

How to calculate population and jobs within ½ mile radius of site

Caltrans Project P359, Trip Generation Rates for Transportation Impact Analyses of Smart Growth Land Use Projects

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Population Data

1. Geographic Information System (GIS)
2. Online tool option

A. Using Geographic Information System (GIS)

1. Downloading Census data

[American Factfinder](#)

1. [American FactFinder](https://factfinder.census.gov) is a source for population, housing, economic and geographic information of the US.

To download the latest population data, please go to 'Advanced Search' and click on 'SHOW ME ALL'.

The screenshot shows the American FactFinder website homepage. At the top, there is a navigation bar with the United States Census Bureau logo and the 'AMERICAN FactFinder' title. The navigation menu includes 'MAIN', 'COMMUNITY FACTS', 'GUIDED SEARCH', 'ADVANCED SEARCH', and 'DOWNLOAD CENTER'. There are also language options for 'English' and 'Español'. A banner at the top right says 'Check out the early preview of our new dissemination platform at data.census.gov.' The main content area features four primary navigation options: 'Community Facts', 'Guided Search', 'Advanced Search' (highlighted in red), and 'Download Center'. The 'Advanced Search' section includes a description: 'Search all data in American FactFinder, with access to all geographic types and datasets.' and a 'SHOW ME ALL' button. To the right of this text is an image of a woman in a pink shirt looking at a laptop with a map overlay. Below the navigation options, there are sections for 'Popular Tables' and 'News and Notes'. The 'Popular Tables' section is divided into two columns: 'Population and Housing' and 'Poverty and Income'. The 'Population and Housing' column lists: 'Annual Population Estimates (2016 PEP, PEPANNRES)', 'Demographic and Housing Estimates (2015 ACS, DP05)', 'General Housing Characteristics (2015 ACS, DP04)', and 'General Demographic Characteristics (2010 Census, DP-1)'. The 'Poverty and Income' column lists: 'General Economic Characteristics (2015 ACS, DP03)'. The 'News and Notes' section has a 'GET EMAIL UPDATES' button and a news item dated July 13, 2017, titled 'The 2011-2015 American Community Survey (ACS) Selected Population Tables (SPT) are now available for the U.S...'. At the bottom, there is a section for 'Using American FactFinder' with the text 'Learn about American FactFinder's functions and features.'

American FactFinder - Search Results

Secure | <https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t&keepList=t>

United States Census Bureau

AMERICAN FactFinder

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MAIN COMMUNITY FACTS GUIDED SEARCH **ADVANCED SEARCH** DOWNLOAD CENTER

Search - Use the options on the left (topics, geographies, ...) to narrow your search results

Your Selections

Your Selections is empty

load search | save search

Search using the options below:

Topics (age, income, year, dataset, ...)

Geographies (states, counties, places, ...)

Race and Ethnic Groups (race, ancestry, tribe)

Industry Codes (NAICS industry, ...)

EEO Occupation Codes (executives, analysts, ...)

To search for tables and other files in American FactFinder:

Enter search terms and an optional geography and click GO

Select Geographies [CLOSE X]

List	Name	Address	Map
------	------	---------	-----

Select geographies to add to Your Selections ?

Select from: most requested geographic types all geographic types

Select a geographic type:
..... Block Group - 150

Select a state:
California

Select a county:
Santa Clara

Select one or more geographic areas and click Add to Your Selections:
All Block Groups within Santa Clara County, California

ADD TO YOUR SELECTIONS [ABOUT THIS GEOGRAPHY]

Didn't find your geographic type? Click the 'all geographic types' radio button above, or try the Name, Address or Map geography search options instead.

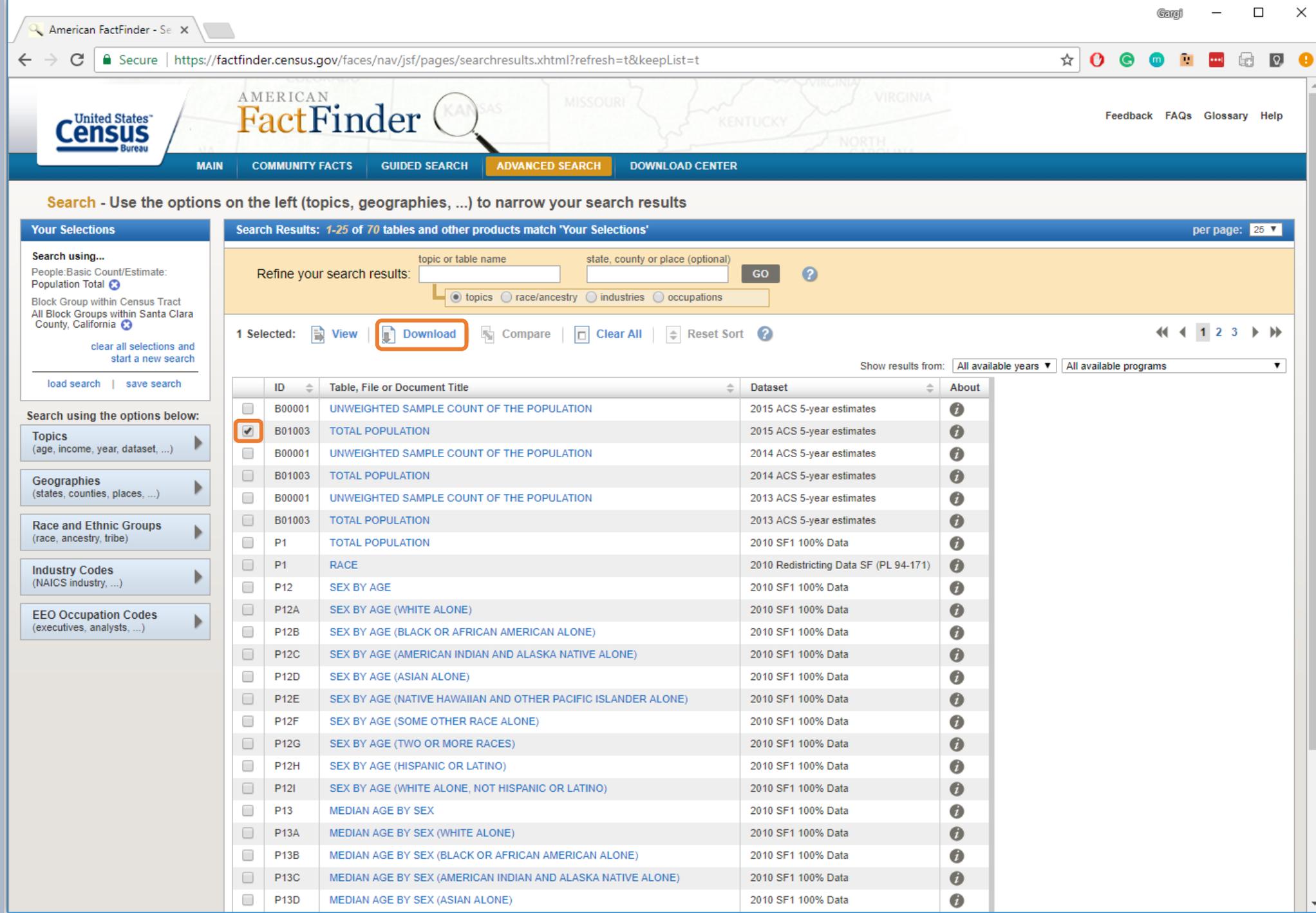
2. Select the study area by clicking on 'Geographies' tab. Select desired geography type, state and county. Select the geography and click 'ADD TO YOUR SELECTIONS' to download data pertaining to that geography type and area.

4. Select the desired data set and click on 'Download'. Multiple datasets can be selected at once, if required.

To download latest population data, click on 'TOTAL POPULATION'.

The downloaded folder will contain four files and we will be using the one highlighted below which has population information of each block group.

-  aff_download_readme_ann
-  DEC_10_DP_DPDP1
-  DEC_10_DP_DPDP1_metadata
-  DEC_10_DP_DPDP1_with_ann



The screenshot shows the American FactFinder website interface. The search results are filtered to show 1-25 of 70 tables. The table 'TOTAL POPULATION' (ID B01003) is selected and highlighted. The 'Download' button is circled in orange. The table lists various datasets for different years and programs.

ID	Table, File or Document Title	Dataset	About
<input type="checkbox"/>	B00001 UNWEIGHTED SAMPLE COUNT OF THE POPULATION	2015 ACS 5-year estimates	i
<input checked="" type="checkbox"/>	B01003 TOTAL POPULATION	2015 ACS 5-year estimates	i
<input type="checkbox"/>	B00001 UNWEIGHTED SAMPLE COUNT OF THE POPULATION	2014 ACS 5-year estimates	i
<input type="checkbox"/>	B01003 TOTAL POPULATION	2014 ACS 5-year estimates	i
<input type="checkbox"/>	B00001 UNWEIGHTED SAMPLE COUNT OF THE POPULATION	2013 ACS 5-year estimates	i
<input type="checkbox"/>	B01003 TOTAL POPULATION	2013 ACS 5-year estimates	i
<input type="checkbox"/>	P1 TOTAL POPULATION	2010 SF1 100% Data	i
<input type="checkbox"/>	P1 RACE	2010 Redistricting Data SF (PL 94-171)	i
<input type="checkbox"/>	P12 SEX BY AGE	2010 SF1 100% Data	i
<input type="checkbox"/>	P12A SEX BY AGE (WHITE ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12B SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12C SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12D SEX BY AGE (ASIAN ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12E SEX BY AGE (NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12F SEX BY AGE (SOME OTHER RACE ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12G SEX BY AGE (TWO OR MORE RACES)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12H SEX BY AGE (HISPANIC OR LATINO)	2010 SF1 100% Data	i
<input type="checkbox"/>	P12I SEX BY AGE (WHITE ALONE, NOT HISPANIC OR LATINO)	2010 SF1 100% Data	i
<input type="checkbox"/>	P13 MEDIAN AGE BY SEX	2010 SF1 100% Data	i
<input type="checkbox"/>	P13A MEDIAN AGE BY SEX (WHITE ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P13B MEDIAN AGE BY SEX (BLACK OR AFRICAN AMERICAN ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P13C MEDIAN AGE BY SEX (AMERICAN INDIAN AND ALASKA NATIVE ALONE)	2010 SF1 100% Data	i
<input type="checkbox"/>	P13D MEDIAN AGE BY SEX (ASIAN ALONE)	2010 SF1 100% Data	i

2. Downloading Census GIS files

[TIGER/Line Shapefiles](#)

Shapefiles* can be downloaded from the census bureau website. These spatial entities can be linked to the data downloaded from American Factfinder, which can produce information spatially.

1. To download shapefiles, go to Download>Web Interface

*A shapefile (.shp) is a file format which is used by geographic information system (GIS) software to store location, shape and attribute of a geographic feature.

Shapefiles contain both the vector data (spatial data) and their characteristic information (attribute data).

TIGER/Line® - Geograph x

Secure | https://www.census.gov/geo/maps-data/data/tiger-line.html

You are here: [Census.gov](#) > [Geography](#) > [Maps & Data](#) > [TIGER Products](#) > [TIGER/Line® Shapefiles and TIGER/Line® Files](#)

Geography

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Maps & Data

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Maps

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- Reference
- Thematic
- Maps Available for Purchase

Data

- TIGER Products
- Census Geocoder
- Partnership Shapefiles
- Relationship Files
- Gazetteer Files
- Block Assignment Files
- Name Lookup Tables
- Tallies
- LandView

TIGER/Line® Shapefiles and TIGER/Line® Files

- 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 [American FactFinder](#).
- [How Do I Choose Which Vintage to Use?](#) [PDF]
- [Note on Special Characters Not Displaying Correctly](#)
- [Working with TIGER/Line Shapefiles How-To Guides](#)
- [FAQs](#)
- Geography Change & Errata
 - [Geographic Boundary Change Notes](#)
 - [Geography Notes and Errata from the 2010 Census](#) [PDF]
 - [Substantial County Changes](#)



2016	2015	2014	2013	113th CD	2012	2011	2010	2009	2008	2007	2006SE	Census 2000	1992
------	------	------	------	----------	------	------	------	------	------	------	--------	-------------	------

2016 TIGER/Line Shapefiles

All legal boundaries and names are as of January 1, 2016. Released August 19, 2016.

→ Download

- [Web interface](#)
- [FTP site](#)

▶ Technical Documentation

▶ File Availability

▶ User Notes

The boundaries shown are for Census Bureau statistical data collection and tabulation purposes only; their depiction and designation for statistical purposes does not constitute a determination of jurisdictional authority or rights of ownership or entitlement.

TIGER/Line® Shapefiles

Secure | https://www.census.gov/cgi-bin/geo/shapefiles/index.php

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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: 2016

Select a layer type: Block Groups

Submit

Source: US Census Bureau, Geography Division

[TIGER/Line Shapefiles Main](#)

[Access our FTP site for additional downloading options](#)

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 Economic Census
 E-Stats
 International Trade
 Export Codes
 NAICS
 Governments
 Local Employment Dynamics
 Survey of Business Owners

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2. Select the latest year and desired layer type and click on 'submit'. Here, we will select 'Block Groups' since we downloaded block group level data from the American Factfinder.

2016 TIGER/Line® Shapefiles: Block Groups

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2016 TIGER/Line® Shapefiles: Block Groups

Return to: [Main Download Page](#) | [TIGER/Line Shapefiles Main](#)

Block Group
 Select a State:

Source: US Census Bureau, Geography Division

<p>ABOUT US</p> <ul style="list-style-type: none"> Are You in a Survey? FAQs Director's Corner Regional Offices History Research Scientific Integrity Census Careers Diversity @ Census Business Opportunities Congressional and Intergovernmental Contact Us 	<p>FIND DATA</p> <ul style="list-style-type: none"> QuickFacts American FactFinder Population Finder 2010 Census Economic Census Interactive Maps Training & Workshops Data Tools Developers Catalogs Publications 	<p>BUSINESS & INDUSTRY</p> <ul style="list-style-type: none"> Help With Your Forms Economic Indicators Economic Census E-Stats International Trade Export Codes NAICS Governments Local Employment Dynamics Survey of Business Owners 	<p>PEOPLE & HOUSEHOLDS</p> <ul style="list-style-type: none"> 2020 Census 2010 Census American Community Survey Income Poverty Population Estimates Population Projections Health Insurance Housing International Genealogy 	<p>SPECIAL TOPICS</p> <ul style="list-style-type: none"> Advisors, Centers and Research Programs Statistics in Schools Tribal Resources (AIAN) Emergency Preparedness Statistical Abstract Special Census Program Data Linkage Infrastructure Fraudulent Activity & Scams USA.gov 	<p>NEWSROOM</p> <ul style="list-style-type: none"> News Releases Release Schedule Facts for Features Stats for Stories Blogs
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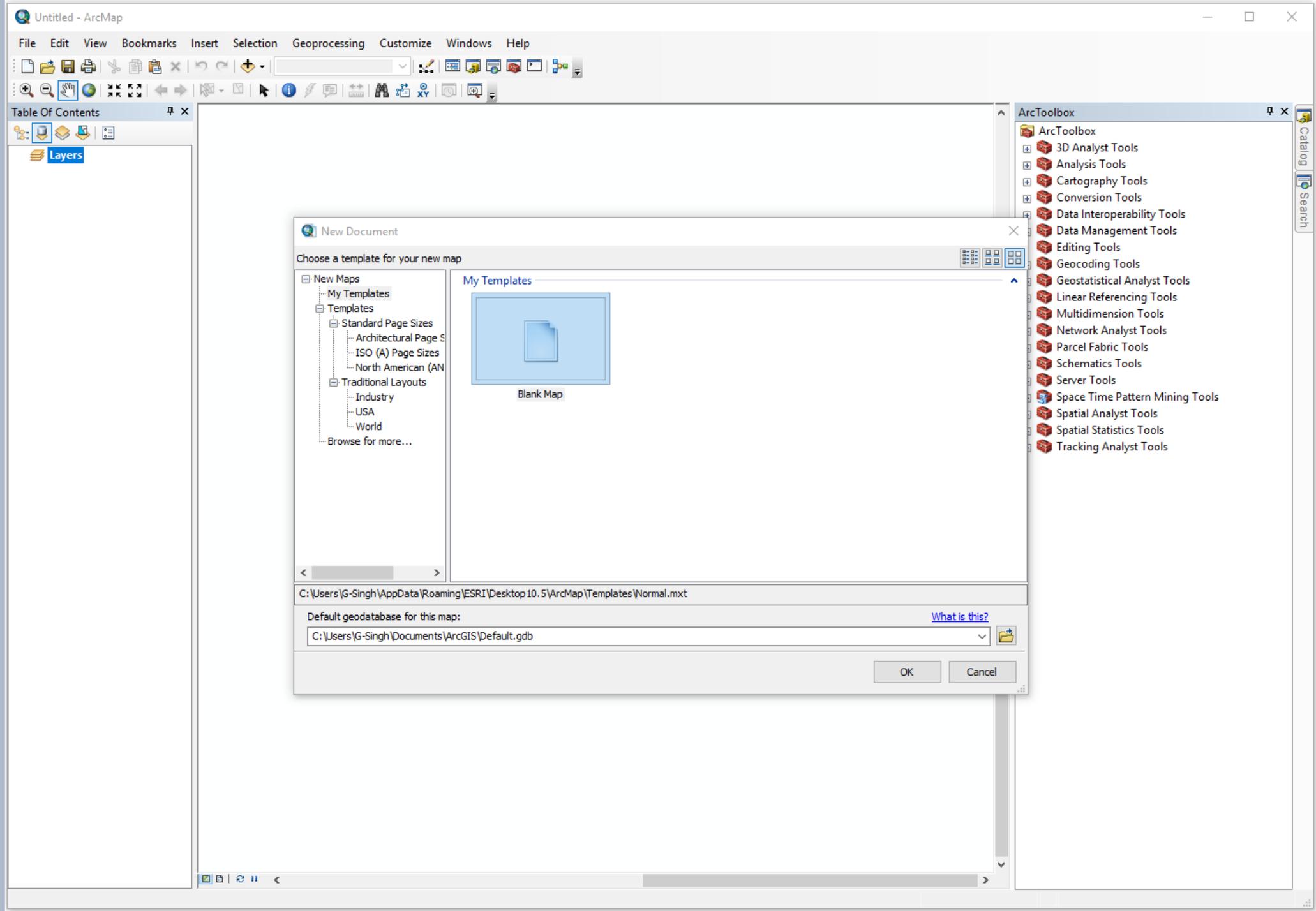
CONNECT WITH US

