

An Overview of IPUMS NHGIS

Geographic U.S. Census Data from 1790 to 2020

Jonathan Schroeder

@j_p_schroeder

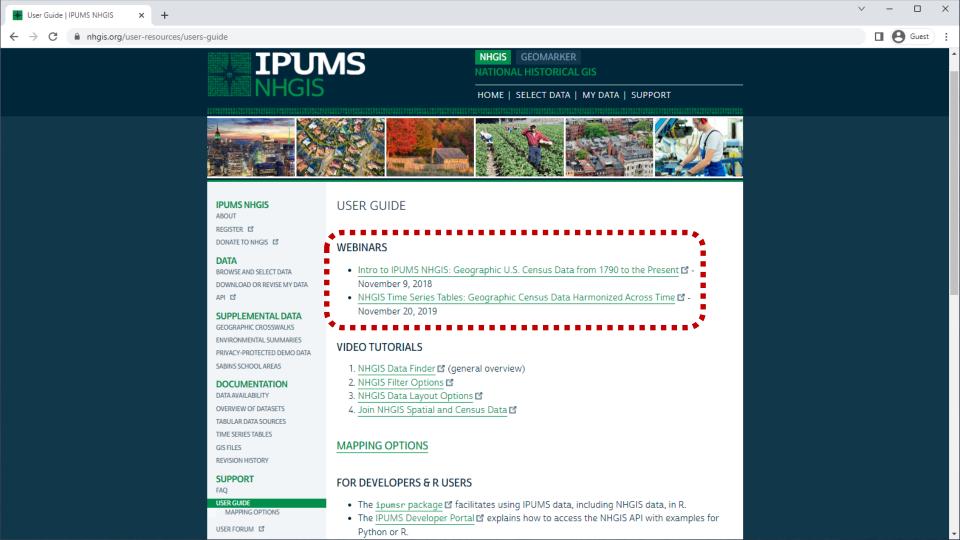
IPUMS Webinar Series – May 19, 2022

IPUMS.ORG

Webinar plan

- What Is IPUMS NHGIS?
- Data Finder Demo
 - Walkthrough: Find, Select, Download
 - Ways to Explore
- Key Resources
 - Summary Tables; GIS Files; Time Series & Crosswalks
 - API & ipumsr
 - User Support
- Q&A





User Guide | IPUMS NHGIS

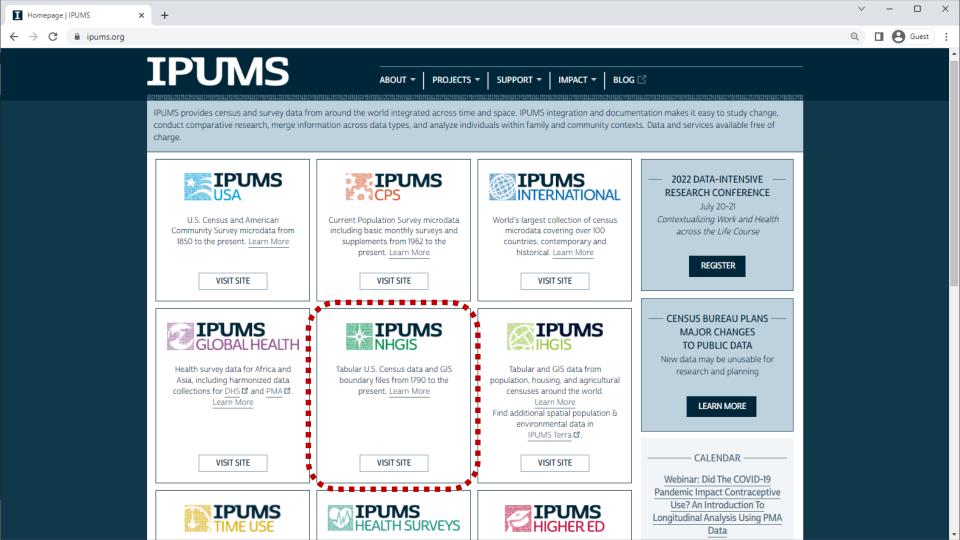
HOME | SELECT DATA | MY DATA | SUPPORT

NHGIS webinars

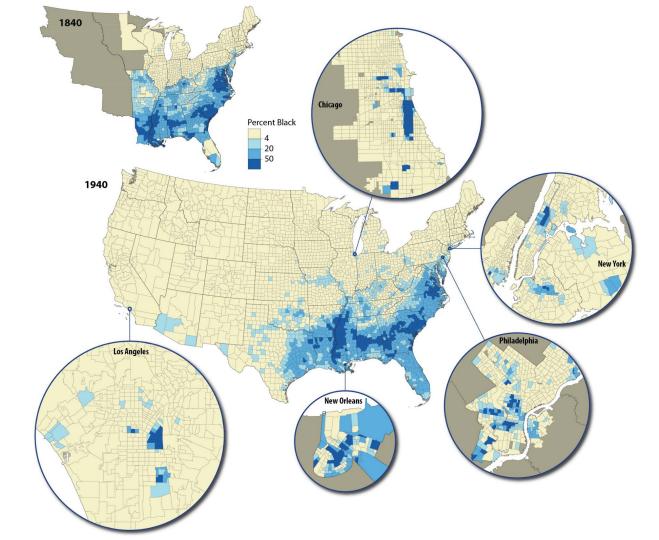
- 1. Intro to IPUMS NHGIS (Nov. 2018)
- 2. NHGIS Time Series Tables (Nov. 2019)
- 3. An Overview of IPUMS NHGIS (May 2022)
 - Broader than Intro
 - Less on time series tables
 - Latest news & plans



What Is IPUMS NHGIS?



- Geographic U.S. census & survey data
- Summary tables and GIS files
- 1790 to the present

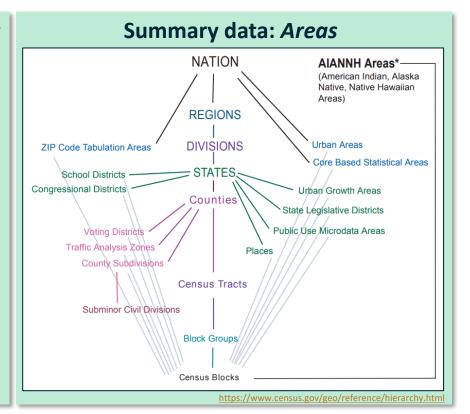


Observation units of census & survey data

Microdata: Respondents

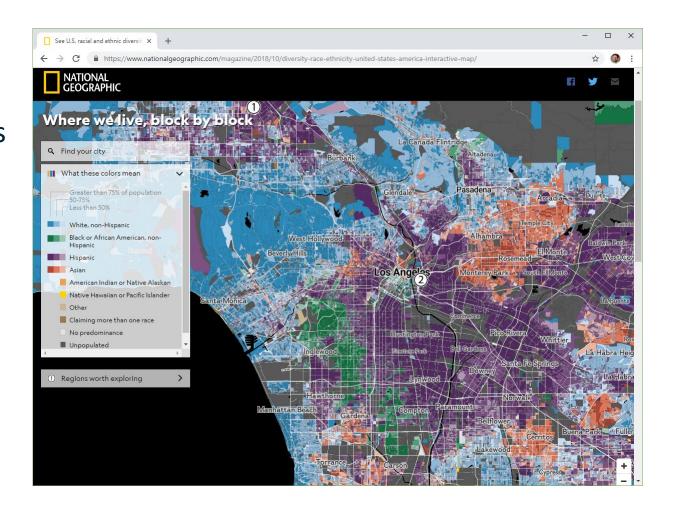
Households | | Persons

- + Flexible classification, modeling & cross-tabulation
- Restricted geographic detail
- Limited sample sizes

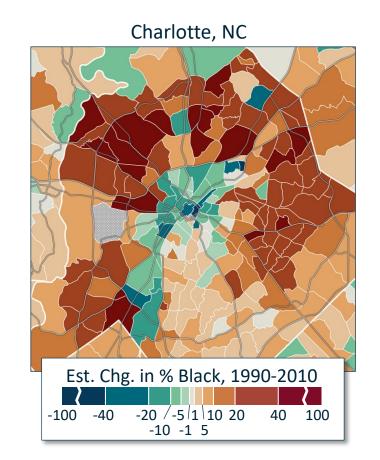


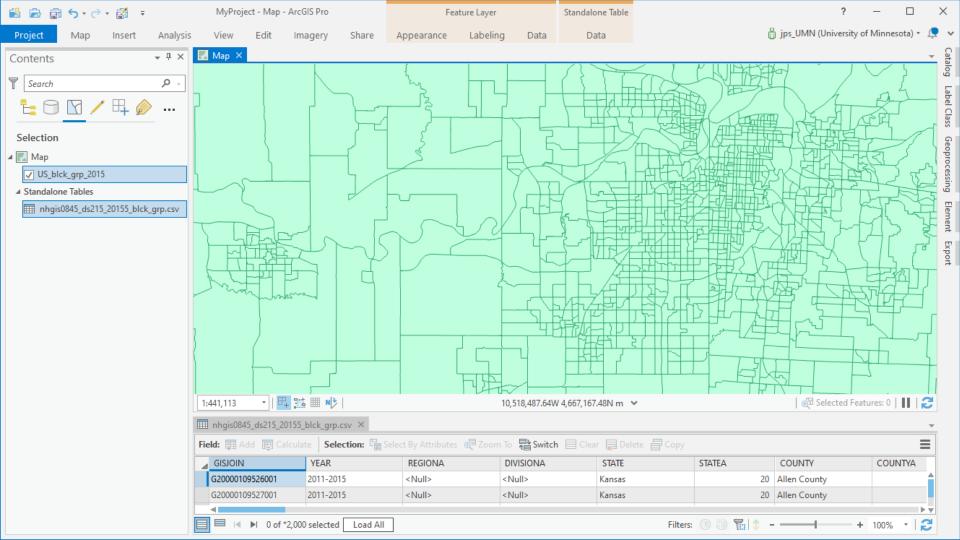


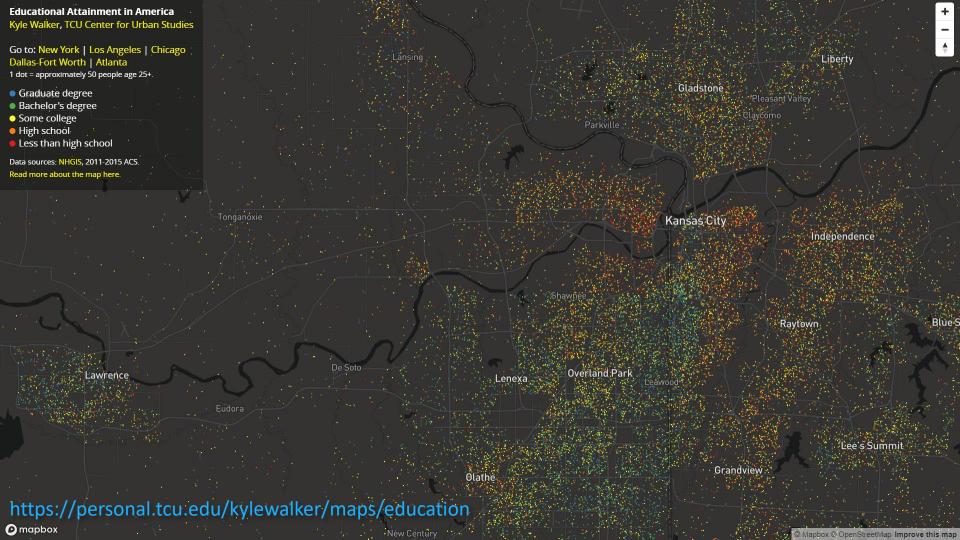
 All summary levels down to census blocks



