

# Creating Thematic Maps

Kenneth Field and John Nelson



**AKA**

**“how many maps can you  
make from a single dataset?”**









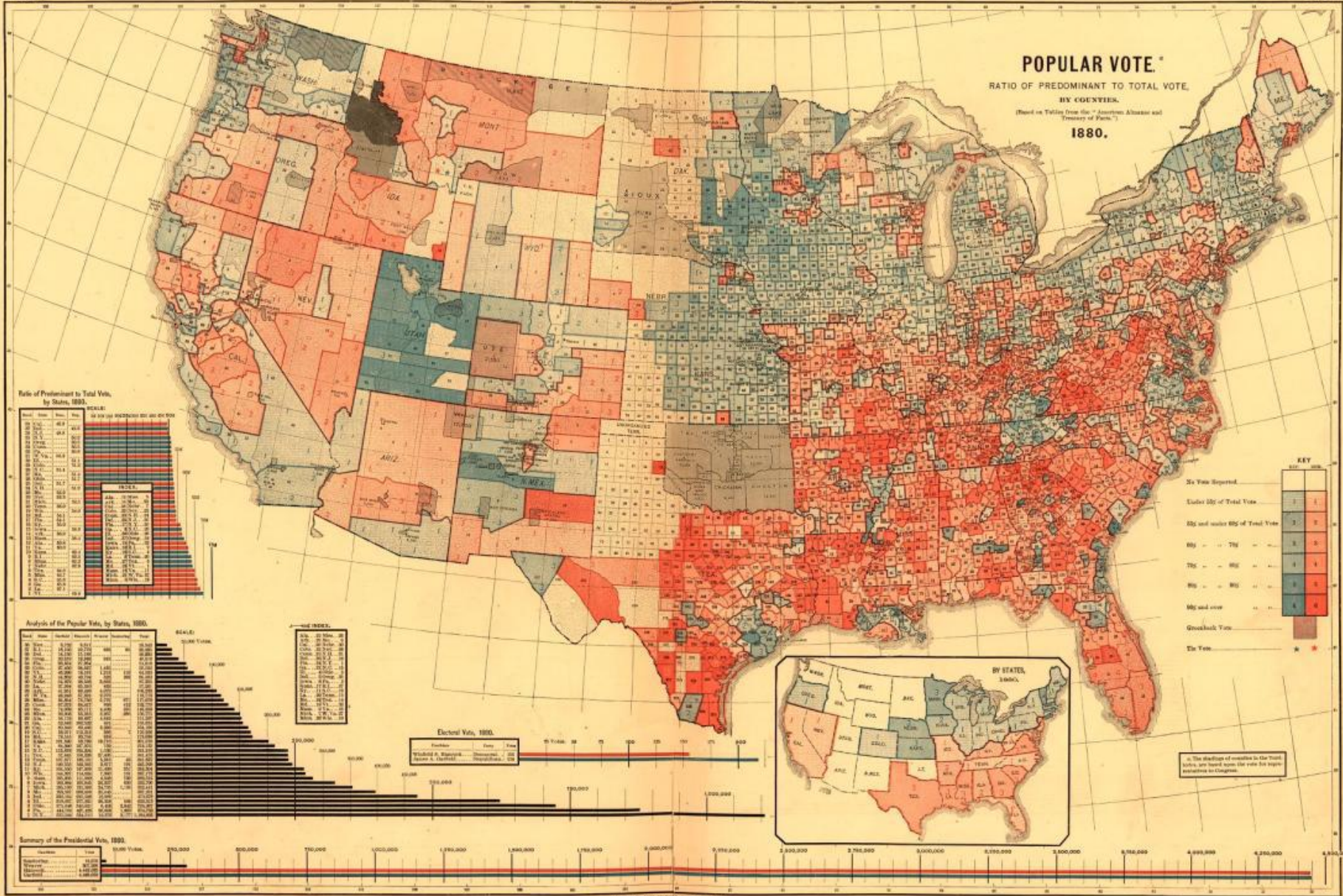


# POPULAR VOTE

RATIO OF PREDOMINANT TO TOTAL VOTE,  
BY COUNTIES.

