

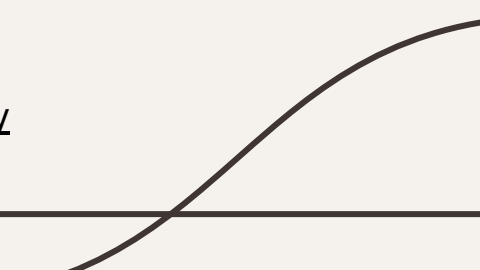


---

# Mapping disparities in the news using Census data and QGIS

Sean McMinn

Data: <https://github.com/shmcminn/npf-qgis-grocery>



---

---

# Agenda

**01**

**Introduction**

**02**

**Story examples**

**03**

**Demonstration**

**04**

**Q&A**

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---

## Sean McMinn

Data/graphics editor, POLITICO

smcminn@politico.com  
@shmcminn

---

THE CORONAVIRUS CRISIS

# In Large Texas Cities, Access To Coronavirus Testing May Depend On Where You Live

May 27, 2020 · 5:00 AM ET

Heard on [Morning Edition](#)



SEAN MCMINN



AUDREY CARLSEN



BRET JASPERS

RUTH TALBOT

STEPHANIE ADELIN

## Testing Locations By Neighborhood In Texas Cities

CITY	NUMBER OF TESTING SITES IN CENSUS TRACTS THAT ARE ...		
	WHITER THAN CITY MEDIAN	LESS WHITE THAN CITY MEDIAN	DIFFERENCE
Dallas	22	7	15
El Paso	13	5	8
Austin	16	9	7
Fort Worth	12	6	6
San Antonio	18	17	1
Houston	13	18	-5

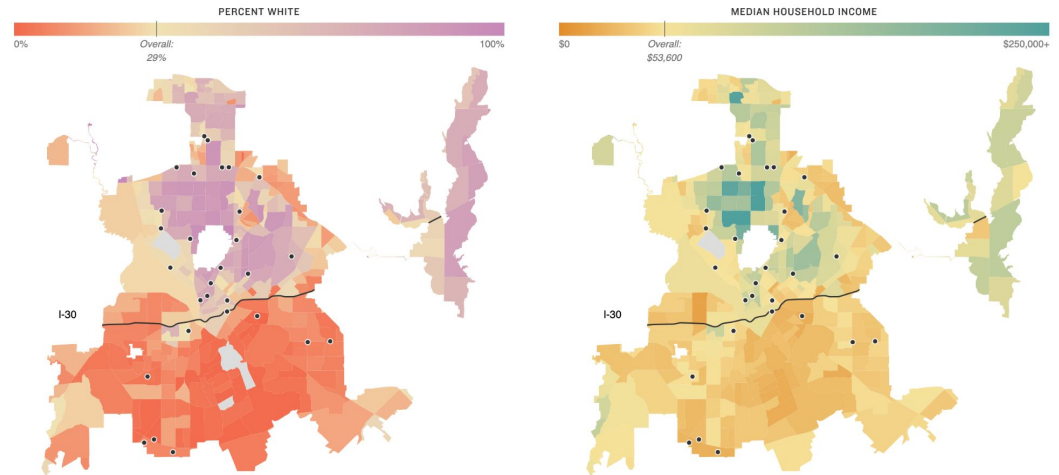
### Notes

White does not include Hispanic or Latino. Testing site data are as of May 25.

Source: [Census Bureau](#) (demographic and income data), [NPR research](#) (testing site locations)

Credit: [Ruth Talbot](#), [Stephanie Adeline](#), [Audrey Carlsen](#) and [Sean McMinn/NPR](#)

## Dallas: Testing Sites Concentrated In Wealthier, Whiter Neighborhoods



# Across The South, COVID-19 Vaccine Sites Missing From Black And Hispanic Neighborhoods

February 5, 2021 · 5:00 AM ET  
Heard on [Morning Edition](#)