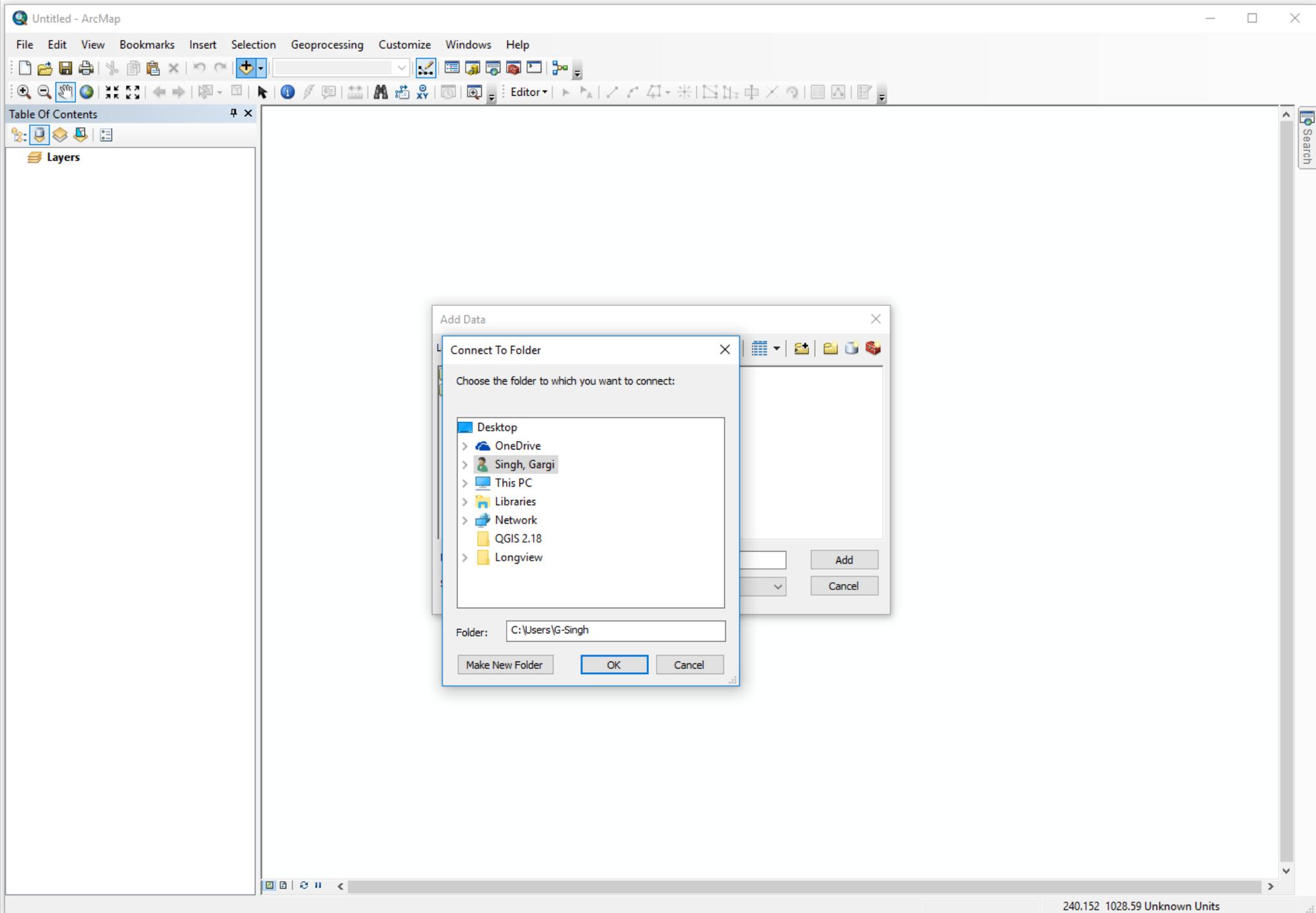
Accessibility | Information Quality | FOIA | Data Protection and Privacy Policy | U.S. Department of Commerce

3. Select the state and click on 'Download'.

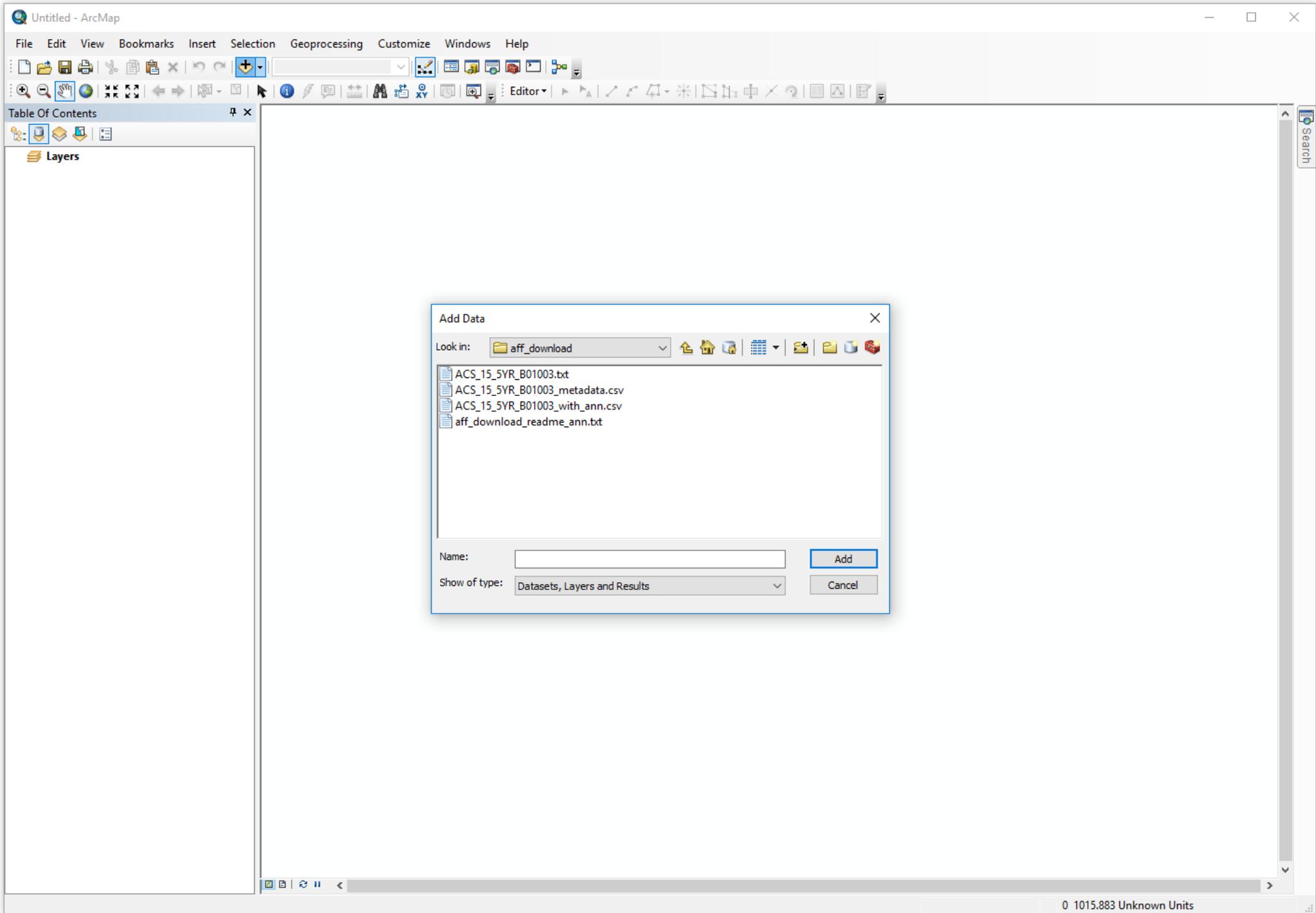
3. Starting with ArcMap

1. Click on 'Blank Map' to start working on ArcMap.





2. To proceed adding data, click on 'Add Data'  and then click on 'Connect To folder' icon  and browse to your desired work folder.

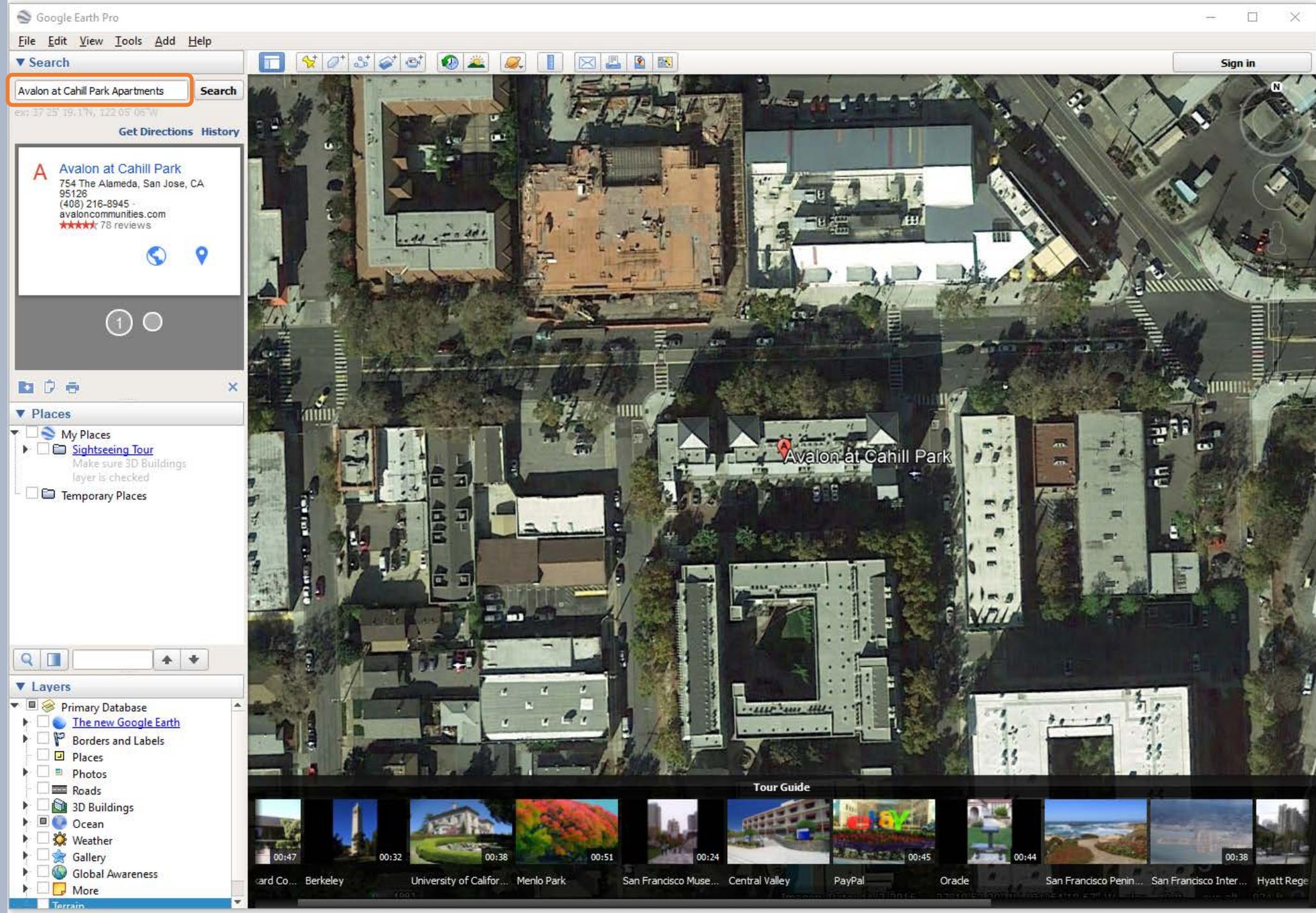


3. Click on 'Add Data'  again and browse to your work folder to begin adding shapefile(s) and csv file(s) to your screen.

4. Adding site point

To add your site on ArcMap or any GIS software, you will need its co-ordinates. We will be taking the center of the site as its point location.

1. Locate your site on Google Earth.



2. Click on 'Add Placemark' in the toolbar and drag it to the center of the site. Look for the latitude and longitude values in the new dialog box.

The screenshot shows the Google Earth Pro interface. The main window displays an aerial view of a city with a yellow placemark icon placed on a building. A dialog box titled "Google Earth - Edit Placemark" is open, showing the name "Avalon at Cahill Park" and the coordinates "Latitude: 37°19'50.09"N" and "Longitude: 121°54'18.33"W". The "Add link...", "Add web image...", and "Add local image..." buttons are visible in the dialog box. The search results on the left show details for "Avalon at Cahill Park", including the address "754 The Alameda, San Jose, CA 95126", phone number "(408) 216-8945", website "avaloncommunities.com", and "78 reviews". The toolbar icon for adding a placemark is highlighted with an orange box. The "Layers" panel on the left shows various layers like "Primary Database", "The new Google Earth", "Borders and Labels", "Places", "Photos", "Roads", "3D Buildings", "Ocean", "Weather", "Gallery", "Global Awareness", "More", and "Terrain". The "Tour Guide" panel at the bottom shows a list of tours with thumbnails and durations.

Convert Coordinates x

www.earthpoint.us/Convert.aspx

Earth Point

Tools for Google Earth

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Convert Coordinates - Calculate a position in a variety of formats.

A user account is **not** needed for the features on this web page.

Enter latitude/longitude or position. Click the corresponding "Calc" button. Lat/Lon, UTM, UPS, MGRS, USNG, GARS, Georef, Maidenhead, and State Plane are supported. WGS84 datum.

NEW: State Plane coordinates for the United States are supported. [Accepted formats...](#)
HINT: If you have many coordinates to convert, try [Batch Convert](#).

Latitude: Longitude:

Calc View on Google Earth Free. User account is not needed.

OR

Position:

Calc View on Google Earth Free. User account is not needed.

Latitude 37°19'50.09"N
Longitude 121°54'18.33"W

Calculated Values - based on Degrees Lat Long to seven decimal places.

