Library Support for GIS

The free & Easy Way!

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SLRLN TechExpo
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What is GIS?

"GIS is the common abbreviation for geographic information systems, a powerful and widely used computer database and software program that allows scientists to link geographically referenced information related to any number of variables to a map of a geographical area."

-Gale Encyclopedia of Science

"GIS is a technological field that incorporates geographical features with tabular data in order to map, analyze, and assess real-world problems."

-GIS Lounge

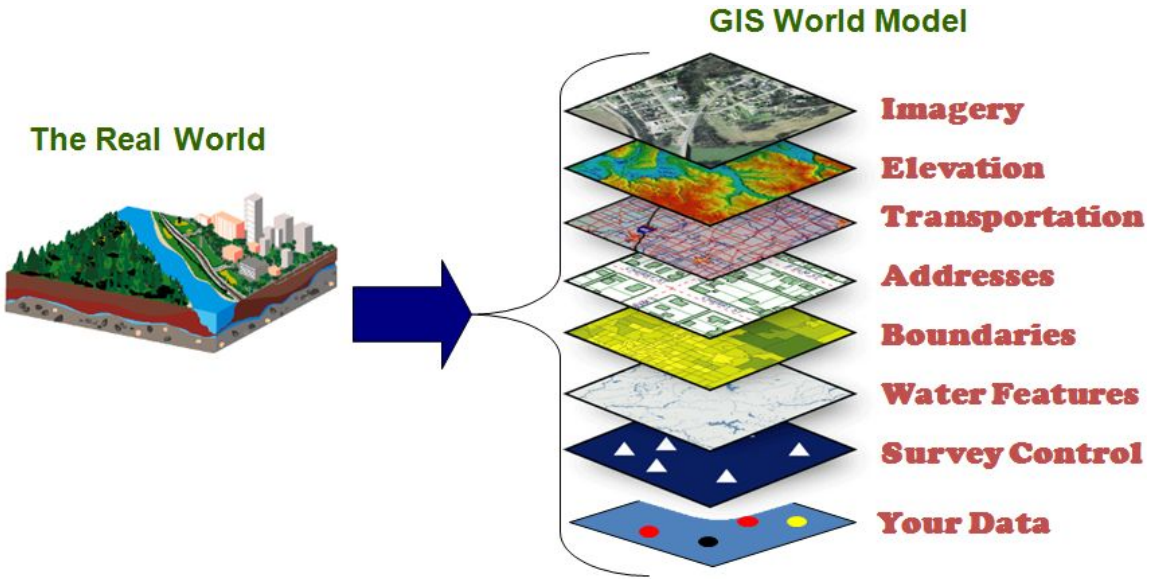
"...a GIS is a computer system capable of assembling, storing, manipulating, and displaying geographically referenced information (that is data identified according to their locations)."

-US Geological Service

What is GIS?

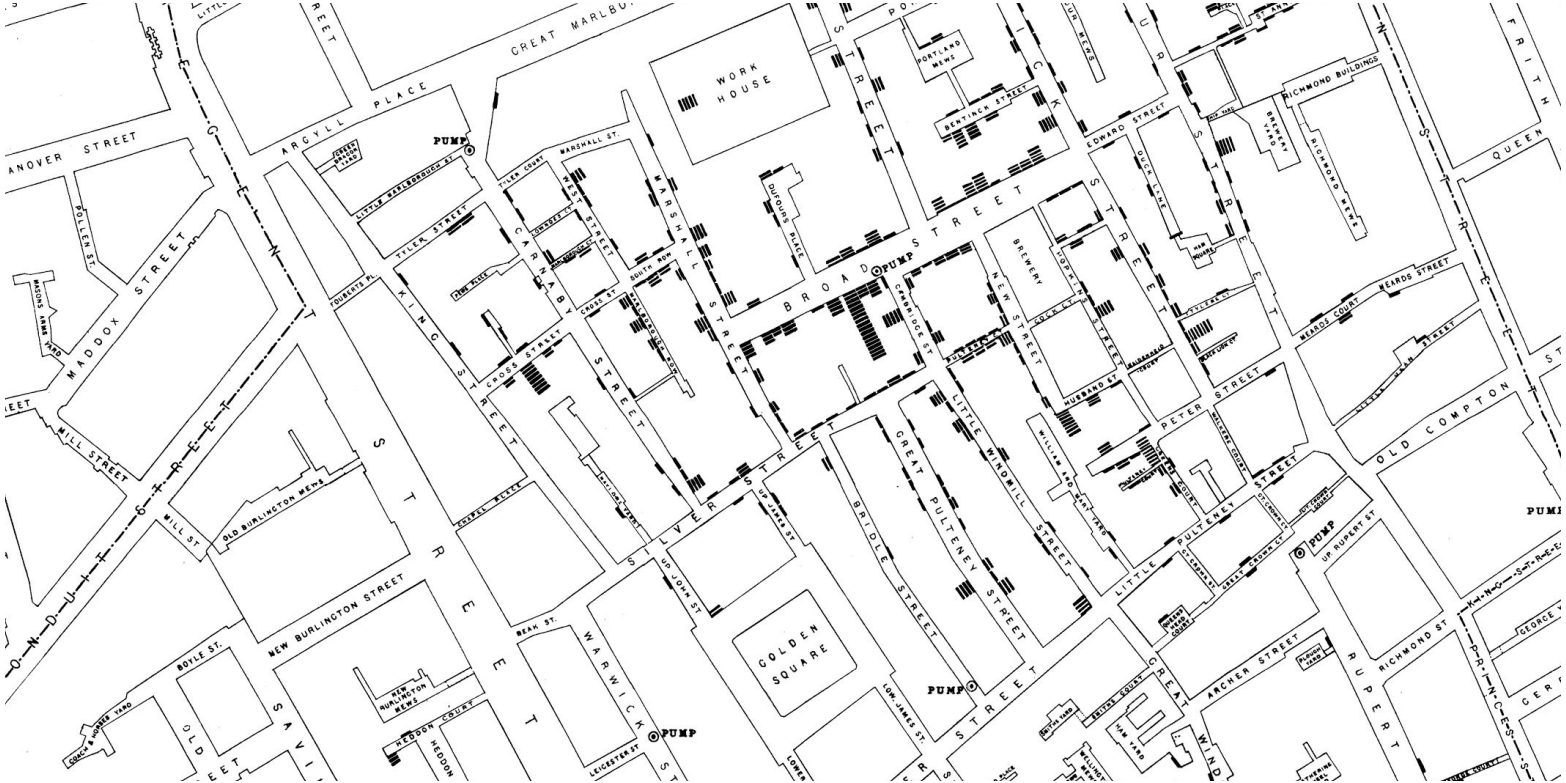
"A geographic information system (GIS) lets us visualize, question, analyze, and interpret data to understand relationships, patterns, and trends."