(Based on Tables from the "American Almanac and  
Yearbook of Facts.")

1880.



**Ratio of Predominant to Total Vote, by States, 1880.**

SCALE: 100 PER CENT REPRESENTS 100 PER CENT

State	Rep.	Dem.	Other
Ala.	85	15	0
Ark.	75	25	0
Calif.	65	35	0
Colo.	55	45	0
Conn.	45	55	0
Del.	35	65	0
Fla.	25	75	0
Ill.	15	85	0
Ind.	10	90	0
Iowa.	5	95	0
Kent.	5	95	0
La.	15	85	0
Maine.	5	95	0
Mass.	5	95	0
Mich.	10	90	0
Miss.	25	75	0
Mo.	15	85	0
N.H.	5	95	0
N.J.	10	90	0
N.Y.	5	95	0
Ohio.	10	90	0
Pa.	10	90	0
R.I.	5	95	0
S.C.	35	65	0
Tenn.	25	75	0
Va.	35	65	0
Wash.	15	85	0
Wis.	5	95	0
W.Va.	15	85	0
Wyo.	55	45	0

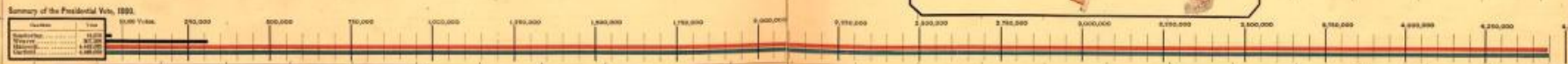
**Analysis of the Popular Vote, by States, 1880.**

SCALE: 100 PER CENT REPRESENTS 100 PER CENT

State	Rep.	Dem.	Other
Ala.	85	15	0
Ark.	75	25	0
Calif.	65	35	0
Colo.	55	45	0
Conn.	45	55	0
Del.	35	65	0
Fla.	25	75	0
Ill.	15	85	0
Ind.	10	90	0
Iowa.	5	95	0
Kent.	5	95	0
La.	15	85	0
Maine.	5	95	0
Mass.	5	95	0
Mich.	10	90	0
Miss.	25	75	0
Mo.	15	85	0
N.H.	5	95	0
N.J.	10	90	0
N.Y.	5	95	0
Ohio.	10	90	0
Pa.	10	90	0
R.I.	5	95	0
S.C.	35	65	0
Tenn.	25	75	0
Va.	35	65	0
Wash.	15	85	0
Wis.	5	95	0
W.Va.	15	85	0
Wyo.	55	45	0

**Electoral Vote, 1880.**

State	Rep.	Dem.	Other
Ala.	10	0	0
Ark.	7	0	0
Calif.	5	0	0
Colo.	3	0	0
Conn.	0	11	0
Del.	0	3	0
Fla.	0	9	0
Ill.	0	26	0
Ind.	0	13	0
Iowa.	0	11	0
Kent.	0	7	0
La.	0	10	0
Maine.	0	7	0
Mass.	0	11	0
Mich.	0	11	0
Miss.	0	9	0
Mo.	0	11	0
N.H.	0	7	0
N.J.	0	11	0
N.Y.	0	36	0
Ohio.	0	23	0
Pa.	0	26	0
R.I.	0	6	0
S.C.	7	0	0
Tenn.	0	10	0
Va.	7	0	0
Wash.	0	3	0
Wis.	0	11	0
W.Va.	0	5	0
Wyo.	3	0	0



