Data Visualization

Basics

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Office Hours:

Github: https://github.com/inp2/Data-Viz-Fall2018

Classroom: https://classroom.github.com/classrooms/41658328-lis-590-data-visualization-fall-2018

Slack:

Schedule

- Week 1 (Aug 27th - Aug 31st): Introduction, syllabus, examples of visualization, and installation of packages (jupyter notebook, & python)
- Week 2 (Sept 3rd - Sept 7th): Dealing with Data
- Week 3 (Sept 10th - Sept 11th): Basic Principles of Data Visualization
- Week 4 (Sept 17th - Sept 21st): Simple Plotting: Quantitative Plots
- Week 5 (Sept 24th - Sept 28th): Binning Filtering, Smoothing, Multiplots, Histograms, & Distributions
- Week 6 (Oct 1st - Oct 5th): Images: color theory, colormaps, generating visualizations of images and image-like quantities
- Week 7 (Oct 8th - Oct 12th): Geospatial visualizations
- Week 8 (Oct 15th - Oct 19th): Synthesizing multiple datasets
- Week 8 (Oct 22nd - Oct 26th): Software ecosystem around visualization
- Week 9 (Oct 29th - Nov 2nd): Network visualization
- Week 10 (Nov 5th - Nov 9th): Statistical visualization
- Week 11 (Nov 12th - Nov 16th): Interactive visualizations
- Week 12 (Nov 19th - Nov 23rd): Thanksgiving Break
- Week 13: (Nov 26th - Nov 30th): Advanced visualizations
- Week 14 (Dec 4th - Dec 7th): Group presentations

Overview - Themes

1. What are the components of an effective visualization of quantitative data?
2. What tools and ecosystems are available for visualizing data?
3. What systems can be put in place to generate visualizations rapidly and with high-fidelity representation?

Overview - Goals

- Students will be able to communicate information and data through visual representation
- Students will be able to examine a visualization and understand how it can be improved upon
- Students will have facility with the commonplace tools used for visualization, and a deeper understanding of where those tools have shortcomings

Overview - Grading

- Assignments worth 60%
- Final project worth 40%

Overview - Assignments

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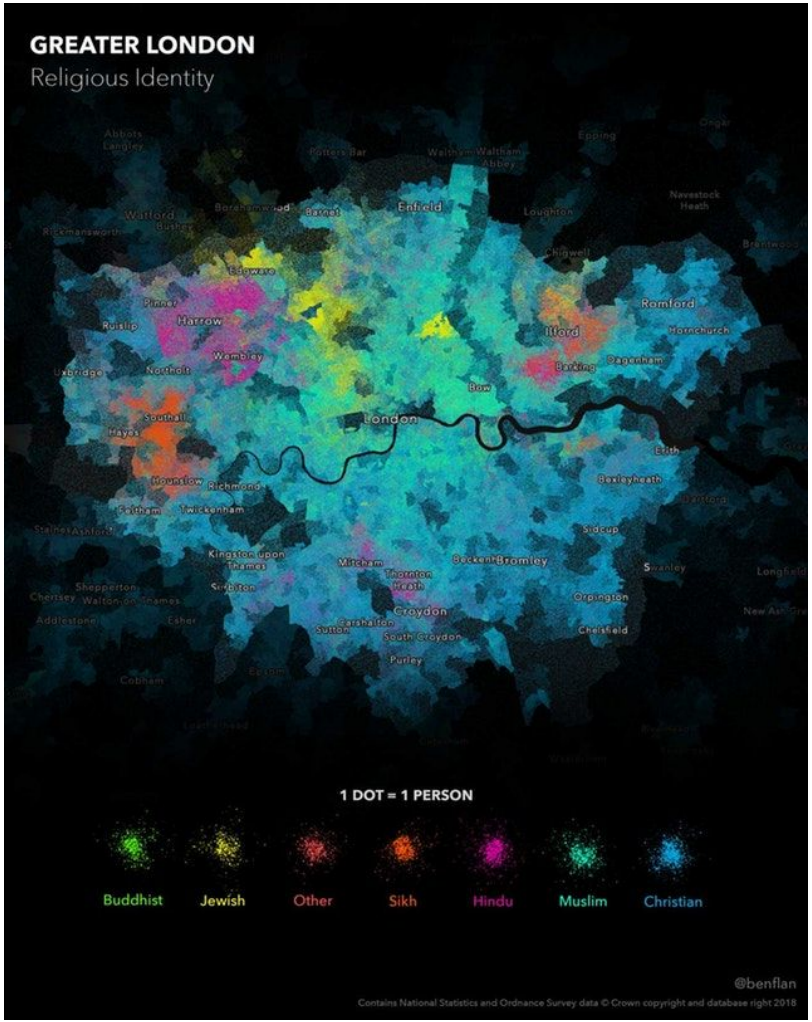
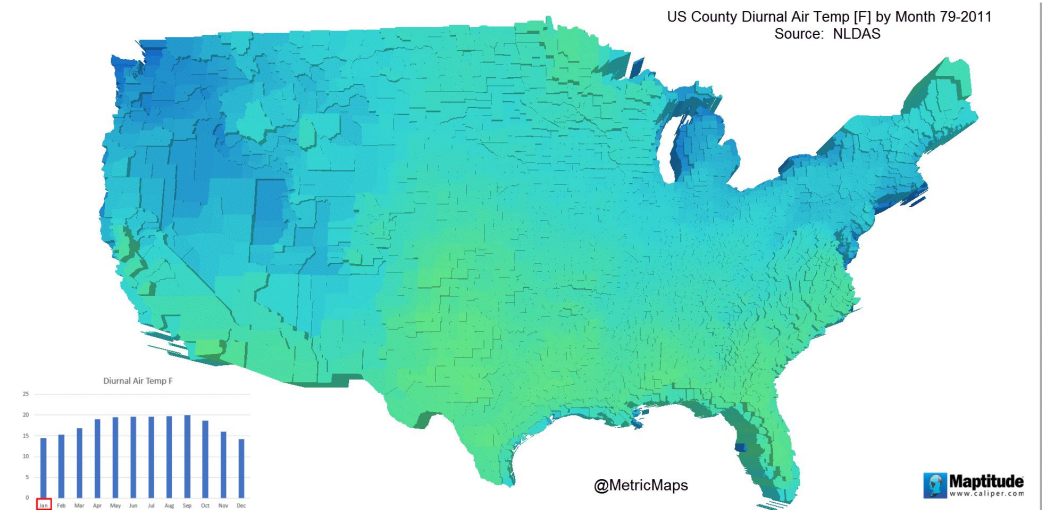
Visualizations


GREATER LONDON
Religious Identity
1 DOT = 1 PERSON
Buddhist
Jewish
Other
Sikh
Hindu
Muslim
Christian
@benflan
Contains National Statistics and Ordnance Survey data © Crown copyright and database right 2018


US County Diurnal Air Temp [F] by Month 79-2011
Source: NLDAS
Diurnal Air Temp F
@MetricMaps
Maptitude

Norse Attack Map

Clustergrammar

Overview - Github

- Github Classroom:
  - https://classroom.github.com/classrooms/41658328-lis-590-data-visualization-fall-2018
- Signing up for Github Classroom
  - Sign up for a Github account if you do not already have one
- Tutorial for those new to github
  - https://guides.github.com/activities/hello-world/