-ESRI



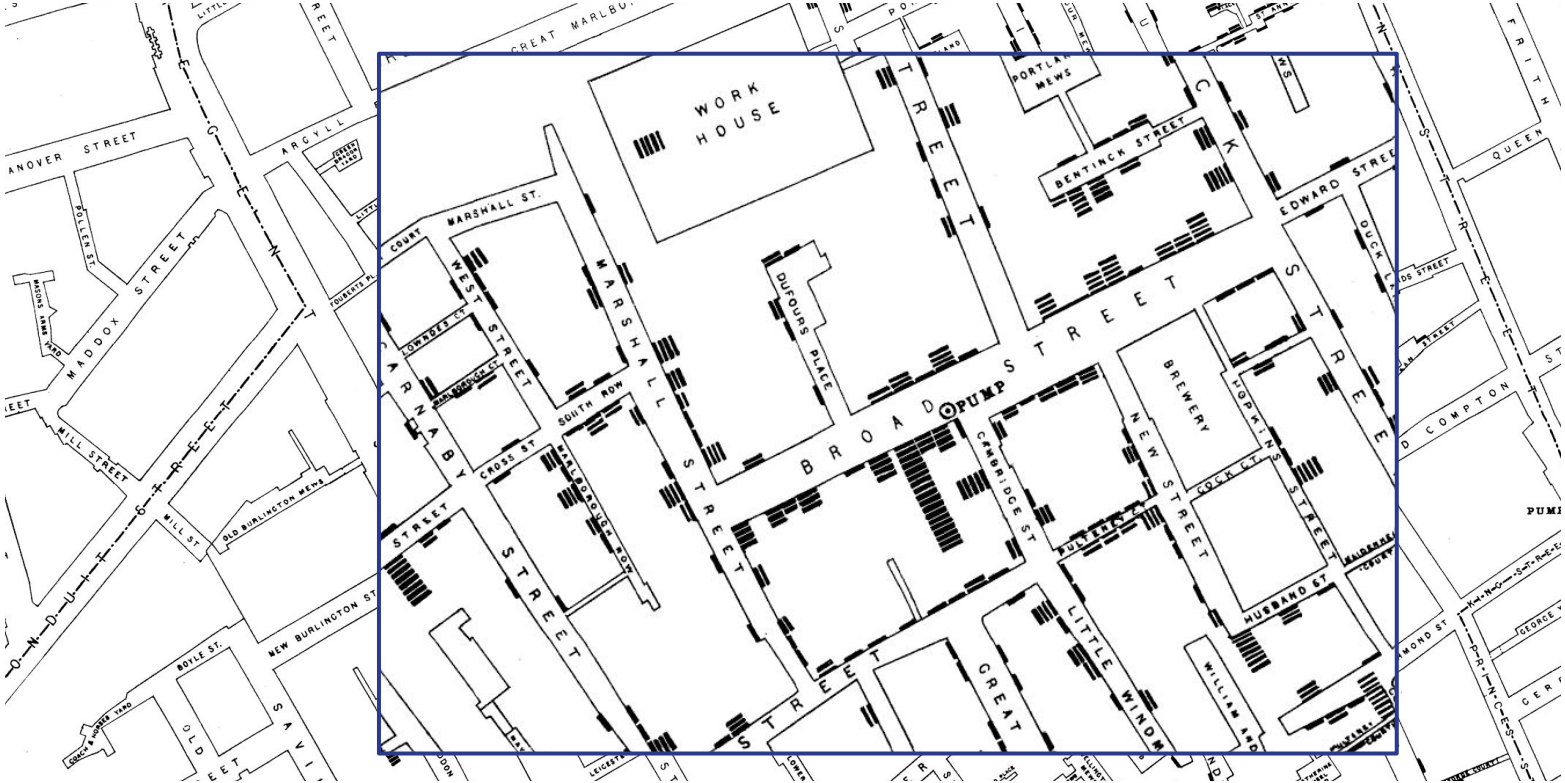
From: http://henrico.us/it/gis/

John Snow's 1854 London Cholera Map



From: https://www.udel.edu/johnmack/frec682/cholera/snow_map.png

John Snow's 1854 London Cholera Map



From: https://www.udel.edu/johnmack/frec682/cholera/snow_map.png

What is GIS?