- All summary levels down to census blocks
- Time series & geographic crosswalks
- A data source, not a mapping or analysis tool







- Nationwide extent for most levels
- Principally funded by NSF & NIH grants...
- FREE



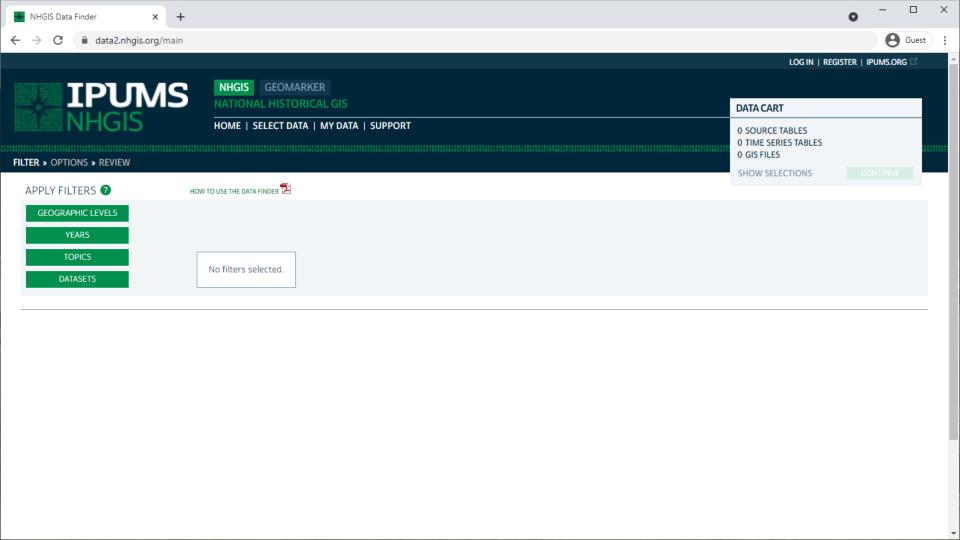


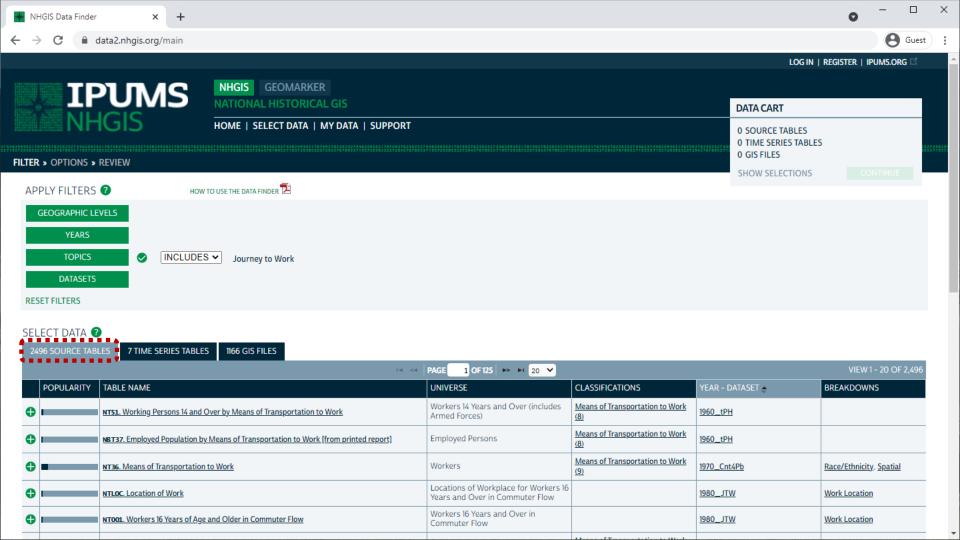


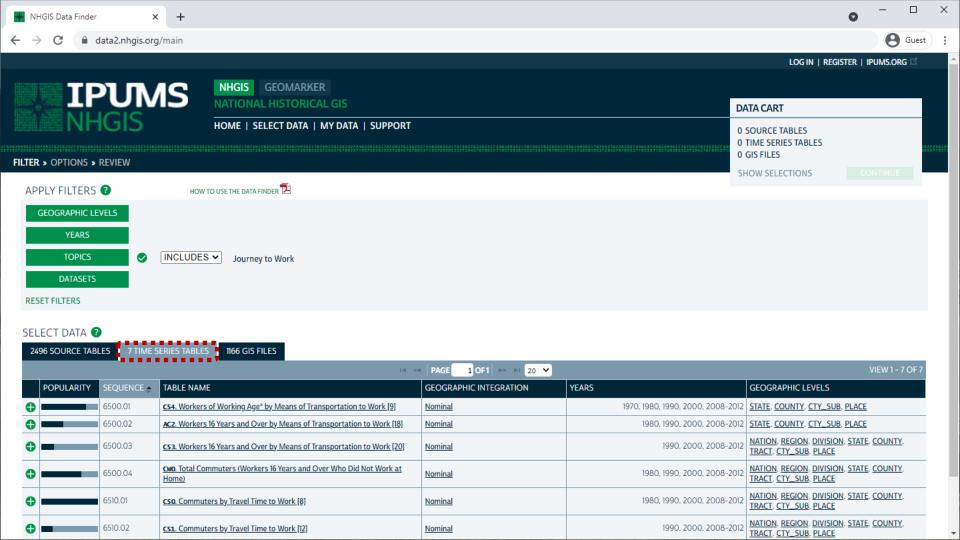
DATA FINDER DEMO

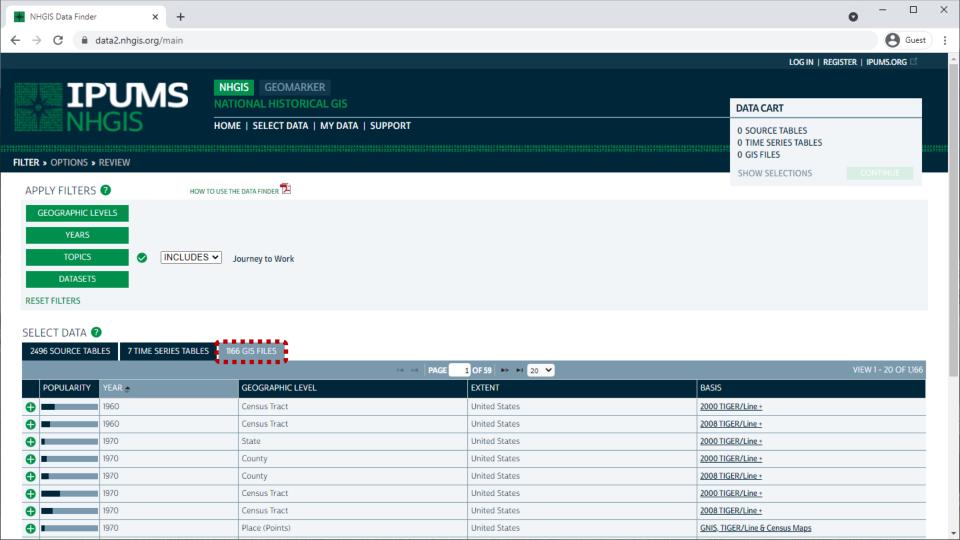
Walkthrough: Find, Select, Download

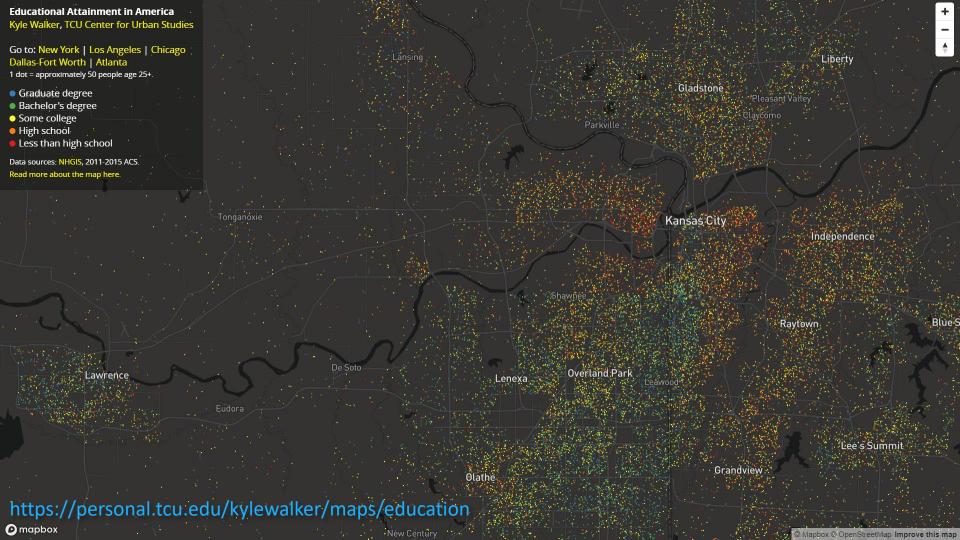


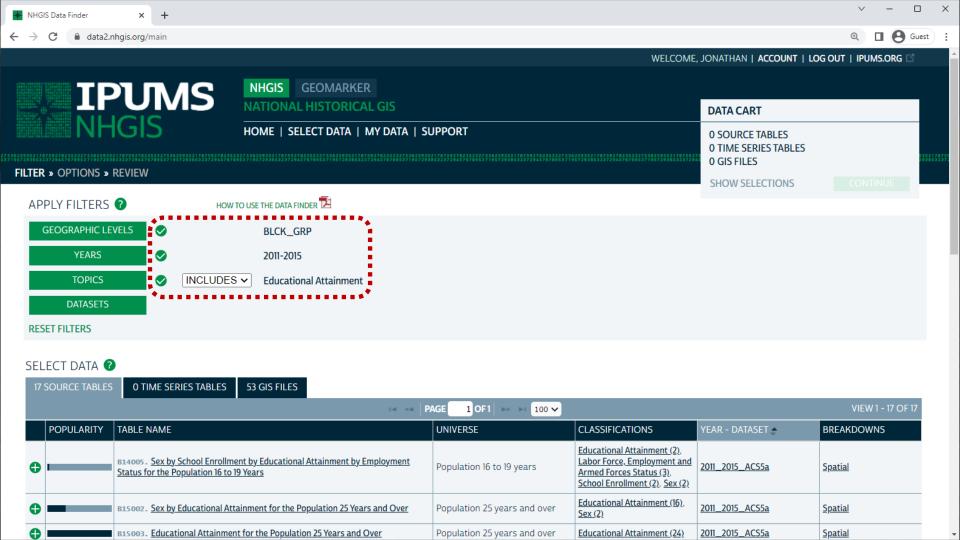


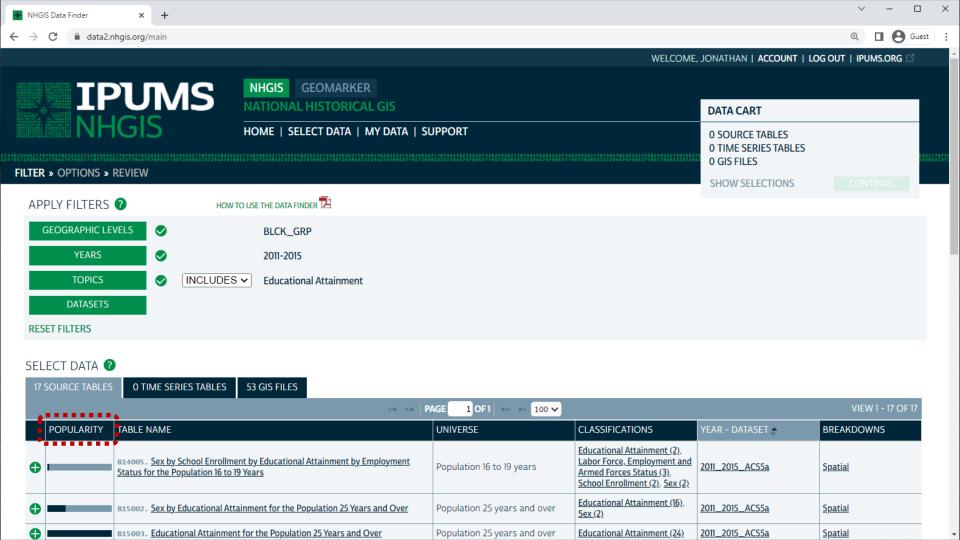


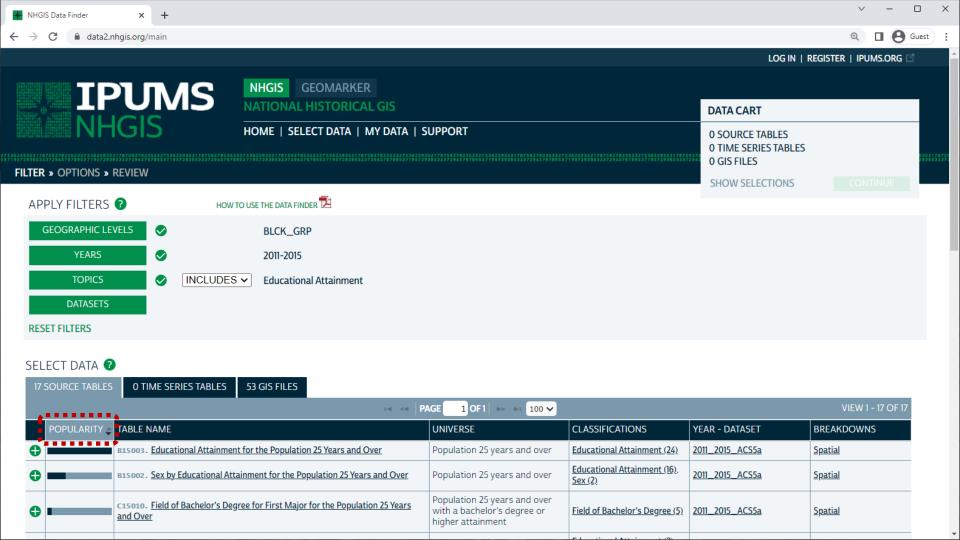


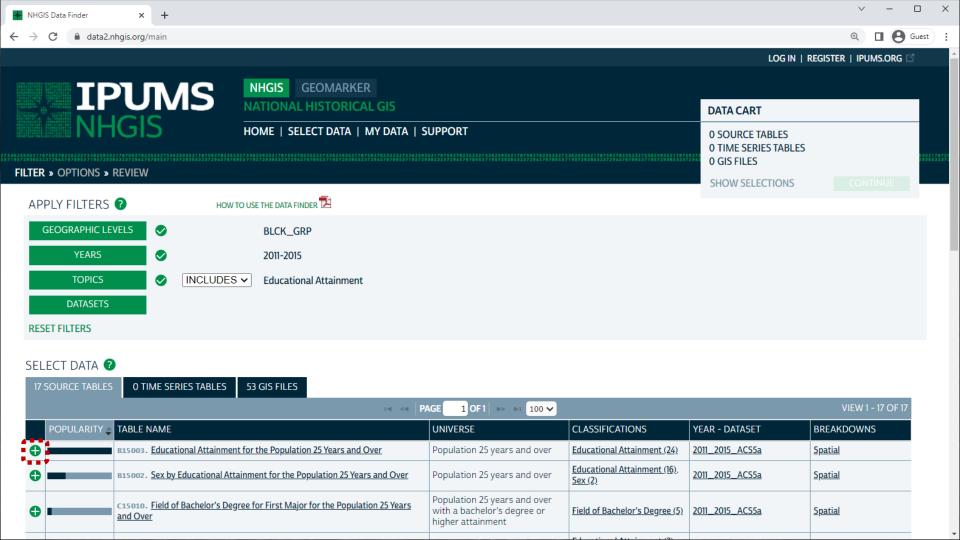


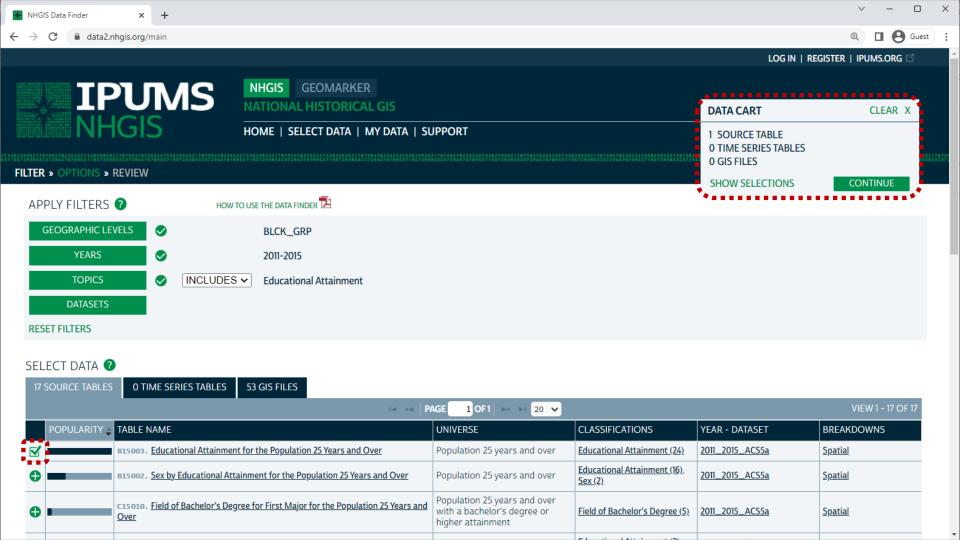


