

# Enabling Use of Government Tabular Data in a Geographic Context

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# Project Status

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- Developed and deployed geocoding on GeoCommons
  - US Street Level geocoding
  - TIGER/Line data source
  - Supports NAVTEQ or other data imports
- Adding GeoNames Data to provide International Capabilities
- Enhancing U.S. Geocoding to accept both string addresses and structured address queries (address, city, state, ZIP)

# FGDC Cap Grant, Category 4

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- Easy and productive access to geographic, tabular government data
- Reference location by Address, Code, or Coordinates
- Shared Public Web Service
- Discoverable, Accessible, and Applicable to geographic contexts

# Open-Sourced GeoCoder

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- Technical Discussion Group
- <http://groups.google.com/group/geocommons-geocode>
- Source Code Location
- <http://github.com/geocommons/geocoder/>
- 59 Repository Watchers and 6 Forks

# Implementation

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- Open-Source Geocoding Engine for Street Address georeferencing
- GeoJoin Engine for polygonal regional georeferencing
- Spatial, hierarchical aggregation

# Open and Accessible Public Service

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- GeoCommons.com
  - Public Web Service
  - ReST Application Programming Interface (API)
  - KML, GeoRSS, WMS, ... output
- Discovery
  - Catalog Services for the Web (CSW)
  - OpenSearch (-Geo, -Time)
  - Atom GeoRSS

# Test Data Sets

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- Bureau of Labor Statistics
- Federal Communications Commission
- Centers for Disease Control
- Additionally
  - USAspending.gov
  - Grants.gov
  - Many others

# Apportionment

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Using simple analysis to answer questions



Success! We detected 50 rows and 2 attributes in your data.

## Now, help us geolocate your data

Join with a boundary dataset

[Back](#)

LIBRARY

» All Layers

» All Boundaries

» World Boundaries

» US Boundaries

» US State Boundaries

» International Boundaries

[« Back to Search Results](#)

### USA States



A reference boundary overlay for US States. State FIPS Codes are also provided.

[Open the complete description and stats in another window](#)

Your Data

population  
state\_name

Selected Layer

State Abbreviation  
State FIPS Code  
State Name  
Sub Region

**Continue**

Success! 50 out of 50 features match.

Please click continue.

Attribute Preview

Alabama  
Alaska  
Arizona  
Arkansas  
California

Attribute Preview

Ohio  
Michigan  
Indiana  
Wisconsin  
Illinois

# Join the latest population data to boundaries

## Analyze a dataset

1 Choose a Dataset to analyze:

2010 Apportionment Population and Number of Representatives

Change

2 Choose an Analysis:

A	B	Standard Quota	
xxx	xxx	(equation) = C	Standard Quota

[Details](#)

State Population

Total National Pop

Number of House Seats

**Need Help?**

[Dive into the User Manual](#)

[Contact Support](#)

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Choose an analysis  
widget

## Analyze a dataset

1 Choose a Dataset to analyze:

Geometric Mean Analysis

Change

2 Choose an Analysis:

A	B
xxx	xxx

### Assign Quota

(equation) = C

Compares the Geometric Mean to the Standard Quota assigns Upper Quota if Standard Quota is higher, assigns Lower Quota if Standard Quota is Lower

Details

Geometric Mean

result

Standard Quota

standard\_quota

Back

Create

Connect the results to a  
2<sup>nd</sup> widget

# Analyze a dataset

1 Choose a Dataset to analyze:

Apportionment Comparison

Change

2 Choose an Analysis:

A	B
xxx	xxx

A - B = C

## Subtraction

Subtract two columns in a dataset to calculate a difference

Details

Select a column (A)

apportionment

Select another column (B)

geoiq\_apportionment

...to calculate the difference (A - B)

Back

Create

Test the result

▼ **Statistics**

Attributes	Range	Median	Mean	Standard Deviation
<b>apportionment minus geoiq_apportionment</b>	0.00 - 0.00	0.00	0.00	0.00
<b>state_name</b>	Text column (no statistics available)			
<b>apportionment</b>	1.00 - 53.00	6.00	8.70	9.72
<b>population</b>	568300.00 - 37341989.00	4553962.00	6183669.26	6869558.63
<b>geoiq_apportionment</b>	1.00 - 53.00	6.00	8.70	9.72

Perfect!!!

← home  
Search results for...