**KEY**

St. Vote Reported

Color of Total Vote

Rep. and color of Total Vote

Dem. — 70

Dem. — 80

Dem. — 90

Dem. — 100

Dem. — 110

Dem. — 120

Dem. — 130

Dem. — 140

Dem. — 150

Dem. — 160

Dem. — 170

Dem. — 180

Dem. — 190

Dem. — 200

Dem. — 210

Dem. — 220

Dem. — 230

Dem. — 240

Dem. — 250

Dem. — 260

Dem. — 270

Dem. — 280

Dem. — 290

Dem. — 300

Dem. — 310

Dem. — 320

Dem. — 330

Dem. — 340

Dem. — 350

Dem. — 360

Dem. — 370

Dem. — 380

Dem. — 390

Dem. — 400

Dem. — 410

Dem. — 420

Dem. — 430

Dem. — 440

Dem. — 450

Dem. — 460

Dem. — 470

Dem. — 480

Dem. — 490

Dem. — 500

Dem. — 510

Dem. — 520

Dem. — 530

Dem. — 540

Dem. — 550

Dem. — 560

Dem. — 570

Dem. — 580

Dem. — 590

Dem. — 600

Dem. — 610

Dem. — 620

Dem. — 630

Dem. — 640

Dem. — 650

Dem. — 660

Dem. — 670

Dem. — 680

Dem. — 690

Dem. — 700

Dem. — 710

Dem. — 720

Dem. — 730

Dem. — 740

Dem. — 750

Dem. — 760

Dem. — 770

Dem. — 780

Dem. — 790

Dem. — 800

Dem. — 810

Dem. — 820

Dem. — 830

Dem. — 840

Dem. — 850

Dem. — 860

Dem. — 870

Dem. — 880

Dem. — 890

Dem. — 900

Dem. — 910

Dem. — 920

Dem. — 930

Dem. — 940

Dem. — 950

Dem. — 960

Dem. — 970

Dem. — 980

Dem. — 990

Dem. — 1000



The shades of color in the key table are based upon the vote for major candidates in Congress.







Breitbart

November 15 at 3:01pm · 🌐

Donald Trump won an overwhelming 7.5 million popular vote victory in 3,084 of the country's 3,141 counties or county equivalents in America's heartland.