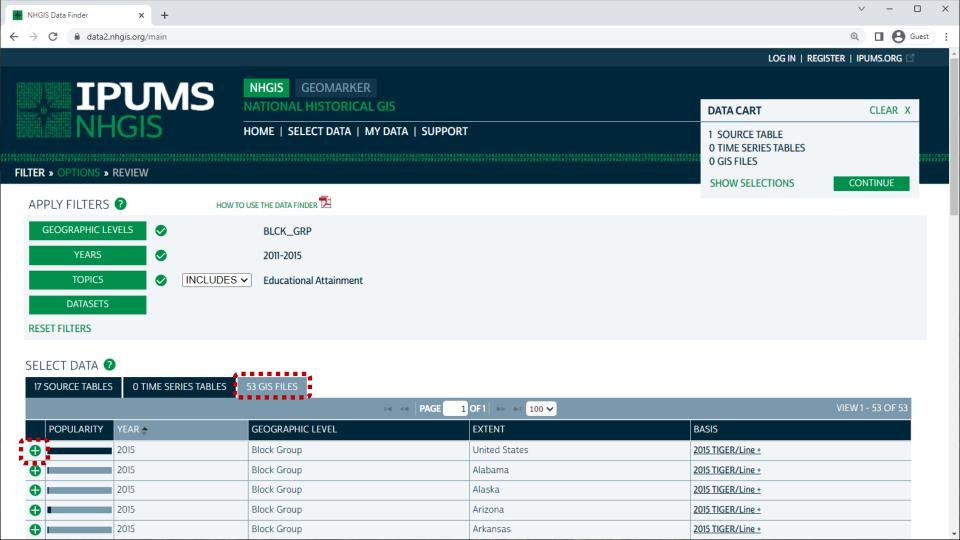


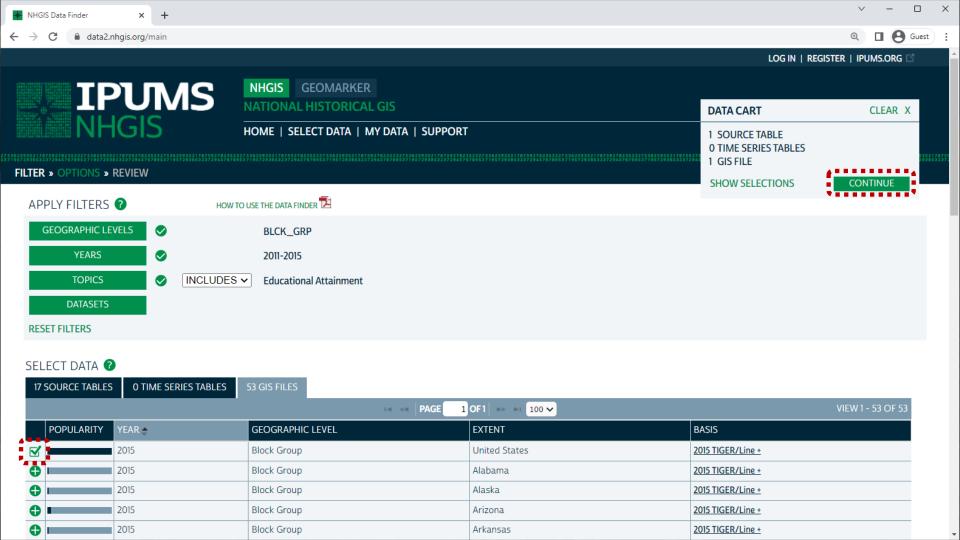


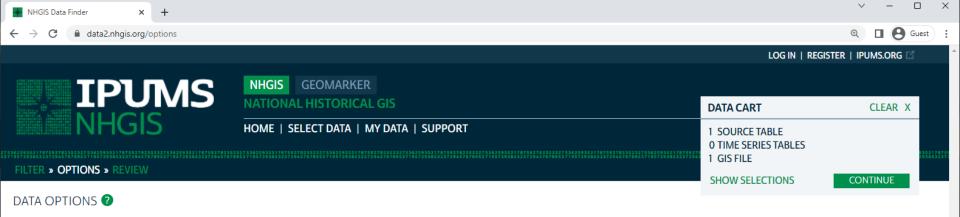












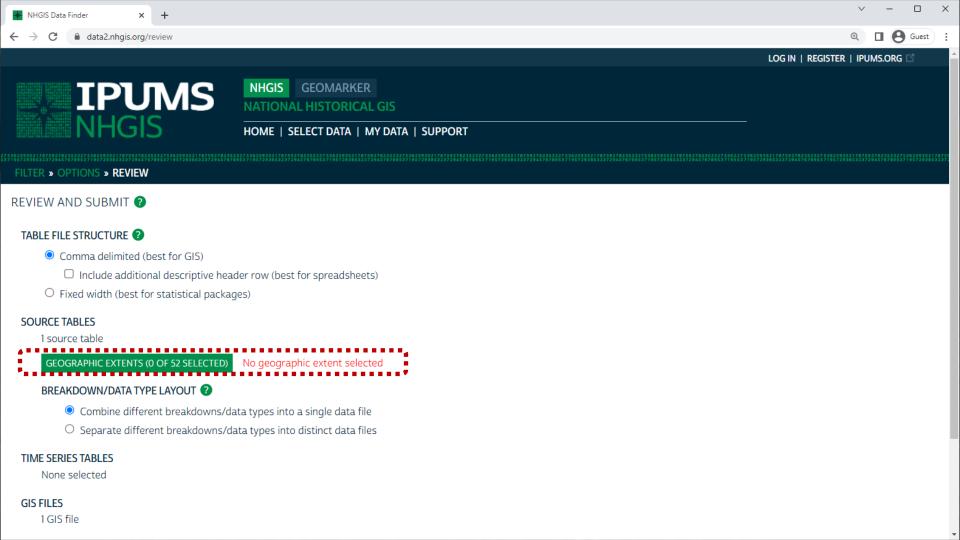
SOURCE TABLES

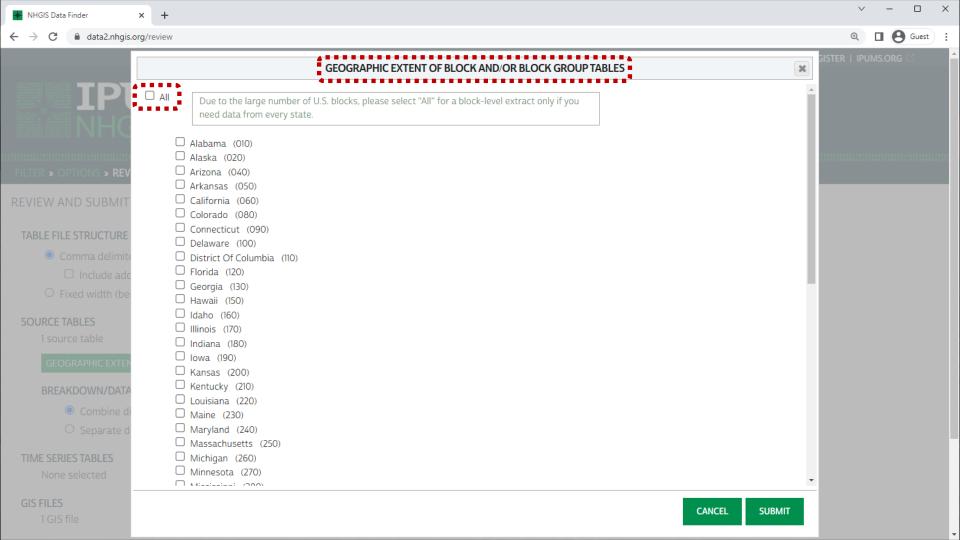
SELECT GEOGRAPHIC LEVELS

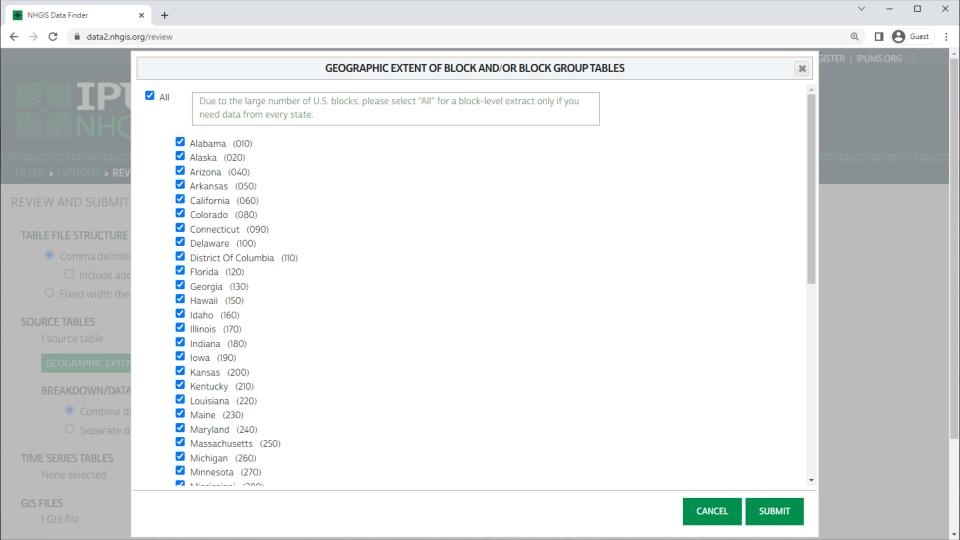
	SELECTIONS			
DATASET	TABLES	GEOGRAPHIC LEVELS	BREAKDOWNS	YEARS
2015 American Community Survey: 5-Year Data [2011-2015, Block Groups & Larger Areas]	<u>1 table</u>	1 of 87	Spatial: 1 of 19	1 of 1

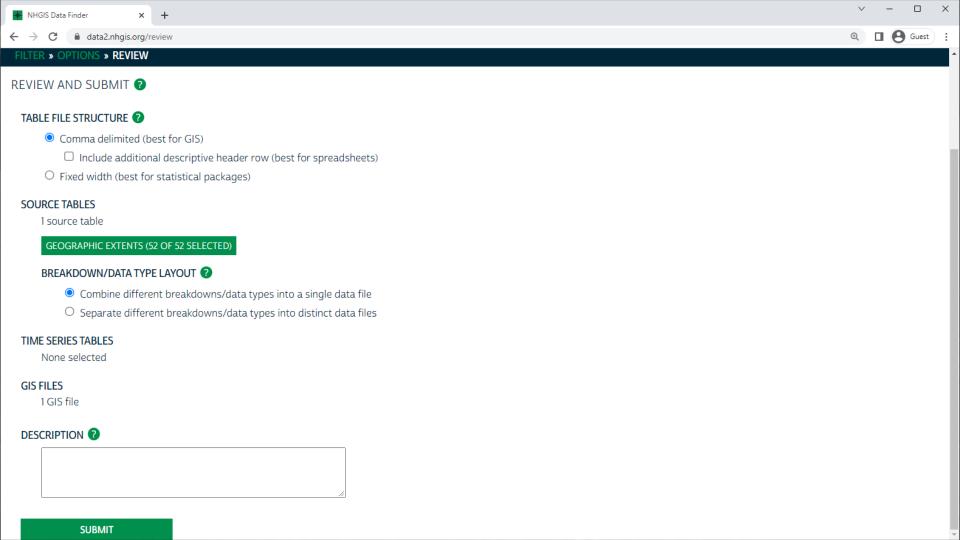
GIS FILES

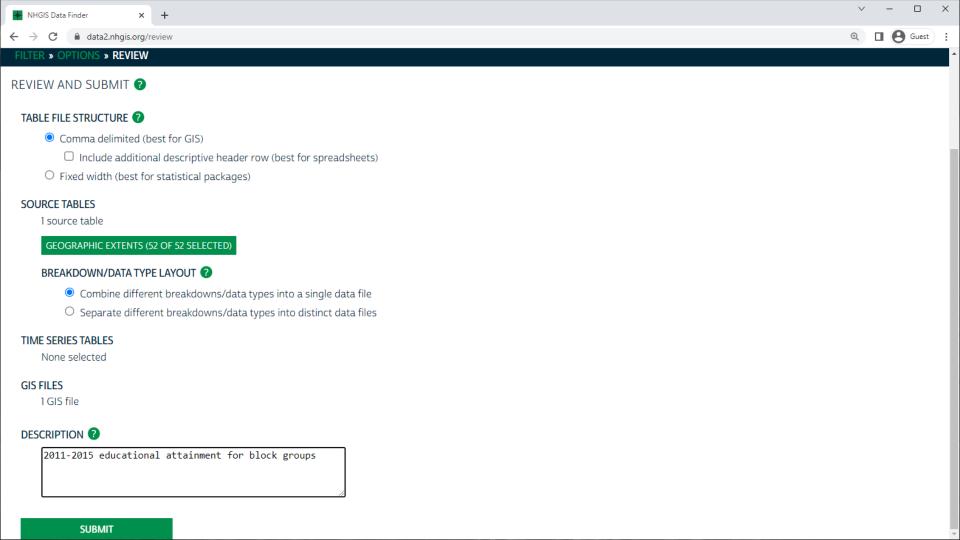
	YEAR	GEOGRAPHIC LEVEL	EXTENT	BASIS
$\overline{\mathbf{A}}$	2015	Block Group	United States	2015 TIGER/Line +









