

GeoViz using Bokeh

TAWS
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Introduction

Are Visualizations important for Big Data?



DOMO

DATA NEVER SLEEPS

How Much Data Is Generated Every Minute?

Big data is not just some abstract concept used to inspire and mystify the IT crowd; it is the result of an avalanche of digital activity pulsating through cables and airwaves across the world. This data is being created every minute of the day through the most innocuous of online activity that many of us barely even notice. But with every website browsed, status shared, or photo uploaded, we leave digital trails that continually grow the hulking mass of big data. Below, we explore how much data is generated in one minute on the Internet.

—THE—
MOBILE WEB
RECEIVES

**217**

NEW USERS.



WORDPRESS
USERS PUBLISH

YOUTUBE

USERS UPLOAD

**48**

HOURS

OF NEW VIDEO.



EMAIL
USERS
SEND

204,166,667

MESSAGES.



GOOGLE
RECEIVES
OVER

**2,000,000**

SEARCH QUERIES.



FACEBOOK
LIKES



The beauty of data visualization

David McCandless,
British information designer.

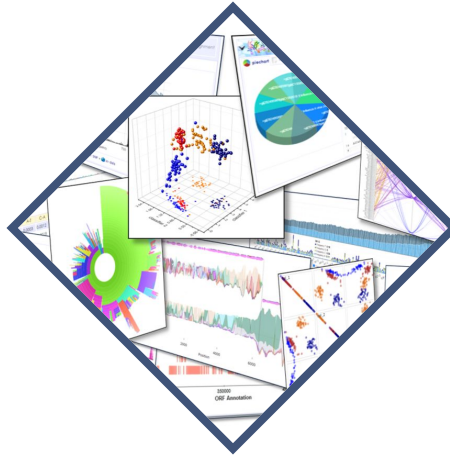
TEDGlobal, 2010

https://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization



“ All of us now are being blasted by information design. It's being poured into our eyes through the Web, and we're all visualizers now; we're all demanding a visual aspect to our information... And if you're navigating a dense information jungle, coming across a beautiful graphic or a lovely data visualization, it's a relief, it's like coming across a clearing in the jungle.





Visualizations?

YES!

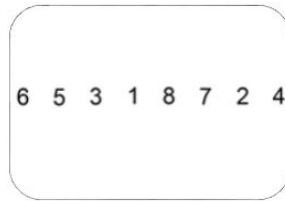
2

General Concepts

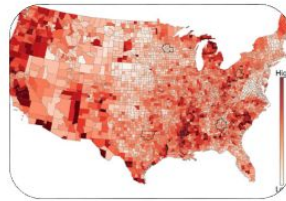
Types and Uses



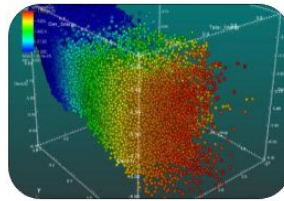
Types



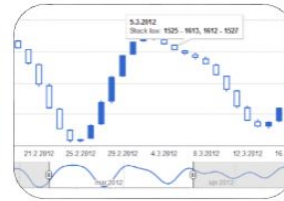
Linear



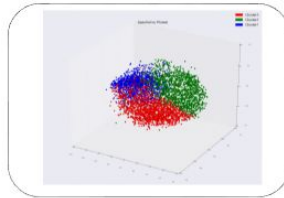
Planar (GeoSpatial)



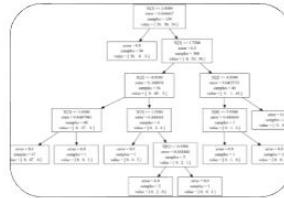
Volumetric



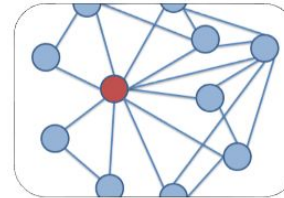
Temporal



nD/Multidimensional



Tree - Hierarchical



Network

Planar

Choroplelet. Cartogram. Dot distribution map.
Proportional symbol map. More...



