



# DATAVIZ

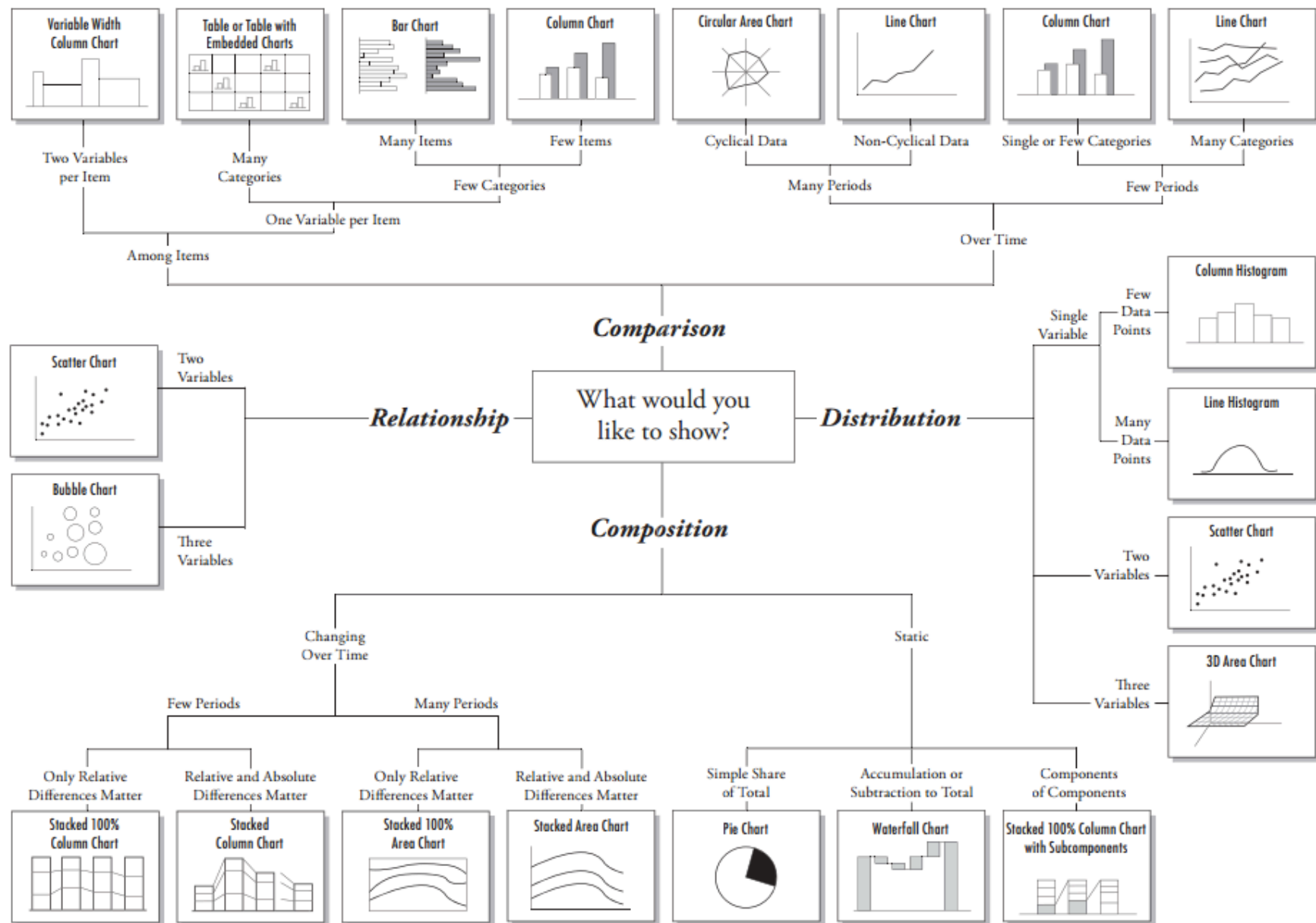
how to design with data



# **PICK A FORM THAT FITS**

Reveal what's unique about the data

# Chart Suggestions—A Thought-Starter



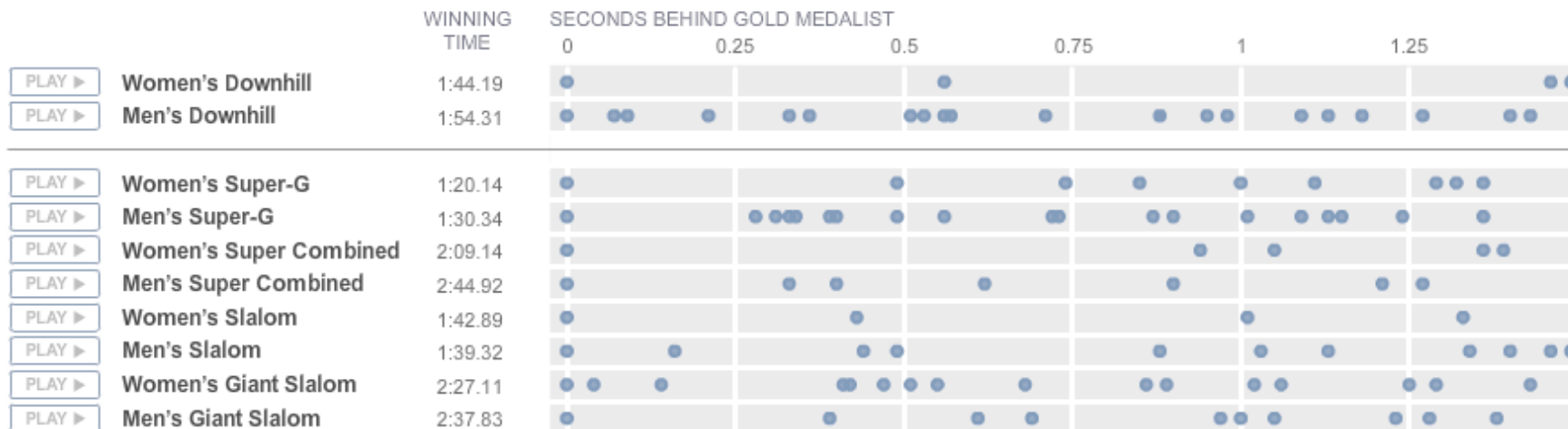
# Fractions of a Second: An Olympic Musical

At the Olympics, the blink of an eye can be all that separates the gold medalist from the 10th-place finisher. In some events, this is obvious. But in others, with athletes racing one by one, the closeness of the race is harder to perceive. Listen to the differences below.