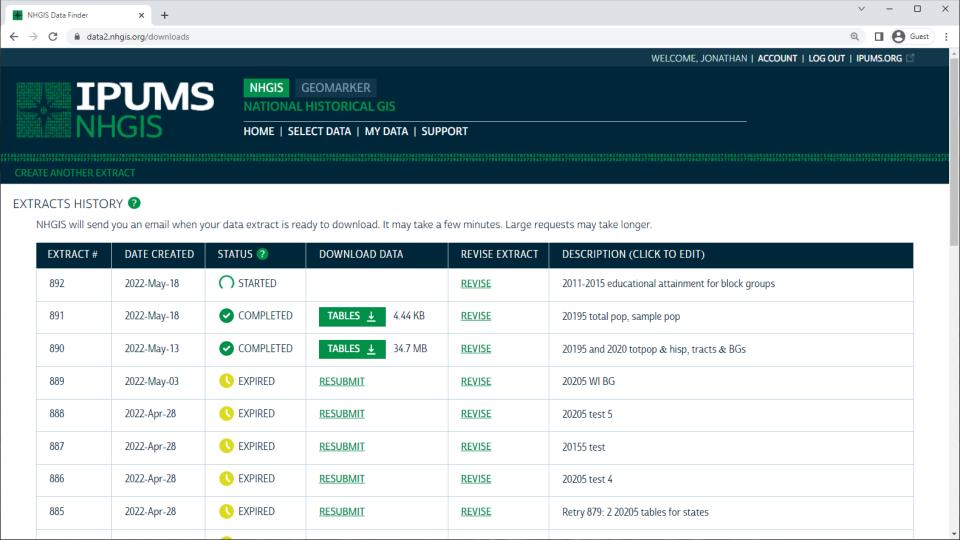


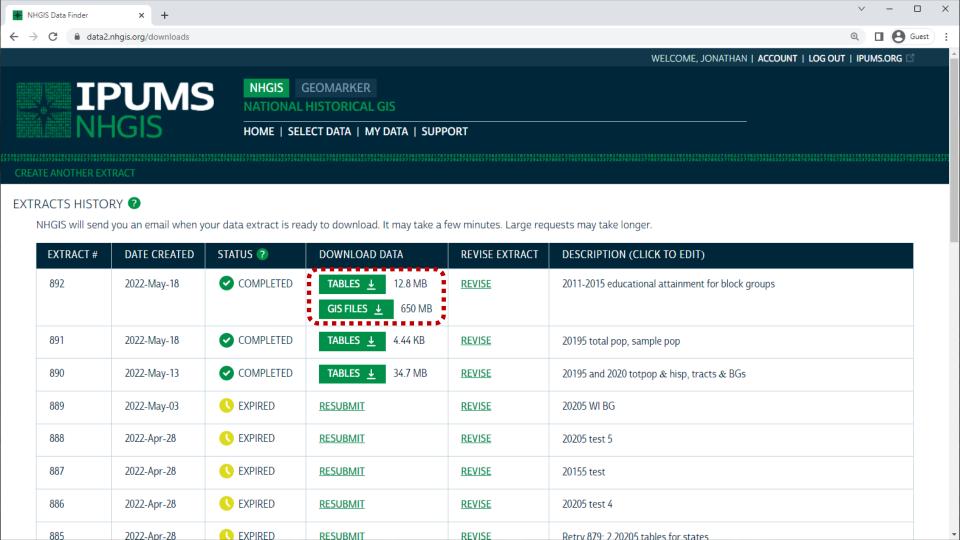


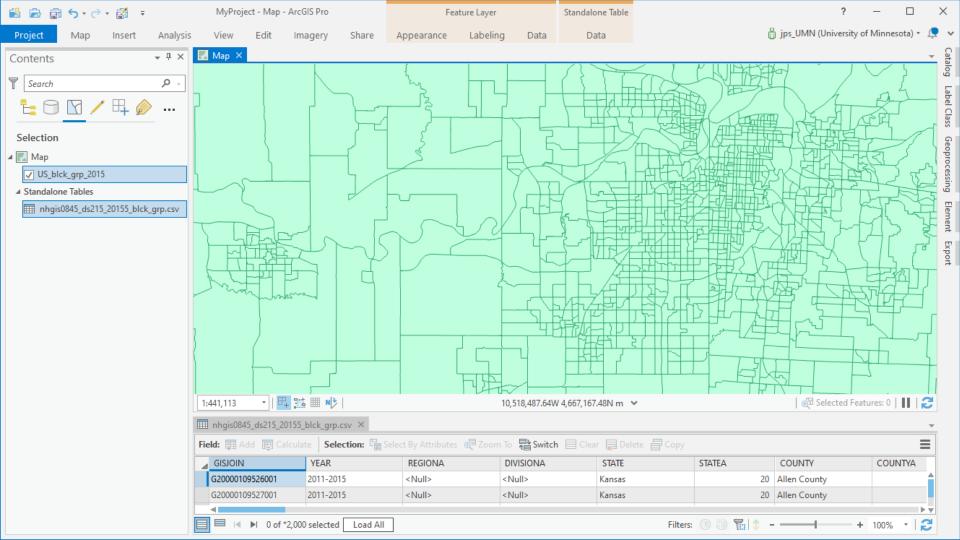
IPUMS



LOG IN TO IPUMS NHGIS						
EMAIL ADDRESS	IPUMS uses a common user management system for several data projects: IPUMS International,					
Enter email	IPUMS USA, IPUMS CPS, IPUMS Higher Ed, NHGIS, IPUMS Health Surveys, IPUMS Time Use, and IPUMS Terra.					
PASSWORD	If you already have an account with any of these projects, sign in here. If you've not yet registered for IPUMS NHGIS, you will be directed to the project registration page after signing in.					
Enter password	If you do not have an account for any IPUMS project, you may create one here.					
SIGN IN	HELP					
	> Forgot your password?					
	> Create an account — only for users who do not have an IPUMS account					