SEAN MCMINN



SHALINA CHATLANI

ASHLEY LOPEZ

SAM WHITEHEAD

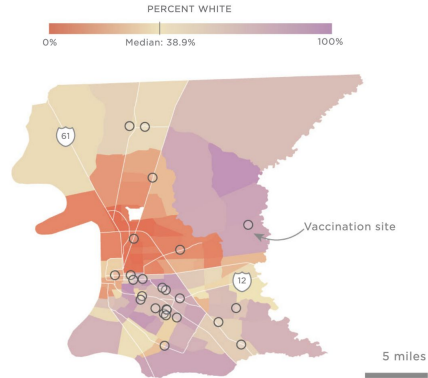
RUTH TALBOT

AUSTIN FAST



## Where COVID-19 Vaccination Sites Are In East Baton Rouge Parish

Neighborhoods (census tracts) shaded by the percentage of non-Hispanic white residents

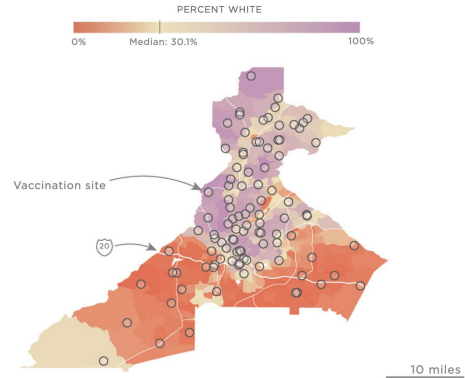


Notes: Louisiana's Vaccine Location Receiving Master List as of Feb. 4

Source: Louisiana Department of Health, Census Bureau  
Credit: Ruth Talbot and Sean McMinn/NPR

## Where COVID-19 Vaccination Sites Are In Atlanta

Neighborhoods (census tracts) shaded by the percentage of non-Hispanic white residents in Fulton and DeKalb counties



Notes: Georgia Vaccine Locator as of Feb. 4, Kroger and Publix sites as of Feb. 1

Source: Georgia Department of Public Health, Census Bureau  
Credit: Ruth Talbot and Sean McMinn/NPR

# As Rising Heat Bakes U.S. Cities, The Poor Often Feel It Most

September 3, 2019 · 5:00 AM ET  
Heard on [All Things Considered](#)



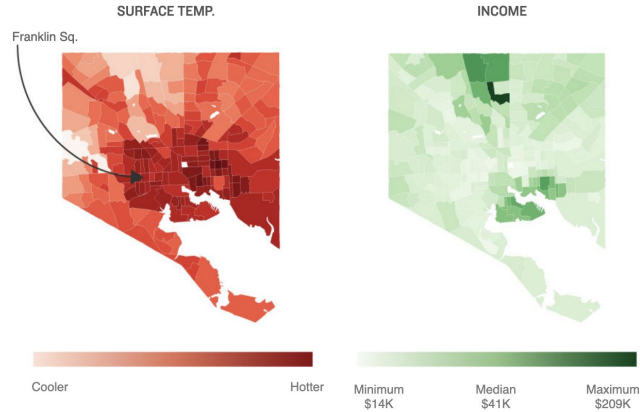
MEG ANDERSON



SEAN MCMINN



## Heat And Income In **Baltimore**

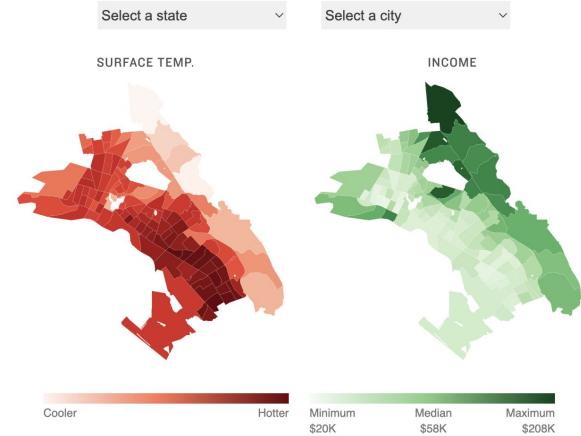


**Note:** Income measured as median household income per census tract

Source: NASA/U.S. Geological Survey, Census Bureau  
Credit: Sean McMinn/NPR

## Heat And Income In **Oakland, Calif.**

Census tracts in Oakland displayed a **STRONG** correlation between heat and income. Oakland did not answer questions from NPR.