**Donald Trump Won 7.5 Million Popular Vote Landslide in Heartland**



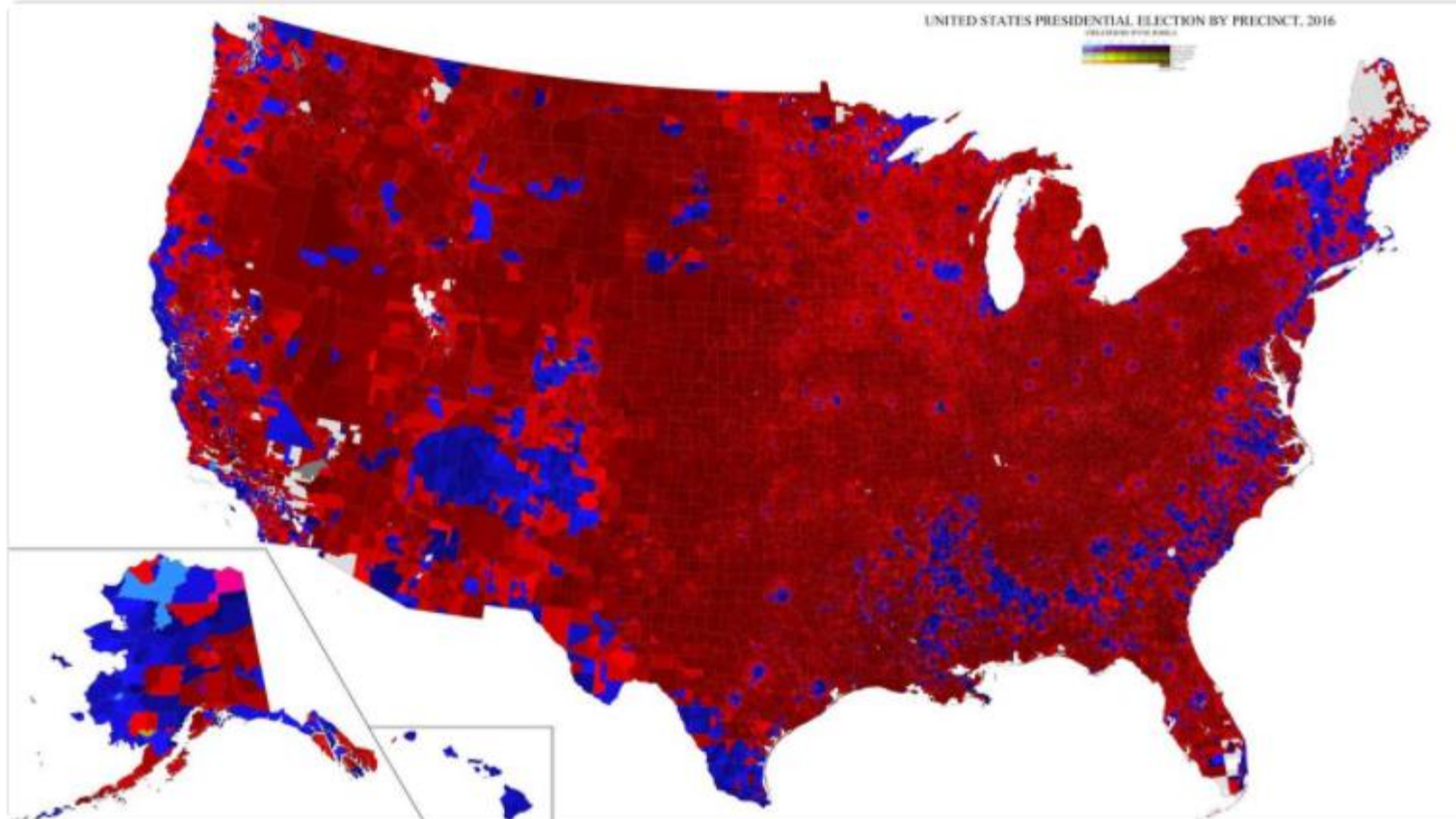
↻ Donald J. Trump Retweeted