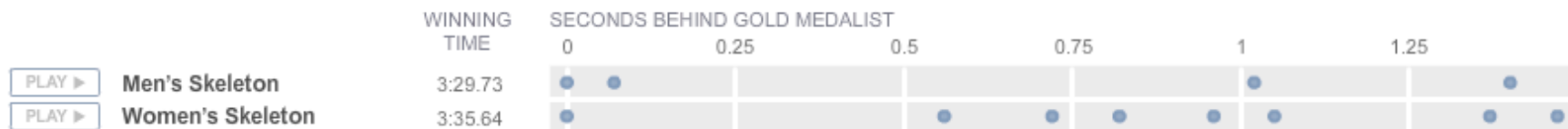
## Alpine skiing

The women's downhill course was extremely tiring, and, because it was more challenging than the men's course, it ended up separating the skiers by much larger margins. This pattern appears in the two speed events: the downhill and the super-G.



## Skeleton, Bobsled and Luge

In percentage terms, the men's skeleton had one of the tightest finishes in Vancouver, with only .07 of a second separating the top two finishers across a three-and-a-half-minute run. But the difficult track produced speeds higher than expected, and many sliding events had relatively large gaps between gold and silver.





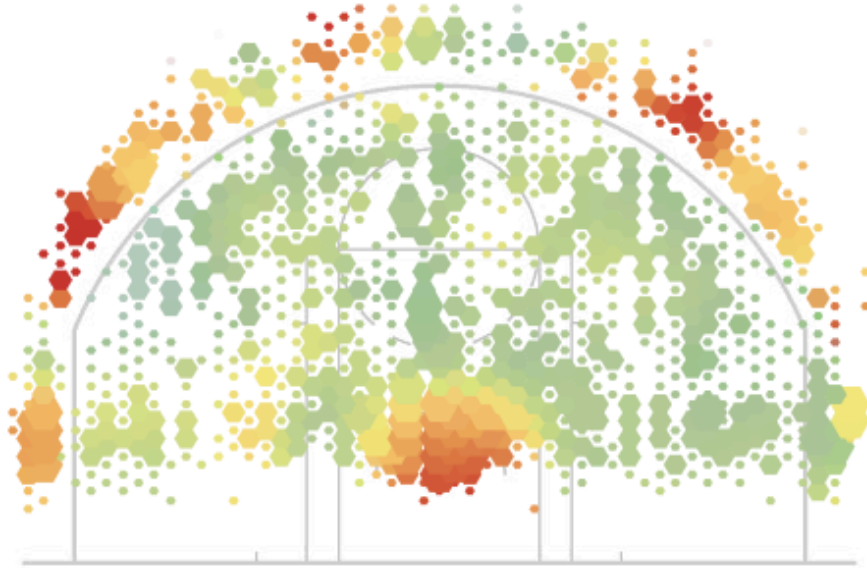
# Where the Heat and the Thunder Hit Their Shots

The shooting patterns for the players on the Miami Heat and the Oklahoma City Thunder reveal where they are most dangerous on the court. Below, compare each player's strengths using court maps and analysis by Kirk Goldsberry, a geography professor at Michigan State. [Related Article »](#)



## Miami Heat

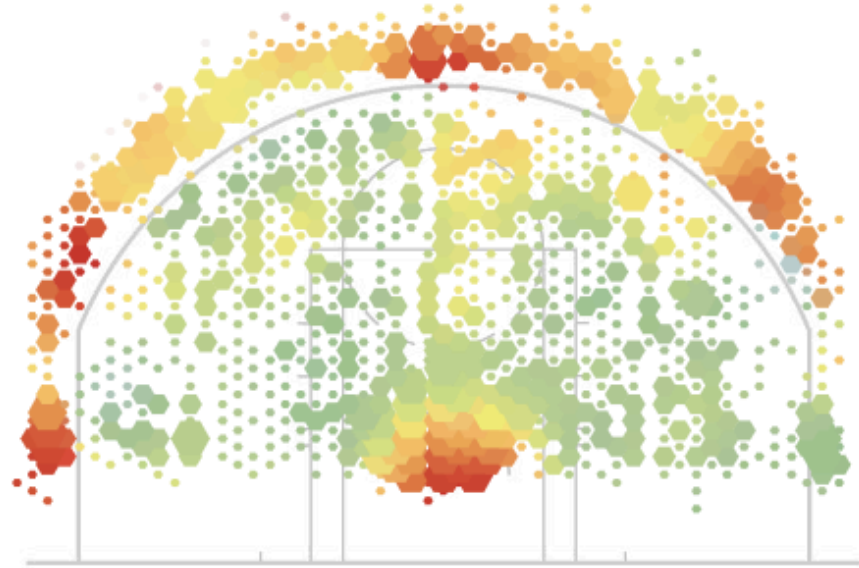
TOTAL SHOTS **5,209** | POINTS PER SHOT **1.01** | F.G. PERCENT **47%**



The Heat rely on player positioning to create isolation plays for LeBron James and Dwyane Wade, often on the left side. The Heat take many fewer 3-point shots than the Thunder.

## Oklahoma City Thunder

TOTAL SHOTS **5,228** | POINTS PER SHOT **1.03** | F.G. PERCENT **47.1%**



The Thunder are effective from almost any area on the court and shoot many more 3-point shots than the league average. Kevin Durant and James Harden are potent from the top of the arc.

The United States  
Unlimited  
(we found 500 grams)

## Acetaminophen Around the World

See how much acetaminophen you can buy in the United States compared to England, Germany, and Mexico. Each jar contains the maximum amount of acetaminophen allowed in a single package. Each gram is the equivalent of two Extra Strength Tylenol tablets.