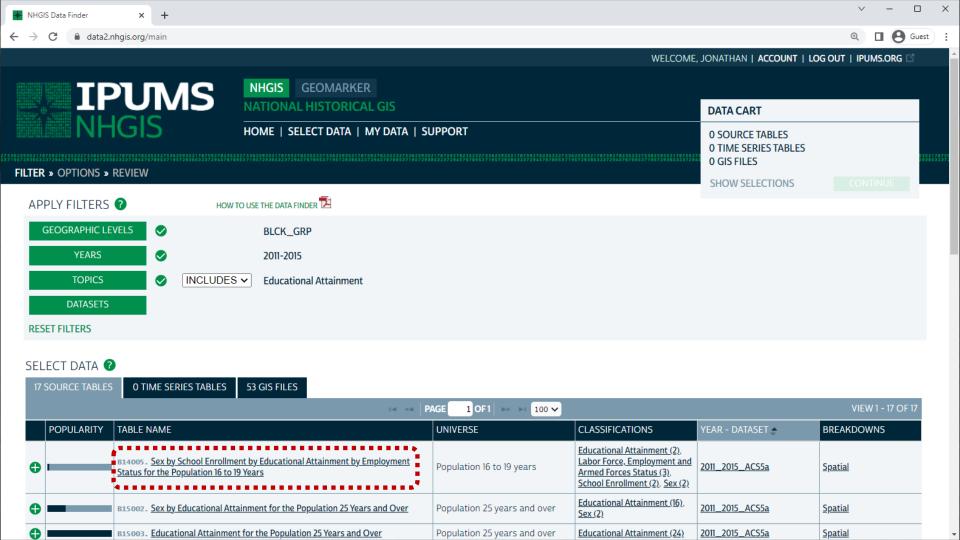


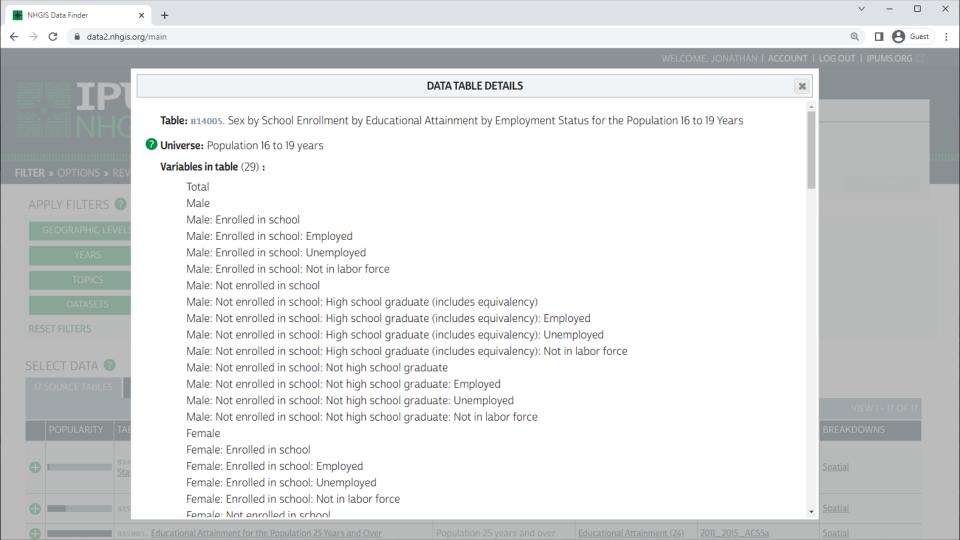


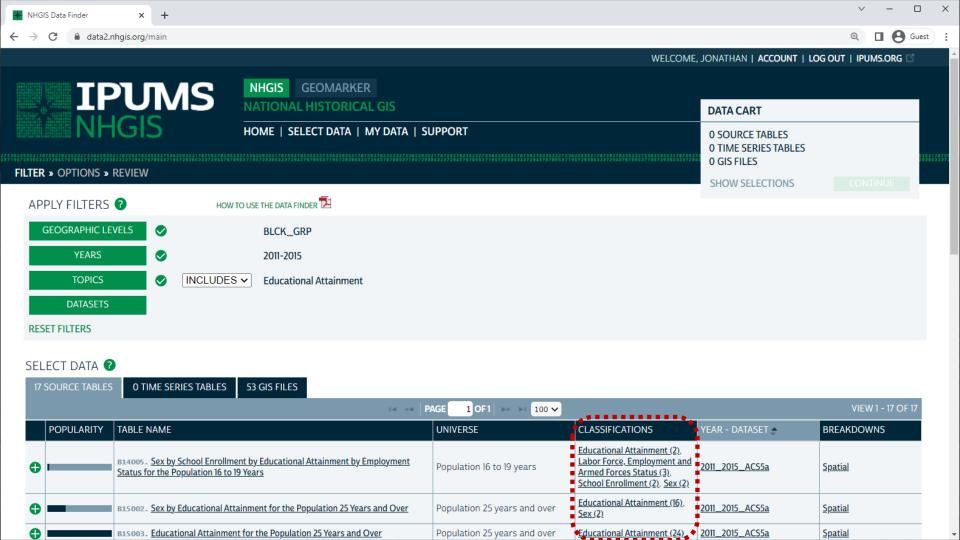


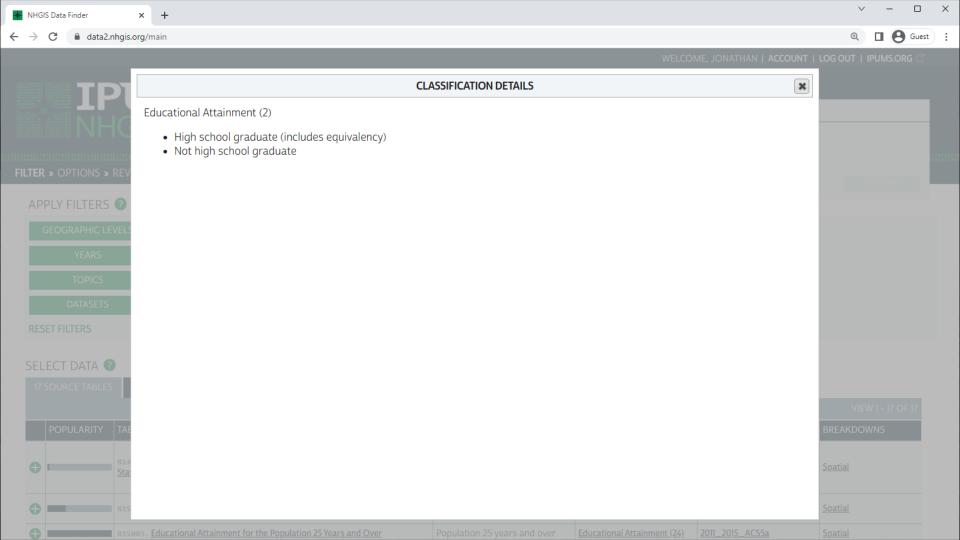
DATA FINDER DEMO

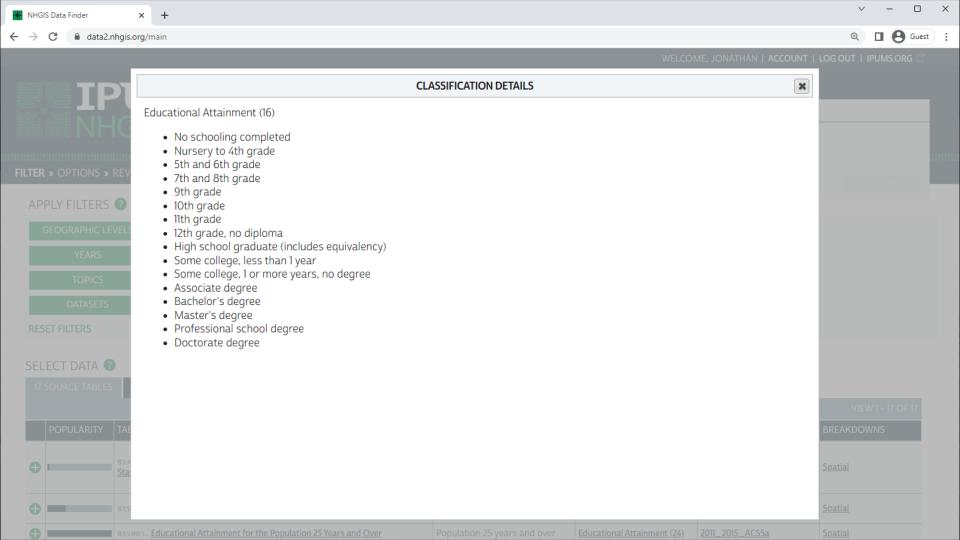
Ways to Explore

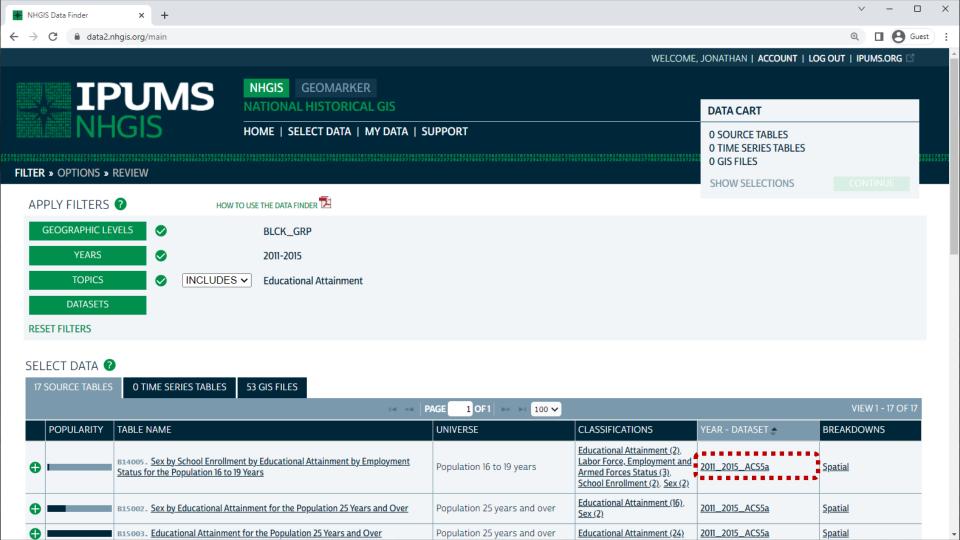


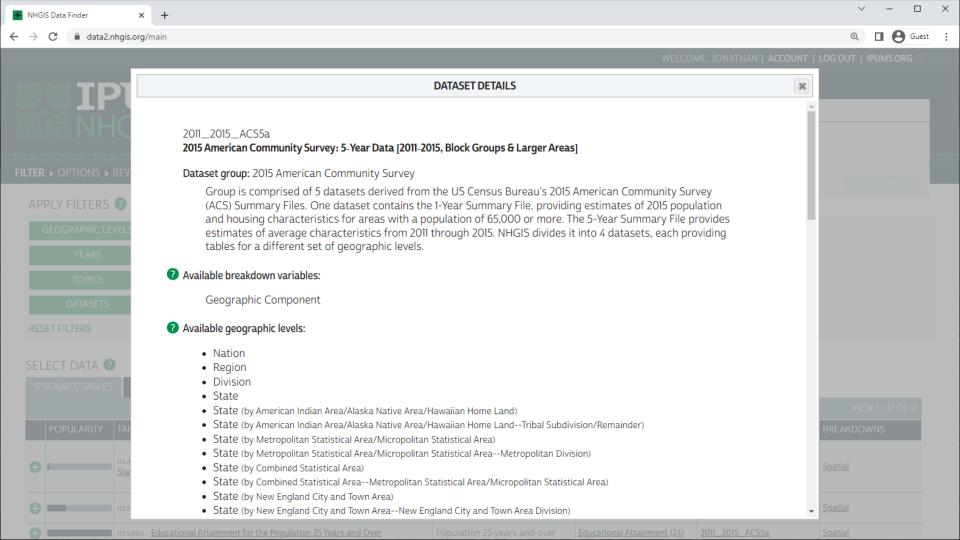