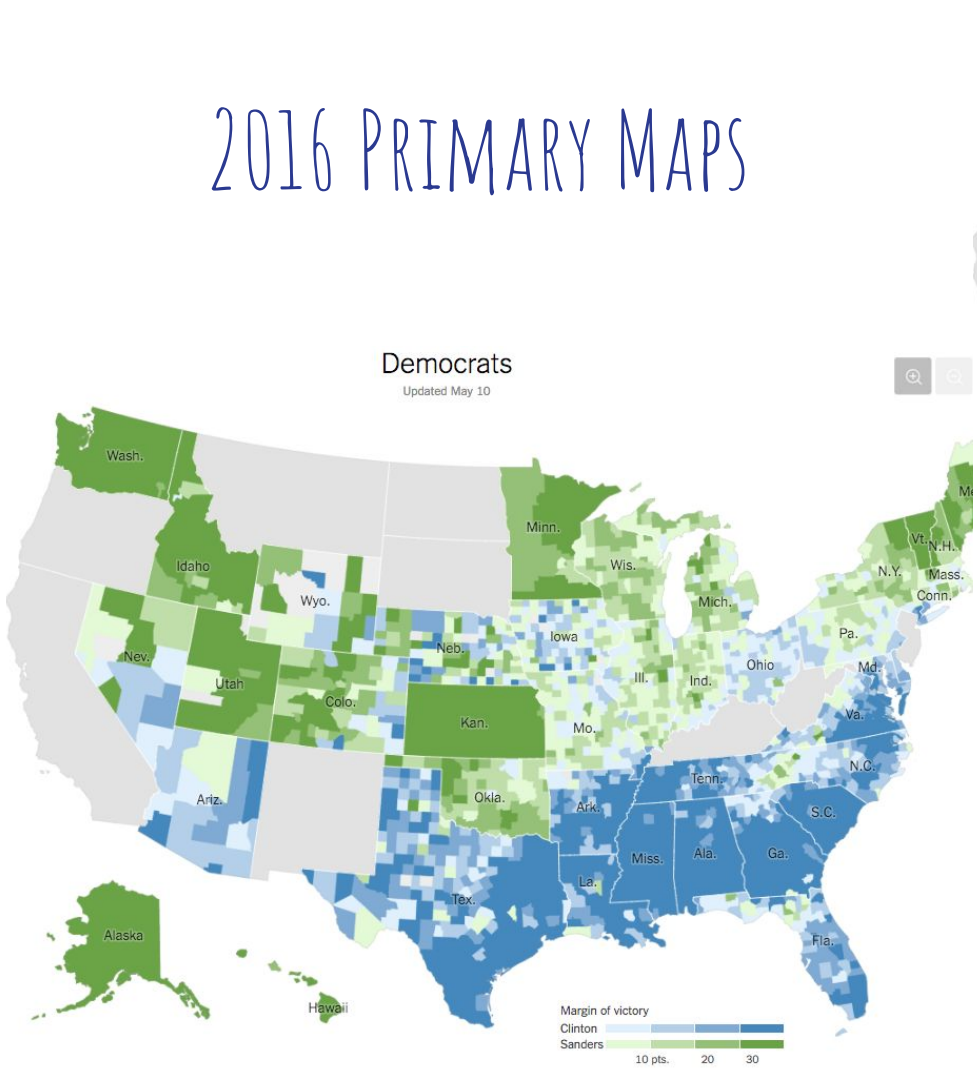
Geographic Information Systems

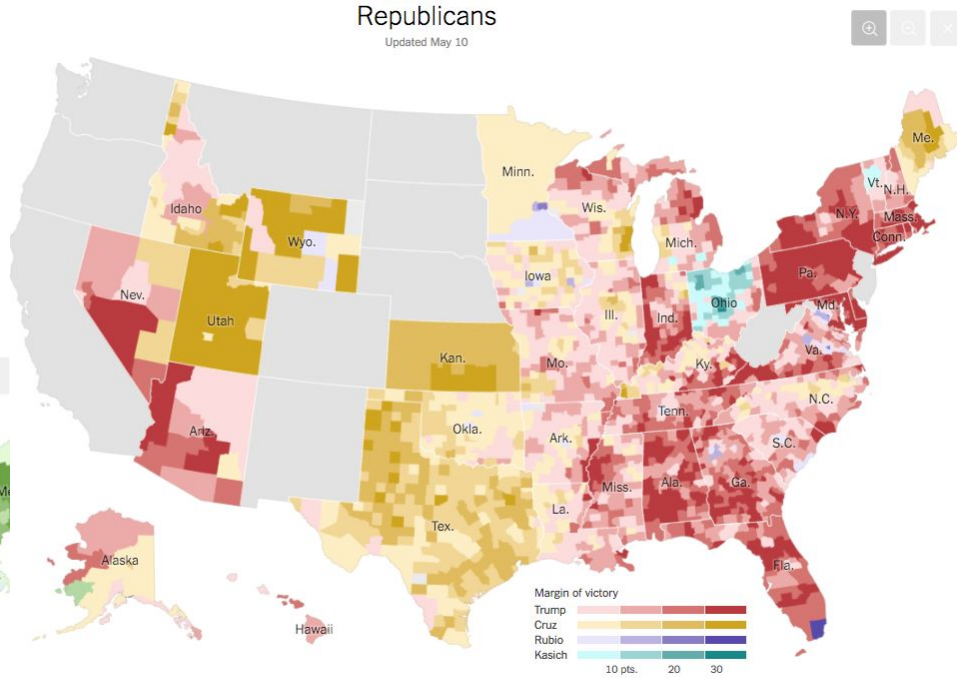
AND

Geographic Information Science

(sometimes GISci or Geospatial Science)