England  
16 grams

Germany  
10 grams

Mexico  
10 grams

PHOTO: LARS KLOVE FOR PROPUBLICA

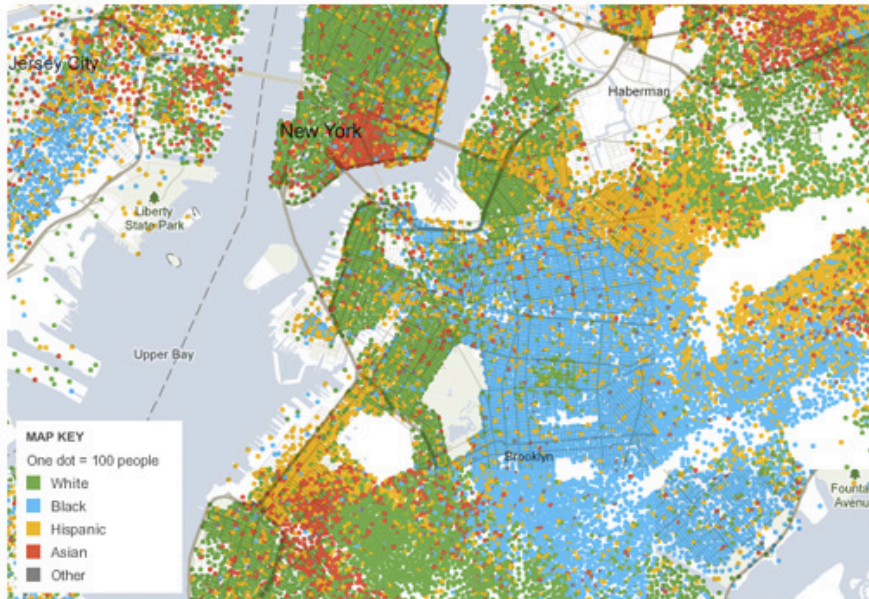


# **ITS NOT ALWAYS A MAP**

Sometimes maps shouldn't be maps

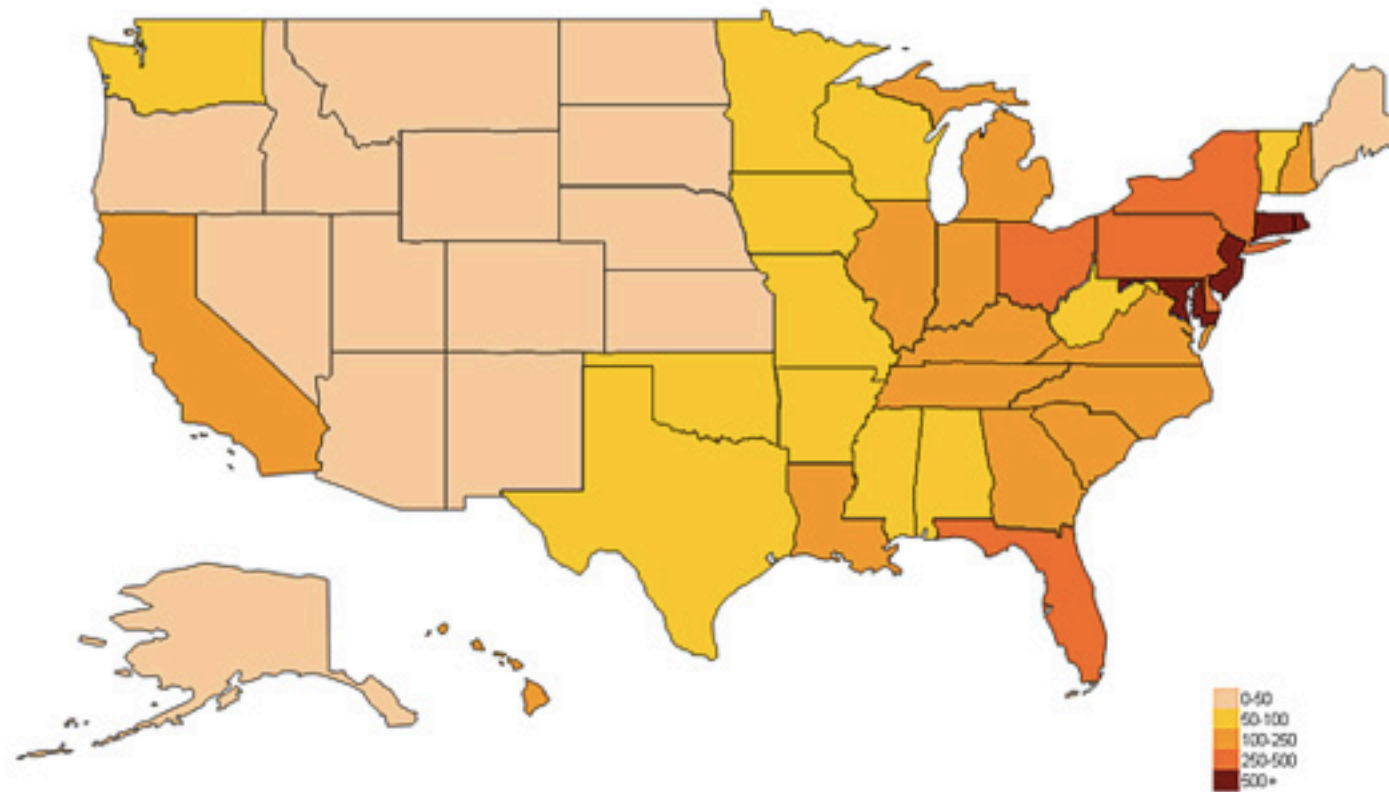
# When Maps Shouldn't Be Maps

Fri Oct 14 2011 11:12 AM EDT | 21 Comments



Often, when you get data that is organized by geography — say, for example, food stamp rates in every county, high school graduation rates in every state, election results in every House district, racial and ethnic distributions in each census tract — the impulse is since the data **CAN** be mapped, the best way to present the data **MUST** be a map. You plug the data into ArcView, join it up with a shapefile, export to Illustrator, clean up the styles and voilà! Instant graphic ready to be published.