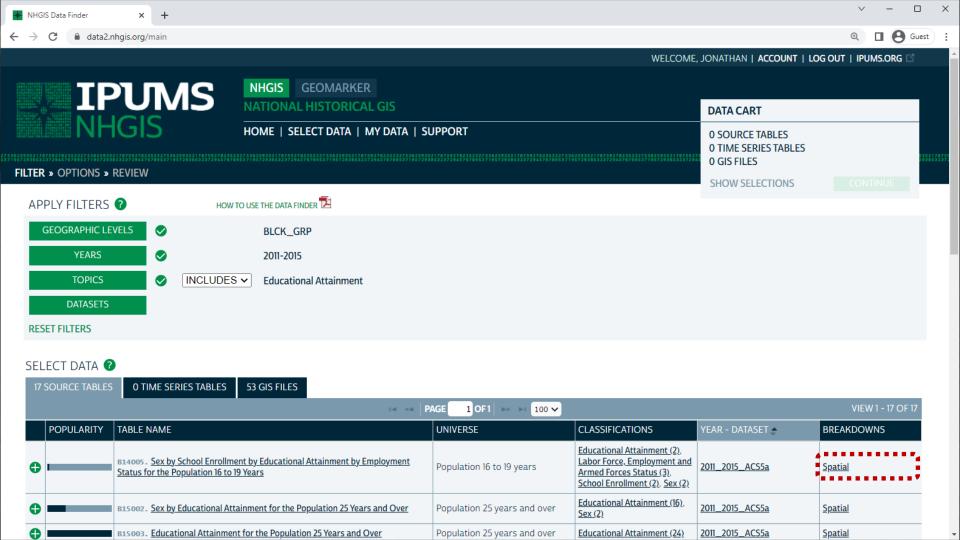


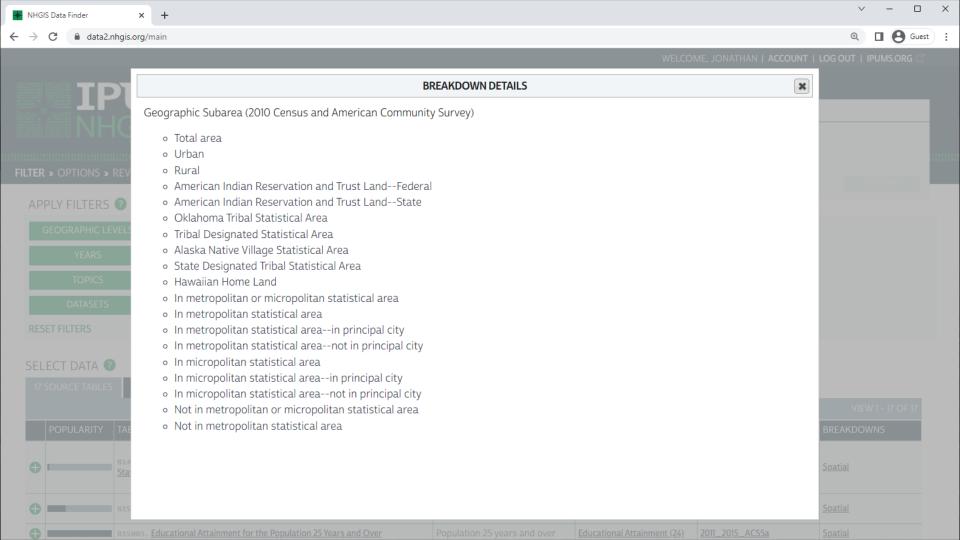


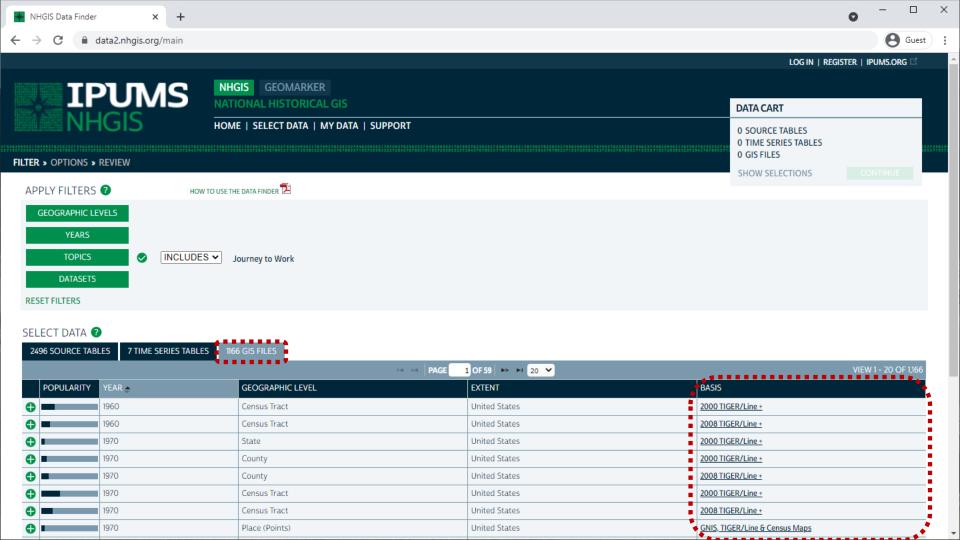


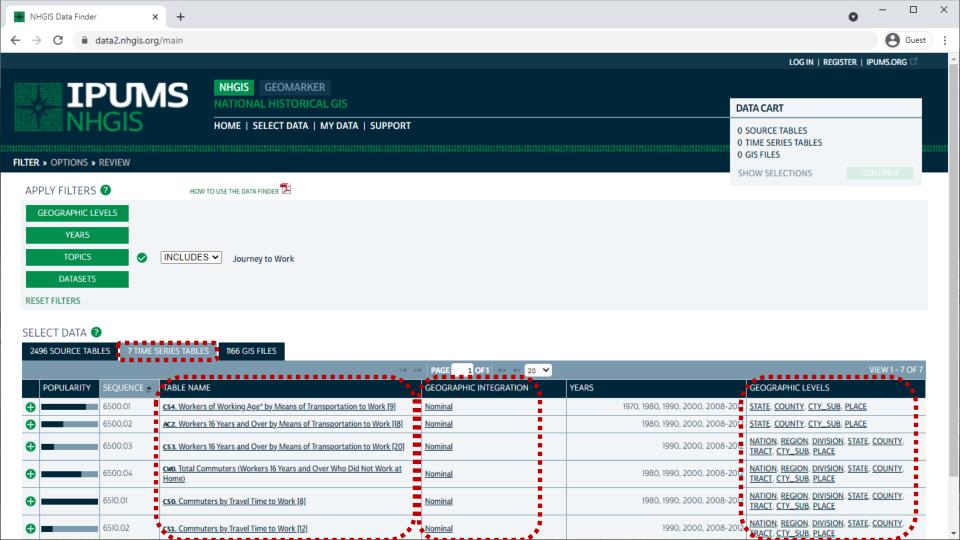


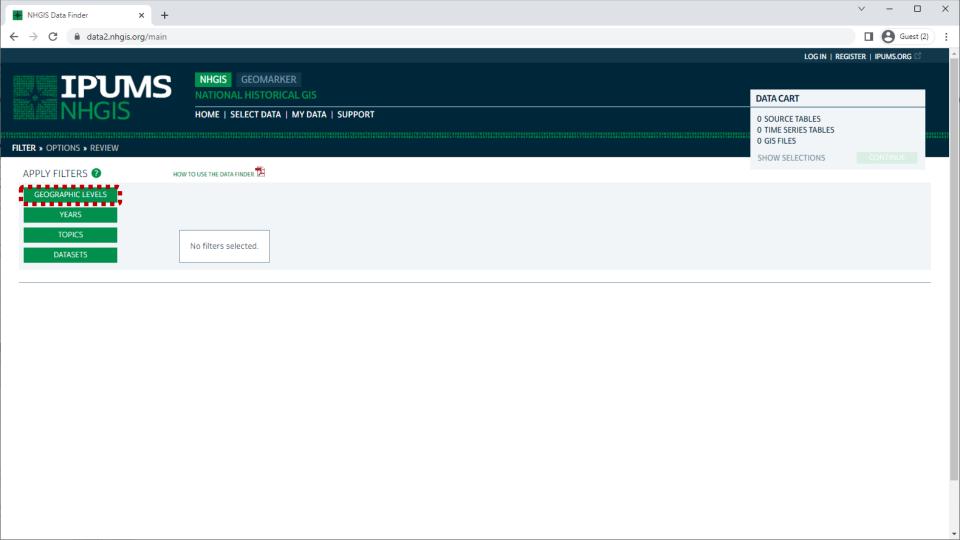


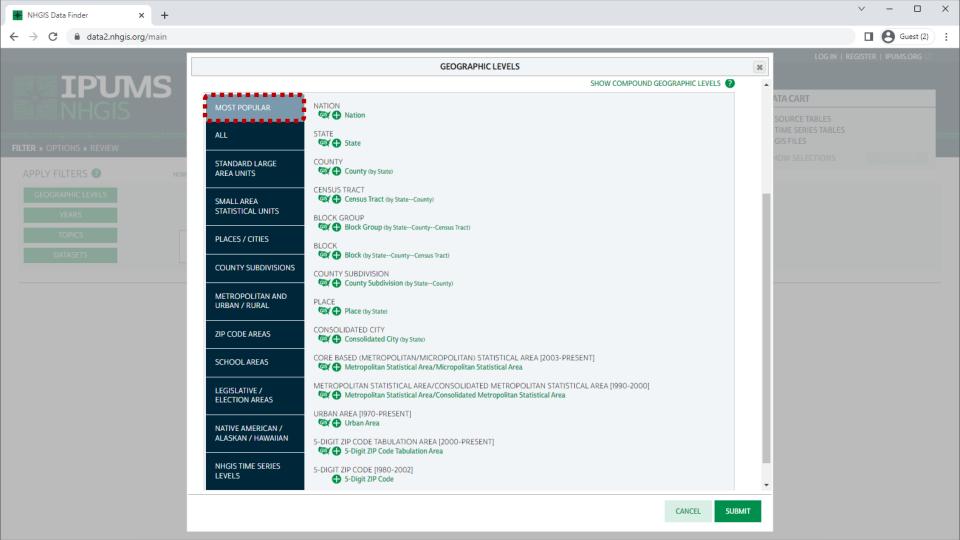


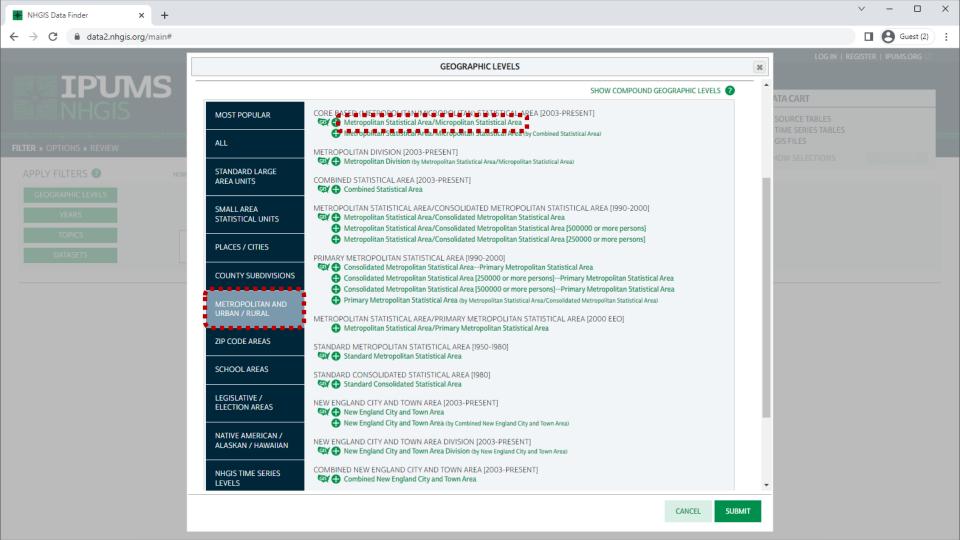


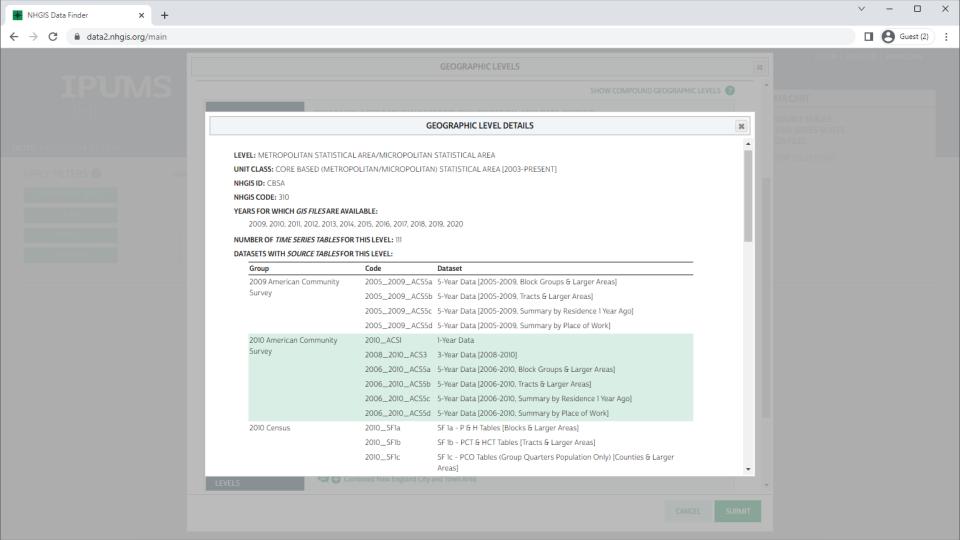