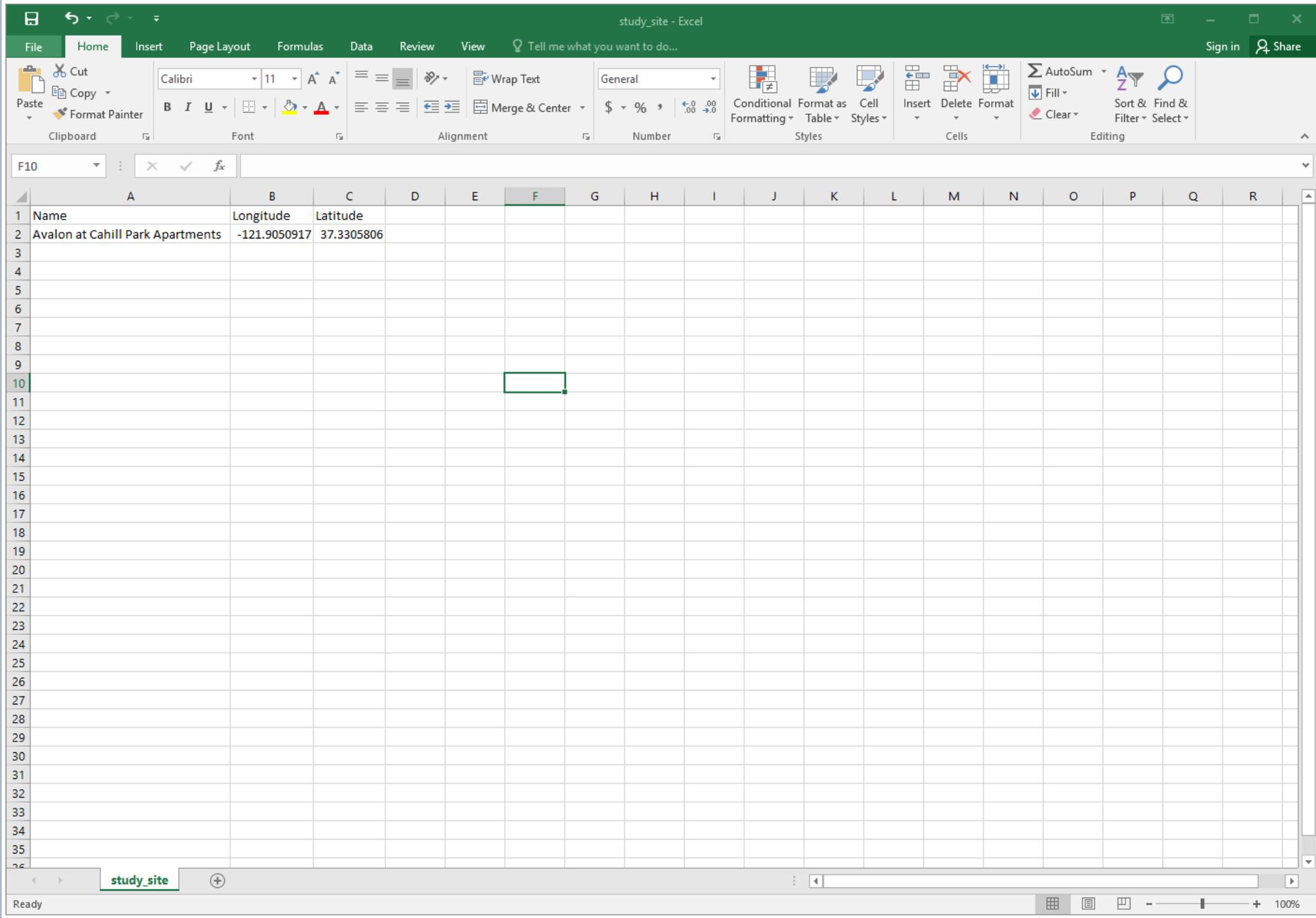
Position Type	Lat Lon
Degrees Lat Long	37.3305806°, -121.9050917°
Degrees Minutes	37°19.83483', -121°54.30550'
Degrees Minutes Seconds	37°19'50.0900", -121°54'18.3300"
UTM	10S 596998mE 4132107mN
UTM centimeter	10S 596998.83mE 4132107.84mN
MGRS	10SEG9699832107
Grid North	0.7°
GARS	117LQ18
Maidenhead	CM97BH19JI31
GEOREF	DJPH05691983

For illustration only. User to verify all information. www.earthpoint.us

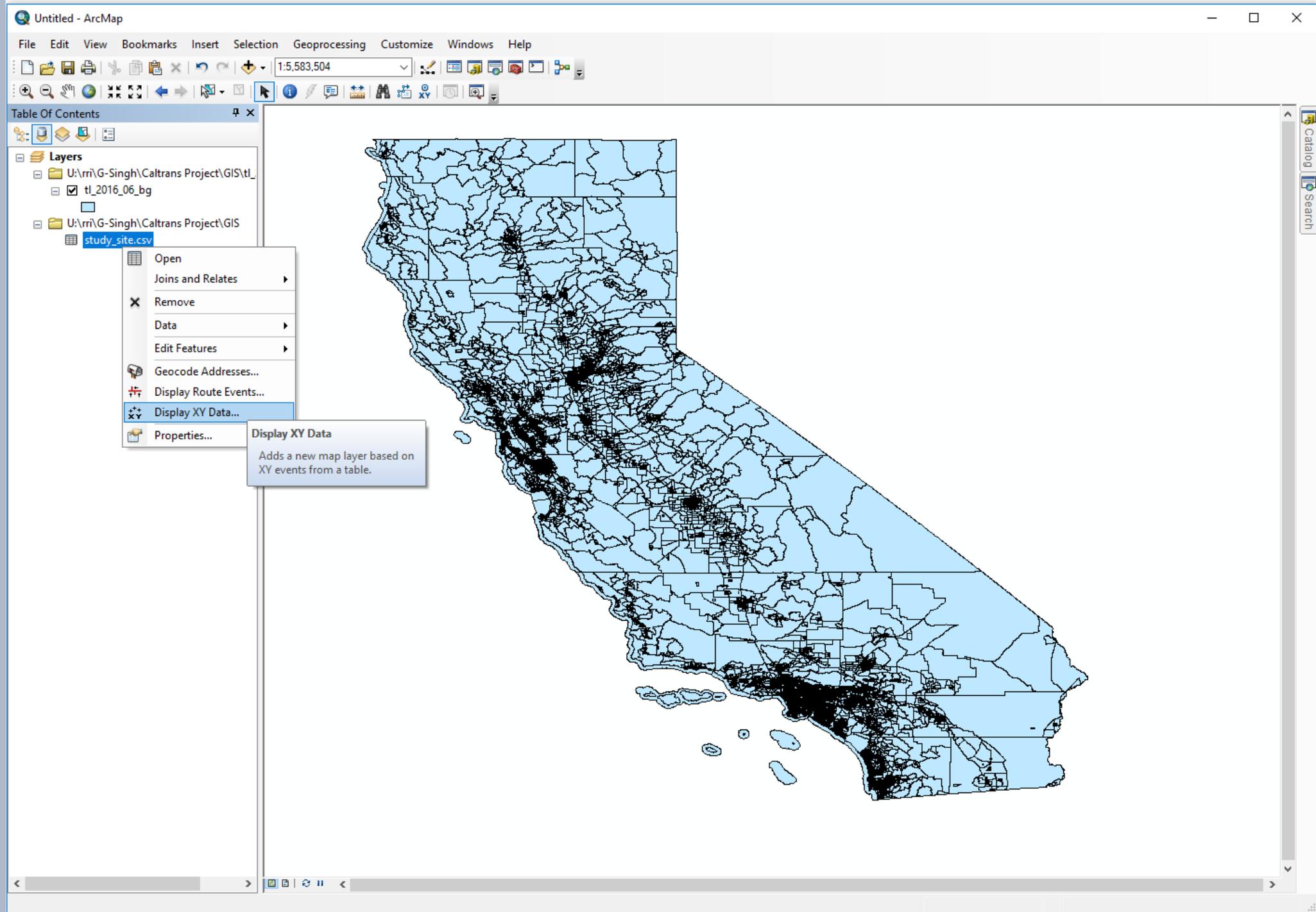
This page accepts a wide variety of latitude/longitude and position formats.

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 - Louisiana Twp & Rng
 - Louisiana Original PLSS
 - California Twp & Rng
 - California Grid
 - Search By Description
 - Search By Lat Long
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 - Search By Description
 - Search By Lat Long
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 - Topo Map
- Boise, Idaho, USA
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3. To add site location to ArcMap, you'll need to convert the coordinates from degree to decimals. Use any online converter tool to calculate that.



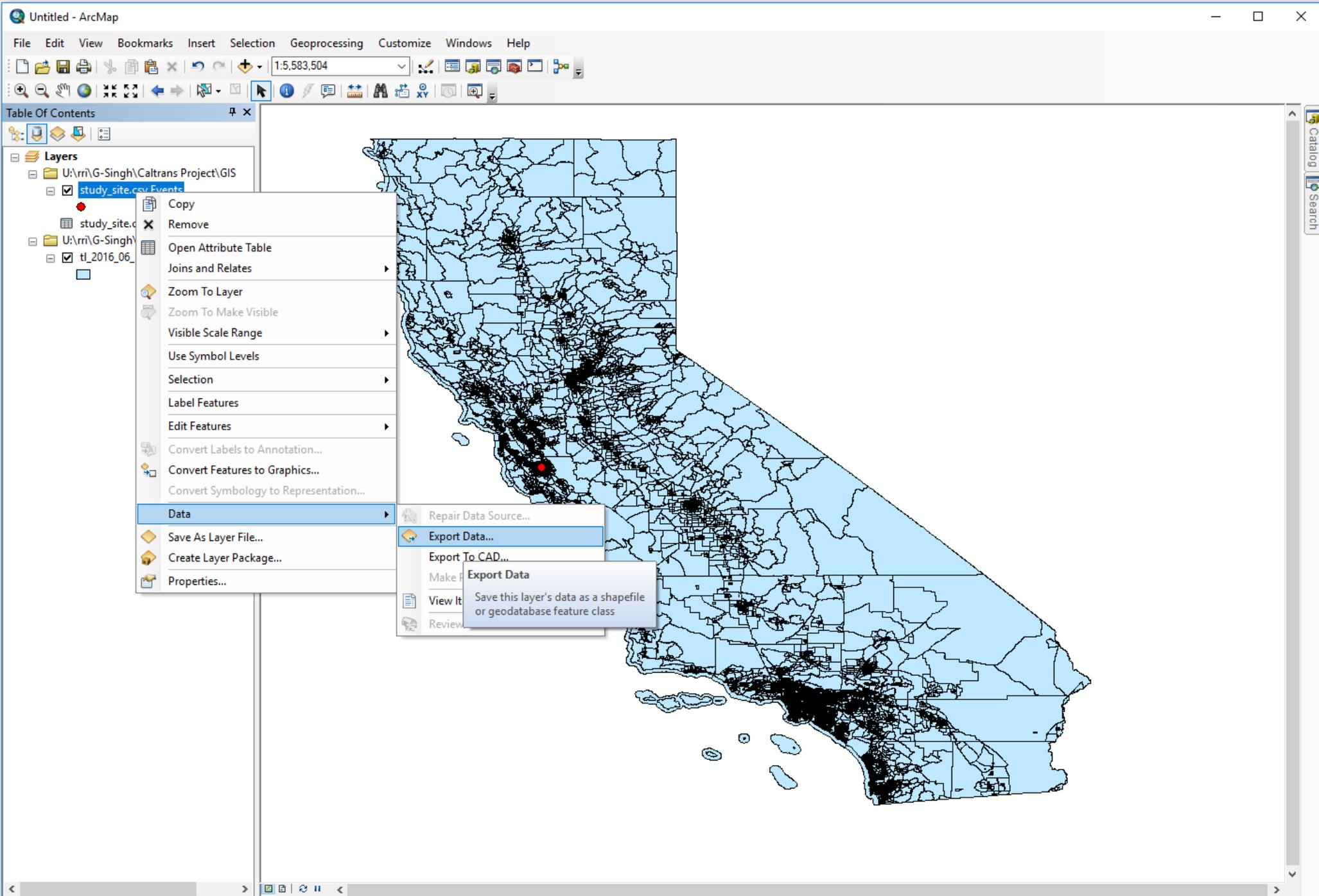
4. Add the co-ordinates to an excel file and save it in a comma-separated values (CSV) format.



5. Add the newly created csv file in ArcMap, right click on it from the layer list and select 'Display XY Data' 

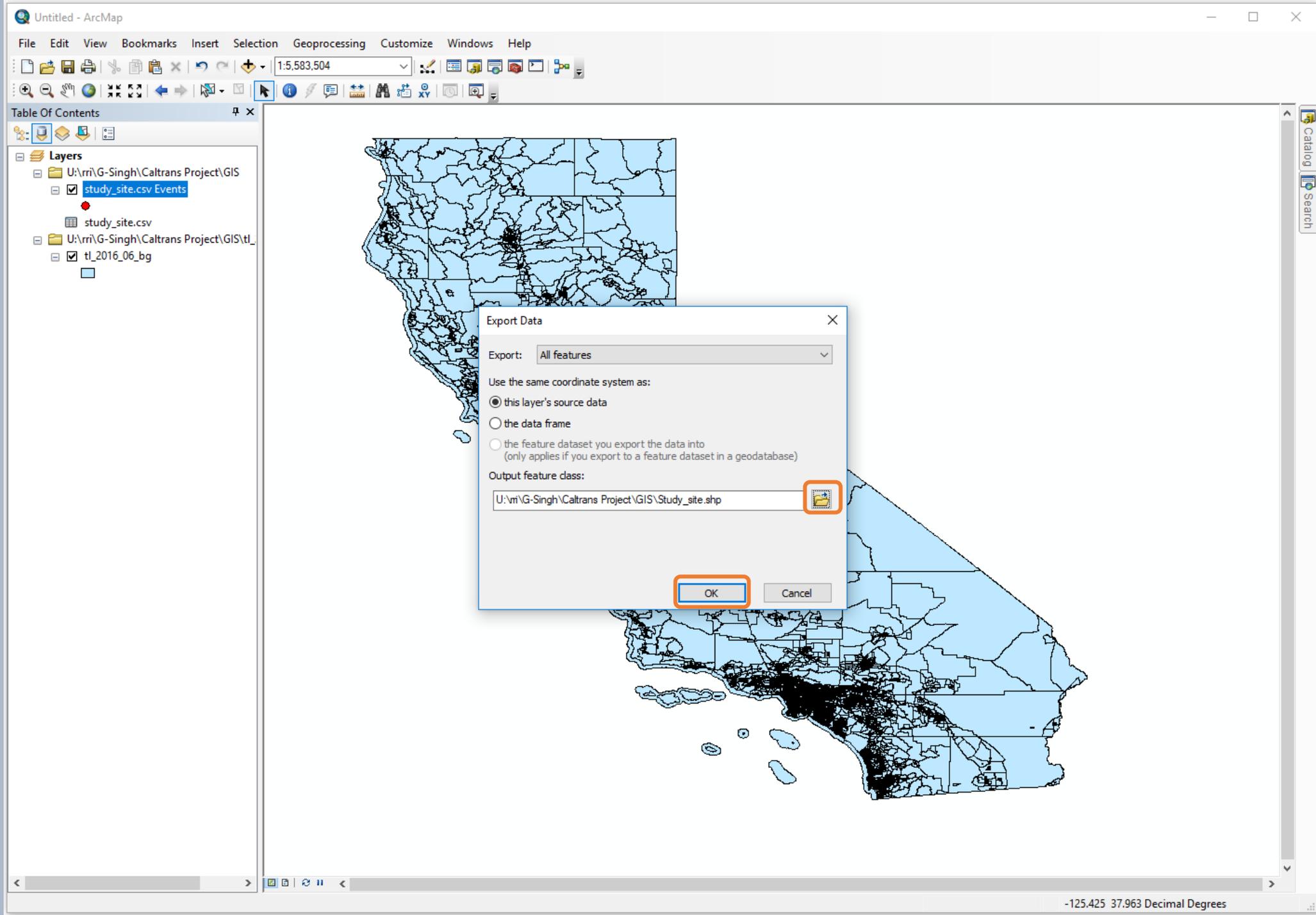
You will see the site location on the screen, however, it needs to be exported into a shapefile before it can be analyzed.

6. Right click on the event layer, go to Data>Export Data.



7. Make sure 'All Features' option is selected in the drop down menu. Browse  to your work folder and type the name of your new file. Click OK.

The shapefile will be added to your layer list.



5. Adding buffer

1. Click on the 'Arc Toolbox' and a toolbar will appear on the right.

Browse to Analysis Tools>Proximity. Click on 'Buffer'.