# As Rising Heat Bakes U.S. Cities, The Poor Often Feel It Most

September 3, 2019 · 5:00 AM ET  
Heard on All Things Considered



MEG ANDERSON



SEAN MCMINN



[Upcoming](#) / [Resources](#) / [Fellowships](#) / [Awards](#)

FRANKLIN SQUARE, NJ

**\$5,000 AWARD**

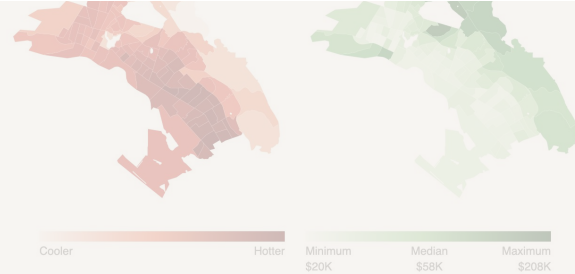
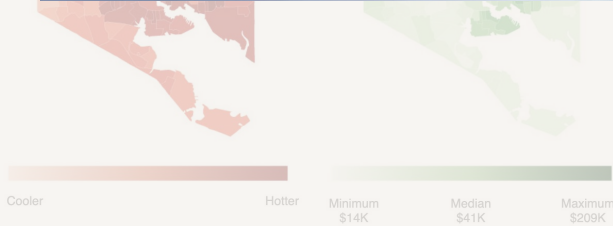
## Innovative Storytelling Award

Award Established 2015



## NPR and the University of Maryland's Howard Center for Investigative Journalism & Capital News Service

2019 Award Winner



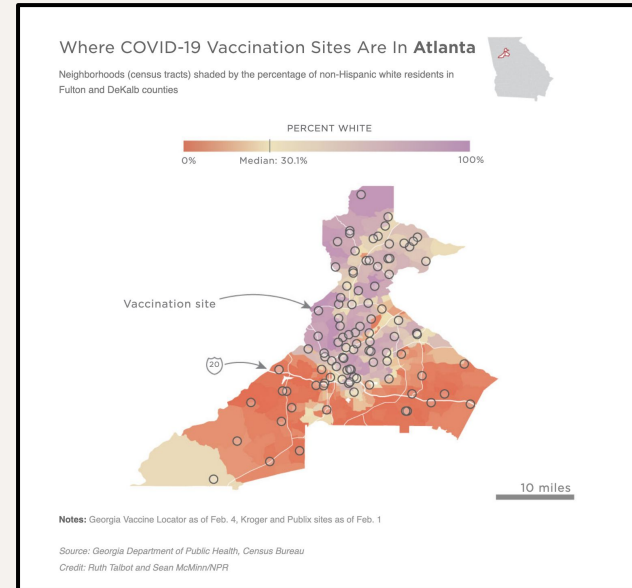
Note: Income measured as median household income per census tract

Source: NASA/U.S. Geological Survey, Census Bureau

Credit: Sean McMinn/NPR

# The 1..2..3.. recipe

1. Get geographic data for your points of interest (i.e. lat/long, area, raster, etc)
2. Get Census shapefiles (i.e. tracts) and demographic data (i.e. race)
3. Use QGIS to mash them together!



---

# Step 1: Download data



## Grocery stores

From [opendata.atlantaregional.com](https://opendata.atlantaregional.com)

---

A decorative black curve that starts from the bottom right corner and extends upwards and to the left, crossing the bottom horizontal line.

## Download Options

Grocery Stores in 13-County Area

Records: 300

Toggle Filters:

### CSV

File created: Jul 8, 2020, 13:51

File size: 9.2 KB

Download

### KML

File created: Jul 8, 2020, 13:51

File size: 13.6 KB

Download

### Shapefile

File created: Jul 8, 2020, 13:51

File size: 15.9 KB

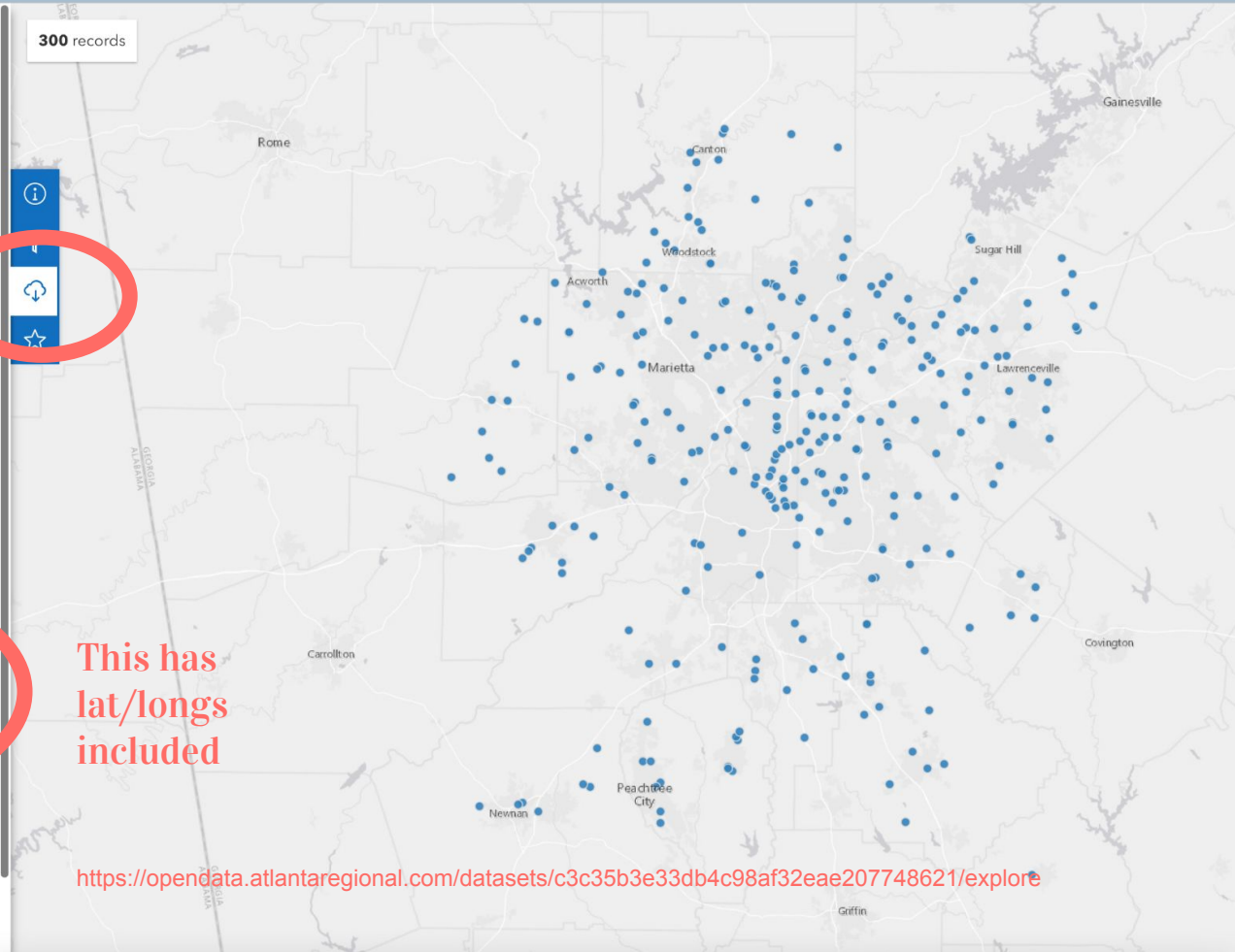
Download

### GeoJSON

File created: Jul 8, 2020, 13:51

File size: 11.5 KB

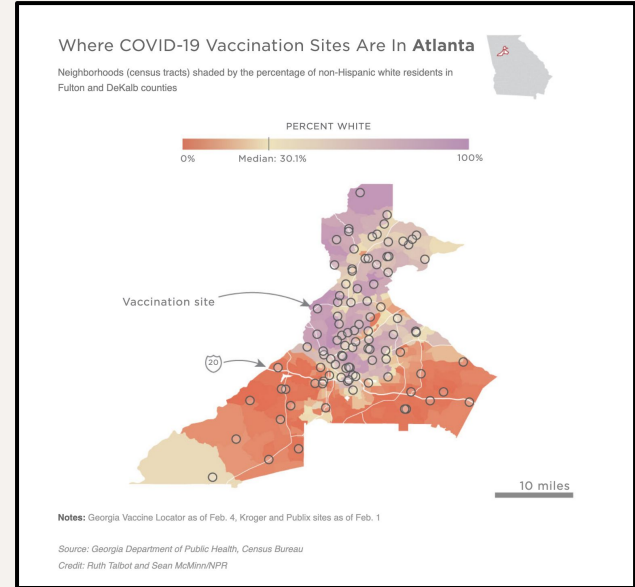
300 records



This has  
lat/longs  
included

<https://opendata.atlantaregional.com/datasets/c3c35b3e33db4c98af32eae207748621/explore>