Standard [Search](#)

Search: [All](#) [Datasets](#) [Maps](#) [Analyses](#)

Analysis **Standard Quota**  
Standard Quota  
created by [kate](#) 18 hours ago

[Analyze](#) [Details](#)

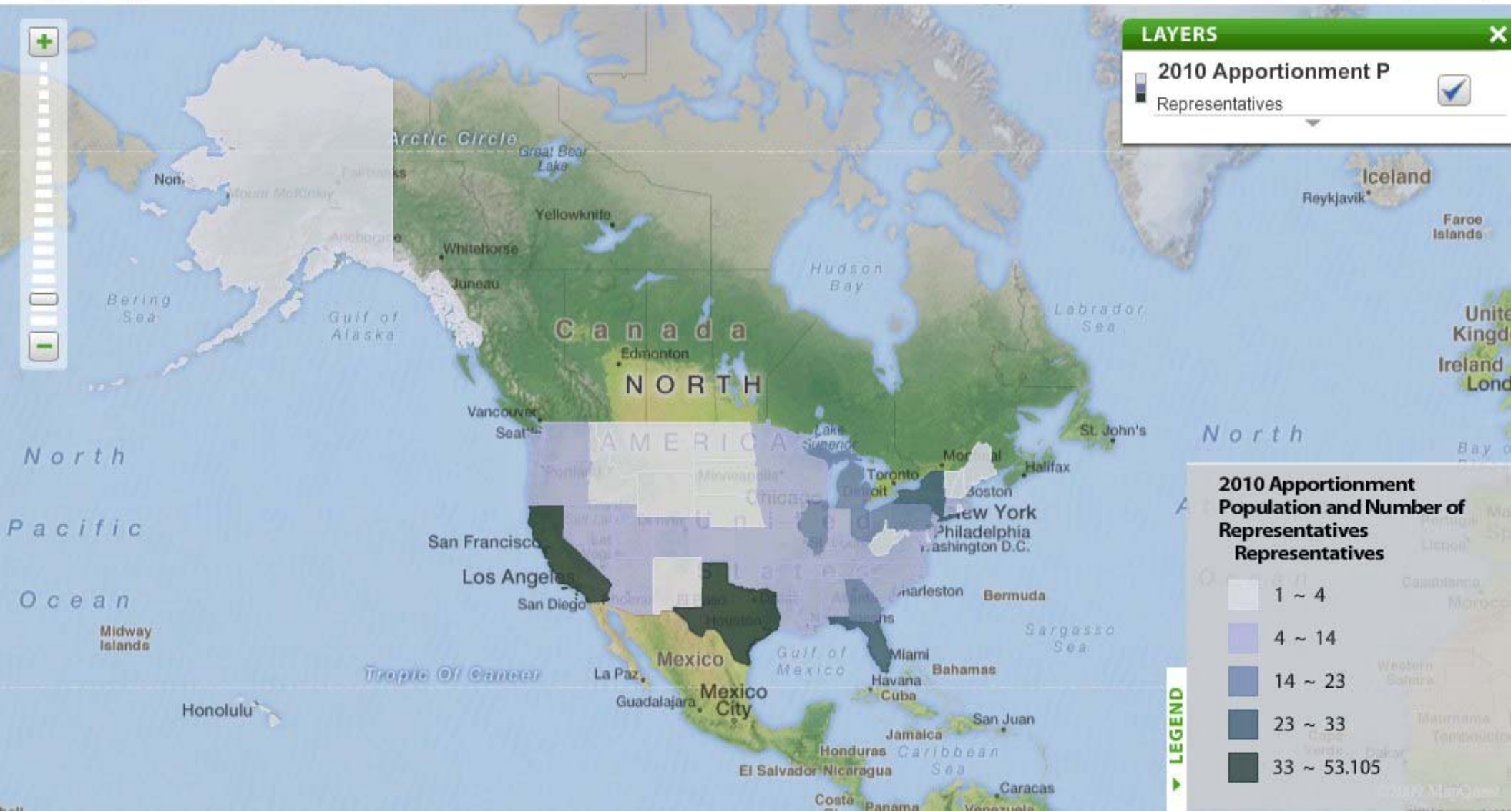
Analysis **Standardize by Population**  
Calculate the standardized value compared with regional population.  
created by [andrew](#) 1 month ago

[Analyze](#) [Details](#)

Share widget to be  
discovered by others

# House Apportionment 2010

Designed by: [kate](#) | [3D mode](#) [Details](#)



## The Result

## Analyze a dataset

1 Choose a Dataset to analyze:

Threats or Risks Related to So...-Economic Factors, Sudan, 2009

Change

2 Choose an Analysis:



### Merge

Join the data and geometries from two datasets into one

Select

Details

Discover analysis widgets



### Predict Across Datasets

Use attributes of data in one dataset to predict the likelihood of an attribute in another dataset (Aggregation + Pearsons Correlation)

Select

Details



### Aggregation

Sum the points of a dataset into a set of polygons

Select

Details



### Buffer

Create a perimeter of a set distance for a dataset of points or lines

Select

Details



### Filter by Distance

Find all of the features in one dataset that are within a perimeter from another dataset's features (Buffer + Intersection)

Select

Details



### Intersection

Calculate all the locations where two datasets overlap each other

Select

Details

Build your own

Analysis library

## Analyze a dataset

1 Choose a Dataset to analyze:

Threats or Risks Related to So...-Economic Factors, Sudan, 2009

2 Choose an Analysis:



### Filter by Distance

Find all of the features in one dataset that are within a perimeter from another dataset's features (Buffer + Intersection)

3 Select the dataset you wish to filter the first dataset with.

Second Dataset

4 Enter the distance to filter by.

Distance

Enter the distance to filter by.

