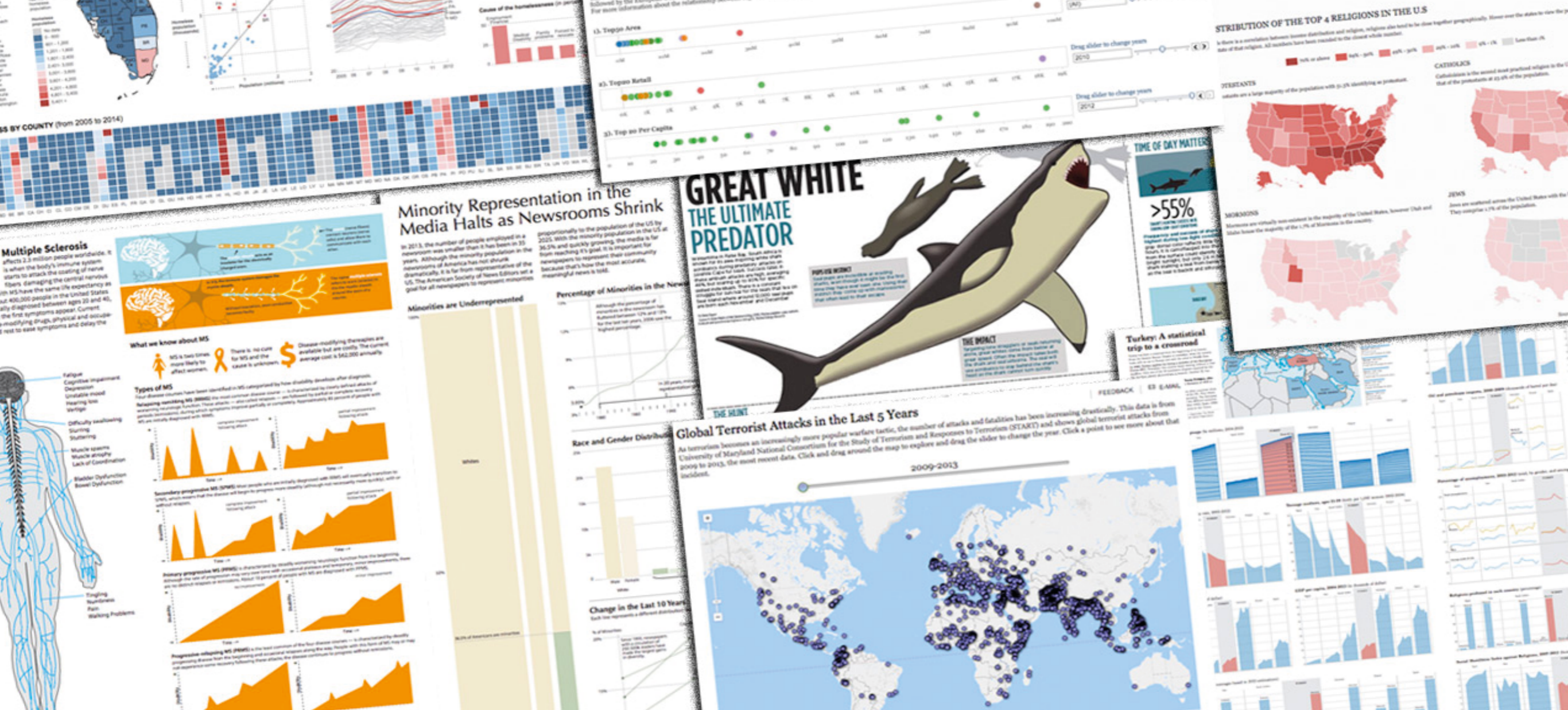




Don't simplify.  
Clarify instead

## Good graphics...

1. They are based on good data
2. They attract readers' attention
3. They don't frustrate readers
4. They show the right amount of data



THANKS!