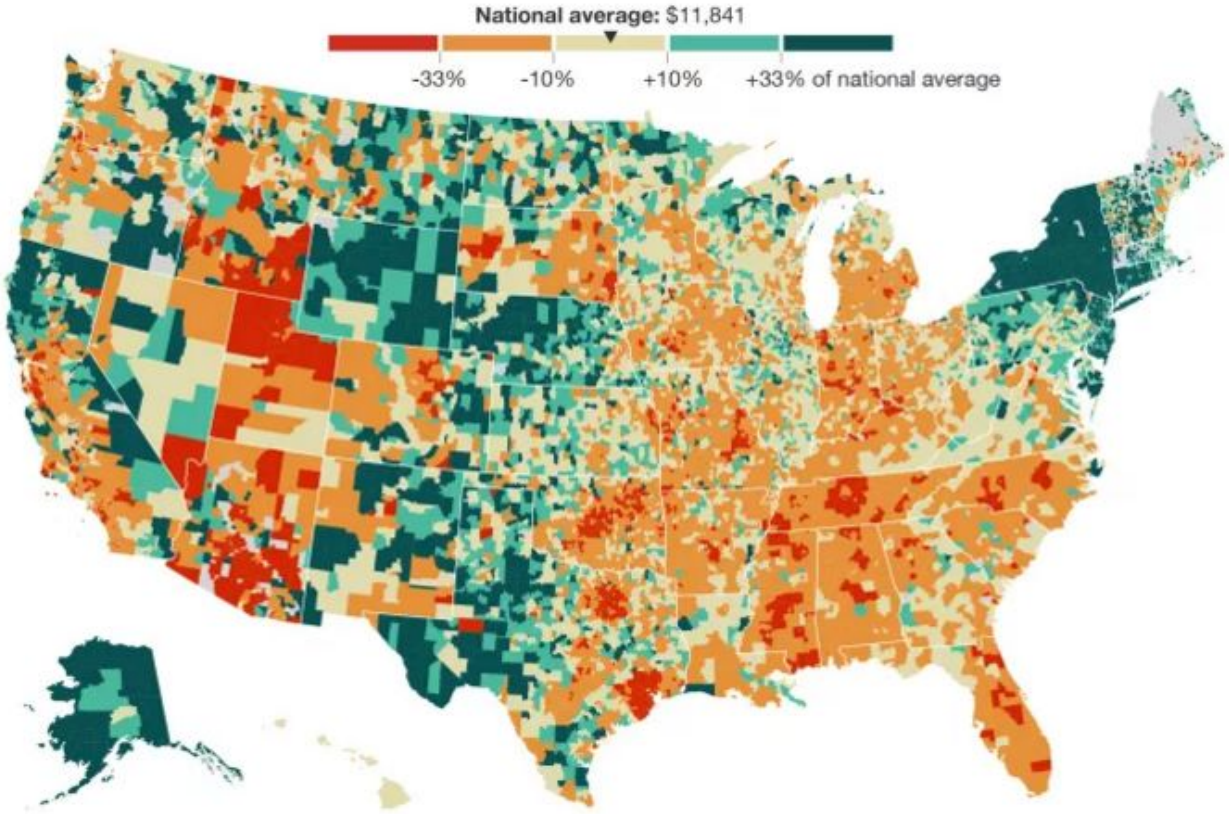
2016 Primary Maps





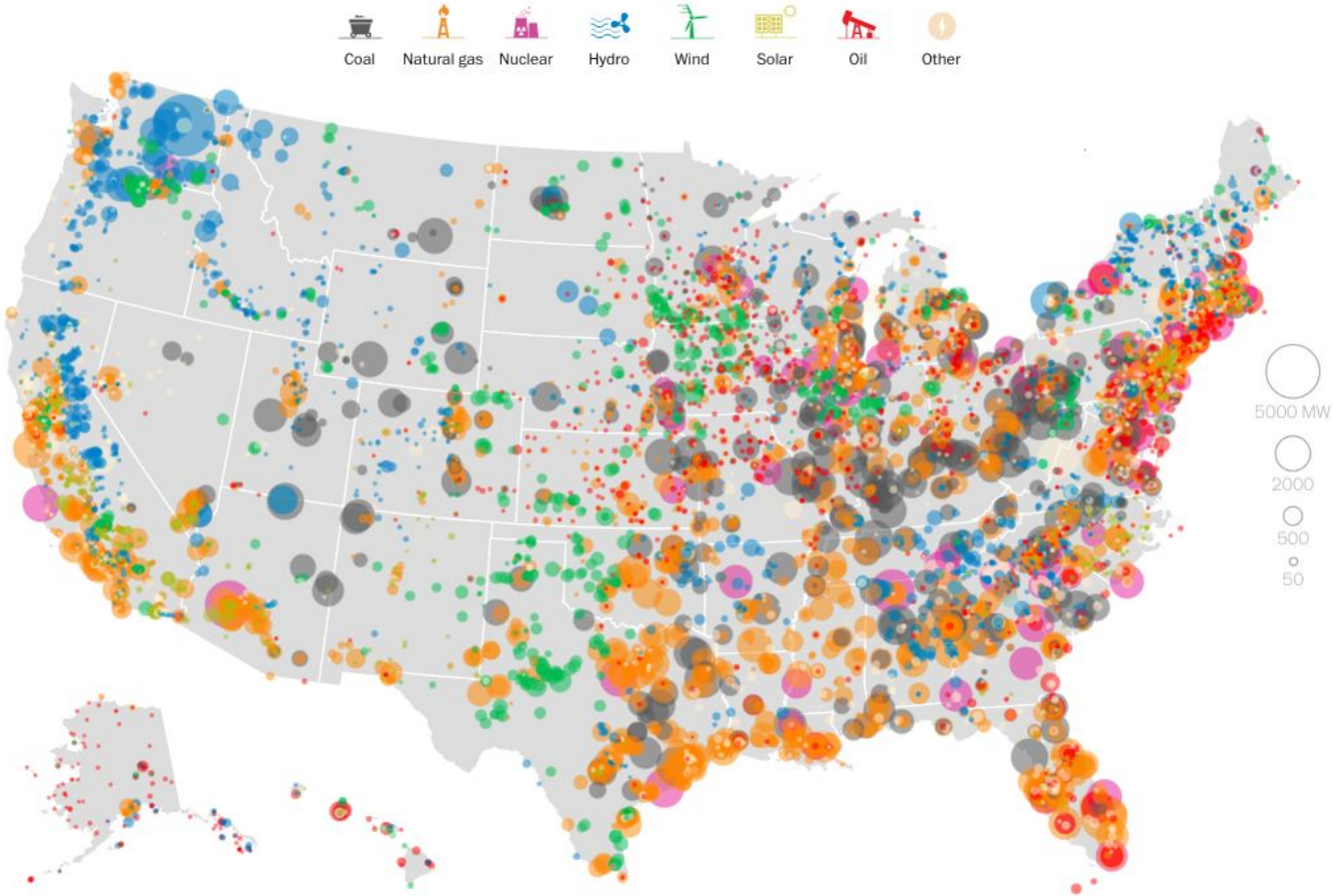
From: http://www.nytimes.com/elections/2016/national-results-map

School District Spending Per Student



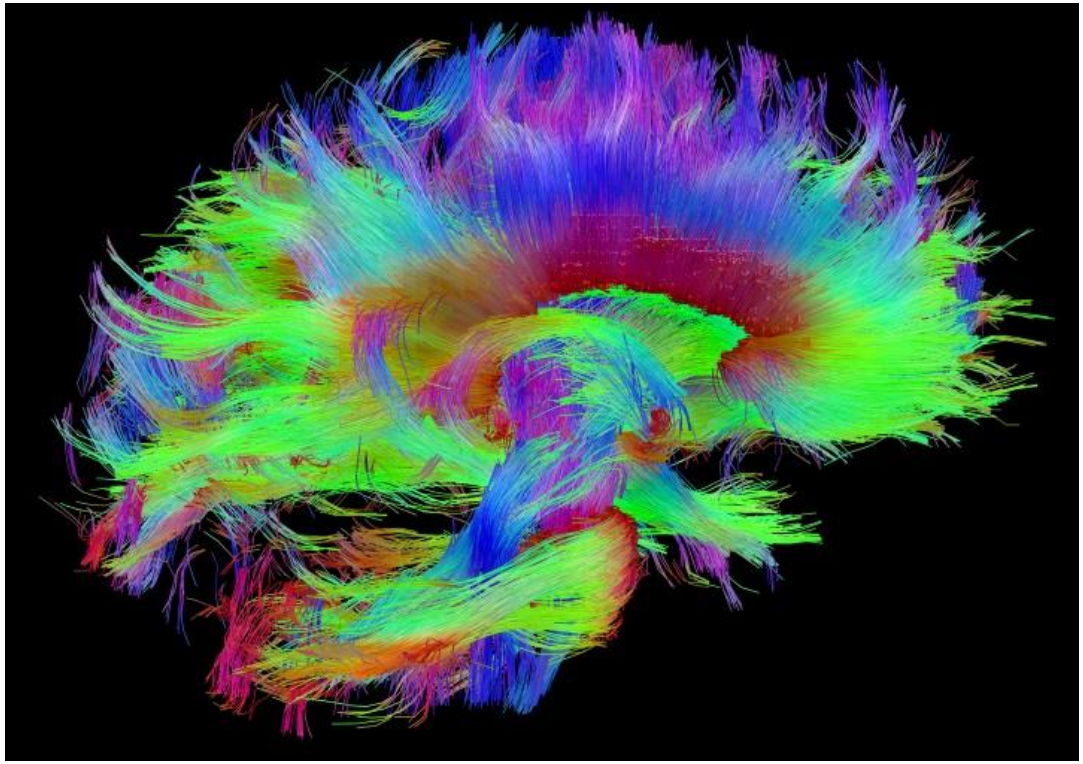
From: https://flowingdata.com/2016/04/21/school-district-spending-per-student/