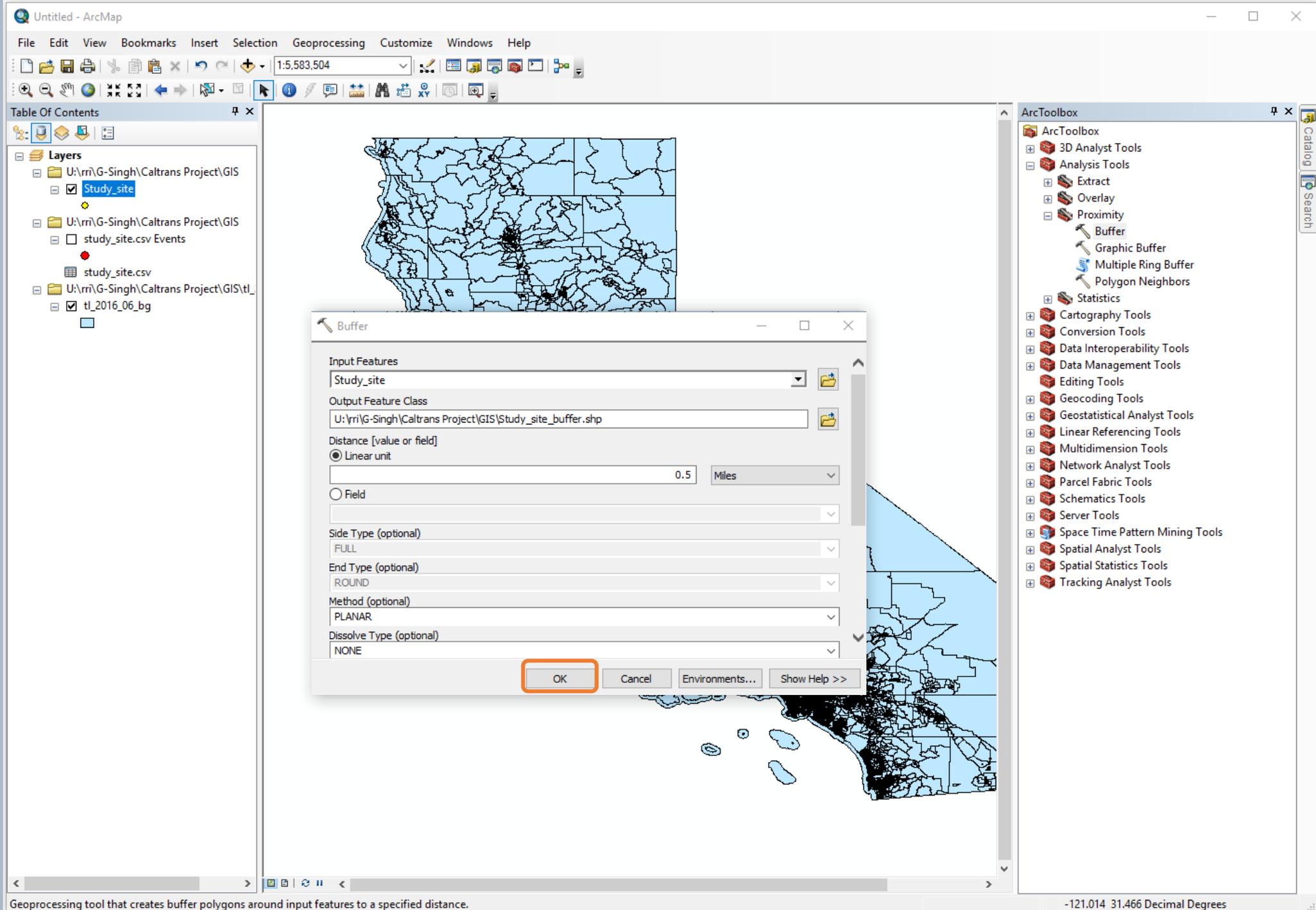
The screenshot displays the ArcMap application window. The title bar reads "Untitled - ArcMap". The menu bar includes File, Edit, View, Bookmarks, Insert, Selection, Geoprocessing, Customize, Windows, and Help. The toolbar contains various icons, with the Arc Toolbox icon highlighted by a red box. The Table of Contents on the left shows a project structure with layers like "Study_site" and "tl_2016_06_bg". The main map area shows a map of California with a network of black lines representing roads or infrastructure. The Arc Toolbox on the right is expanded to show the "Proximity" category, with the "Buffer" tool selected. The status bar at the bottom indicates the Geoprocessing tool that creates buffer polygons around input features to a specified distance, and the coordinates -123.538 31.878 Decimal Degrees.

2. In the dialog box, select the feature whose buffer you want to generate. In this case, it should be the study site shapefile.

Browse  to the work folder and name the output file.

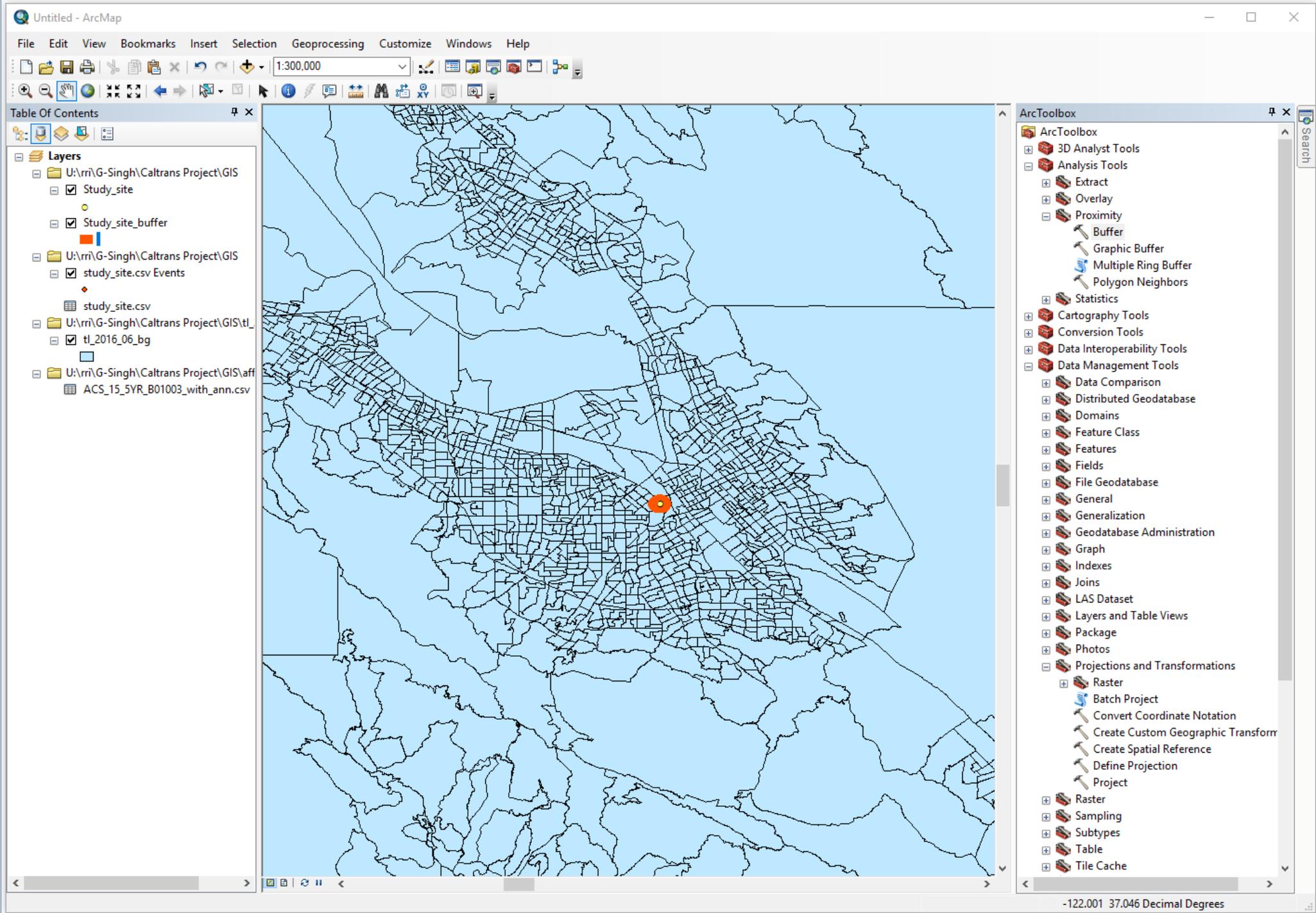
In the 'Linear unit' option, select the unit and enter the buffer distance.

Click OK.



Geoprocessing tool that creates buffer polygons around input features to a specified distance.

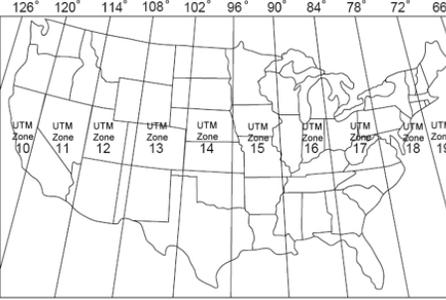
-121.014 31.466 Decimal Degrees



The new buffer shapefile will be added to the layer list.

6. Projecting shapefile

GIS files need to be projected so that they represent the curved surface of earth on a flat surface. Once a shapefile is projected correctly, it will be able to conduct accurate analysis using correct length and area.



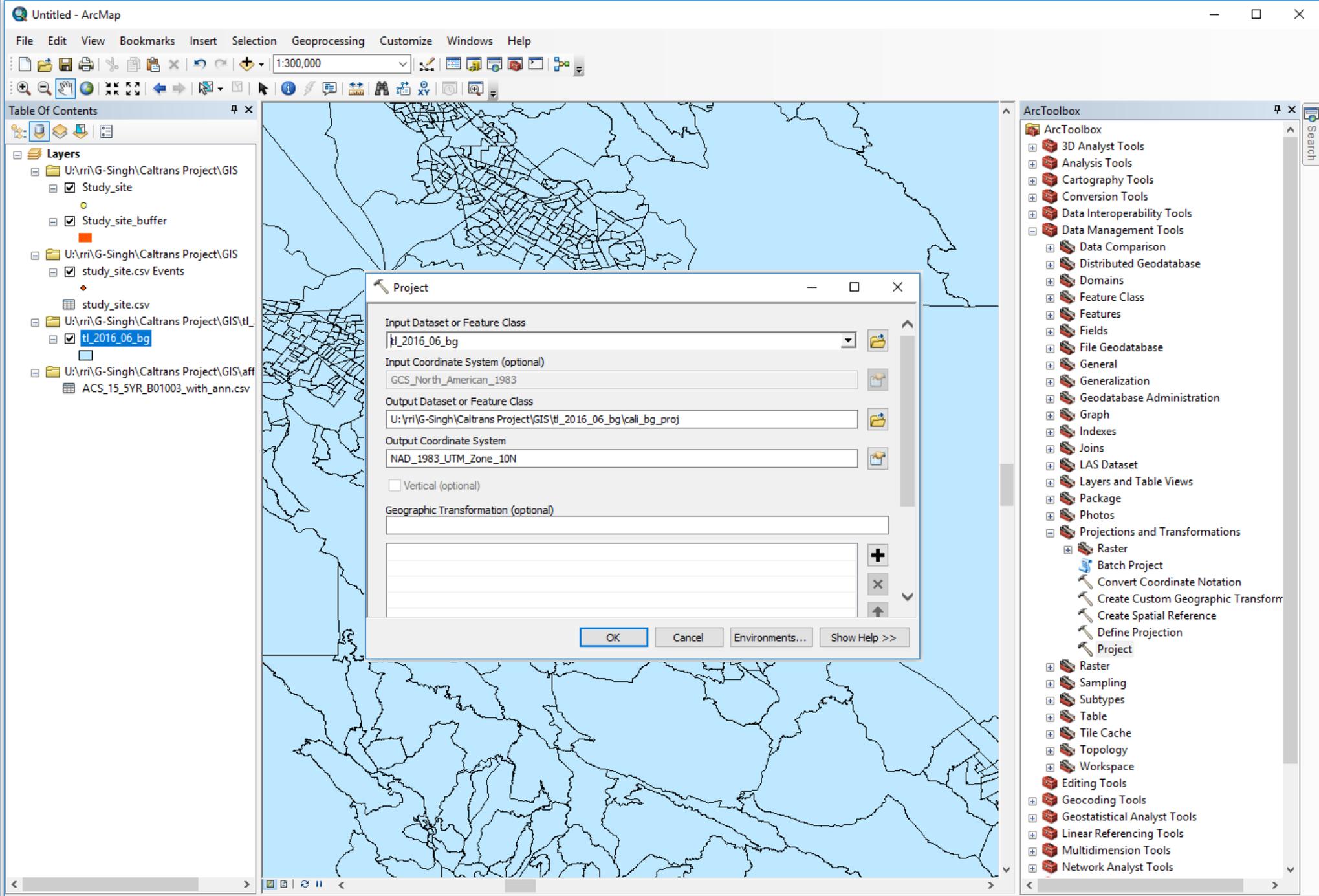
<https://www.topoquest.com/images/utm-grids.gif>

1. In the 'Arc Toolbox', browse to Data Management Tools>Projections and Transformations>Project.

2. In the dialog box, select the feature to be projected in the 'Input dataset or Feature Class' and Browse to the output folder and enter the name of the projected shapefile.

Lastly, select the correct projection.

Click OK.



Geoprocessing tool that projects spatial data from one coordinate system to another.

7. Linking Census data to shapefile

Step 1: Prepping the csv file from factfinder

Step 2: Prepping the shape file

Step 3: Joining data

Step 1: Prepping the csv file

There are few things one need to keep in mind while using csv files in GIS:

- Header:**
- They cannot start with a number
 - They cannot include figures other than text, numbers, or underscores
 - They cannot include spaces

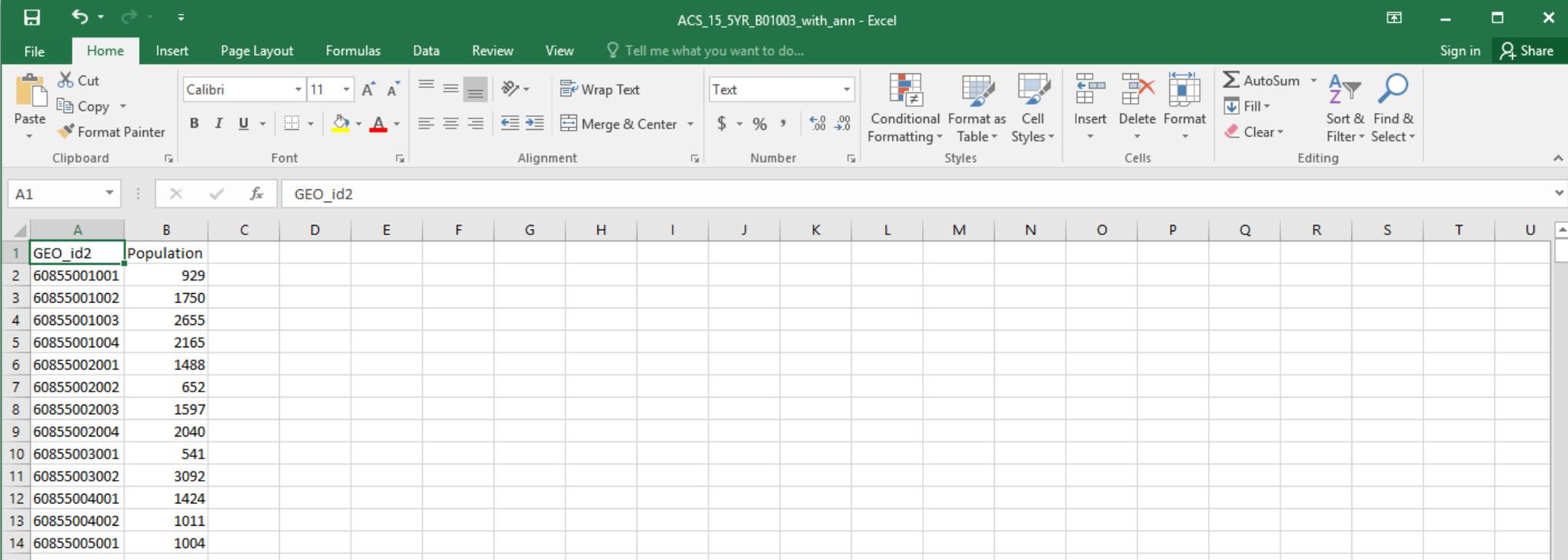
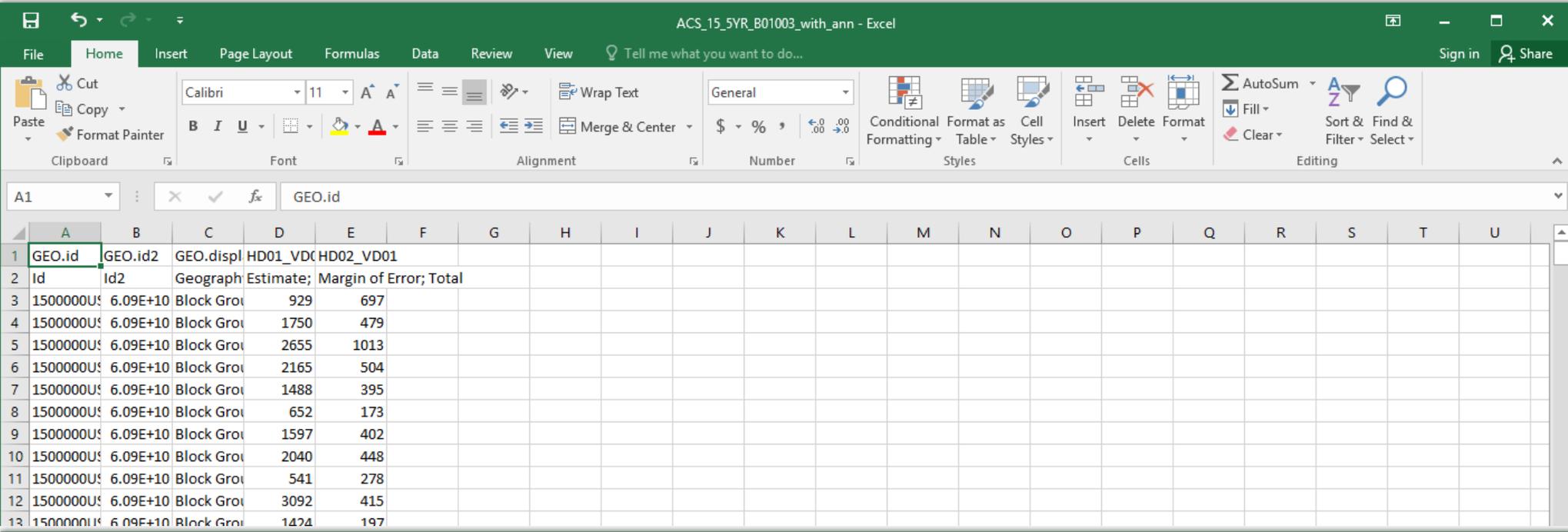
GIS reads the first row as header and anything past that is read as data.