5 The units of measurement

Units

Back

Create

← home ← your library • edit • delete

## Aggregation of Sudan Referendum - Geolocated Polling Stations into Sudan States, 2011

Analysis of Dataset: <http://geocommons.com/overlays/83750>

We have a list of descriptions of the location of polling stations and a list of settlements with coordinates. We need to get a list of polling stations with settlement name and coordinates!

Permissions

Statistics

Automated metadata of analysis

Guided interfaces

← home

## Filter by Distance

Find all of the features in one dataset that are within a perimeter from another dataset's features (Buffer + Intersection)

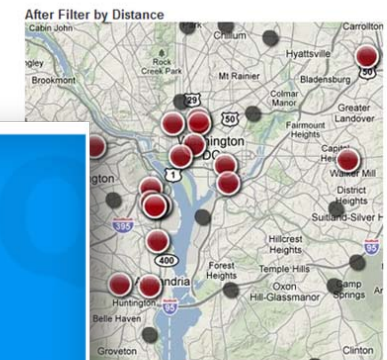
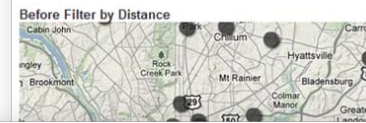
Filter by distance allows you to select features in a data set based on a specified distance from another data set.

Analyze Data

For instance you might want to know all the Coffee shops within 2.5 kilometers of Metro stations in Washington DC. To run this analysis once you have selected "Coffee Shop Locations - USA" next click "select second data set" and s

Next, enter the distance to filter by in "kilometers". Finally, click "create" and share your results out with everyone.

Help at the point of analysis



Learn to use this Analysis

How to use

Filter by Distance



# IssueMap

**Got Data? Let us map it for you.**

IssueMap makes it easy to turn your data into a map that you can customize & share online.

**Create a map »**  
Create a new map from XLS or CSV.

- 1 Upload or paste your raw map data...
- 2 ...Customize map display, publish online, and share!



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# IssueMap

## Create a Map

Get started by uploading or pasting your data, selecting the entries you want to map, providing a title, and shazam you have an instant map.

**Upload Data**  
Excel Spreadsheet or CSV

**Copy & Paste Data**  
Columns names must be in the first row.

**Select Location**  
Please select the column that you want to use for mapping location.

Show **state** as **Please select a location type...**  
alabama, arizona, arkansas, ...

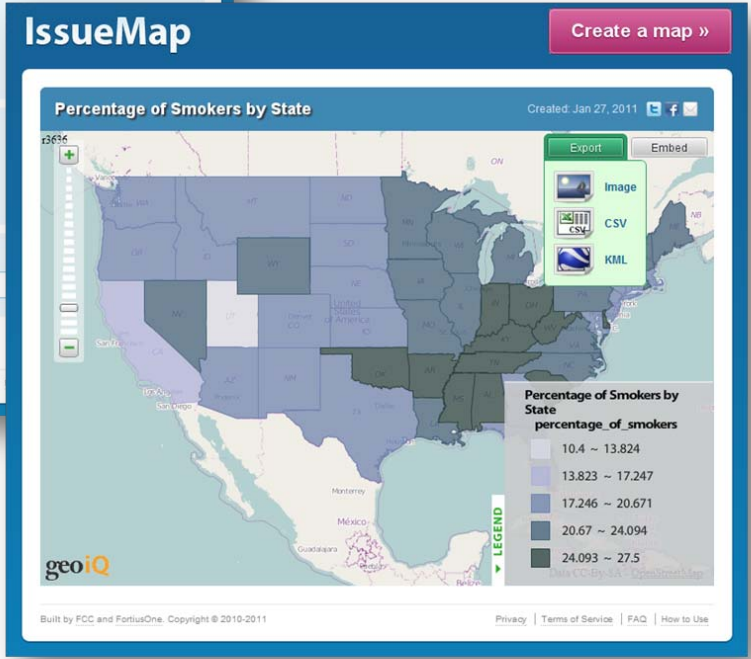
**Select Data**  
Please select the numeric data field that you want to display.

Show **value** as **Please select a data type...**  
10, 15, 4, ...

**Map Title**  
value by state

**Next Step** »

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IssueMap for fast map creation and sharing

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