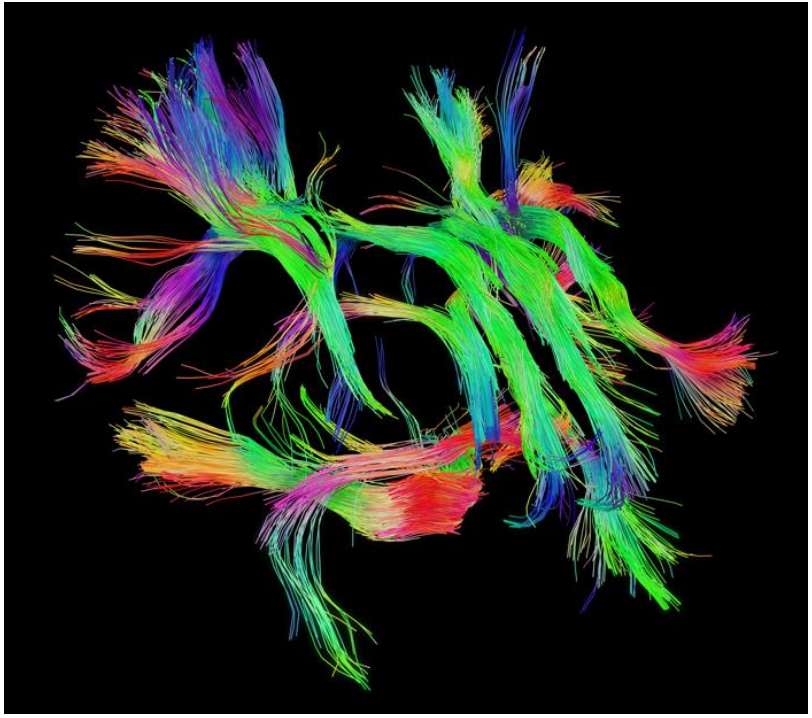
Plant Capacity by Power Source in Megawatts



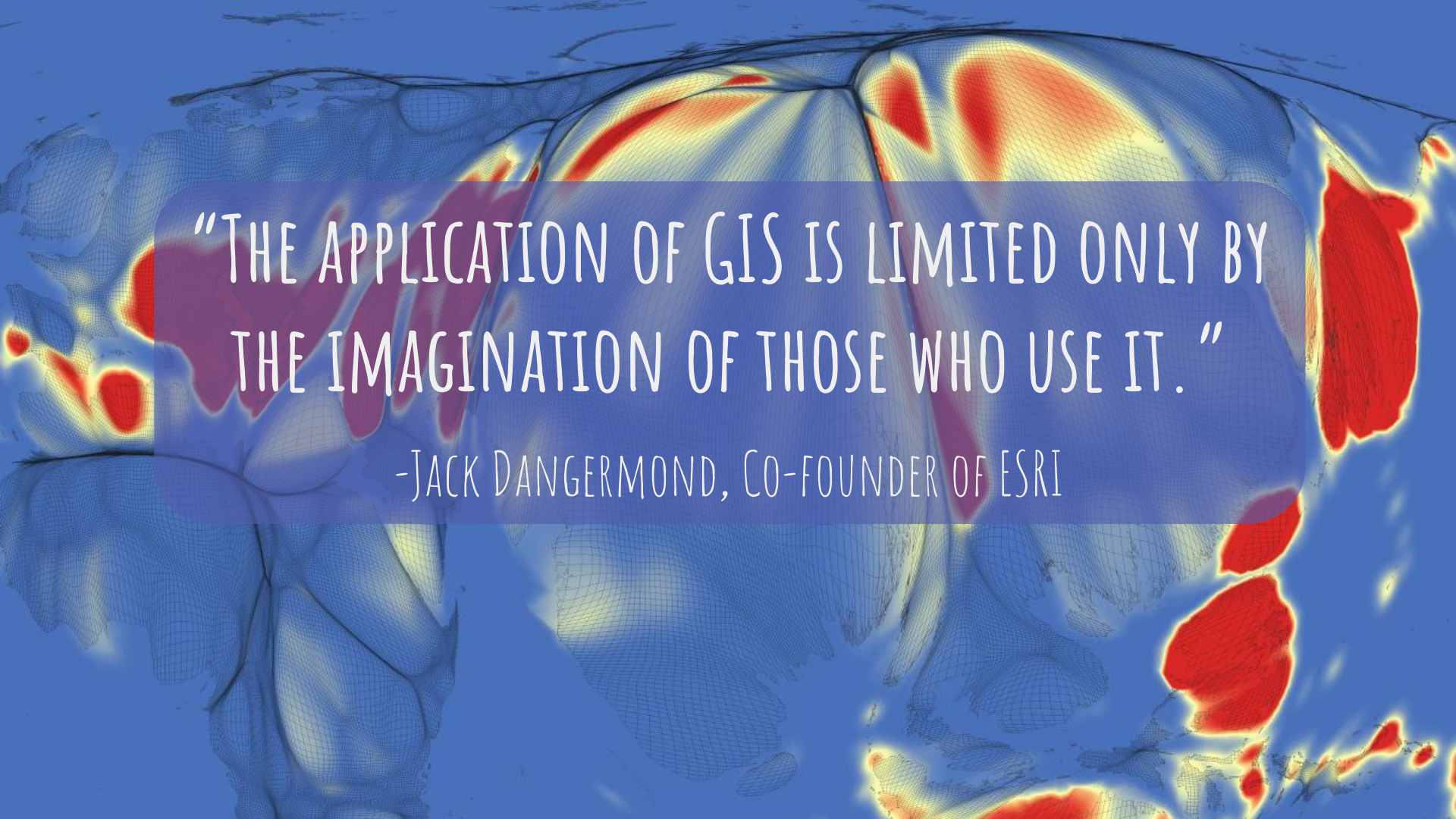
From: https://www.washingtonpost.com/graphics/national/power-plants/