**Trumpism 3.0™** @Team\_Trump45 · Aug 4

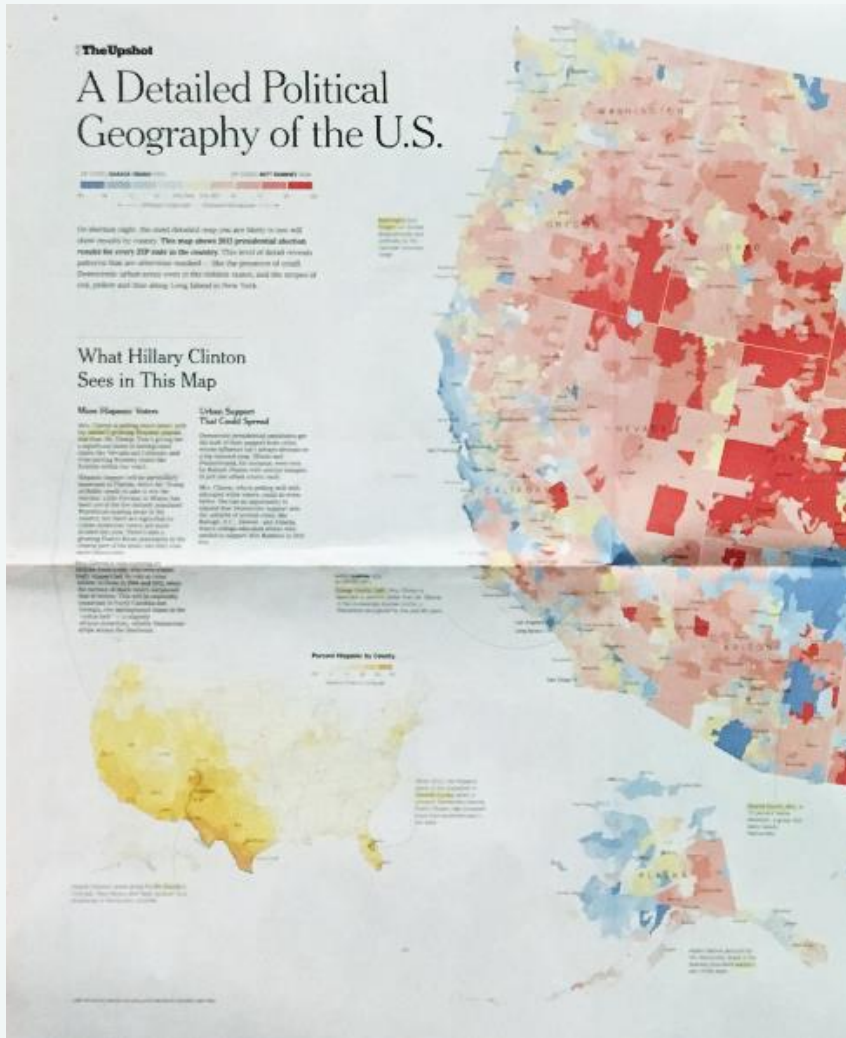
Replying to @Team\_Trump45 @realDonaldTrump