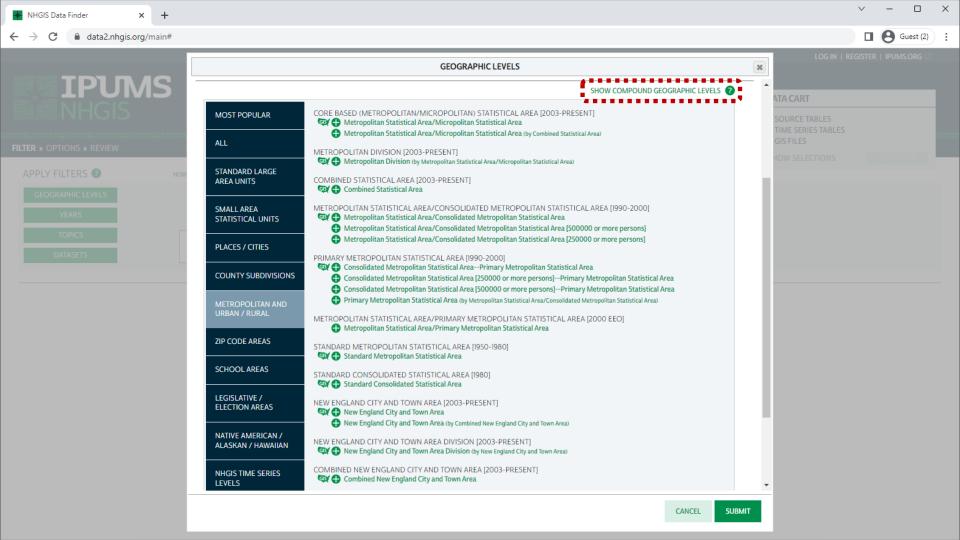


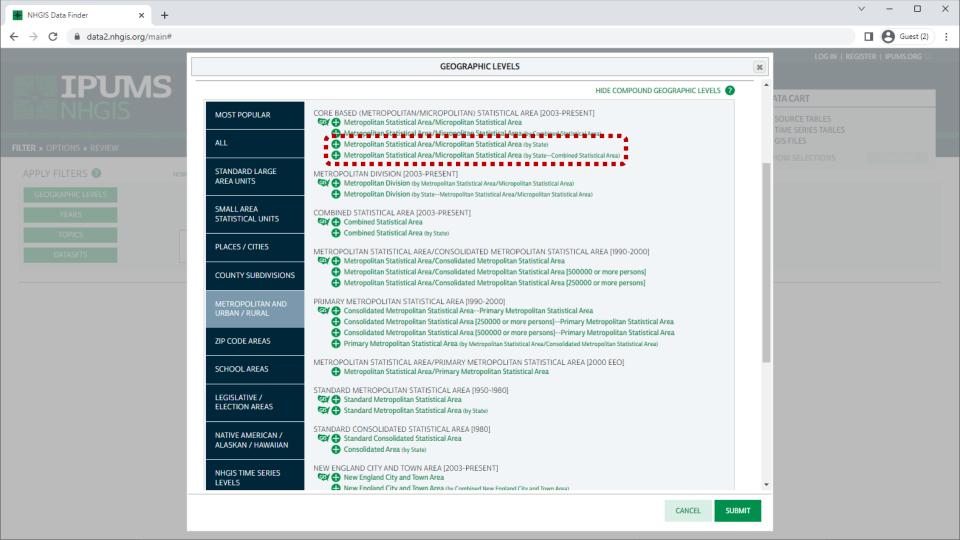


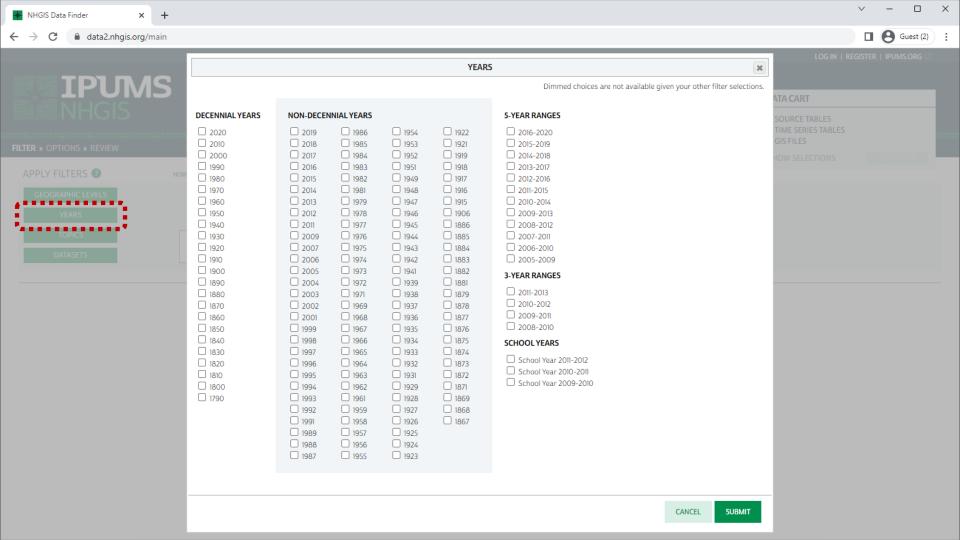


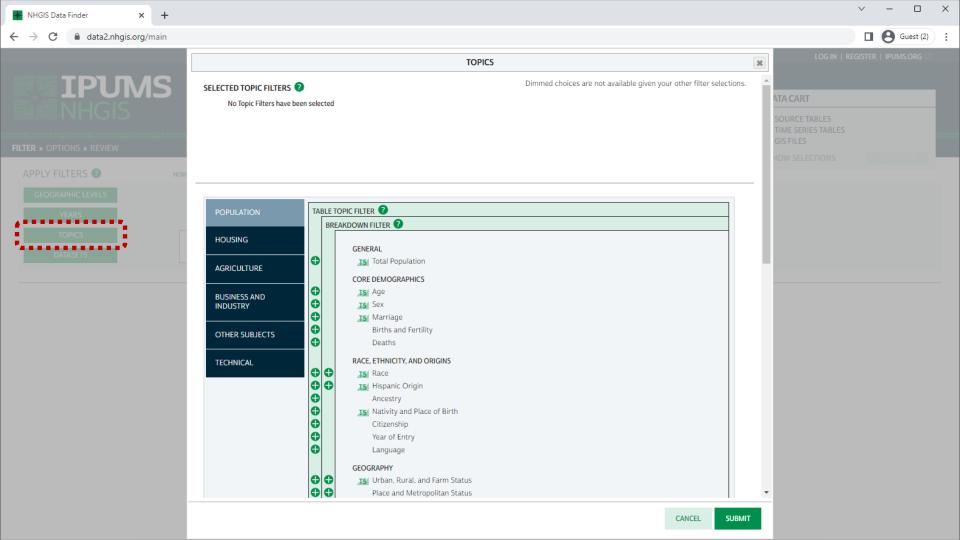


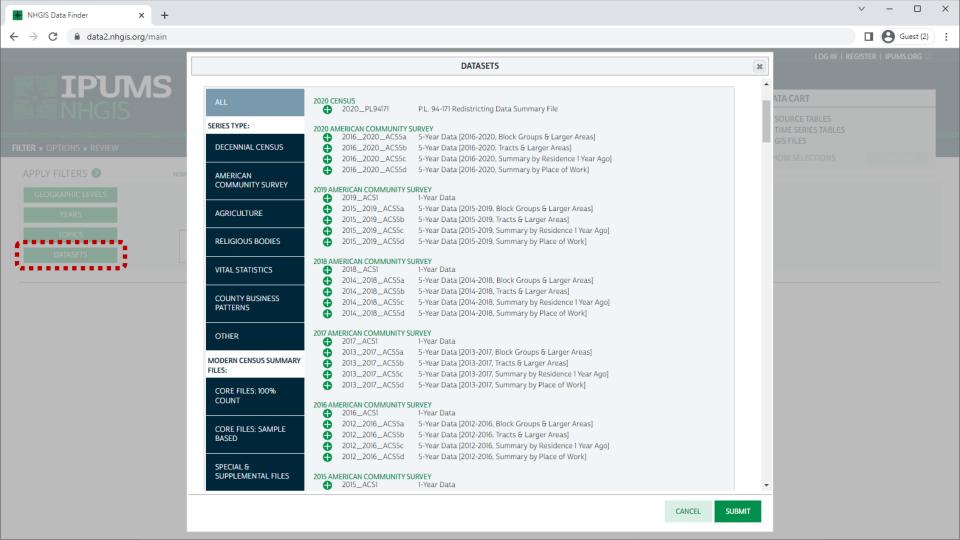


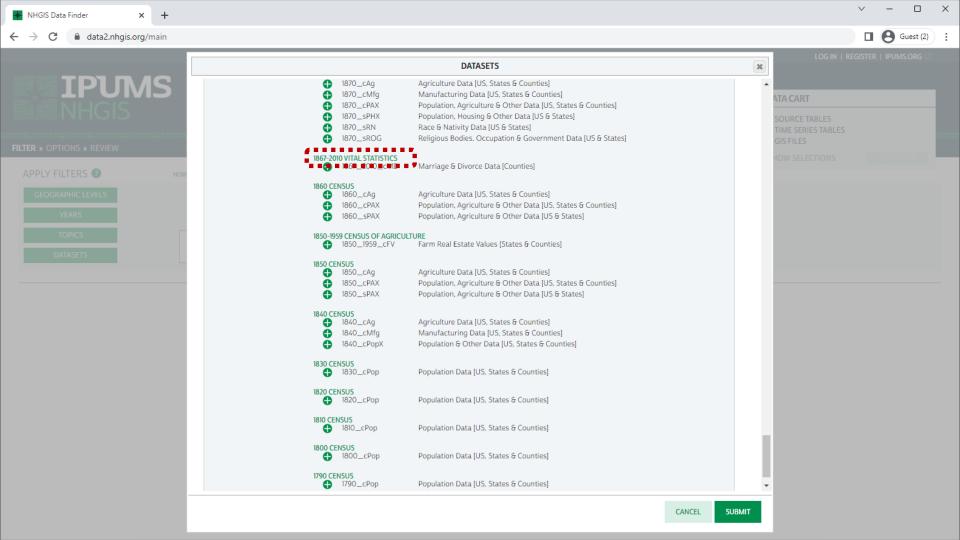


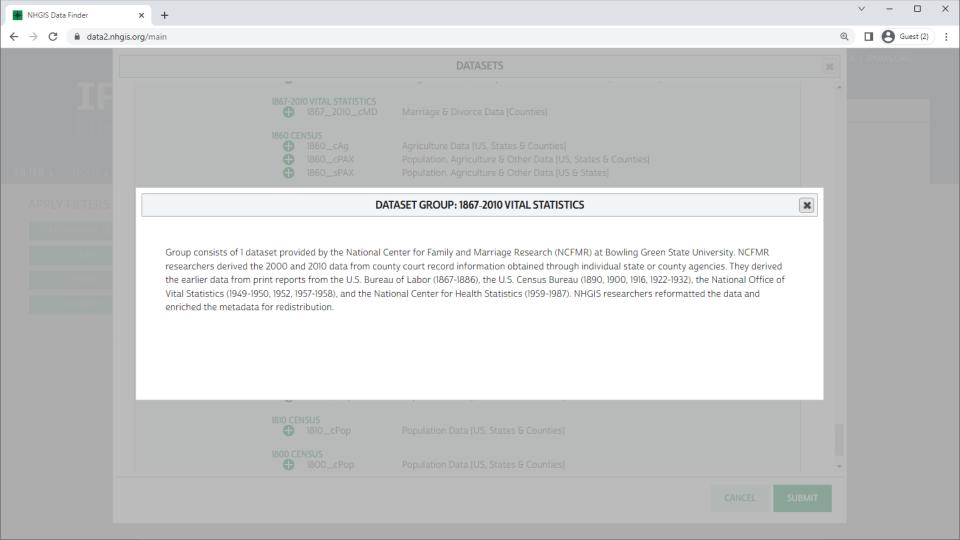










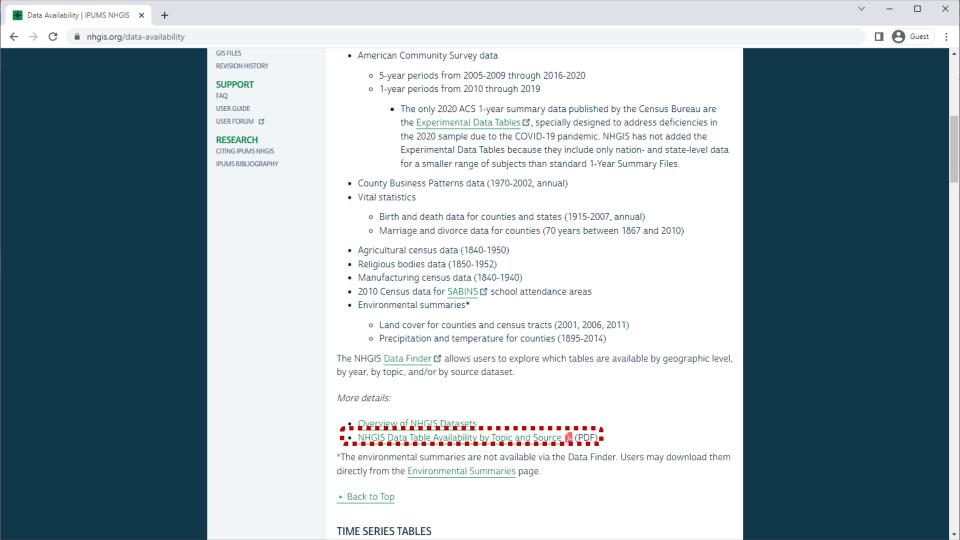