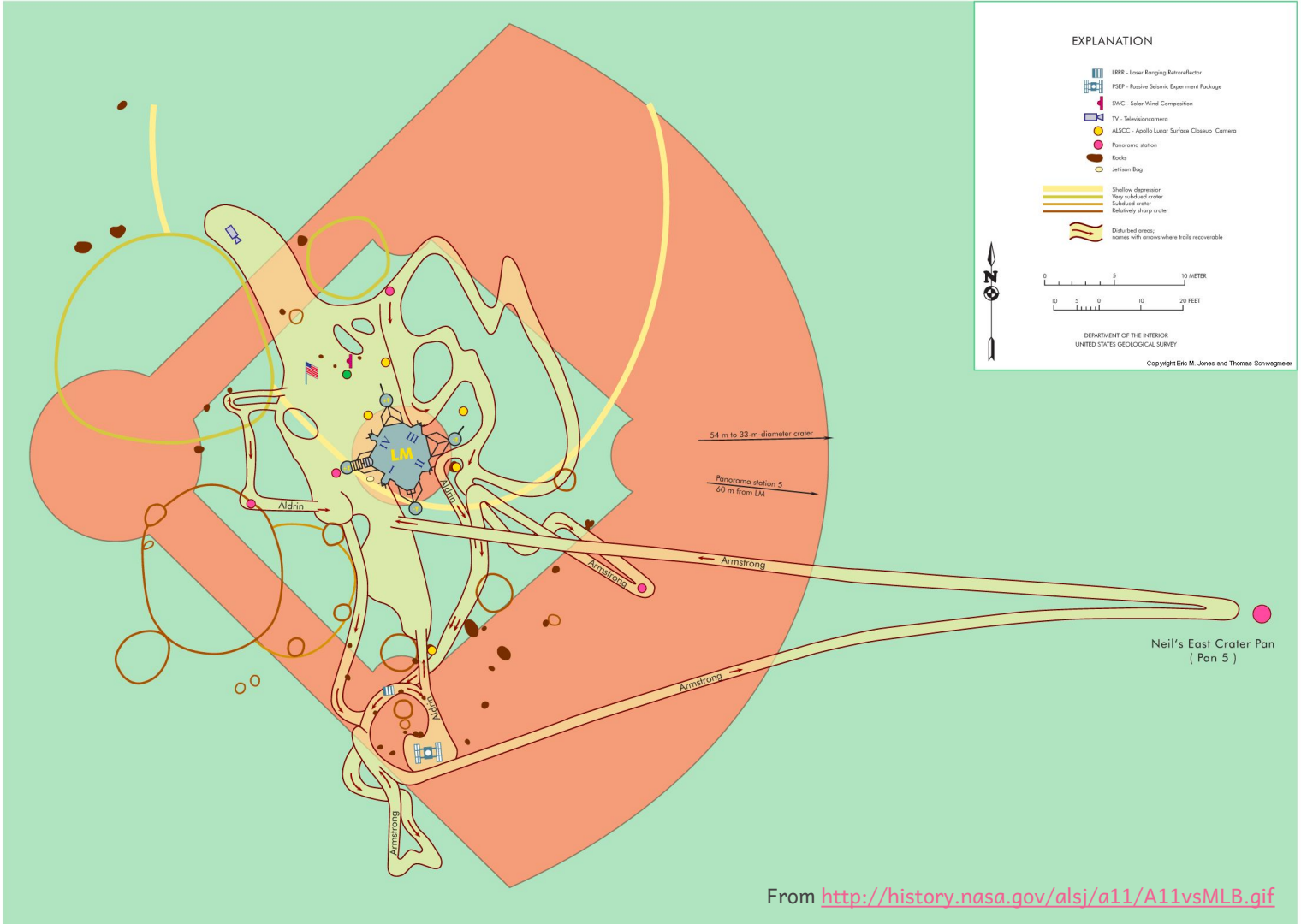
Human Connectome Project Brain Maps





From: http://www.humanconnectomeproject.org/gallery/


"The application of GIS is limited only by the imagination of those who use it."
-Jack Dangermond, Co-founder of ESRI



From http://history.nasa.gov/alsj/a11/A11vsMLB.gif

Role of the Library

Access to GIS Data & Tools

- Tools for creating simple GIS
  - With data provided
  - With your own data
- Finding GIS data

“I need a map for my presentation”

Census Explorer

census.gov/censusexplorer/

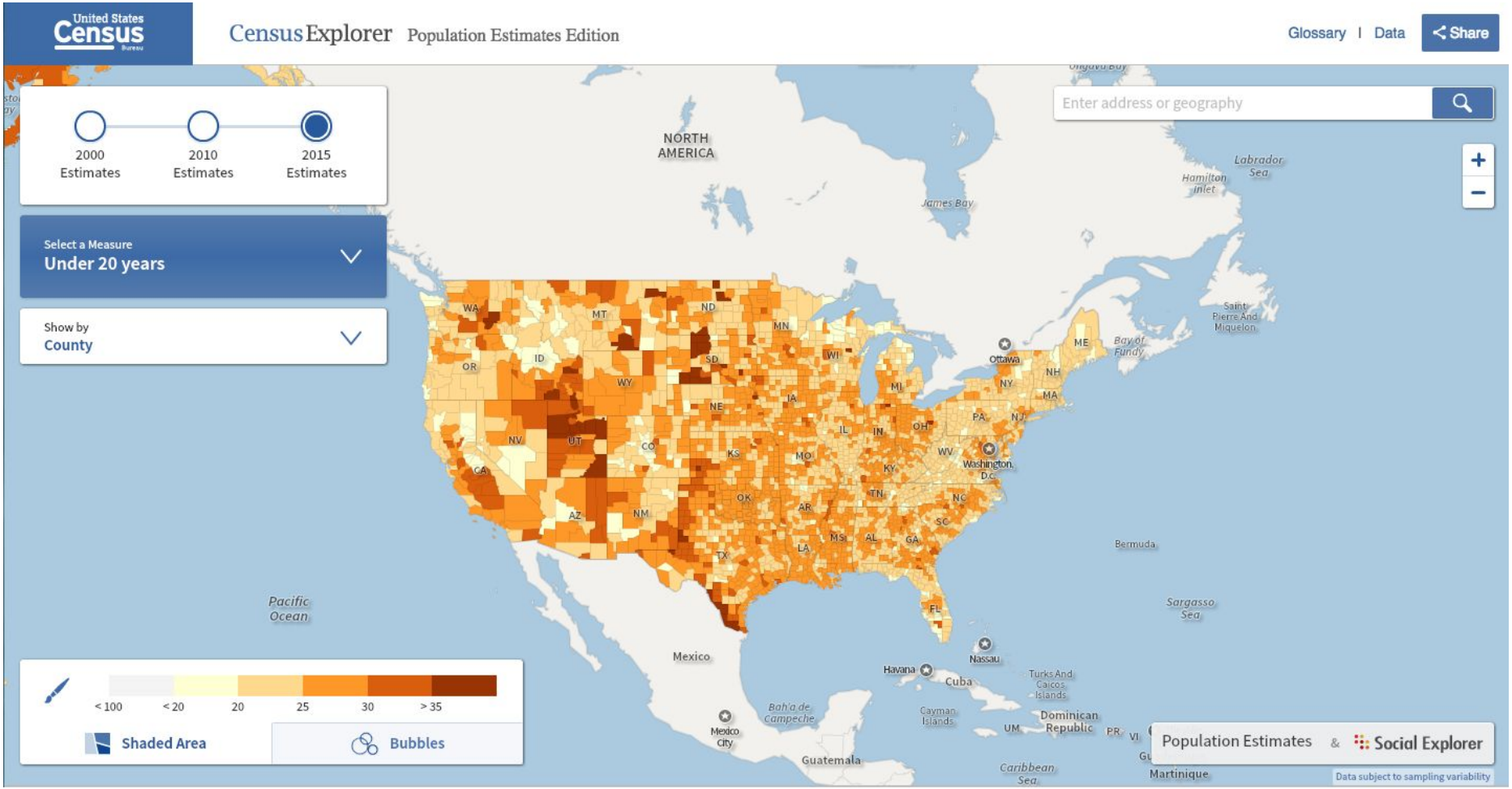
Selected data from the Census & County Business Patterns