1. The CSV files downloaded from American Factfinder has two rows of header. Reduce it to one row.

2. Replace ' ' with ' _ '

3. Remove extra columns (optional)

Note: 'GEO.id2' is a common information between the census csv file and shapefile, hence, it is important to retain that column to link those two datasets correctly.

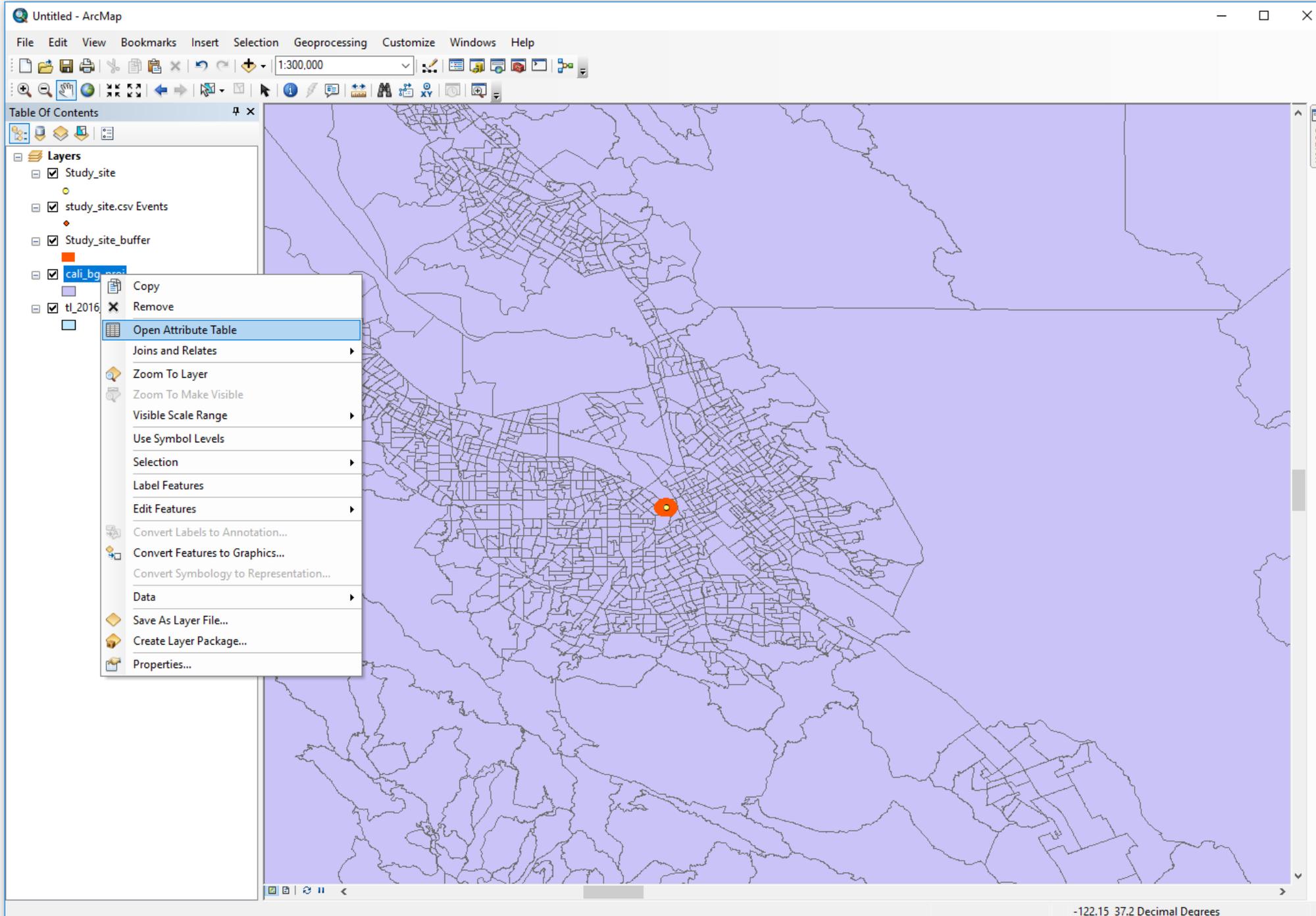


Step 2: Prepping the shapefile

To be able to successfully link both the 'GEO.id2', they need to be of same format. However, the 'GEO.id2' in csv file is a string but the 'GEO.id2' in shapefile (attribute data) is a text.

Therefore, we will make a new column and convert the 'GEO.id2' to a string.

1. To view the attribute data of the projected census shapefile, right click on its layer and click 'Open Attribute Table' from the drop-down menu.



Untitled - ArcMap

File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help

1:300,000

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 Joins and Relates
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Add Field
 Adds a new field to the table.

cali_bg_proj

FID	Shape *	STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMLSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON
0	Polygon	06	025	940000	3	060259400003	Block Group 3	G5030	S	12266417	680361	+32.7424027	-114.6675664
1	Polygon	06	025	010800	2	060250108002	Block Group 2	G5030	S	59331725	0	+32.7658550	-115.3923892
2	Polygon	06	025	010800	1	060250108001	Block Group 1	G5030	S	230656791	0	+32.8363463	-115.3514134
3	Polygon	06	025	011100	3	060250111003	Block Group 3	G5030	S	1209336	0	+32.7932442	-115.6903925
4	Polygon	06	073	010013	2	060730100132	Block Group 2	G5030	S	404606	0	+32.5564082	-117.0507980
5	Polygon	06	037	310400	3	060373104003	Block Group 3	G5030	S	764102	0	+34.2035192	-118.3401897
6	Polygon	06	031	000701	4	060310007014	Block Group 4	G5030	S	741332	0	+36.3603251	-119.6314511
7	Polygon	06	031	000300	2	060310003002	Block Group 2	G5030	S	2266983	0	+36.2590989	-119.8902902
8	Polygon	06	031	000200	2	060310002002	Block Group 2	G5030	S	100173206	30840	+36.3348381	-119.8822495
9	Polygon	06	059	086502	3	060590865023	Block Group 3	G5030	S	290933	0	+33.8454718	-117.9094315

0 (0 out of 23212 Selected)

cali_bg_proj

-122.039 37.379 Decimal Degrees

2. On the top left corner of the attribute table, click on 'Table Options' and go to 'Add Field...'

The screenshot shows the ArcMap interface with the 'Add Field' dialog box open. The dialog box contains the following information:

- Name: Geo_ID2
- Type: Double
- Field Properties:

Precision	0
Scale	0

Below the dialog box, the 'Table' view for the 'cali_bg_proj' layer is visible, showing a data table with the following columns and rows:

FID	Shape *	STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMELSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON
0	Polygon	06	025	940000	3	060259400003	Block Group 3	G5030	S	12266417	680361	+32.7424027	-114.6675664
1	Polygon	06	025	010800	2	060250108002	Block Group 2	G5030	S	59331725	0	+32.7658550	-115.3923892
2	Polygon	06	025	010800	1	060250108001	Block Group 1	G5030	S	230656791	0	+32.8363463	-115.3514134
3	Polygon	06	025	011100	3	060250111003	Block Group 3	G5030	S	1209336	0	+32.7932442	-115.6903925
4	Polygon	06	073	010013	2	060730100132	Block Group 2	G5030	S	404606	0	+32.5564082	-117.0507980
5	Polygon	06	037	310400	3	060373104003	Block Group 3	G5030	S	764102	0	+34.2035192	-118.3401897
6	Polygon	06	031	000701	4	060310007014	Block Group 4	G5030	S	741332	0	+36.3603251	-119.6314511
7	Polygon	06	031	000300	2	060310003002	Block Group 2	G5030	S	2266983	0	+36.2590989	-119.8902902
8	Polygon	06	031	000200	2	060310002002	Block Group 2	G5030	S	100173206	30840	+36.3348381	-119.8822495
9	Polygon	06	059	086502	3	060590865023	Block Group 3	G5030	S	290933	0	+33.8454718	-117.9094315

3. Name the new field and select the type as 'Double'.

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Table

cali_bg_proj

STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMESAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2
06	025	940000	3	060259400003	Block Group 3	G5030	S	12266417	680361	+32.7424027	-114.6675664	
06	025	010800	2	060250108002	Block Group 2	G5030	S	59331725	0	+32.7658550	-115.3923892	
06	025	010800	1	060250108001	Block Group 1	G5030	S	230656791	0	+32.8363463	-115.3514134	
06	025	011100	3	060250111003	Block Group 3	G5030	S	1209336	0	+32.7932442	-115.6903925	
06	073	010013	2	060730100132	Block Group 2	G5030	S	404606	0	+32.5564082	-117.0507980	
06	037	310400	3	060373104003	Block Group 3	G5030	S	764102	0	+34.2035192	-118.3401897	
06	031	000701	4	060310007014	Block Group 4	G5030	S	741332	0	+36.3603251	-119.6314511	
06	031	000300	2	060310003002	Block Group 2	G5030	S	2266983	0	+36.2590989	-119.8902902	
06	031	000200	2	060310002002	Block Group 2	G5030	S	100173206	30840	+36.3348381	-119.8822495	
06	059	086502	3	060590865023	Block Group 3	G5030	S	290933	0	+33.8454718	-117.9094315	
06	037	651002	4	060376510024	Block Group 4	G5030	S	246669	0	+33.8083636	-118.3239442	
06	037	651101	1	060376511011	Block Group 1	G5030	S	871365	0	+33.8183814	-118.3326885	
06	059	099402	3	060590994023	Block Group 3	G5030	S	1299934	0	+33.7082565	-118.0021699	
06	059	099509	4	060590995094	Block Group 4	G5030	S	274249	0	+33.7732462	-118.0884280	
06	037	651101	2	060376511012	Block Group 2	G5030	S	4702741	2404	+33.8078567	-118.3379141	
06	037	651201	1	060376512011	Block Group 1	G5030	S	275367	0	+33.8215124	-118.3512174	

Sort Ascending
Sort Descending
Advanced Sorting...
Summarize...
Statistics...
Field Calculator...

Field Calculator

Populate or update the values of this field by specifying a calculation expression. If any of the records in the table are currently selected, only the values of the selected records will be calculated.

cali_bg_proj (0 out of 23212 Selected)

cali_bg_proj

-121.758 37.24 Decimal Degrees

4. Right click on the header of the newly created field and select 'Field Calculator' from the drop down list.

5. Click 'Yes' when the dialog box prompts.

The screenshot shows the ArcMap interface with a map of a city grid. A red circle is placed on a specific block group. A 'Field Calculator' dialog box is open, asking for confirmation to calculate outside an edit session. Below the dialog, the 'Table' view for the 'cali_bg_proj' layer is visible, showing a grid of geographic data.

Field Calculator Dialog:

You are about to do a calculate outside of an edit session. This method is faster than calculating in an edit session, but there is no way to undo your results once the calculation begins. Do you wish to continue?

Don't warn me again

Yes No

Table: cali_bg_proj

STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMLSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2
06	025	940000	3	060259400003	Block Group 3	G5030	S	12266417	680361	+32.7424027	-114.6675664	0
06	025	010800	2	060250108002	Block Group 2	G5030	S	59331725	0	+32.7658550	-115.3923892	0
06	025	010800	1	060250108001	Block Group 1	G5030	S	230656791	0	+32.8363463	-115.3514134	0
06	025	011100	3	060250111003	Block Group 3	G5030	S	1209336	0	+32.7932442	-115.6903925	0
06	073	010013	2	060730100132	Block Group 2	G5030	S	404606	0	+32.5564082	-117.0507980	0
06	037	310400	3	060373104003	Block Group 3	G5030	S	764102	0	+34.2035192	-118.3401897	0
06	031	000701	4	060310007014	Block Group 4	G5030	S	741332	0	+36.3603251	-119.6314511	0
06	031	000300	2	060310003002	Block Group 2	G5030	S	2266983	0	+36.2590989	-119.8902902	0
06	031	000200	2	060310002002	Block Group 2	G5030	S	100173206	30840	+36.3348381	-119.8822495	0
06	059	086502	3	060590865023	Block Group 3	G5030	S	290933	0	+33.8454718	-117.9094315	0
06	037	651002	4	060376510024	Block Group 4	G5030	S	246669	0	+33.8083636	-118.3239442	0
06	037	651101	1	060376511011	Block Group 1	G5030	S	871365	0	+33.8183814	-118.3326885	0
06	059	099402	3	060590994023	Block Group 3	G5030	S	1299934	0	+33.7082565	-118.0021699	0
06	059	099509	4	060590995094	Block Group 4	G5030	S	274249	0	+33.7732462	-118.0884280	0
06	037	651101	2	060376511012	Block Group 2	G5030	S	4702741	2404	+33.8078567	-118.3379141	0
06	037	651201	4	060376512014	Block Group 4	G5030	S	275267	0	+33.8215124	-118.3612171	0

Navigation: (0 out of 23212 Selected)

Coordinates: -121.758 37.24 Decimal Degrees

6. Since we are using the same values as before, double click on 'GEOID' so that it converts the text into string. Click OK.

The screenshot shows the ArcMap interface with the Field Calculator dialog box open. The dialog is configured with the following settings:

- Parser:** VB Script (selected), Python
- Fields:** GEOID (selected)
- Type:** Number (selected), String, Date
- Functions:** A list of mathematical functions including Abs, Atn, Cos, Exp, Fix, Int, Log, Sin, Sqr, and Tan.
- Show Codeblock:** Unchecked
- Geo_ID2 =** [GEOID]

The background shows a map of a city area and a data table with the following columns: STATEFP, COUNTYFP, TRACTCE, and Geo_ID2. The table contains data for various geographic areas, including their state and county FIPS codes, tract codes, and the newly calculated Geo_ID2 values.

STATEFP	COUNTYFP	TRACTCE	Geo_ID2
06	025	940000	0
06	025	010800	0
06	025	010800	0
06	025	011100	0
06	073	010013	0
06	037	310400	0
06	031	000701	0
06	031	000300	0
06	031	000200	2
06	059	086502	3
06	037	651002	4
06	037	651101	1
06	059	099402	3
06	059	099509	4
06	037	651101	2
06	037	651204	4

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Table

cali_bg_proj

STATEFP	COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMLSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2
06	025	940000	3	060259400003	Block Group 3	G5030	S	12266417	680361	+32.7424027	-114.6675664	60259400003
06	025	010800	2	060250108002	Block Group 2	G5030	S	59331725	0	+32.7658550	-115.3923892	60250108002
06	025	010800	1	060250108001	Block Group 1	G5030	S	230656791	0	+32.8363463	-115.3514134	60250108001
06	025	011100	3	060250111003	Block Group 3	G5030	S	1209336	0	+32.7932442	-115.6903925	60250111003
06	073	010013	2	060730100132	Block Group 2	G5030	S	404606	0	+32.5564082	-117.0507980	60730100132
06	037	310400	3	060373104003	Block Group 3	G5030	S	764102	0	+34.2035192	-118.3401897	60373104003
06	031	000701	4	060310007014	Block Group 4	G5030	S	741332	0	+36.3603251	-119.6314511	60310007014
06	031	000300	2	060310003002	Block Group 2	G5030	S	2266983	0	+36.2590989	-119.8902902	60310003002
06	031	000200	2	060310002002	Block Group 2	G5030	S	100173206	30840	+36.3348381	-119.8822495	60310002002
06	059	086502	3	060590865023	Block Group 3	G5030	S	290933	0	+33.8454718	-117.9094315	60590865023
06	037	651002	4	060376510024	Block Group 4	G5030	S	246669	0	+33.8083636	-118.3239442	60376510024
06	037	651101	1	060376511011	Block Group 1	G5030	S	871365	0	+33.8183814	-118.3326885	60376511011
06	059	099402	3	060590994023	Block Group 3	G5030	S	1299934	0	+33.7082565	-118.0021699	60590994023
06	059	099509	4	060590995094	Block Group 4	G5030	S	274249	0	+33.7732462	-118.0884280	60590995094
06	037	651101	2	060376511012	Block Group 2	G5030	S	4702741	2404	+33.8078567	-118.3379141	60376511012
06	037	651201	4	060376512014	Block Group 4	G5030	S	375287	0	+33.8245124	-118.3612471	60376512014