We won. Move on.



5.7K 12K 43K





08:10

TIMELINE

BRIAN TIMONEY · 7s  
 Cartographic Damage Assessment: a shame that an impressive print product is so visually misleading. A regrettable miss by @nytgraphics

And What It Means for 2016

What Donald Trump Sees in This Map

CHARLEY GLYNN · 15s  
 That's really cool 🌟

NYT GRAPHICS  
 In today's print NYT: the most detailed election map we've ever printed: 30,000+ zip codes across 4-page spread.

KENNETH FIELD · 41s  
 @RosemaryWardley value by alpha or









2016 Presidential Election Results









# One more thing

Actually...a few more things







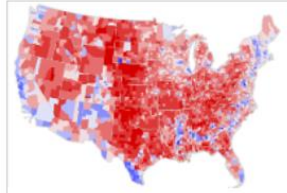




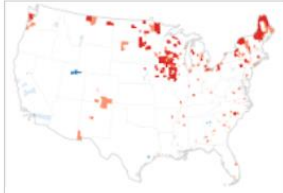


Thematic maps of the 2016 Presidential election (lower 48 states)

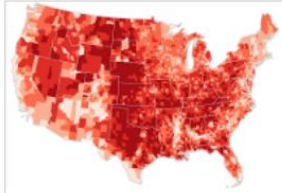
by Kenneth Field



Choropleth diverging hue



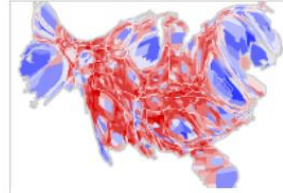
Choropleth highlights



Choropleth single hue



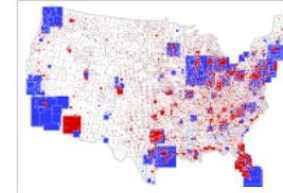
Choropleth unclassed blended hue



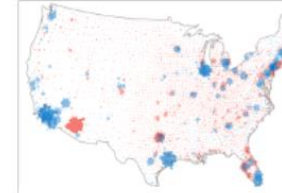
Contiguous cartogram



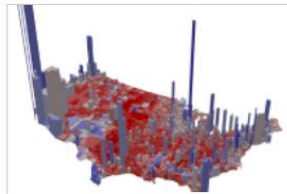
Non-contiguous cartogram



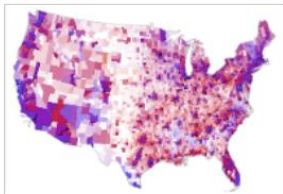
Proportional symbol



Proportional symbol artistic



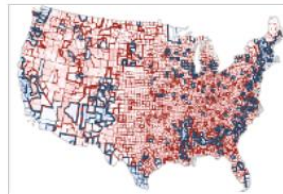
3D prisms



3D Value-by-alpha



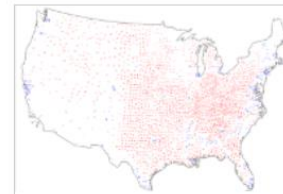
Blended America



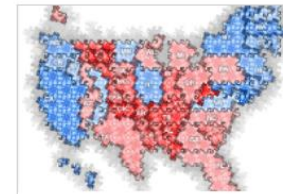
Choroline



Choropleth blended hue



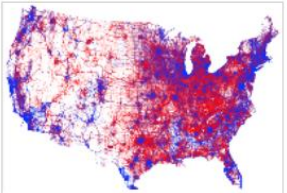
Proportional text



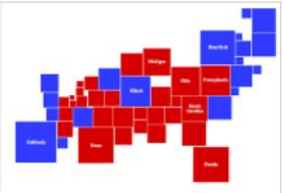
Tesselated cartogram



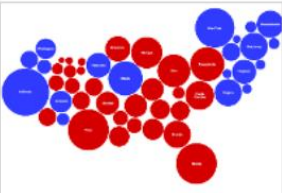
Unique Values



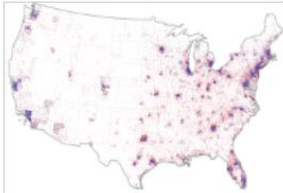
Dasymetric Dot Density



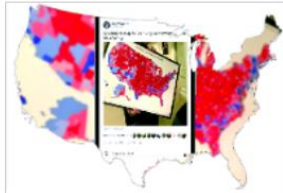
DeMers cartogram



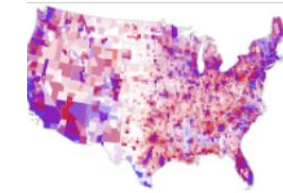
Dorling cartogram



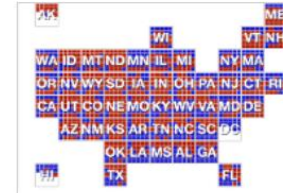
Dot Density



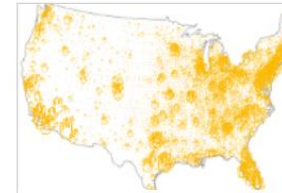
Fake map. Sad!



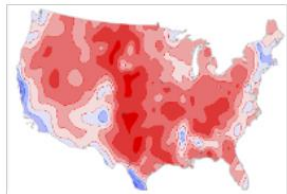
Value-by-alpha



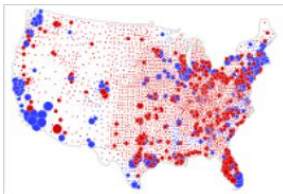
Waffle grid small multiples cartogram



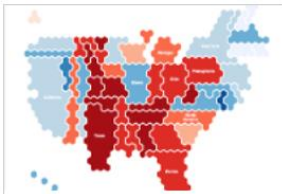
Proportional symbol pictorial



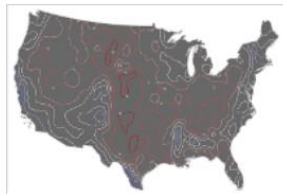
Filled contours



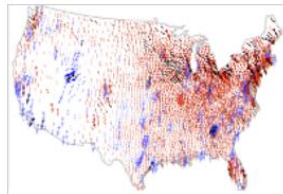
Graduated symbol



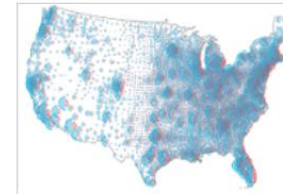
Gridded cartogram



Isopleth



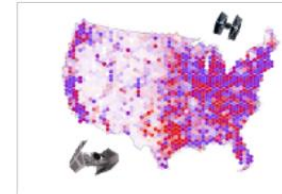
Multivariate symbol



Proportional symbol multivariate



Unique Values (textured)



VADER





# The book

In the UC store

[esripress.esri.com](http://esripress.esri.com)