# 193 Democrats

# 0 undecided

# Republicans 242

-63 Seats

218 for majority

255 Dems. before election

Seats **+63**  
Need +39 seats for control

Show results for:

 GAIN  WIN  LEAD

## Democrats expected to win easily

District	Dem.	Rep.	% Rpt.
Ala. 7	72%	28%	100%
Ariz. 4	67%	28%	100%
Calif. 1	63%	31%	100%
Calif. 5	72%	25%	100%
Calif. 6	66%	30%	100%
Calif. 7	68%	32%	100%
Calif. 8	80%	15%	100%
Calif. 9	84%	11%	100%
Calif. 10	59%	38%	100%
Calif. 12	76%	22%	100%
Calif. 13	72%	28%	100%
Calif. 14	69%	28%	100%
Calif. 15	68%	32%	100%
Calif. 16	68%	24%	100%
Calif. 17	67%	26%	100%
Calif. 23	58%	38%	100%
Calif. 27	65%	35%	100%
Calif. 28	70%	22%	100%
Calif. 29	65%	32%	100%
Calif. 30	65%	32%	100%
Calif. 31	84%	16%	100%
Calif. 32	71%	29%	100%
Calif. 33	86%	14%	100%
Calif. 34	77%	23%	100%
Calif. 35	79%	21%	100%
Calif. 36	60%	35%	100%

## Democrats expected to win narrowly

District	Dem.	Rep.	% Rpt.
Ark. 4	58%	40%	100%
Calif. 18	58%	42%	100%
Calif. 20	52%	48%	100%
Calif. 47	53%	39%	100%
Colo. 7	53%	42%	100%
Conn. 4	53%	47%	100%
Conn. 5	54%	46%	100%
Del. 1	57%	41%	100%
Ga. 12	57%	43%	100%
Iowa 1	50%	48%	100%
Iowa 2	51%	46%	100%
Iowa 3	51%	47%	100%
Ill. 8	48%	48%	100%
Ill. 10	49%	51%	100%
Ky. 3	55%	44%	100%
La. 2	65%	33%	100%
Mass. 4	54%	43%	100%
Me. 1	57%	43%	100%
Me. 2	55%	45%	100%
Mich. 9	50%	47%	100%
Mich. 15	57%	40%	100%
Minn. 1	49%	44%	100%
Mo. 4	45%	50%	100%
N.C. 2	49%	49%	100%
N.C. 7	54%	46%	100%
N.C. 11	54%	46%	100%

## Tossup seats

District	Dem.	Rep.	% Rpt.
Ala. 2	49%	51%	100%
Ariz. 5	43%	52%	100%
Ariz. 7	50%	44%	100%
Ariz. 8	49%	47%	100%
Calif. 11	48%	47%	100%
Colo. 3	46%	50%	100%
Fla. 22	46%	54%	100%
Fla. 25	43%	52%	100%
Ga. 2	51%	49%	100%
Ga. 8	47%	53%	100%
Hawaii 1	53%	47%	100%
Idaho 1	41%	51%	100%
Ill. 14	45%	51%	100%
Ill. 17	43%	53%	100%
Ind. 2	48%	47%	100%
Ind. 9	42%	52%	100%
Ky. 6	50%	50%	100%
Mass. 10	47%	42%	100%
Mich. 7	45%	50%	100%
Miss. 4	47%	52%	100%
N.C. 8	53%	44%	100%
N.D. 1	45%	55%	100%
N.H. 2	47%	48%	100%
N.J. 3	47%	50%	100%
Nev. 3	47%	48%	100%
N.Y. 19	47%	53%	100%