Maps focused on commuting, retail data, population estimates, etc

Share maps & embed into websites

Maps based on commercial product Social Explorer

Some control over look & feel


United States Census Bureau
Census Explorer Population Estimates Edition
Glossary | Data
Share
2000 Estimates
2010 Estimates
2015 Estimates
Select a Measure
Under 20 years
Show by
County
Enter address or geography
NORTH AMERICA
James Bay
Labrador Sea
Hamilton Inlet
Saint Pierre And Miquelon
Bay of Fundy
Ottawa
Washington D.C.
Bermuda
Sargasso Sea
Pacific Ocean
Mexico
Mexico City
Havana
Cuba
Nassau
Turks And Caicos Islands
Cayman Islands
Dominican Republic
Bahía de Campeche
Guatemala
Caribbean Sea
Martinique
WA
MT
ND
MN
OR
ID
SD
WI
MI
WY
NY
NH
ME
MA
NE
IA
PA
NJ
NV
UT
CO
KS
MO
IL
IN
OH
WV
KY
CA
OK
AR
TN
NC
SC
AZ
NM
MS
AL
GA
LA
TX
FL
< 100
< 20
20
25
30
> 35
Shaded Area
Bubbles
Population Estimates & Social Explorer
Data subject to sampling variability

Census Business Builder (CBB)

census.gov/data/data-tools/cbb.html

Perfect for patrons researching a business startup

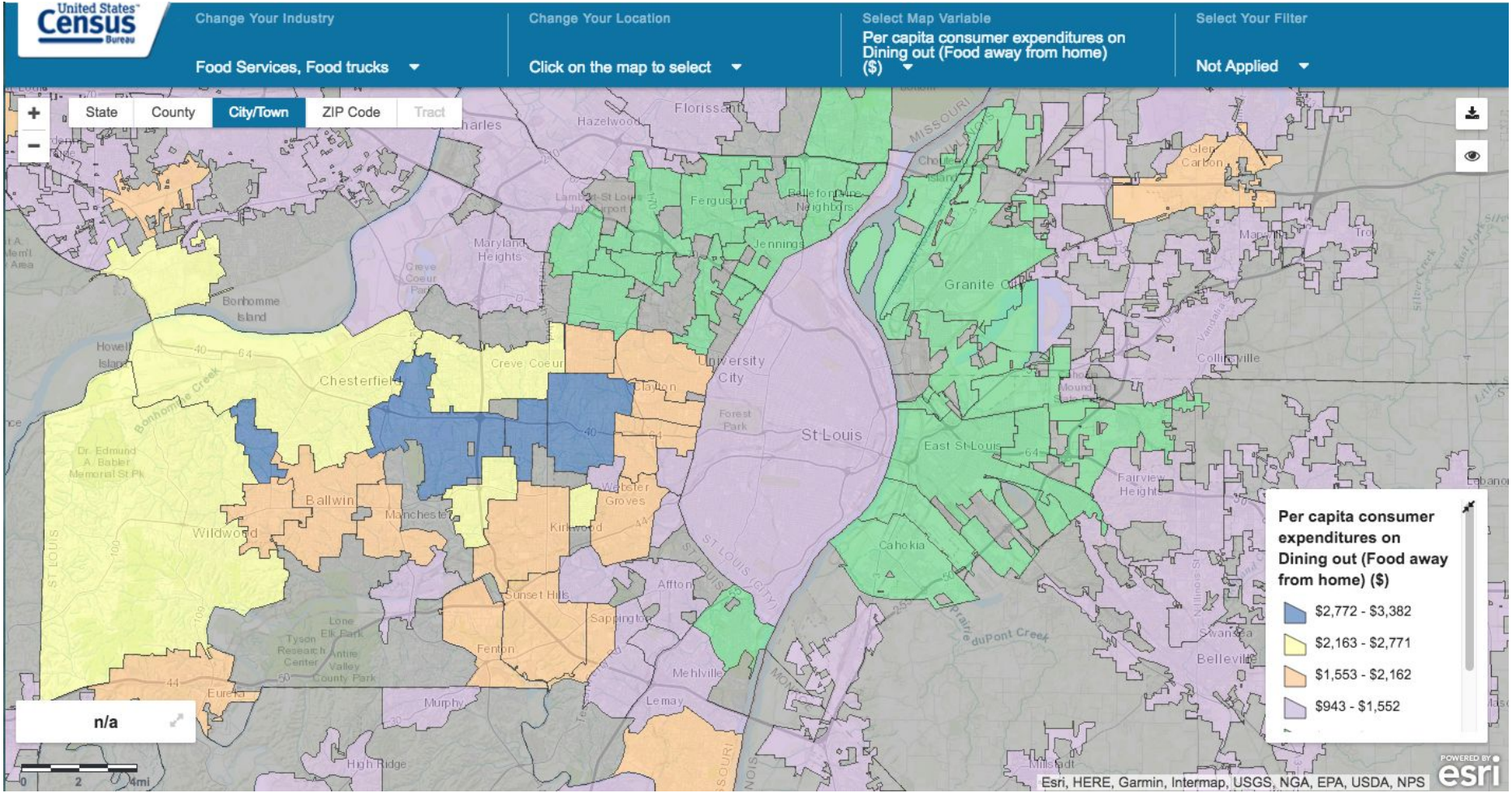
Small business edition & regional analyst edition

Data on potential customers/residents, consumer spending, businesses

Mapping & data for all sectors of the economy in a user defined region

Mapping & data for market research on individual sectors

Powered by ESRI


United States Census Bureau
Change Your Industry
Food Services, Food trucks
Change Your Location
Click on the map to select
Select Map Variable
Per capita consumer expenditures on Dining out (Food away from home) ($)
Select Your Filter
Not Applied
State
County
City/Town
ZIP Code
Tract
Florissant
Hazelwood
Ferguson
Bellefontaine Neighbors
Jennings
Maryland Heights
Creve Coeur Park
Bonhomme Island
Granite City
Chesterfield
Creve Coeur
University City
Clayton
Forest Park
St Louis
East St Louis
Collinsville
Fairview Heights
Ballwin
Manchester
Wildwood
Webster Groves
Kirkwood
Cahokia
Affton
Sunset Hills
Sappington
Fenton
Mehlville
Lemay
Murphy
Eureka
Belleville
Swansea
High Ridge
Per capita consumer expenditures on Dining out (Food away from home) ($)
$2,772 - $3,382
$2,163 - $2,771
$1,553 - $2,162
$943 - $1,552
n/a
0
2
4mi
Esri, HERE, Garmin, Intermap, USGS, NGA, EPA, USDA, NPS
POWERED BY esri