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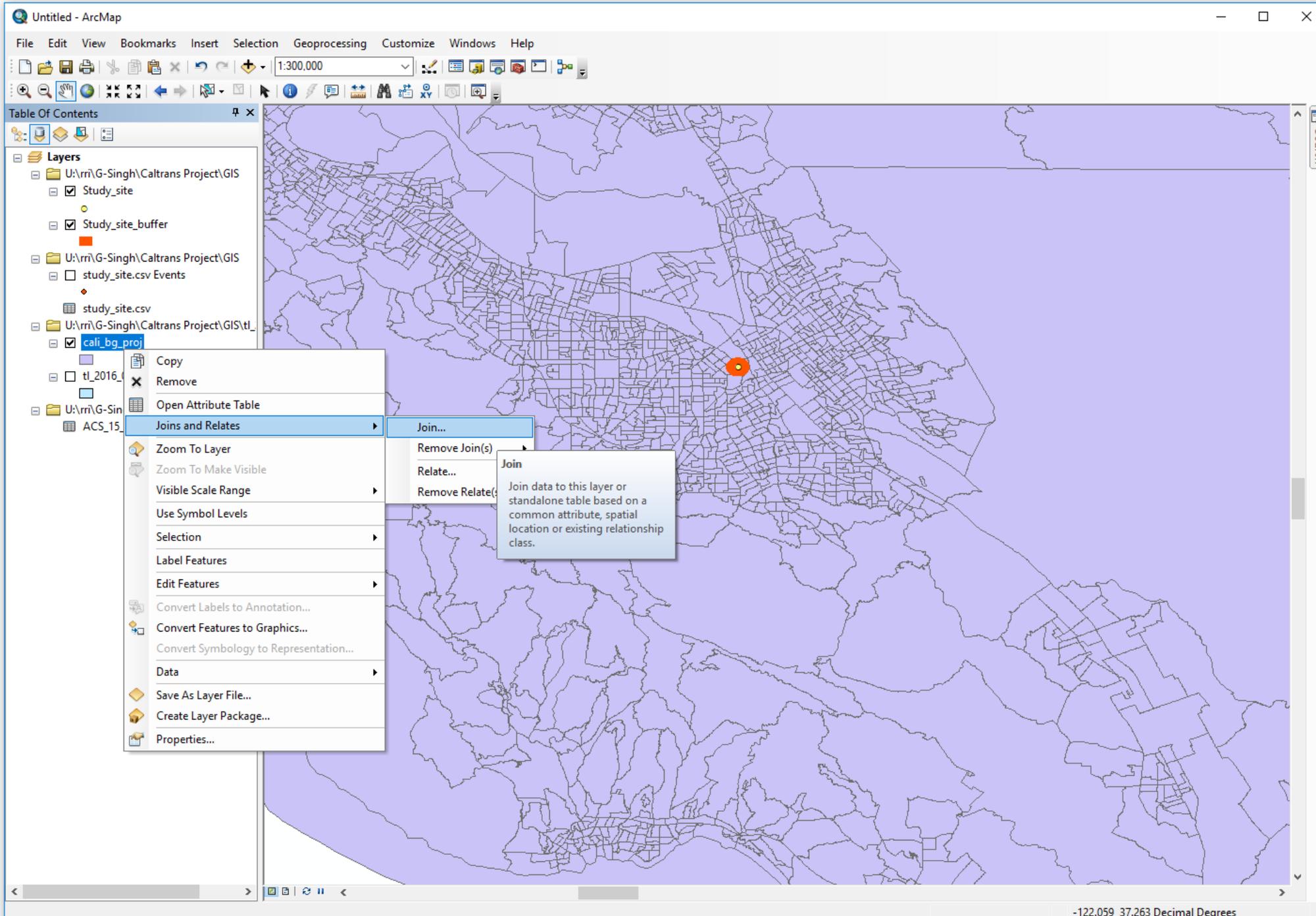
cali_bg_proj

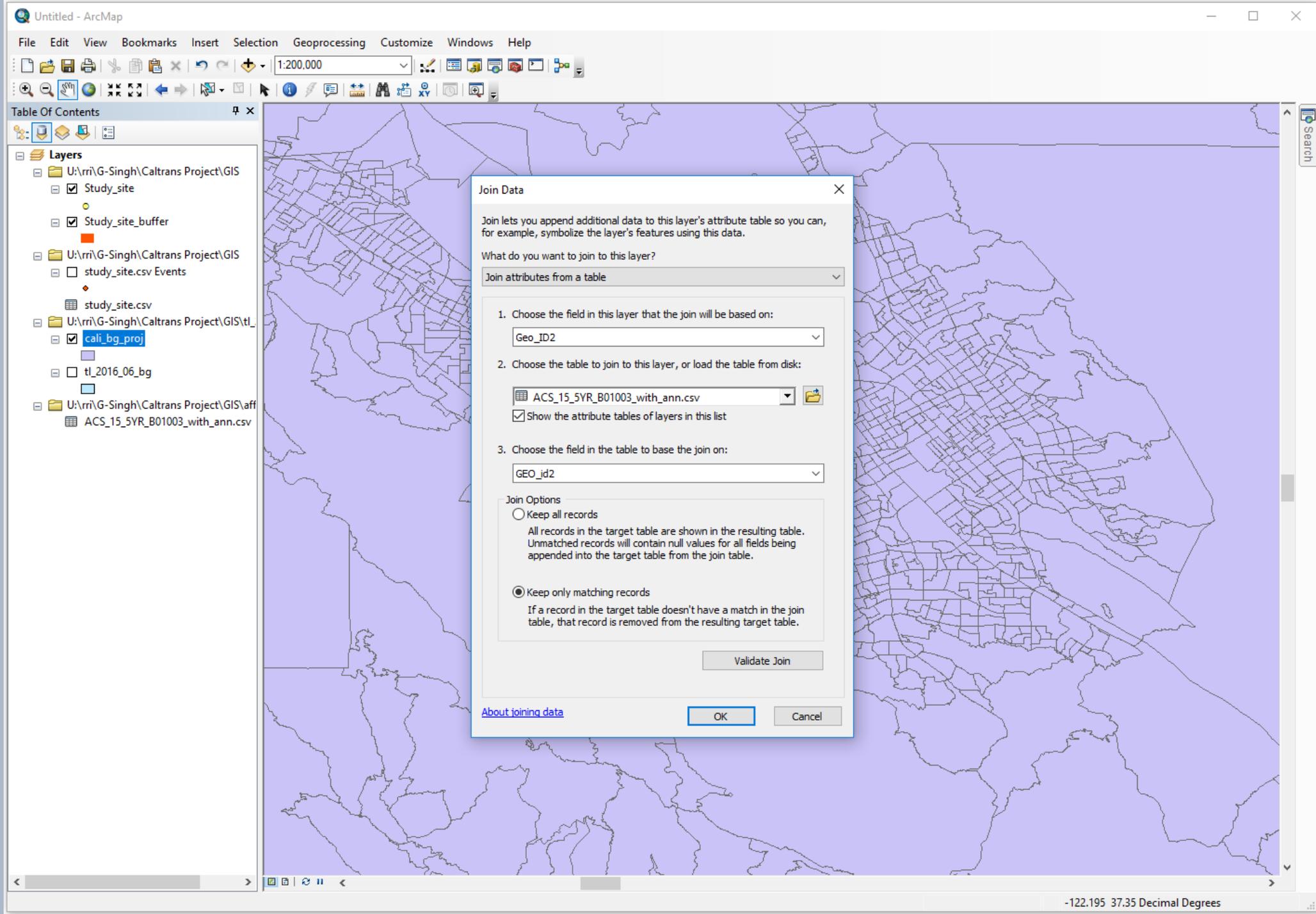
Note: To check the type of field of any column in an attribute table, right click on the column header and click on 'Properties'. In the field Properties dialog box, look for the information across 'Type'.

Step 3: Joining data

The csv file and the shapefile are ready to join.

1. Right click on the projected census shapefile and go to Joins and Relates>Join.





2. In the 'Join Data' dialog box, choose the newly created Geo ID column from the attribute table list of fields.

Next, choose the census csv file (cleaned and prepped).

Finally, select the geo_id field from the drop down list.

In the 'Join Options', you can either select 'Keep all records' or 'Keep only matching records'.

Note: The block group shapefile consists of the entire California, however the csv files contains information of the Santa Clara county. When we join both the data sets, only the block groups in Santa Clara are populated with the new information (population). Therefore, 'Keep all records' will retain the features but will have empty cells. Since the buffer falls in the Santa Clara, this is will not pose an issue.

Two columns (from the csv file) will appear in the attribute table of the shapefile you just joined.

The screenshot shows the ArcMap interface with a map of a city area. A red circle highlights a specific location on the map. The Table of Contents on the left lists several layers, including 'cali_bg_proj'. Below the map, the 'Table' window displays the attribute table for 'cali_bg_proj', with columns 'OID' and 'GEO_id2' highlighted in orange.

COUNTYFP	TRACTCE	BLKGRPCE	GEOID	NAMLSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2	OID	GEO_id2	Population
085	505403	1	060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492	60855054031	1652
085	505403	2	060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493	60855054032	2214
085	505403	3	060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494	60855054033	2326
085	505500	1	060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495	60855055001	971
085	506802	3	060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	60855068023	953
085	506803	3	060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	60855068033	3127
085	506803	2	060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	60855068032	1359
085	506804	1	060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	60855068041	588
085	506804	2	060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	60855068042	1059
085	507500	3	060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	60855075003	969
085	508101	1	060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	60855081011	2025
085	508101	3	060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	60855081013	2531
085	508102	1	060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	60855081021	3432
085	508202	1	060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	60855082021	1519
085	508202	2	060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	60855082022	2377

8. Calculating area

1. On the top left corner of the attribute table, click on 'Table Options' and go to 'Add Field...'

Type the name of the new field which will be used to calculate and store area of each block group.

The screenshot shows the ArcMap interface with the 'Add Field' dialog box open. The dialog box has the following fields:

- Name: Area_BG
- Type: Float
- Field Properties:

Precision	0
Scale	0

The background shows a map of a city area with a red circle highlighting a specific block group. Below the map is the attribute table for the 'cali_bg_proj' layer.

FID	Shape *	STATEFP	COUNTYFP	TRACT	FCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2	OID			
74	Polygon	06	085	505403	1	060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492
75	Polygon	06	085	505403	2	060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493
76	Polygon	06	085	505403	3	060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494
77	Polygon	06	085	505500	1	060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495
78	Polygon	06	085	506802	3	060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597
79	Polygon	06	085	506803	3	060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602
80	Polygon	06	085	506803	2	060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601
81	Polygon	06	085	506804	1	060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604
82	Polygon	06	085	506804	2	060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605
83	Polygon	06	085	507500	3	060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646
84	Polygon	06	085	508101	1	060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695
85	Polygon	06	085	508101	3	060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697
100	Polygon	06	085	508102	1	060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698
101	Polygon	06	085	508202	1	060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699
102	Polygon	06	085	508202	2	060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700

Note: The area cannot be calculated unless the shapefile is projected.

The screenshot shows the ArcMap interface with the Editor toolbar open. The toolbar includes options like 'Start Editing', 'Copy Parallel...', 'Merge...', 'Buffer...', 'Union...', 'Clip...', 'Validate Features', 'Snapping', 'More Editing Tools', 'Editing Windows', and 'Options...'. A tooltip for 'Start Editing' is visible, stating: 'Start an edit session so you can edit features or attributes. Press F1 for more help.'

The Table of Contents on the left shows a project folder 'U:\rri\G-Singh\Caltrans Project\GIS' with several layers, including 'cali_bg_proj' which is currently selected.

The data table below is titled 'cali_bg_proj' and contains the following columns and data:

GEOID	NAMELSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2	OID	GEO_id2	Population	cali_bg_proj.Area_BG
060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492	60855054031	1652	0
060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493	60855054032	2214	0
060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494	60855054033	2326	0
060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495	60855055001	971	0
060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	60855068023	953	0
060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	60855068033	3127	0
060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	60855068032	1359	0
060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	60855068041	588	0
060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	60855068042	1059	0
060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	60855075003	969	0
060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	60855081011	2025	0
060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	60855081013	2531	0
060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	60855081021	3432	0
060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	60855082021	1519	0
060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	60855082022	2377	0

The status bar at the bottom indicates '(0 out of 1075 Selected)' and the current location is 'cali_bg_proj' at coordinates '-122.055 37.505 Decimal Degrees'.

2. In the toolbar, click on Editor Toolbar  Once the Editor toolbar appears on the screen, go to Editor>Start Editing.

Untitled - ArcMap

File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help

1:200,000

Editor

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- U:\rr\G-Singh\Caltrans Project\GIS
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 - study_site.csv
- U:\rr\G-Singh\Caltrans Project\GIS\tl...
 - cali_bg_proj
 - tl_2016_06_bg
- U:\rr\G-Singh\Caltrans Project\GIS\aff...
 - ACS_15_5YR_B01003_with_ann.csv

Start Editing

This map contains data from more than one database or folder. Please choose the layer or workspace to edit.

- ACS_15_5YR_B01003_with_ann.csv
- cali_bg_proj
- Study_site
- study_site.csv
- study_site.csv Events
- Study_site_buffer
- tl_2016_06_bg

Source Type

- U:\rr\G-Singh\Caltrans Project\GIS Shapefiles / dBase Files
- U:\rr\G-Singh\Caltrans Project\GIS Text File Data
- U:\rr\G-Singh\Caltrans Project\GIS\aff_dow... Text File Data
- U:\rr\G-Singh\Caltrans Project\GIS\tl_2016... Shapefiles / dBase Files

About editing and workspaces

OK Cancel

Table

cali_bg_proj

GEOID	NAMLSAD
060855054031	Block Group 1
060855054032	Block Group 2
060855054033	Block Group 3
060855055001	Block Group 1
060855068023	Block Group 3
060855068033	Block Group 3
060855068032	Block Group 2
060855068041	Block Group 1
060855068042	Block Group 2
060855075003	Block Group 3
060855081011	Block Group 1
060855081013	Block Group 3
060855081021	Block Group 1
060855082021	Block Group 1
060855082022	Block Group 2
060855082023	Block Group 3

OID	GEO_id2	Population	cali_bg_proj.Area_BG
1	492	60855054031	1652
2	493	60855054032	2214
3	494	60855054033	2326
1	495	60855055001	971
3	597	60855068023	953
3	602	60855068033	3127
	601	60855068032	1359
	604	60855068041	588
	605	60855068042	1059
	646	60855075003	969
	695	60855081011	2025
	697	60855081013	2531
	698	60855081021	3432
	699	60855082021	1519
	700	60855082022	2377
	701	60855082023	887

(0 out of 1075 Selected)

cali_bg_proj

-122.066 37.502 Decimal Degrees

3. Choose the census shapefile.
Click OK.

4. Right click on the header of new field and select 'Calculate Geometry'

Table

cali_bg_proj

GEOID	NAME_SAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2	OID	GEO_id2	Population
060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492	60855054031	1652
060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493	60855054032	2214
060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494	60855054033	2326
060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495	60855055001	971
060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	60855068023	953
060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	60855068033	3127
060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	60855068032	1359
060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	60855068041	588
060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	60855068042	1059
060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	60855075003	969
060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	60855081011	2025
060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	60855081013	2531
060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	60855081021	3432
060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	60855082021	1519
060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	60855082022	2377

Calculate Geometry

Populate or update the values of this field to be geometric values derived from the features that the table represents, such as area, perimeter, length, etc. The dialog that appears lets you choose whether all the records will be calculated or just the selected records. This command is disabled if the table is not the attribute table of a feature class or shapefile.

Calculate Geometry...

Turn Field Off

Freeze/Unfreeze Column

Delete Field

Properties...

Calculate Geometry

Property: Area

Coordinate System

Use coordinate system of the data source:
PCS: NAD 1983 UTM Zone 10N

Use coordinate system of the data frame:
GCS: North American 1983

Units: Square Meters [sq m]

Calculate selected records only

[About calculating geometry](#) OK Cancel

GEOID	NAME_SAD	MT	ID2	OID	GEO_id2	Population	cali_bg_proj.Area_BG					
060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492	60855054031	1652	0
060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493	60855054032	2214	0
060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494	60855054033	2326	0
060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495	60855055001	971	0
060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	60855068023	953	0
060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	60855068033	3127	0
060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	60855068032	1359	0
060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	60855068041	588	0
060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	60855068042	1059	0
060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	60855075003	969	0
060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	60855081011	2025	0
060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	60855081013	2531	0
060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	60855081021	3432	0
060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	60855082021	1519	0
060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	60855082022	2377	0

5. Select 'Area' from the dropdown list and select the desired unit of area.

Make sure you select the projected co-ordinate system. Click OK.