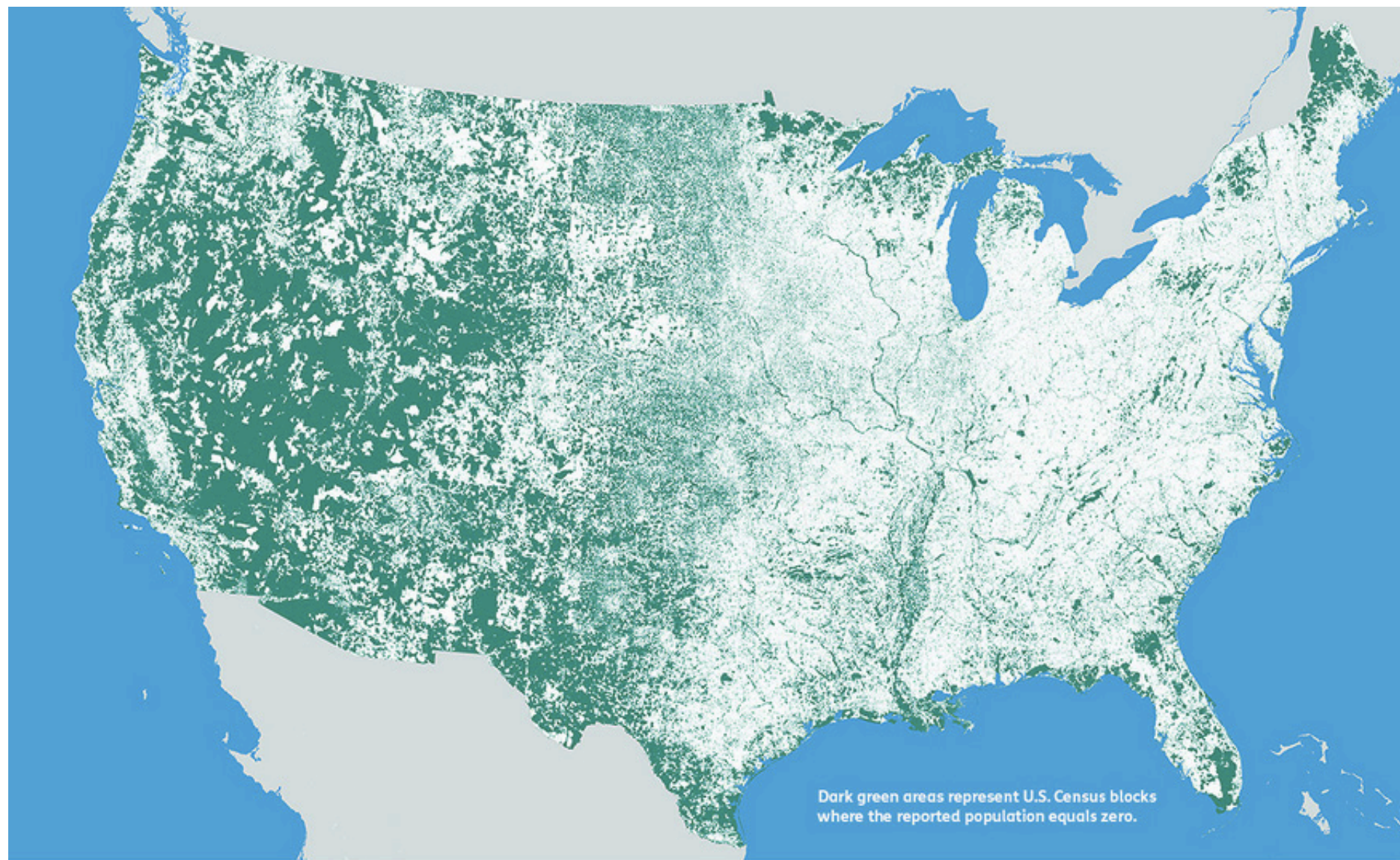
## Republicans expected to win narrowly

District	Dem.	Rep.	% Rpt.
Ark. 1	44%	52%	100%
Ariz. 1	44%	50%	100%
Ariz. 3	41%	52%	100%
Calif. 3	43%	50%	100%
Colo. 4	41%	52%	100%
Fla. 2	42%	54%	100%
Fla. 8	38%	56%	100%
Fla. 24	40%	60%	100%
Ill. 11	43%	57%	100%
Md. 1	42%	54%	100%
Mich. 1	41%	52%	100%
Minn. 6	40%	53%	100%
Miss. 1	41%	55%	100%
Neb. 2	39%	61%	100%
N.H. 1	42%	54%	100%
N.M. 2	45%	55%	100%
Ohio 1	46%	51%	100%
Ohio 15	41%	54%	100%
Pa. 3	44%	56%	100%
Pa. 6	43%	57%	100%
Pa. 7	44%	55%	100%
Pa. 11	45%	55%	100%
Pa. 15	39%	54%	100%
Tex. 17	37%	62%	100%
Va. 2	42%	53%	100%
Va. 5	47%	51%	100%

## Republicans expected to win easily

District	Dem.	Rep.	% Rpt.
Alaska 1	31%	69%	100%
Ala. 1		83%	100%
Ala. 3	41%	59%	100%
Ala. 4		Unc.	
Ala. 5	42%	58%	100%
Ala. 6		Unc.	
Ark. 2	38%	58%	100%
Ark. 3	28%	72%	100%
Ariz. 2	31%	65%	100%
Ariz. 6	29%	66%	100%
Calif. 2	43%	57%	100%
Calif. 4	31%	61%	100%
Calif. 19	35%	65%	100%
Calif. 21		Unc.	
Calif. 22		Unc.	
Calif. 24	40%	60%	100%
Calif. 25	38%	62%	100%
Calif. 26	37%	54%	100%
Calif. 40	33%	67%	100%
Calif. 41	37%	63%	100%
Calif. 42	32%	62%	100%
Calif. 44	44%	56%	100%
Calif. 45	42%	51%	100%
Calif. 46	38%	62%	100%
Calif. 48	36%	60%	100%
Calif. 49	31%	63%	100%





# NOBODY LIVES HERE

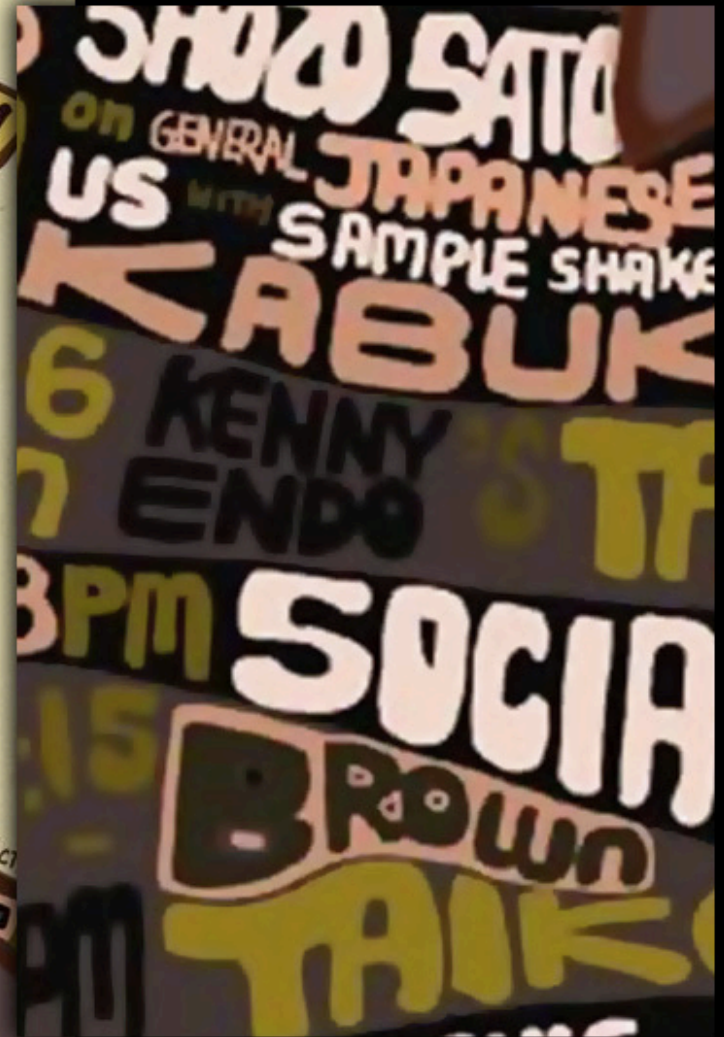
The 4,871,270 U.S. Census Blocks with zero population  
(2010)