National Geographic - mapMaker Interactive

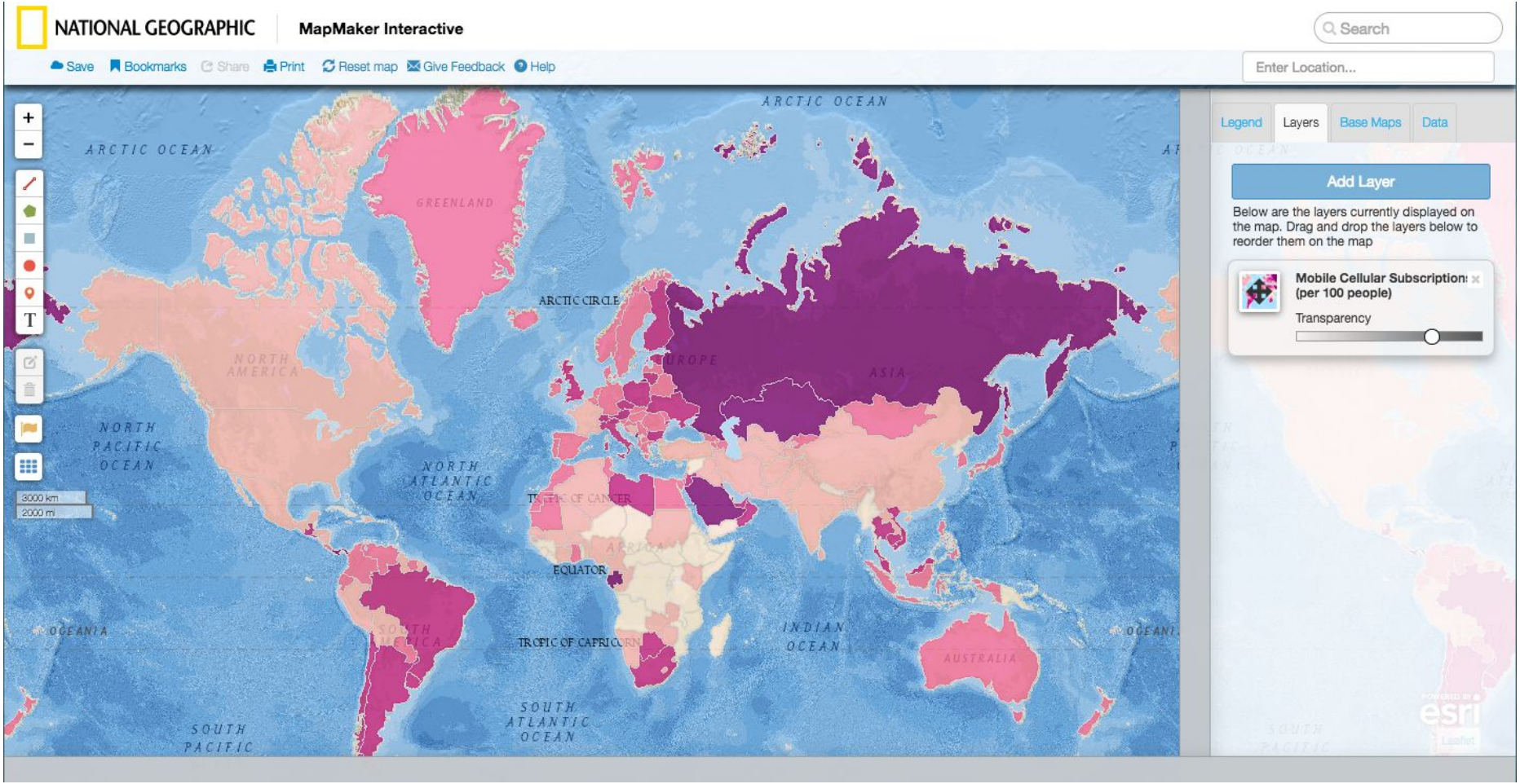
Mapmaker.nationalgeographic.org

Perfect for school research projects & presentations

Variety of base maps plus ability to add markers, text & shapes allows for some customization

Global data layers related to climate, economy, food, energy, water & more

Ability to save, print & share maps online


NATIONAL GEOGRAPHIC
MapMaker Interactive
Search
Save
Bookmarks
Share
Print
Reset map
Give Feedback
Help
Enter Location...
ARCTIC OCEAN
GREENLAND
ARCTIC CIRCLE
NORTH AMERICA
EUROPE
ASIA
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
TROPIC OF CANCER
EQUATOR
AFRICA
OCEANIA
SOUTH AMERICA
TROPIC OF CAPRICORN
INDIAN OCEAN
AUSTRALIA
SOUTH ATLANTIC OCEAN
SOUTH PACIFIC
3000 km
2000 mi
Legend
Layers
Base Maps
Data
Add Layer
Below are the layers currently displayed on the map. Drag and drop the layers below to reorder them on the map
Mobile Cellular Subscriptions (per 100 people)
Transparency
esri
Leaflet

Tools Your Library Might Purchase

Social Explorer

DataPlanet

Policy Map

Simply Map

Free GIS Tools for the Inexperienced User

Mapping a list of locations - My Maps Google

google.com/mymaps

Simple to use, most people are already familiar with the map interface

Search & add locations or upload a spreadsheet with up to 2,000 addresses

Share maps online for free; can have multiple editors

Change the base layer map for some customization

Mapping a list of locations - Mapline

mapline.com

More unique look & feel

Easy map creation using excel file of locations

Allows for mapping up to 500 global addresses a day in free model

Has additional data layers you can add to your maps ($$)

Has web hosting ($$) & map sharing options

Mapping a list of locations - Zeemaps

ZeeMaps

zeemaps.com

Built on Google maps

No signup required to create a map

Create maps using excel, csv file, etc. plus crowd sourcing & search

Options to pay per map (PDF download, no ads, etc.)

Hosts interactive maps (up to 5 for free)

Mapping All the Data! - Carto

Carto.com

Powerful online GIS with low barrier to entry

Greater control over look & feel

Share interactive map via link or embed in your website

Add your own data as XLS, CSV, SHP, KML, etc.

Includes large library of data layers

Finding GIS Data

Free GIS Data Online - From the Government

Data.gov

Portal for U.S. government data

Allows for filtering by geospatial data

& Use USA.gov to search for government data layers!

Free GIS Data Online - Local Sources

Missouri Spatial Data Information Service (MSDIS) Geoportal:
geoportal.missouri.edu/geoportal
(Geospatial data from county governments, East-West Gateway,
State level agencies & more!)

St. Louis Regional Data Exchange: stlouisdata.org
(GIS layers and data uploaded from researchers,
planners and others in the region.)

Want to Learn More?

Free online training from ESRI
arcg.is/2i2FjUw

Info on data and other resources
libguides.slu.edu/GIS

Articles & info for all levels from GIS Lounge
Gislounge.com

Make a Map! GIS Lite & Quick Map Tools
libguides.northwestern.edu/GISLite

Thank You!

Find this presentation online! bit.ly/SLRINGIS

Email me! rhyde1@slu.edu