# Cartography.

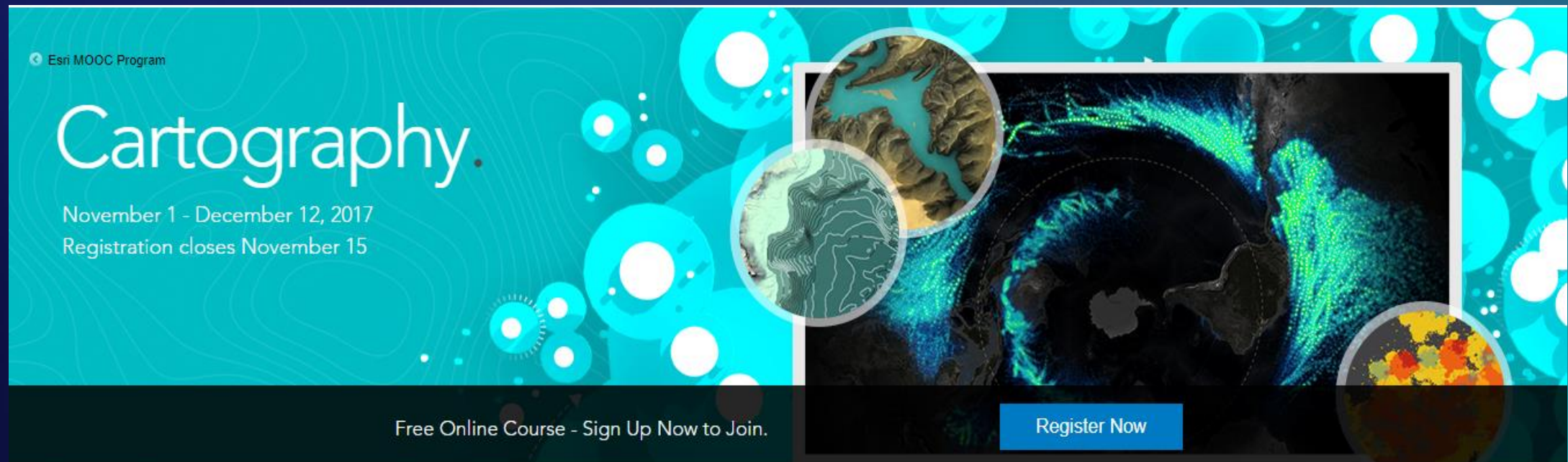


Kenneth Field



# The MOOC

# [esri.com/mooc/cartography](https://esri.com/mooc/cartography) (Sep 5th 2018)

A promotional banner for the 'Cartography' MOOC. The background is a vibrant teal with a pattern of white and light blue circles of varying sizes. On the left, the text 'Esri MOOC Program' is in small white font, followed by 'Cartography.' in a large, white, sans-serif font. Below this, the dates 'November 1 - December 12, 2017' and 'Registration closes November 15' are listed in a smaller white font. On the right side, there is a large, dark rectangular area containing several circular inset images: a topographic map, a satellite-style map, a map with glowing green data points, and a map with colorful (yellow, orange, red) data points. At the bottom left, the text 'Free Online Course - Sign Up Now to Join.' is displayed in white. At the bottom right, there is a blue rectangular button with the white text 'Register Now'.



# The URLs

[esri.com/arcgis-blog](https://esri.com/arcgis-blog)

[carto.maps.arcgis.com](https://carto.maps.arcgis.com)

[cartonerd.com](https://cartonerd.com)

[adventuresinmapping.com](https://adventuresinmapping.com)

[mapdesign.icaci.org](https://mapdesign.icaci.org)