# A note about addresses!



	A	B
1	<b>Address</b>	<b>Name</b>
2	265 Peachtree Center Ave NE, Atlanta, GA 30303	Atlanta Marriott Marquis
3	267 Marietta St NW, Atlanta, GA 30313	Embassy Suites by Hilton Atlanta at Centennial Olympic Park
4	210 Peachtree St NW, Atlanta, GA 30303	The Westin Peachtree Plaza, Atlanta
5		

Google Maps Platform

Overview Products Pricing Documentation Blog Community

Web Services > Geocoding API

Guides Support

Maps Geocoding API

Get Started

Overview

Setup

Set up in Cloud Console

Using API Keys

Developer Guides

Geocoding request and response

Reverse geocoding request and response

Place geocoding request and response

Best Practices

Web Service Best Practices

Best Practices Geocoding Addresses

Optimizing Quota Usage

Client Libraries

Billing and Reporting

Usage and Billing

Reporting and Monitoring

Policies and Terms

Policies

Terms of Service

Home > Products > Google Maps Platform > Documentation > Web Services > Geocoding API

Was this helpful?

Send feedback

★ **Before you begin:** Before you start using the Geocoding API, you need a project with a billing account and the Geocoding API enabled. We recommend creating multiple Project Owners and Billing Administrators, so that you'll always have someone with these roles available to your team. To learn more, see [Set up billing for your project](#).

The Geocoding API is a service that provides geocoding

★ This service is also available as part of the client-side [Python Client](#), [Go Client](#) and [Node.js Client](#) for Google Maps Platform.

**Geocoding** is the process of converting addresses (latitude and longitude), which you can use to place markers on a map.

**Reverse geocoding** is the process of converting geolocation to an address.

You can also use the Geocoding API to find the address for a given location.

**Sample request and response**

You access the Geocoding API through an HTTP interface.

## Geocod.io

- User friendly
- Free for first requests
- Gives accuracy score

geocodio

Pricing Customers Compare Product Security Privacy Help Contact [SEANPM2@GMAIL.COM](mailto:SEANPM2@GMAIL.COM)

Need help?

## Batch Geocode a Spreadsheet

Bulk geocode lists of **US** and **Canadian** addresses to latitude/longitude or reverse geocode lists of latitude/longitude

Upload spreadsheet  
Accepted file formats: csv, tsv, xls, xlsx, odt

or

Paste list  
Copy from any spreadsheet or table

- 1 Input
- 2 Preview
- 3 Appends

## Google Maps

- \$5/1000
- More accurate
- Uses an API

1

## Input

**Forward Geocoding**

Street Address → Latitude & Longitude

**Reverse Geocoding**

Latitude & Longitude → Street Address

Address column

A: Address

Is your data in multiple columns?

Does this look right? You should only see address data in these boxes.

If not, see our [spreadsheet formatting guide](#).

210 Peachtree St NW, Atlanta,  
GA 30303

267 Marietta St NW, Atlanta, GA  
30313

265 Peachtree Center Ave NE,  
Atlanta, GA 30303

↩ START OVER?

PREVIEW >

## Do you want to append any additional fields?

 **Timezone**

This will add four additional columns with the timezone name, abbreviation, its UTC offset and whether it observes Daylight Saving Time.



[Learn more](#)

 **Canadian Census Identifiers**

This will add 21 additional columns with the Census division, consolidated subdivision, subdivision, economic region, statistical area, CMA/CA as well as the census tract for the given location.



[Learn more](#)

 **Canadian Federal Ridings (Electoral Districts)**

This will append 5 additional columns, with the riding for the specified address in Canada. The riding code and OCD-ID are returned along with the French and English name for the riding.




[Learn more](#)

 **USPS ZIP+4 data**

This will add up to 16 additional columns with USPS ZIP+4 and deliverability values.