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GeoVisualizations

Applications



Choropleth

Maps





Applications

- Healthcare: prevention and mapping.
- **Socioeconomic indices.**
- Any quantity measure.

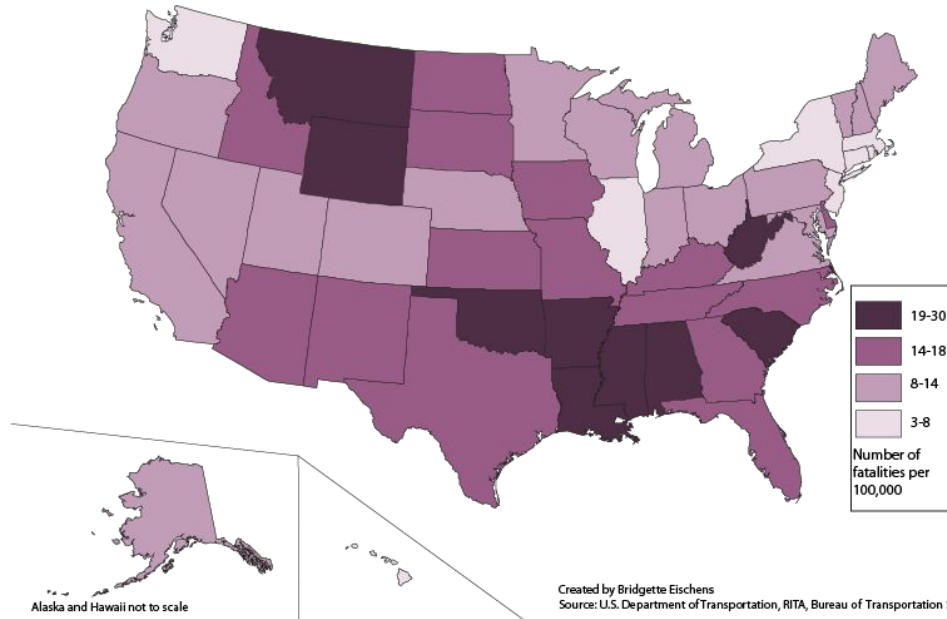




HEALTHCARE

U.S. Motor Vehicle Fatalities, 2008

choropleth map using standard deviation classification



Created by Bridgette Eischens
Source: U.S. Department of Transportation, RITA, Bureau of Transportation Statistics





HEALTHCARE

**The use of geovisualization to public health, in the context of open source applications and digital earths:
an effective representation?**