# Other sessions

**How to Make a Great Map** (Ken Field/Wes Jones)

**Tue 14:30** | Thu 14:30

**Amazing and Inspiring maps** (Ken Field/John Nelson)

**Wed 10:00** | Thu 10:00

**Creating Thematic Maps** (Ken Field/John Nelson)

**Wed 08:30** | Thu 13:00

**3D Cartographic Techniques** (Nathan Shephard/Ken Field)

**Tue 13:00** | **Wed 16:00**

**Map Design for Representing Relief** (Ken Field/John Nelson)

**Wed 14:30** | Thu 08:30

**ArcGIS Pro: Mapping and Visualisation** (Edie Punt/Craig Williams)

**Tue 14:30** | **Wed 16:00**

**Design Story Maps for Emotional Impact** (John Nelson/Jennifer Bell)

**Tue 10:00** | Thu 16:00

**Choosing the Right Basemap** (John Nelson/Andrew Skinner)

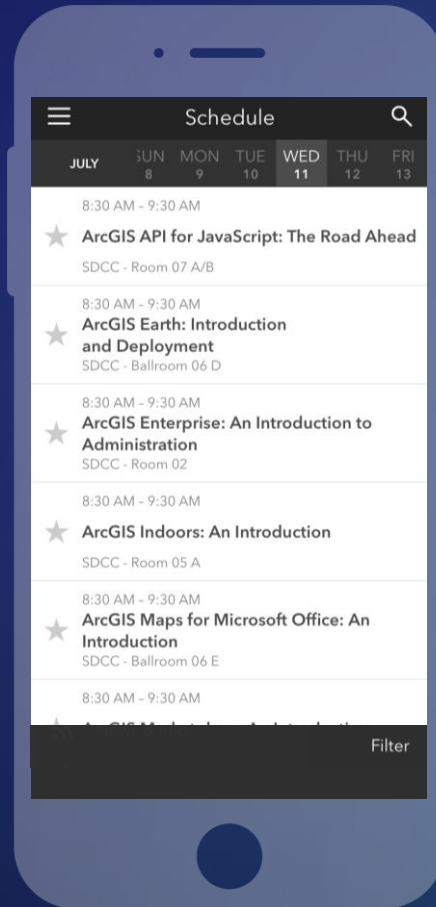
**Thu 14:30**

# Please Take Our Survey on the App

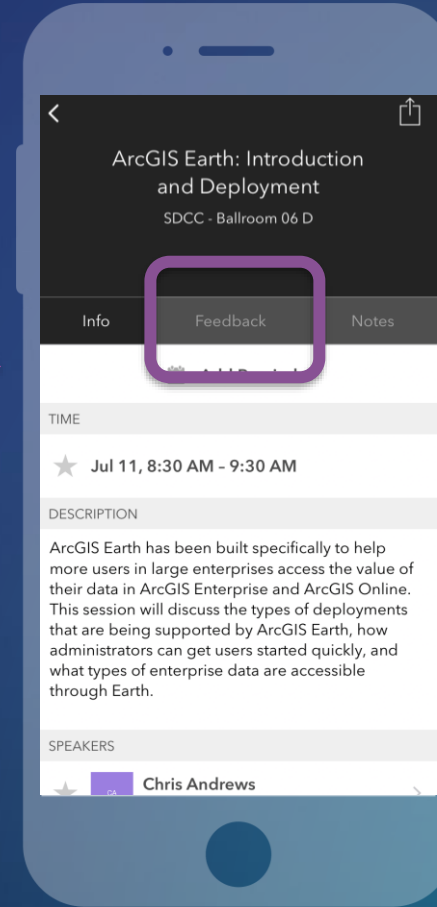
Download the Esri Events app and find your event



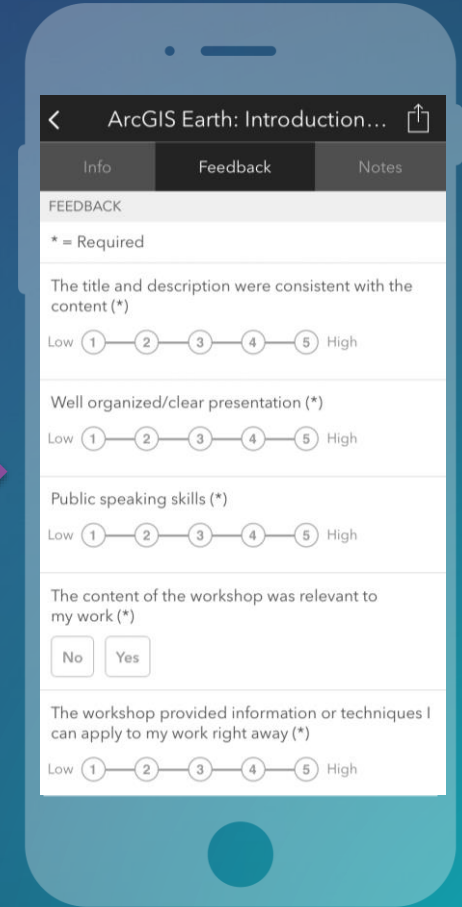
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"









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