Untitled - ArcMap

File Edit View Bookmarks Insert Selection Geoprocessing Customization Windows Help

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Editor

- Start Editing
- Stop Editing
- Save Edits
- Stop Editing
 - Stop the edit session. If you have any unsaved edits, you are prompted to save them.
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- U:\rri\G-Singh\Caltrans Project\GIS\tl
 - cali_bg_proj
 - tl_2016_06_bg
- U:\rri\G-Singh\Caltrans Project\GIS\aff
 - ACS_15_5YR_B01003_with_ann.csv

Table

cali_bg_proj

	GEOID	NAMLSAD	MTFCC	FUNCSTAT	ALAND	AWATER	INTPTLAT	INTPTLON	Geo_ID2	OID	GEO_id2
	060855054031	Block Group 1	G5030	S	481736	0	+37.3424037	-121.9805218	60855054031	492	6085505403
	060855054032	Block Group 2	G5030	S	382254	0	+37.3417076	-121.9857732	60855054032	493	6085505403
	060855054033	Block Group 3	G5030	S	520589	0	+37.3412915	-121.9919469	60855054033	494	6085505403
	060855055001	Block Group 1	G5030	S	417206	0	+37.3473269	-121.9564734	60855055001	495	6085505500
	060855068023	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	6085506802
	060855068033	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	6085506803
	060855068032	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	6085506803
	060855068041	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	6085506804
	060855068042	Block Group 2	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	6085506804
	060855075003	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	6085507500
	060855081011	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	6085508101
	060855081013	Block Group 3	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	6085508101
	060855081021	Block Group 1	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	6085508102
	060855082021	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	6085508202
	060855082022	Block Group 2	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	6085508202
	060855082023	Block Group 3	G5030	S	392955	0	+37.3429004	-121.9992402	60855082023	701	6085508202

(0 out of 1075 Selected)

cali_bg_proj

ArcToolbox

- ArcToolbox
 - 3D Analyst Tools
 - Analysis Tools
 - Extract
 - Overlay
 - Intersect
 - Spatial Join
 - Union
 - Proximity
 - Statistics
 - Cartography Tools
 - Conversion Tools
 - Data Interoperability Tools
 - Data Management Tools
 - Data Comparison
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 - Geocoding Tools
 - Geostatistical Analyst Tools
 - Linear Referencing Tools
 - Multidimension Tools
 - Network Analyst Tools
 - Parcel Fabric Tools

-121.912 37.344 Decimal Degrees

6. Go to Editor and Click on 'Stop Editing'

9. Intersect

1. Click on the 'Arc Toolbox' and browse to Analysis Tools>Overlay. Click on 'Intersect'.
2. Select the buffer and block group shapefile from the 'input Features' drop down list.
3. Browse to the work folder and type the name of the output file. Click OK.

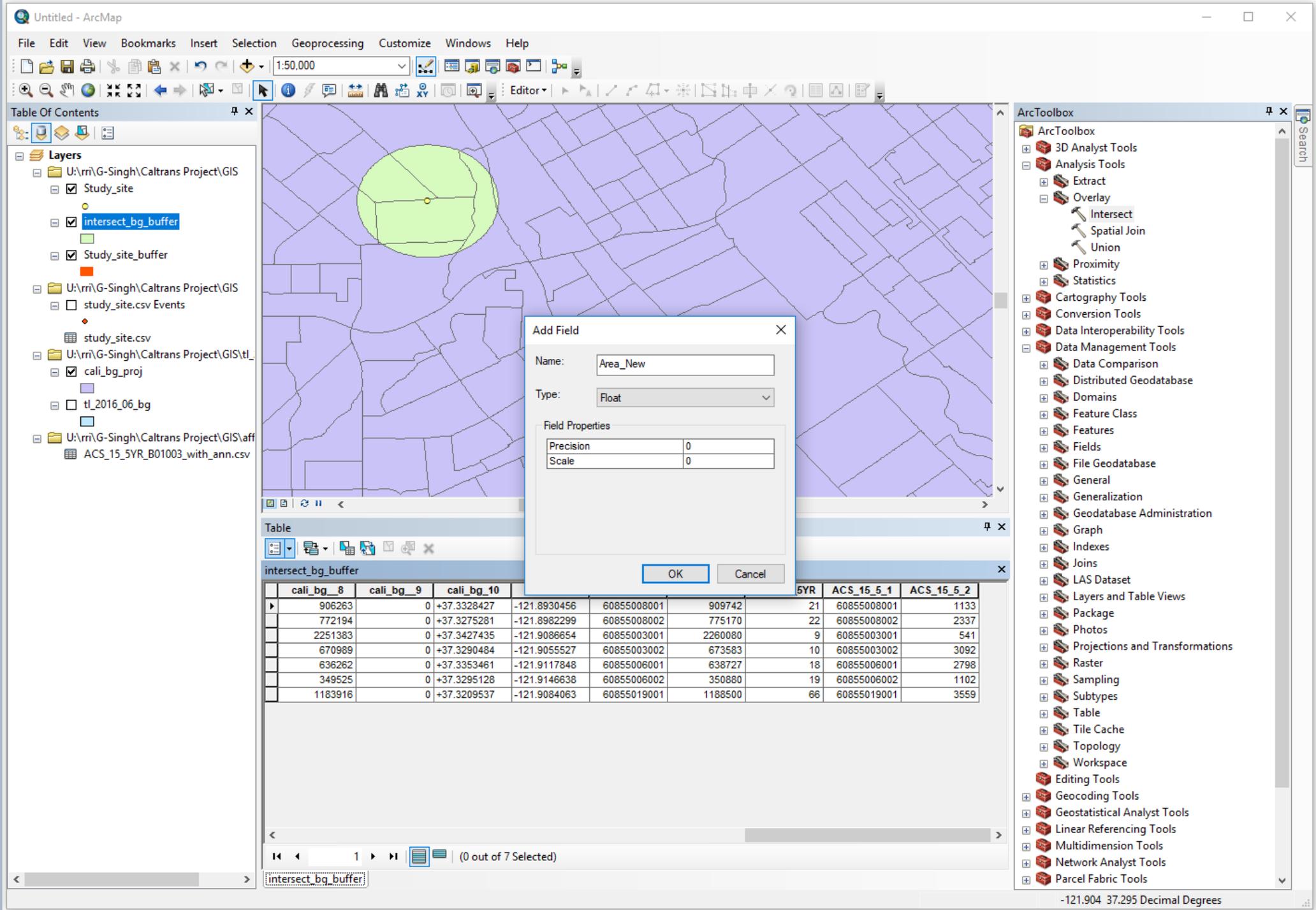
The screenshot shows the ArcMap interface with the 'Intersect' tool dialog box open. The map displays a red circle overlaid on a purple background. The 'Intersect' dialog box has the following settings:

- Input Features:** Study_site_buffer, cali_bg_proj
- Output Feature Class:** U:\rri\G-Singh\Caltrans Project\GIS\intersect_bg_buffer.shp
- JoinAttributes (optional):** ALL
- XY Tolerance (optional):** Decimal degrees

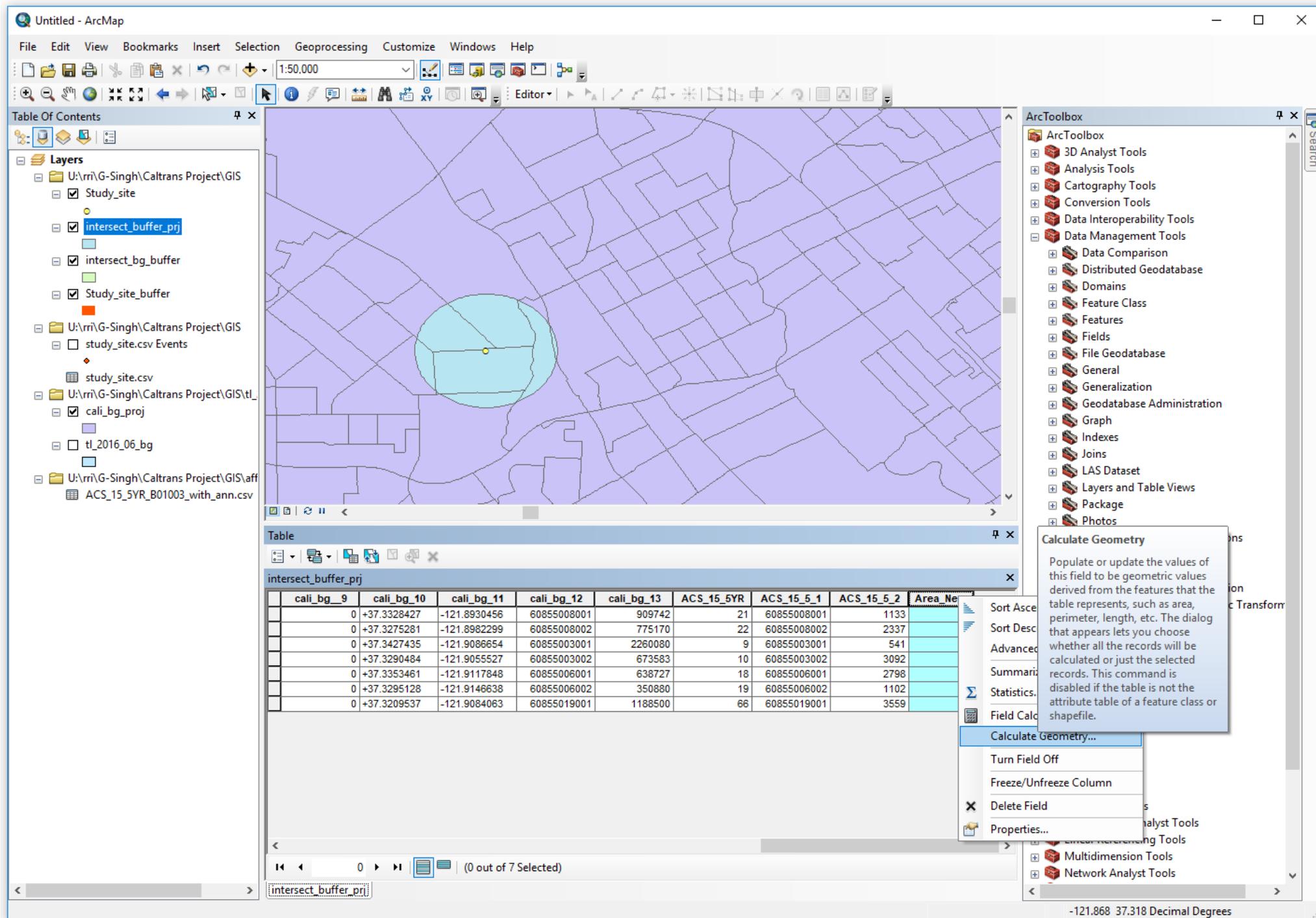
The 'ArcToolbox' panel on the right shows the path: Analysis Tools > Overlay > Intersect. The 'Layers' panel on the left shows the project files. The 'Table' panel at the bottom shows a data table with columns like GEOID, Block Group, and various numerical values.

GEOID	Block Group	Block Group	Block Group	Block Group	Block Group	Block Group	Block Group	Block Group	Block Group	Block Group
060855054031	Block Group 3	G5030	S	304071	0	+37.2449483	-121.9334540	60855068023	597	6085505403
060855054032	Block Group 3	G5030	S	685437	0	+37.2436356	-121.9096776	60855068033	602	6085505403
060855054033	Block Group 2	G5030	S	639374	0	+37.2401095	-121.9180857	60855068032	601	6085505403
060855055001	Block Group 1	G5030	S	292360	0	+37.2409616	-121.9424002	60855068041	604	6085505500
060855068023	Block Group 3	G5030	S	505232	0	+37.2394513	-121.9378438	60855068042	605	6085506802
060855068033	Block Group 3	G5030	S	860822	0	+37.2822254	-122.0250051	60855075003	646	6085506802
060855068032	Block Group 2	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	6085506803
060855068041	Block Group 1	G5030	S	855283	0	+37.3278551	-122.0190867	60855081011	695	6085506804
060855068042	Block Group 2	G5030	S	765388	0	+37.3353923	-122.0220051	60855081013	697	6085506802
060855075003	Block Group 3	G5030	S	2720163	0	+37.3303279	-122.0049181	60855081021	698	6085507500
060855081011	Block Group 1	G5030	S	717371	0	+37.3485757	-122.0086504	60855082021	699	6085508101
060855081013	Block Group 3	G5030	S	512553	0	+37.3488602	-121.9996895	60855082022	700	6085508102
060855081021	Block Group 1	G5030	S	282355	0	+37.3488602	-121.9996895	60855082022	700	6085508202

10. Recalculating Area & Areal Interpolation



2. Create a new field to calculate area of block groups intersected by buffer area.



2. In the toolbar, click on Editor Toolbar

Once the Editor toolbar appears on the screen, go to Editor>Start Editing.

3. Choose the census shapefile. Click OK.

4. Right click on the header of new field and select 'Calculate Geometry'

5. Select 'Area' from the dropdown list and select the desired unit of area.

Make sure you select the projected co-ordinate system. Click OK.

6. Go to Editor and Click on 'Stop Editing'

7. Add new field to calculate population according to the area proportion.

The screenshot shows the ArcMap interface with the 'Add Field' dialog box open. The dialog box contains the following information:

- Name: Pop_New
- Type: Long Integer
- Field Properties: Precision 0

The background shows a map interface with a Table of Contents, a Table window displaying data for 'intersect_buffer_prj', and an ArcToolbox on the right.

cali_bg_9	cali_bg_10	cali_bg_11	5_1	ACS_15_5_2	Area New			
0	+37.3328427	-121.8930456	60855008001	909742	21	60855008001	1133	17169.4
0	+37.3275281	-121.8982299	60855008002	775170	22	60855008002	2337	267864
0	+37.3427435	-121.9086654	60855003001	2260080	9	60855003001	541	481955
0	+37.3290484	-121.9055527	60855003002	673583	10	60855003002	3092	672575
0	+37.3353461	-121.9117848	60855006001	638727	18	60855006001	2798	351318
0	+37.3295128	-121.9146638	60855006002	350880	19	60855006002	1102	100138
0	+37.3209537	-121.9084063	60855019001	1188500	66	60855019001	3559	150677

8. Right click on the new field and go to 'Field Calculator'

The screenshot shows the ArcMap interface with a map of a city grid. A light blue circular buffer is centered on a specific location. The 'Table Of Contents' on the left lists several layers, with 'intersect_buffer_prj' selected. The 'Table' window at the bottom displays a data table with columns for various geographic and demographic variables. A context menu is open over the 'Pop' column header, with 'Field Calculator...' selected.

cali_bg_10	cali_bg_11	cali_bg_12	cali_bg_13	ACS_15_5YR	ACS_15_5_1	ACS_15_5_2	Area_New	Pop
+37.3328427	-121.8930456	60855008001	909742	21	60855008001	1133	17169.4	
+37.3275281	-121.8982299	60855008002	775170	22	60855008002	2337	267864	
+37.3427435	-121.9086654	60855003001	2260080	9	60855003001	541	481955	
+37.3290484	-121.9055527	60855003002	673583	10	60855003002	3092	672575	
+37.3353461	-121.9117848	60855006001	638727	18	60855006001	2798	351318	
+37.3295128	-121.9146638	60855006002	350880	19	60855006002	1102	100138	
+37.3209537	-121.9084063	60855019001	1188500	66	60855019001	3559	150677	

9. We will use the following formulae to aggregate the new population.

P_1: Population of the entire block group

P_2: Population of the intersected block group

A_1: Area of the entire block group

A_2: Area of the intersected block group

$$P_2 = \frac{P_1 \times A_2}{A_1}$$

The field name changes after intersecting. Check the new field names before using the field calculator.

The screenshot shows the ArcMap interface with a map of a study site and its buffer. A Field Calculator dialog box is open, showing the formula `[Area_New] * [ACS_15_5_2] / [cali_bg_13]` for the `Pop_New` field. The dialog also shows a list of fields and functions. Below the dialog, a data table for the `intersect_buffer_prj` project is visible, showing columns for `cali_bg_10`, `cali_bg_11`, `cali_bg_12`, and `cali_bg_13`.

cali_bg_10	cali_bg_11	cali_bg_12	cali_bg_13
+37.3328427	-121.8930456	60855008001	9097
+37.3275281	-121.8982299	60855008002	775
+37.3427435	-121.9086654	60855003001	22600
+37.3290484	-121.9055527	60855003002	6739
+37.3353461	-121.9117848	60855006001	6387
+37.3295128	-121.9146638	60855006002	3508
+37.3209537	-121.9084063	60855019001	11885

The screenshot shows the ArcMap interface with a map of a geographic area. A circular buffer is overlaid on the map. The Table of Contents on the left lists several layers, including 'intersect_buffer_prj'. The Table window at the bottom displays a table with the following data:

cali_bg_10	cali_bg_11	cali_bg_12	cali_bg_13	ACS_15_5YR	ACS_15_5_1	ACS_15_5_2	Area_New	Pop_New
+37.3328427	-121.8930456	60855008001	909742	21	60855008001	1133	17169.4	2
+37.3275281	-121.8982299	60855008002	775170	22	60855008002	2337	267864	8
+37.3427435	-121.9086654	60855003001	2260080	9	60855003001	541	481955	1
+37.3290484	-121.9055527	60855003002	673583	10	60855003002	3092	672575	308
+37.3353461	-121.9117848	60855006001	638727	18	60855006001	2798	351318	15
+37.3295128	-121.9146638	60855006002	350880	19	60855006002	1102	100138	3
+37.3209537	-121.9084063	60855019001	1188500	66	60855019001	3559	150677	4

A context menu is open over the 'Pop_New' column, with the 'Statistics...' option highlighted. A sub-menu for 'Statistics' is also visible, showing a description: 'Generates a report of statistics for the selected values in this numeric field. This command is disabled if this field is not numeric. If any of the records in the table are currently selected, statistics will only be generated for the selected records.'