3

## **SHOW THE NEAR AND FAR**

The big picture & then all the details







# Pipeline Safety Tracker

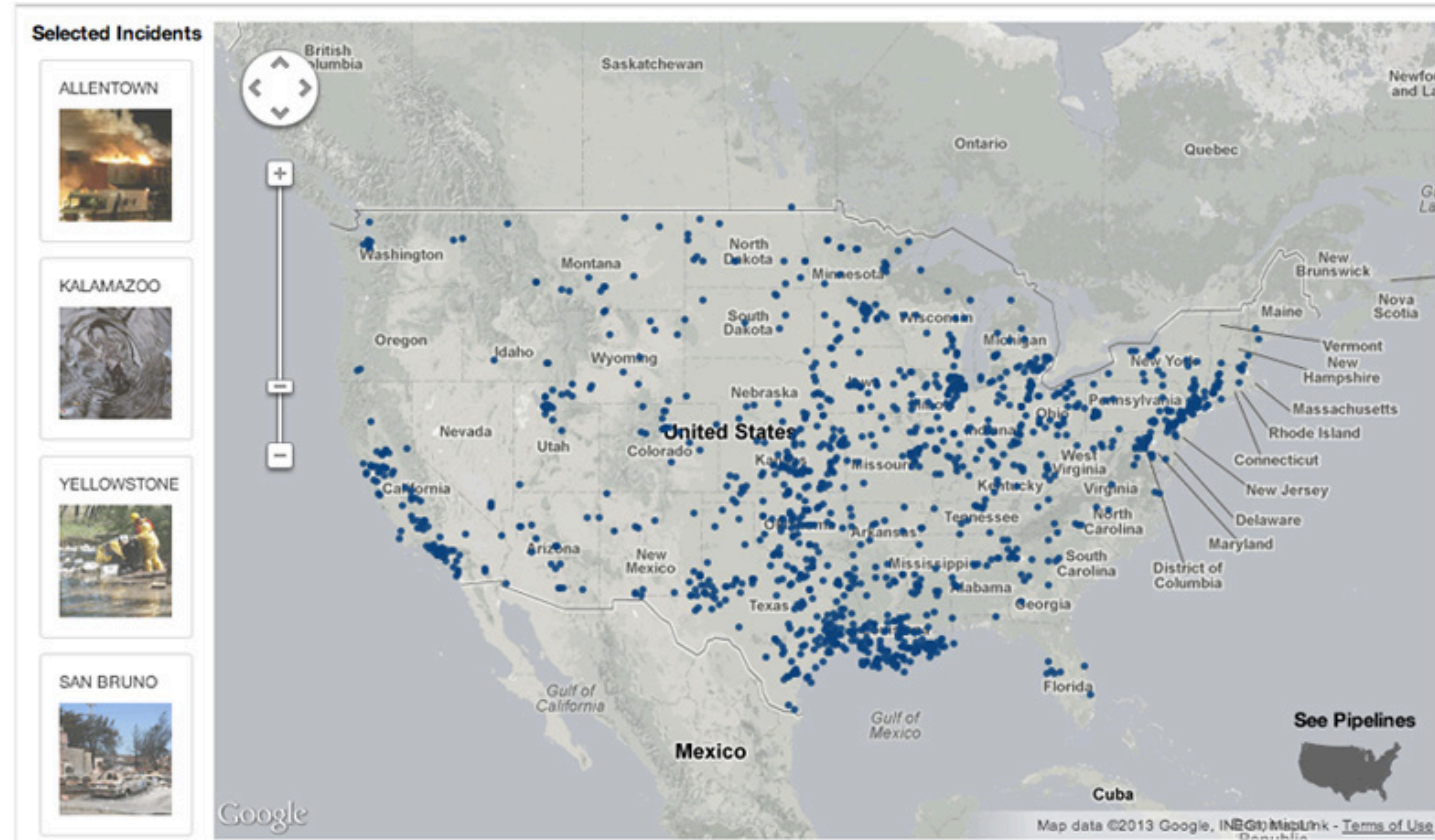
Find the Accidents Near You

Tweet 405

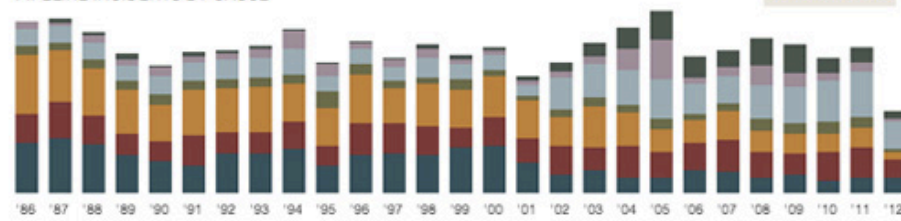
Like 738

By [Lena Groeger](#), ProPublica, Nov. 15, 2012

Although they carry the vast majority of our oil and natural gas, the nation's 2.5 million miles of pipelines remain largely invisible to the public. And while they're much safer than alternatives such as trucks, pipelines suffer hundreds of ruptures and spills every year. Critics blame minimal oversight and old pipes for accidents that could have been prevented; operators maintain that they're committed to continuous improvement. Here we map accidents that regulators labeled "significant incidents" from 1986 to the present. | [Related Story](#)




PIPELINE INCIDENTS BY CAUSE



## Pipeline Safety Tracker

Find the Accidents Near You

 Tweet 405

 Like 738

[Pipeline Safety Tracker](#) » West Virginia

# West Virginia

**53** Incidents   **5** Fatalities   **30** Injuries   **\$15.4M** Property Damages   **50** Gas Incidents   **3** Hazardous Liquid Incidents