[Learn more](#)


 **Canadian Provincial/Territorial Ridings (Electoral Districts)**

This will append 4 additional columns, with the riding for the specified address in Canada. The OCD-ID is returned along with the French and English name for the riding.



[Learn more](#)

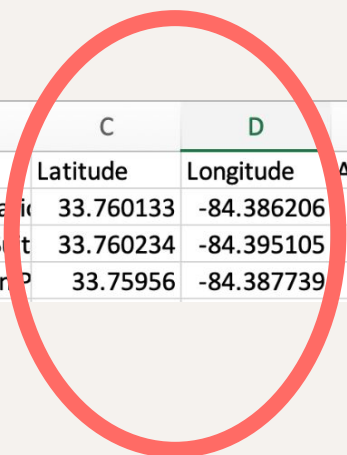
 **US Census Identifiers**

As of the 2021 Census year (most recent) 

This will add up to 17 additional columns with Census tract/block and FIPS codes for state/county/place. This also adds MSA, CSA and metropolitan division codes when applicable.



[Learn more](#)



	A	B	C	D	E	F	G	H	I	J	K	L	
1	Address	Name	Latitude	Longitude	Accuracy Sco	Accuracy Typ	Number	Street	Unit Type	Unit Number	City	State	C
2	265 Peachtre	Atlanta Ma ic	33.760133	-84.386206	0.9	range_interp	265	Peachtree Center Ave NE			Atlanta	GA	F
3	267 Marietta	Embassy S t	33.760234	-84.395105	0.95	range_interp	267	Marietta St			Atlanta	GA	F
4	210 Peachtre	The Westin P	33.75956	-84.387739	1	range_interp	210	Peachtree St NW			Atlanta	GA	F

---

# Step 2: Download Census data



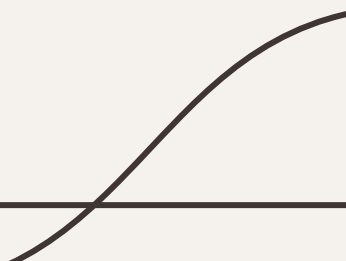
## Census shapes

From Census TIGER



## Demographic data

From Census.gov



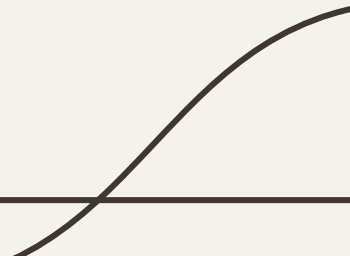
---

# Step 2: Download Census data



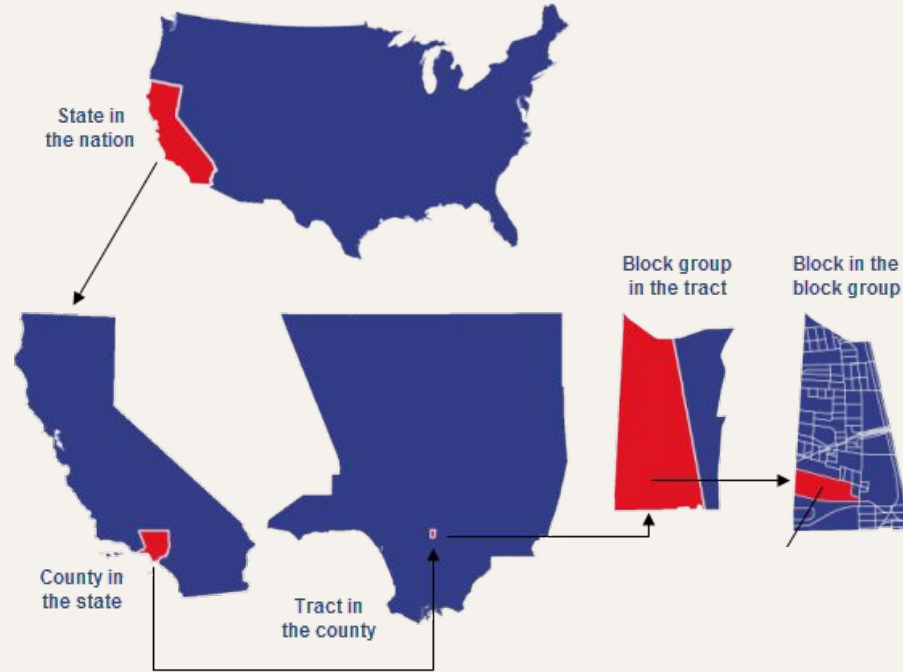
## Census shapes

From Census TIGER



# Step 2: Download Census data

State  
County  
Tract  
Block group  
Block



# Step 2: Download Census data



// Census.gov / Census Mapping Files / TIGER/Line Shapefiles

## TIGER/Line Shapefiles

Format:

- Shapefile - 2007 to Present
- TIGER/Line ASCII format - 2006 and earlier
- Census 2000 available in both formats

The core TIGER/Line Files and Shapefiles do not include demographic data, but they do contain geographic entity codes (GEOIDs) that can be linked to the Census Bureau's demographic data, available on [data.census.gov](https://data.census.gov).

2021 2020 2019 2018 2017 2016 2015 2014 MORE ▾

## 2021

All legal boundaries and names are as of January 1, 2021. Released October 7, 2021.  
User note on [Congressional and State Legislative Districts in Geographic Products](#).

Download

- [Web Interface](#)
- [FTP Archive](#)

**Topologically Integrated Geographic Encoding and Referencing**

# TIGER/Line Shapefiles

Format:

- Shapefile - 2007 to Present
- TIGER/Line ASCII format - 2006 and earlier
- Census 2000 available in both formats

The core TIGER/Line Files and Shapefiles do not include demographic data, but they do contain geographic entity codes (GEOIDs) that can be linked to the Census Bureau's demographic data, available on [data.census.gov](https://data.census.gov).

2021

2020

**2019**

2018

2017

2016

2015

2014

[MORE](#) ▾

## 2019

All legal boundaries and names are as of January 1, 2019. Released August 9, 2019.

User note on [Congressional and State Legislative Districts in Geographic Products](#).

### Download

 [Web Interface](#)

 [FTP Archive](#)



# TIGER/Line® Shapefiles

Select the year and layer you are interested in from the dropdown menus below and click "Submit" for a list of the available geographic areas.

Select year

Select a layer type

Source: US Census Bureau, Geography Division

# 2021 TIGER/Line® Shapefiles: Census Tracts

## Census Tract

Select a State:

Georgia















Download

Source: US Census Bureau, Geography Division

Name Last modified Size Descripti

Name	Last modified	Size	Descripti
Parent Directory		-	
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ADDRFEAT/	22-Sep-2021 15:48	-	
ADDRFN/	22-Sep-2021 15:48	-	
AIANNH/	22-Sep-2021 15:48	-	
AITSN/	22-Sep-2021 15:48	-	
ANRC/	22-Sep-2021 15:49	-	
AREALM/	22-Sep-2021 16:00	-	
AREAWATER/	22-Sep-2021 15:48	-	
BG/	22-Sep-2021 16:00	-	
CBSA/	22-Sep-2021 15:48	-	
CD/	22-Sep-2021 15:48	-	
CNECTA/	22-Sep-2021 15:48	-	
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CONCITY/	22-Sep-2021 15:57	-	
COUNTY/	22-Sep-2021 15:48	-	
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FACES/	22-Sep-2021 15:48	-	
FACESAH/	22-Sep-2021 15:48	-	
FACESAL/	22-Sep-2021 16:00	-	
FACESMIL/	22-Sep-2021 15:48	-	
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LINEARWATER/	22-Sep-2021 15:48	-	
METDIV/	22-Sep-2021 15:48	-	
MIL/	22-Sep-2021 15:48	-	
NECTA/	22-Sep-2021 15:48	-	

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 TRACT/	22-Sep-2021 16:00	-
 TTRACT/	22-Sep-2021 15:48	-

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 tl_2021_05_tract.zip	22-Sep-2021 15:49	10M	
 tl_2021_06_tract.zip	22-Sep-2021 15:50	31M	
 tl_2021_08_tract.zip	22-Sep-2021 15:50	8.0M	
 tl_2021_09_tract.zip	22-Sep-2021 15:50	2.6M	
 tl_2021_10_tract.zip	22-Sep-2021 07:49	1.1M	
 tl_2021_11_tract.zip	22-Sep-2021 15:50	357K	
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 <u>tl_2021_13_tract.zip</u>	22-Sep-2021 15:51	15M	