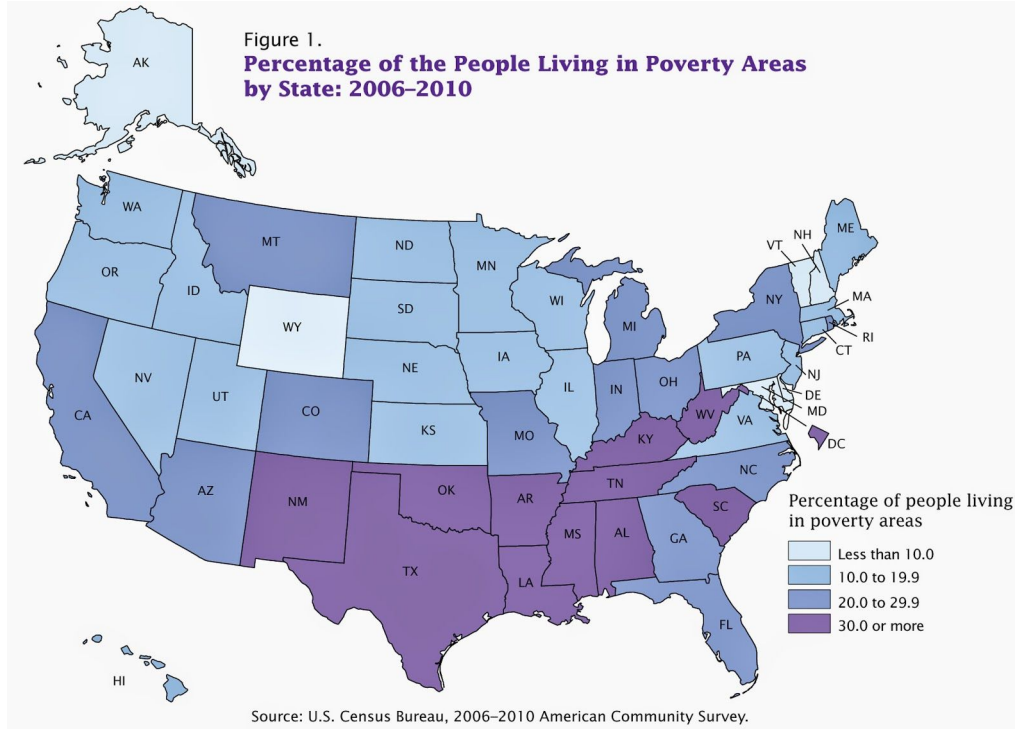


Ana Brandusescu, Renee Sieber, Nadine Schuurman





SOCIOECONOMIC INDICES



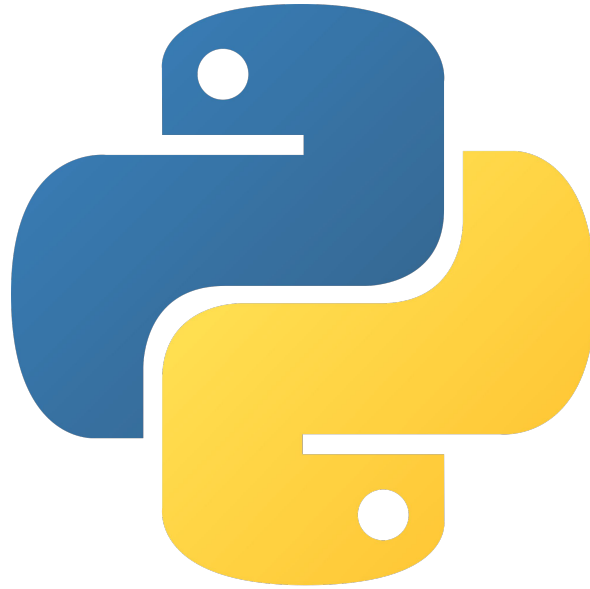
4

Bokeh as Interactive Visualizations Tool

Crime Case Study



Bokeh



Examples



Get ready!

Installation

`pip install bokeh`

Example Code

[Go to GitHub!](#)

Bokeh

Basic Elements



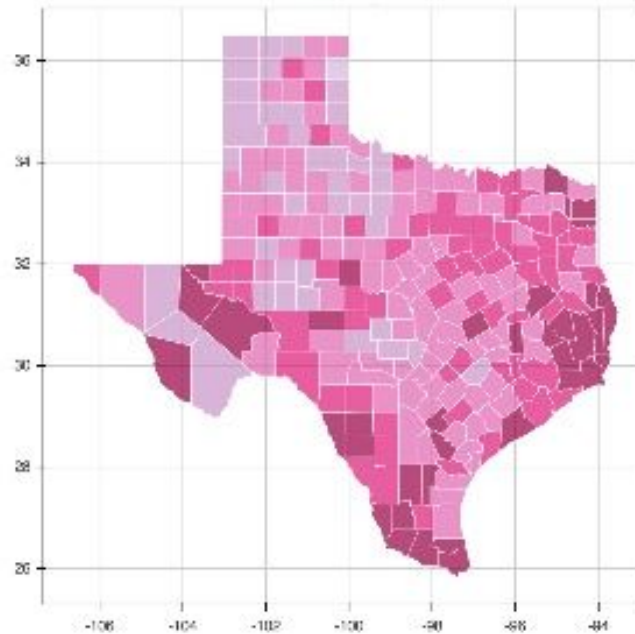
TAKE NOTE

- `bokeh.models`
- `bokeh.plotting`
- `bokeh.palletes`

The basic element in Bokeh is a *figure* como en pandas es un Dataframe.



Geovisualization



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CHALLENGE!!!

Let's work!





GEOVIZ CHALLENGE

Groups

Dataset

Presentation



THANKS!

Any questions?