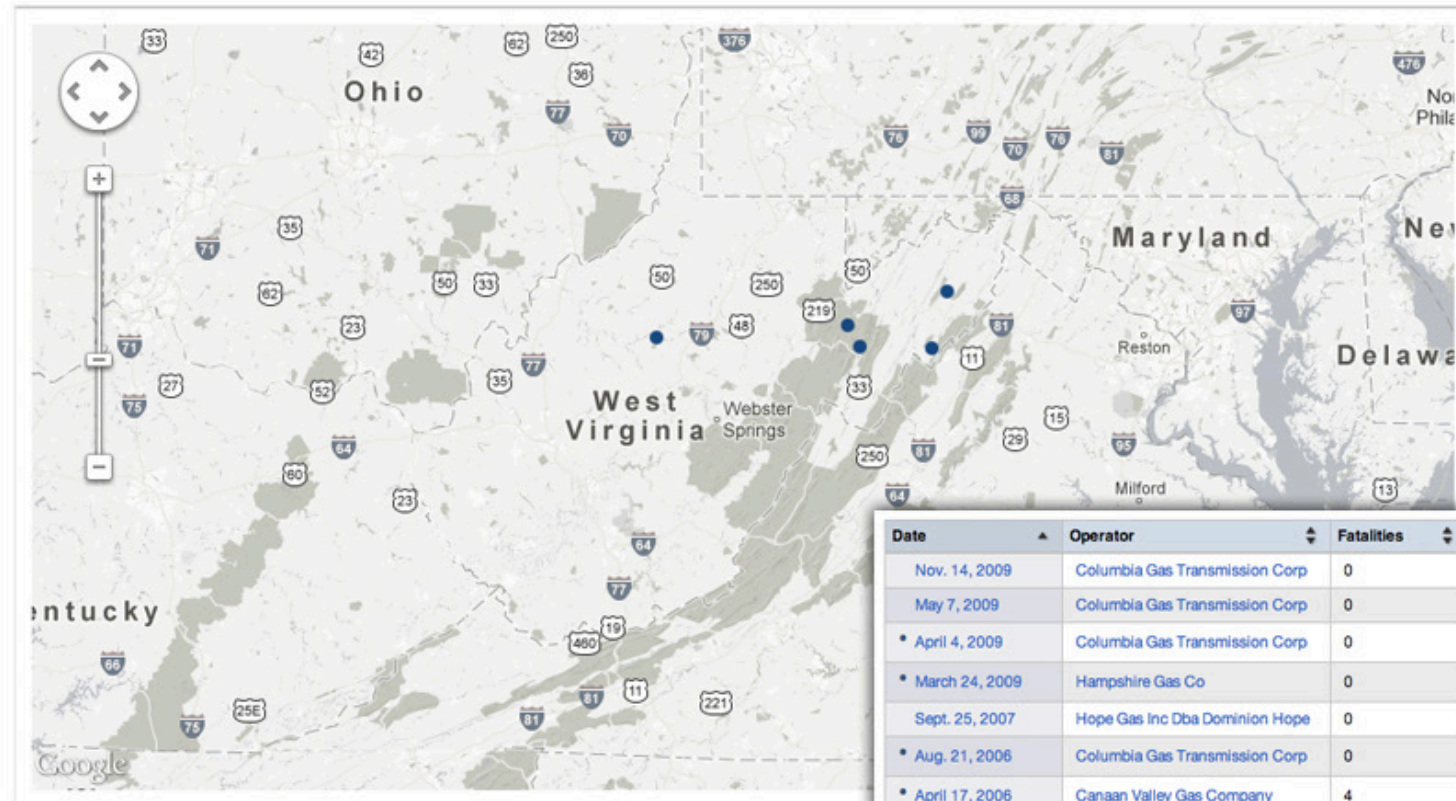
[Read the West Virginia Pipeline profile from the US DOT](#)

## Find Pipeline Incidents

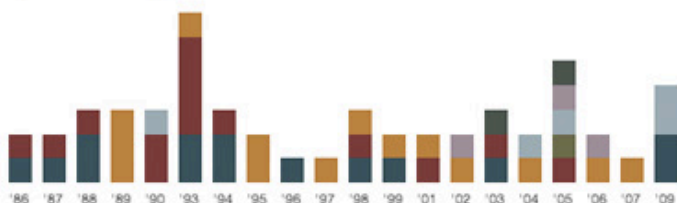
State, City or Operator (e.g., Alabama, Houston, Chevron)

Search

Or see incidents by year: **All Years** ▾



Pipeline Incidents by Cause



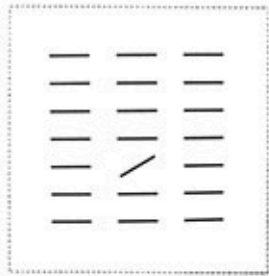
Date	Operator	Fatalities	Injuries	Property Damage
Nov. 14, 2009	Columbia Gas Transmission Corp	0	0	\$5.74M
May 7, 2009	Columbia Gas Transmission Corp	0	0	\$744K
• April 4, 2009	Columbia Gas Transmission Corp	0	0	\$104K
• March 24, 2009	Hampshire Gas Co	0	1	\$0
Sept. 25, 2007	Hope Gas Inc Dba Dominion Hope	0	1	\$67.5K
• Aug. 21, 2006	Columbia Gas Transmission Corp	0	0	\$147K
• April 17, 2006	Canaan Valley Gas Company	4	1	\$0
• Oct. 6, 2005	Equitrans, Lp	0	2	\$0
Aug. 18, 2005	Columbia Gas Transmission Corp	0	0	\$106K
July 30, 2005	Dominion Transmission, Inc	0	0	\$634K
June 17, 2005	Welch Gas Cooperative Association	0	0	\$235K
April 4, 2005	Columbia Gas Transmission Corp	0	0	\$578K
Sept. 25, 2004	Union Oil & Gas Inc	0	1	\$0
Jan. 26, 2004	Columbia Gas Transmission Corp	0	0	\$199K
Aug. 7, 2003	Mountain Gas Inc	0	0	\$64.1K

# 4

## **USE MENTAL TRICKS**

Take advantage of the way the visual system works to get your point across

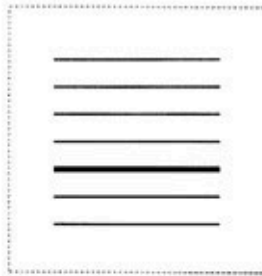
LINE ORIENTATION



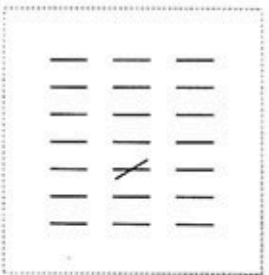
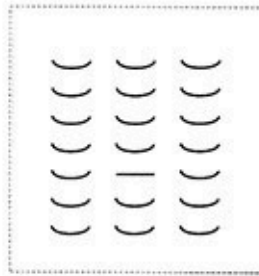
LINE LENGTH