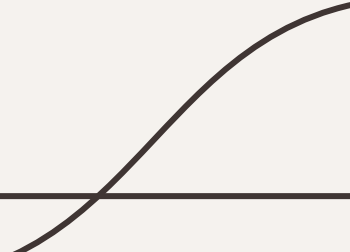
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# Step 2: Download Census data



**Demographic data**

From Census.gov





## Advanced Search

**0 Filters** [?](#)

**Clear all**

### Find a Filter

[Search](#)

[123 Codes](#) >

[Geography](#) >

[Surveys](#) >

[Topics](#) >

[Years](#) >

**No filter selected**

Please select a filter to narrow your search.

## Advanced Search

🔍 Table ID (e.g., DP05)

### 2 Filters ?

🗑️ **Clear all**

📖 Income and Poverty ×

📍 All Census Tracts within Geor... ×

### Find a Filter

🔍 Search

123 Codes >

📍 **Geography** >

📄 Surveys >

📖 Topics >

📅 Years >

< Tract / Georgia / **Select County**

⊕ **Within other geographies**

All Census Tracts within Georgia

📁 Appling County, Georgia

📁 Atkinson County, Georgia

📁 Bacon County, Georgia

📁 Baker County, Georgia

📁 Baldwin County, Georgia

📁 Banks County, Georgia

📁 Barrow County, Georgia

📁 Bartow County, Georgia

📁 Ben Hill County, Georgia

📁 Berrien County, Georgia

📁 Bibb County, Georgia

📁 Bleckley County, Georgia

📁 Brantley County, Georgia

📁 Brooks Countv. Georgia

## Advanced Search

🔍 Table ID (e.g., DP05)

### 1 Filter ?

🗑️ **Clear all**

📖 Income and Poverty ×

### Find a Filter

🔍 Search

123 Codes >

📍 Geography >

📄 Surveys >

📖 **Topics >**

📅 Years >

< Income and Poverty / **Select Income and Poverty**

📁 Income and Earnings

Income and Poverty

📁 Poverty

	<b>Decennial Census</b>	<b>American Community Survey</b>
Frequency	Every 10 years	Every year
Sample	100% of population (goal)	Representative sample of population
Measurement	Counts people	Measures characteristics of people (income, education, etc.)



2 Filters ?



Clear all

Income and Poverty ×

All Census Tracts within Geor... ×

Find a Filter

Search

123 Codes >

Geography >

Surveys >

Topics >

Years >

## Tables >

American Community Survey

**S1901** | INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

+ View All 10 Products

American Community Survey

**S1902** | MEAN INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

+ View All 10 Products

American Community Survey

**S1903** | MEDIAN INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

+ View All 10 Products

American Community Survey

**S1701** | POVERTY STATUS IN THE PAST 12 MONTHS

+ View All 8 Products

American Community Survey

Filters (2)  
Results (698)

2 Filters ?

Clear all

Income and Poverty x

All Census Tracts within Geor... x

Find a Filter

Search

123 Codes >

Geography >

Surveys >

Topics >

Years >

698 Results

Download tables

View: 10 | 25 | 50

American Community Survey

**S1901** | INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

View All 10 Products

American Community Survey

**S1902** | MEAN INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

View All 10 Products

American Community Survey

**S1903** | MEDIAN INCOME IN THE PAST 12 MONTHS

American Community Survey

**S1903** | MEDIAN INCOME IN THE PAST 12 MONTHS (IN 2019 INFLATION-ADJUSTED DOLLARS)

2019: ACS 5-Year Estimates Subject Tables

1 Geo 1 Years 1 Topic 123 Surveys Codes 1 Map

Sorry, that table is too large to display.

The size of this table may exceed your browser's capabilities and may result in error or browser instability.

Download the entire data or adjust your filters in the toolbar for a smaller table.

DOWNLOAD TABLE

Download



Select Table Vintages

S1903	All	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
ACS 5-Year Estimates Subject Tables	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

File Type

- CSV
- PDF

What You're Getting

- 1 .csv files (metadata)
- 1 .csv files (data)
- 1 .txt files (table title)

Compressed Size Estimate: 799.0 kB

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