10. Right click on the newly populated field of population click on 'Statistics'

Untitled - ArcMap

File Edit View Bookmarks Insert Selection Geoprocessing Customize Windows Help

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 - cali_bg_proj
 - tl_2016_06_bg
- U:\rr\G-Singh\Caltrans Project\GIS\aff
 - ACS_15_5YR_B01003_with_ann.csv

Statistics of intersect_buffer_prj

Field: Pop_New

Statistics:

- Count: 7
- Minimum: 21
- Maximum: 3087
- Sum: 6336
- Mean: 905.142857
- Standard Deviation: 1009.402996
- Nulls: 0

Frequency Distribution

cali_bg_10	cali_bg_11	cali_bg_12	cali_bg_13	ACS_15_5YR	ACS_15_5_1	ACS_15_5_2	Area_New	Pop_New
+37.3328427	-121.8930456	60855008001	909742	21	60855008001	1133	17169.4	21
+37.3275281	-121.8982299	60855008002	775170	22	60855008002	2337	267864	808
+37.3427435	-121.9086654	60855003001	2260080	9	60855003001	541	481955	115
+37.3290484	-121.9055527	60855003002	673583	10	60855003002	3092	672575	3087
+37.3353461	-121.9117848	60855006001	638727	18	60855006001	2798	351318	1539
+37.3295128	-121.9146638	60855006002	350880	19	60855006002	1102	100138	315
+37.3209537	-121.9084063	60855019001	1188500	66	60855019001	3559	150677	451

Table

intersect_buffer_prj

0 (0 out of 7 Selected)

ArcToolbox

- ArcToolbox
 - 3D Analyst Tools
 - Analysis Tools
 - Cartography Tools
 - Conversion Tools
 - Data Interoperability Tools
 - Data Management Tools
 - Data Comparison
 - Distributed Geodatabase
 - Domains
 - Feature Class
 - Features
 - Fields
 - File Geodatabase
 - General
 - Generalization
 - Geodatabase Administration
 - Graph
 - Indexes
 - Joins
 - LAS Dataset
 - Layers and Table Views
 - Package
 - Photos
 - Projections and Transformations
 - Raster
 - Batch Project
 - Convert Coordinate Notation
 - Create Custom Geographic Transform
 - Create Spatial Reference
 - Define Projection
 - Project
 - Raster
 - Sampling
 - Subtypes
 - Table
 - Tile Cache
 - Topology
 - Workspace
 - Editing Tools
 - Geocoding Tools
 - Geostatistical Analyst Tools
 - Linear Referencing Tools
 - Multidimension Tools
 - Network Analyst Tools

11. The new window summarizes the values. The 'Sum' represents the aggregated population falling in the buffer.

B. Using online tool option

[Missouri Census Data Center](#)

1. Go to Missouri Census Data Center website.

2. Select the location either by entering the co-ordinates or through google maps.

The screenshot shows a web browser window with the URL `mcdc.missouri.edu/websas/caps16acs.html`. The page title is "Missouri Census Data Center" and the main heading is "Circular Area Profiles (CAPS) - ACS Version". Below the heading, it says "Beta Version caps16acs (April, 2016) Using 2011-2015 Data" and "Uses a block-based apportioning algorithm (BBIA) to apportion tract/bg data".

The form includes the following sections:

- (Display related links and notes)**: A link for "google maps" is highlighted with a red box.
- Enter coordinates for the site in decimal degrees:** A text input field for "Latitude:" with a small icon to its right and the note "(or, enter 5-digit ZIP/ZCTA code)". Below it is a text input field for "Longitude (west assumed):" with the note "(dd.mm.ss format may be used for minutes & seconds)".
- (Optional) Enter a name for your Site:** A text input field.
- Enter up to 5 radius values, separated by blanks, in ascending order:** A text input field.
- (Optional) Select one or more states and the program will limit its data search to just those states.** A dropdown menu with "Missouri", "Alabama", and "Alaska" visible.
- Select the demographic profiles of interest:** Four checkboxes: "Demographic" (checked), "Economic" (checked), "Social" (checked), and "Housing" (checked).
- Select the geographic units to be aggregated:** A dropdown menu with "Let CAPS decide based on smallest radius (<=3 uses BGs, otherwise uses census tracts)", "Census Tracts", and "Census Block groups".
- Note:** "Block groups provide better geographic detail for small radii but about a fourth of the data is not available at the BG level. We recommend using tracts for radii over 5 miles."
- Uncheck to suppress auxiliary report showing county pops within circle(s)**: A checkbox that is checked.
- Check to see detailed geographic units within circle(s) report.**: An unchecked checkbox.
- Check to generate txt file with geocodes for tracts/bgs used in the aggregations.**: An unchecked checkbox.

At the bottom of the form are two buttons: "Generate Report" and "Reset Defaults".

CAPS16ACS - Missouri C x

mcdc.missouri.edu/websas/caps16acs.html

mcdc.missouri.edu/websas/geomap.html - Google Chrome

mcdc.missouri.edu/websas/geomap.html

Map Satellite

Position the cross-hairs over the object you want or type in an address:

Current Position: 37.330436, -121.90509

Close

Lookup Address

Generate Report

Reset Defaults

3. Use the 'Lookup Address' option to locate the location and drag the map to locate the pointer in the middle of the site.

Click 'Close'.

The co-ordinates will get auto-filled.

Enter up t

(Optional) S

Unche

Ch

Check t

CAPS16ACS - Missouri C x

mcdc.missouri.edu/websas/caps16acs.html



Missouri Census Data Center

Circular Area Profiles (CAPS) - ACS Version

Beta Version caps16acs (April, 2016) Using 2011-2015 Data
Uses a block-based apportioning algorithm (BBIA) to apportion tract/bg data

(Display related links and notes)

Enter coordinates for the site in decimal degrees: Use (click on) [google maps](#) to get Lat/Long coordinates.

Latitude: (or, enter 5-digit ZIP/ZCTA code)

Longitude (west assumed): (dd.mm.ss format may be used for minutes & seconds)

(Optional) Enter a name for your Site:

Enter up to 5 radius values, separated by blanks, in ascending order:

NOTE: data for small radii (< 3 miles, for example), especially in sparsely-populated rural areas, are subject to substantial sampling error.

(Optional) Select one or more states and the program will limit its data search to just those states.

California
Colorado
Connecticut

Select the demographic profiles of interest: Demographic Economic Social Housing

Select the geographic units to be aggregated: Let CAPS decide based on smallest radius (<=3 uses BGs, otherwise uses census tracts);
Census Tracts
Census Block groups.

Note: Block groups provide better geographic detail for small radii but about a fourth of the data is not available at the BG level. We recommend using tracts for radii over 5 miles.

Uncheck to *suppress* auxiliary report showing county pops within circle(s)

Check to see detailed geographic units within circle(s) report.

Check to generate txt file with geocodes for tracts/bgs used in the aggregations.

Generate Report

Reset Defaults

4. Enter the radius size in miles and select the state from the list.

Click 'Generate Report'.

SAS Output

mcidc.missouri.edu/cgi-bin/broker?_PROGRAM=websas.caps16acs.sas&_SERVICE=bigtime&latitude=37.33036813053803&longitude=-121.90509756931152&...

Circular Area Profiling System (CAPS)

ACS Version Using Data from 5-year Period Estimates Vintage 2015

Ground Zero Coordinates: Latitude=37.330368 , Longitude=-121.905098

Access the aggregated data as a csv file here: [caps16acs5680.csv](#)

0.5-mile radius of specified point

250 housing units were sampled, about 7.5%
541 persons were sampled, about 7.3%

Subject	Number	Percent
D1. AGE		
Universe:		
Total population	7,396	
Under 5 years	315	4.3
5 to 9 years	255	3.4
10 to 14 years	156	2.1
15 to 19 years	144	1.9
20 to 24 years	723	9.8
25 to 34 years	2,061	27.9
35 to 44 years	1,357	18.4
45 to 54 years	969	13.1
55 to 59 years	571	7.7
60 to 64 years	332	4.5
65 to 74 years	185	2.5
75 to 84 years	198	2.7
85 years and over	130	1.8
Median age in years	35.1	
5 years and over	N	95.7
15 years and over	6,669	90.2
Under 18 years of age	827	11.2
18 years and over	6,569	88.8
21 years and over	6,477	87.6
25 years and over	5,802	78.4
62 years and over	662	8.9
65 years and over	512	6.9
D2. AGE AND SEX		

5. The total population falling in the buffer will be displayed on the screen.

Employment Data

- A. Geographic Information System (GIS)
- B. Online tool option

A. Using Geographic Information System (GIS)

Using pre-existing data from local MPO or other transportation agency

Steps to calculate employment

(details for each step can be found in the population data section)

1. Add the site point and block group shapefile to ArcMap.
2. Project the shapefiles (if projected already, make sure both the shapefiles have same projection).
3. Create a new field in the block group shapefile to calculate the area.
4. Create a 0.5 mile buffer and project the shapefile.
5. Intersect the buffer with the block group shapefile.
6. Project the newly created shapefile.
7. Add a new field to re-calculate area.
8. Calculate the area of intersected block groups.
9. Add a new field to calculate the proportion of jobs falling in the buffer (areal interpolation).
10. Use 'Field Calculator' to calculate number of jobs in the buffer.
11. Find the total number of jobs by using 'Statistics' option.

B. Using online tool option

[Census Longitudinal Employer-Household Dynamics \(LEHD\) OnTheMap](#)

1. Go to [Census LEHD OnTheMap](#) website. To begin, one needs to specify the location point. It can be done in various ways.

a. If you have the point shape file of the location, click on 'Import from SHP' and upload SHP, SHX and PRJ files.

The screenshot displays the OnTheMap web application interface. The browser address bar shows the URL <https://onthemap.ces.census.gov>. The page title is "OnTheMap" and the subtitle is "LEHD Home Help and Documentation Reload Text-Only". The main navigation bar includes "Start", "Base Map", and "Selection" tabs. The left sidebar contains several sections: "Welcome to OnTheMap" with introductory text and a "2014 Data Now Available (03/03/2016)" link; "Search" with a search input field and a "Search All Names" dropdown; "Import Geography" with three options: "Import from KML", "Import from SHP" (highlighted with a red box), and "Import from GPS"; and "Load .OTM File" with a "Load" button. The main map area shows a map of the United States with city labels (Seattle, Chicago, Detroit, Boston, New York, Philadelphia, Columbus, Baltimore, Memphis, Charlotte, Dallas, Houston, Jacksonville) and a scale bar (1000 km / 500 mi). A modal dialog titled "Select Shapes from a Shapefile" is open, containing the text: "A PRJ file or a projection are required to use a shape file with OnTheMap. The projection string can be any valid EPSG Code, for example 4126 or 26915". The dialog lists three file types: "SHP file:" with a "Choose File" button (selected file: "Study_site.shp") and a "Clear" button; "SHX file:" with a "Choose File" button (selected file: "Study_site.shx") and a "Clear" button; and "PRJ file:" with a "Choose File" button (selected file: "Study_site.prj") and a "Clear" button. At the bottom of the dialog are "Cancel" and "Import" buttons. The bottom of the page features a footer with links for "Privacy Policy", "2010 Census", "Data Tools", "Information Quality", "Product Catalog", "Contact Us", and "Home", along with the source information: "Source: U.S.Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov".

OnTheMap

Secure | <https://onthemap.ces.census.gov>

LEHD Home Help and Documentation Reload Text-Only

Start Base Map Selection

Save Load Feedback Previous Extent Hide Tabs

Selection Preview:

Confirm Selection

Confirm and Add Advanced Selection

Help?

Drawing Tools

Navigation

Draw Polygon (Freehand)

Draw Line

Draw Point(s)

Edit Drawn Shape

Clear Selection

Add Layer Selection

No Selected Layer

Add Buffer to Selection

Do Not Buffer

Simple/Ring

Radius: miles

Donut

Inside Radius: miles

Outside Radius: miles

Plume

Start Radius: miles

End Radius: miles

Import Geography

Import from KML

Import from SHP

Import from GPS

Previous Shapes

1000 km
500 mi

-136.65987, 41.56762

b. If you know the location of your site, you can zoom in to the area and select the center of the site using the 'Draw Point(s)' option from the 'Selection' tab.

OnTheMap

LEHD Home Help and Documentation Reload Text-Only

Start Base Map Selection

Selection Preview:

Confirm Selection

Confirm and Add Advanced Selection

Drawing Tools

Navigation

Draw Polygon (Freehand)

Draw Line

Draw Point(s)

Edit Drawn Shape

Clear Selection

Add Layer Selection

No Selected Layer

Add Buffer to Selection

Do Not Buffer

Simple/Ring

Radius: 0.5 miles

Donut

Inside Radius: miles

Outside Radius: miles

Plume

Start Radius: miles

End Radius: miles

Import Geography

Import from KML

Import from SHP

Import from GPS

Previous Shapes

Selection Area Shape from

Save Load Feedback Previous Extent Hide Tabs

Selection Area

Shape from C:\fakepath\Study_site.shp buffered 0.50 miles

Selection Area: 0.785 Sq. Mi

Census Blocks: 80

Perform Analysis on Selection Area

Change Selection Area

Add Advanced Selection

San Jose

121.95425, 37.33484

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Source: U.S.Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov

2. Add Buffer: In the 'Add Buffer to Selection' drop down list, select 'Simple Ring' and enter the buffer size.

Click on 'Confirm Selection'.

3. Click on 'Perform Analysis on Selection Area' to proceed with analysis.

4. In the 'Analysis Settings', select the following options:

- Home/Work Area: Work
- Analysis Type: Area Profile>All Workers
- Year: 2014 (or latest)
- Job Type: All Jobs

Click 'Go'.

OnTheMap | LEHD Home Help and Documentation Reload Text-Only

Start | Base Map | Selection | Save | Load | Feedback | Previous Extent | Hide Tabs

Selection Preview: Confirm Selection

Analysis Settings
Area Profile Analysis in 2014 by All Jobs

Home/Work Area
Determines whether the selection area is analyzed on where workers live ("Home") or where workers are employed ("Work").
 Home
 Work

Analysis Type
Determines the type of results that will be generated for the selected area.
 Area Profile
Labor Market Segment:
 Area Comparison
Areas to Compare:
Labor Market Segment:
 Distance/Direction
 Destination
Destination Type:
 Inflow/Outflow
Note: Home/Work choice does not affect results

Year
Determines the year(s) of data that will be processed in the analysis.
 2014
 2013
 2012
 2011
 2010
 2009
 2008
 2007
 2006
 2005
 2004
 2003
 2002

Job Type
Determines the scope of jobs that will be processed in the analysis.
 All Jobs
 Primary Jobs
 All Private Jobs
 Private Primary Jobs

73

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Source: U.S. Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov

5. The 'Total All Jobs' will be located on the right-hand side of the screen just under the bar charts.

OnTheMap

LEHD Home Help and Documentation Reload Text-Only

Start Base Map Selection Results

Save Load Feedback Previous Extent Hide Tabs Hide Chart/Report

Work Area Profile Analysis

enter your own subtitle

Display Settings

Characteristic Filter Total

Year 2014

Map Controls

Color Key

- Thermal Overlay
- Point Overlay
- Selection Outline

Identify Zoom to Selection

Clear Overlays Animate Overlays

Report/Map Outputs

- Detailed Report
- Export Geography
- Print Chart/Map

Legends

- 5 - 322 Jobs/Sq.Mile
- 323 - 1,276 Jobs/Sq.Mile
- 1,277 - 2,864 Jobs/Sq.Mile
- 2,865 - 5,089 Jobs/Sq.Mile
- 5,090 - 7,949 Jobs/Sq.Mile
- 1 - 3 Jobs
- 4 - 43 Jobs
- 44 - 214 Jobs
- 215 - 675 Jobs
- 676 - 1,647 Jobs
- Analysis Selection

Analysis Settings

Change Settings

Click a Characteristic link in the Summary Report to see more detail.

Age

Earnings

Industry Sector

Race

View as Bar Chart

Total All Jobs

	2014	
	Count	Share
Total All Jobs	6,733	100.0%

Worker Age

	2014	
	Count	Share
Age 29 or younger	1,533	22.8%
Age 30 to 54	3,675	54.6%
Age 55 or older	1,525	22.6%

Earnings

	2014	
	Count	Share
\$1,250 per month or less	2,097	31.1%
\$1,251 to \$3,333 per month	1,763	26.2%
More than \$3,333 per month	2,873	42.7%

NAICS Industry Sector

	2014	
	Count	Share

1000 m 5000 ft

-121.90841, 37.29855

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Source: U.S.Census Bureau, Center for Economic Studies | e-mail: CES.OnTheMap.Feedback@census.gov