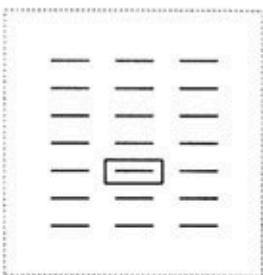
LINE WEIGHT



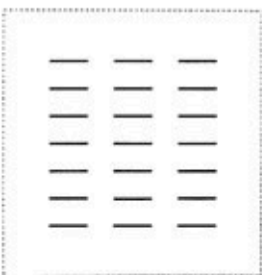
CURVATURE



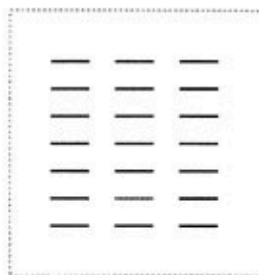
ADDED MARKS



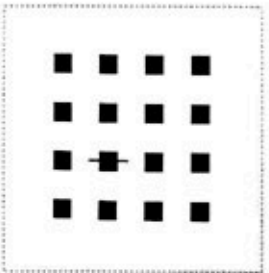
ENCLOSURE



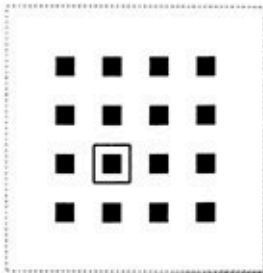
COLOR/HUE



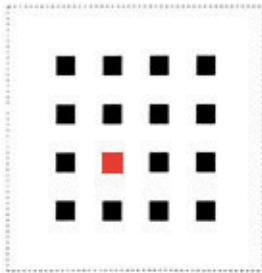
INTENSITY/VALUE



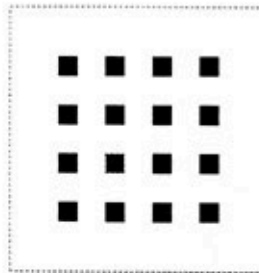
SHAPE



SIZE



SHARPNESS



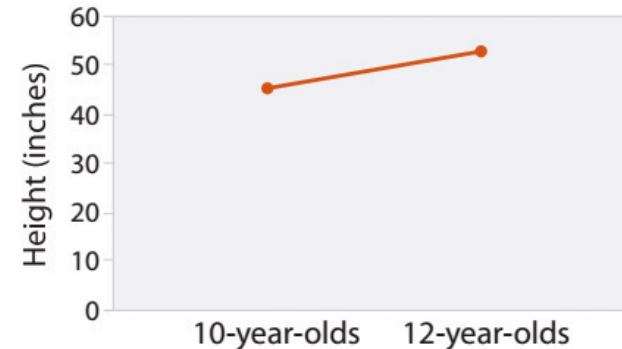
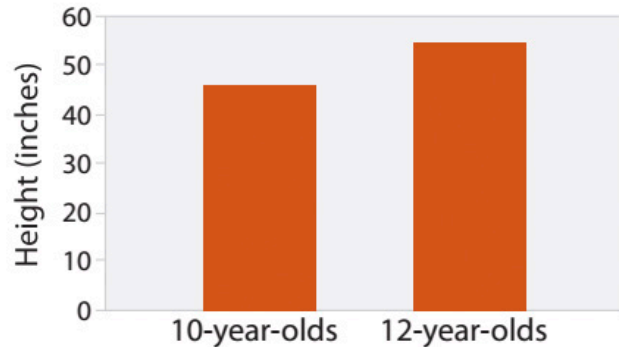
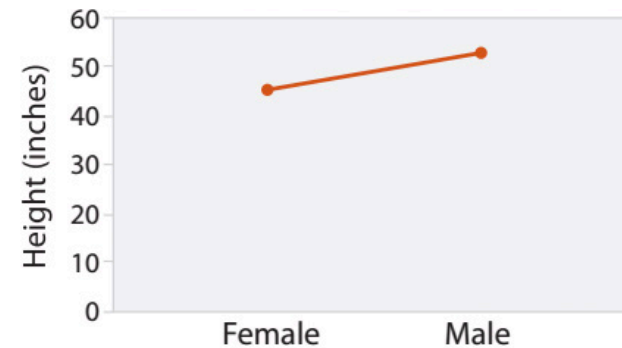
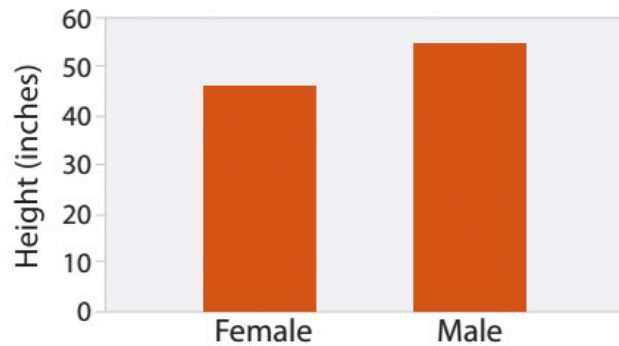
NUMEROSITY

# Preattentive Features



# Bars: Categorical Data

# Lines: Continuous Data



**“The more male a person is,  
the taller he/she is.”**



## Stacking Up the Administration's Drone Claims

by [Lena Groeger](#) and [Cora Currier](#), ProPublica  
Sept. 13, 2012, 1:15 p.m.

 **Tweet** 441

Like 0

Administration officials—often unnamed—frequently seem to celebrate drone strikes that kill suspected militants. But the administration has also worked against disclosures of less positive aspects of the CIA's program, including how many civilians have been killed. We've laid out four years of statements by current and former officials discussing the CIA's drone program, both on and off the record. (Most of these stories also include a "no comment" from the CIA or the White House.) **Highlighted in red** are the CIA's legal stances refusing to even acknowledge the program in response to Freedom of Information Act requests. | **Related:** [How the Gov't Talks About a Drone Program it Won't Acknowledge Exists](#)

*Hover over (or touch) a line of text to read the quote and click that same line to read the original article.*

In 2009 there are more than 50 strikes reported in Pakistan, an increase from previous years.

Yearly drone strikes in Pakistan peak, with roughly 120 strikes reported in 2010.

2005

[illegible]

2010

[illegible]

2017