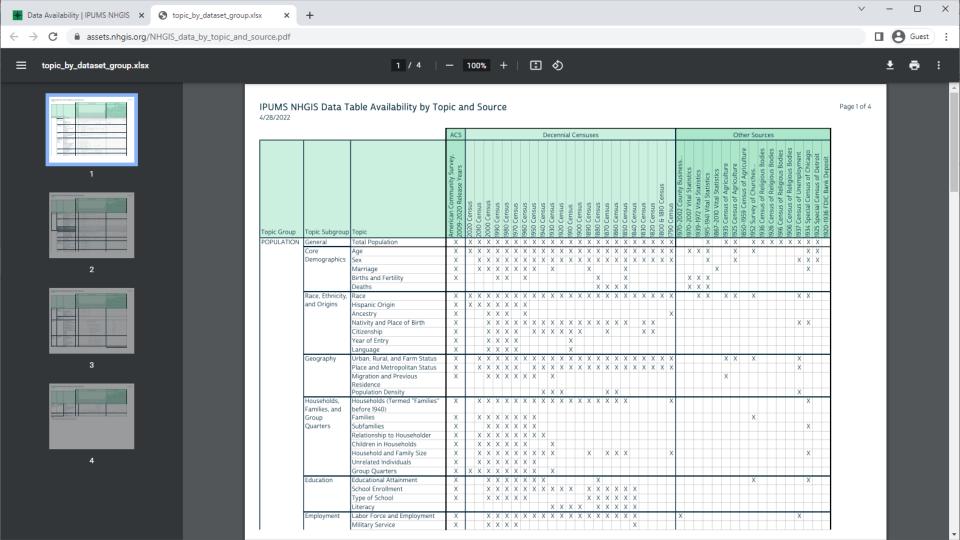


KEY RESOURCES

Summary Tables







Years	States & counties
1790- 1900	X

Years	States & counties	Census tracts
1790- 1900	X	
1910- 1960	X	X

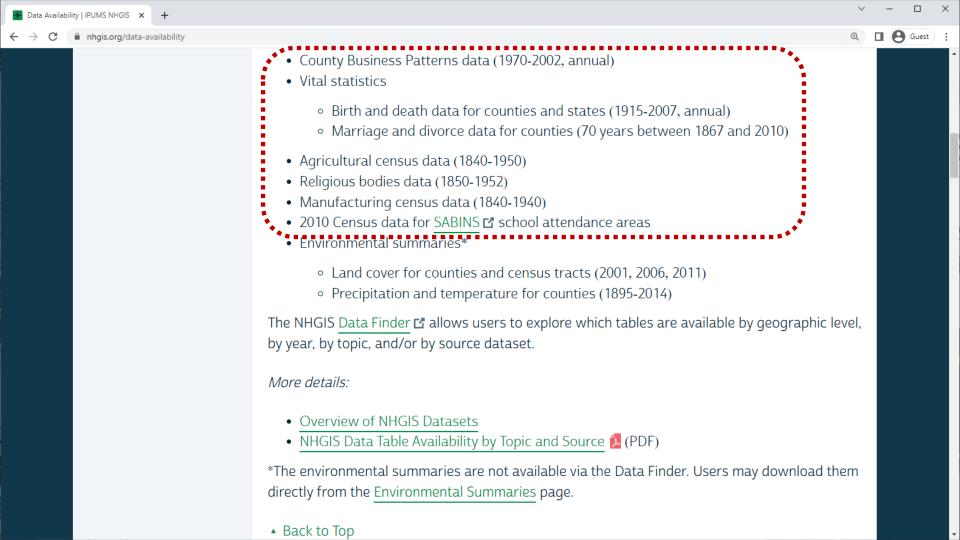
Years	States & counties	Census tracts	All census levels down to blocks
1790- 1900	X		
1910- 1960	X	X	
1970- 2020	X	X	X

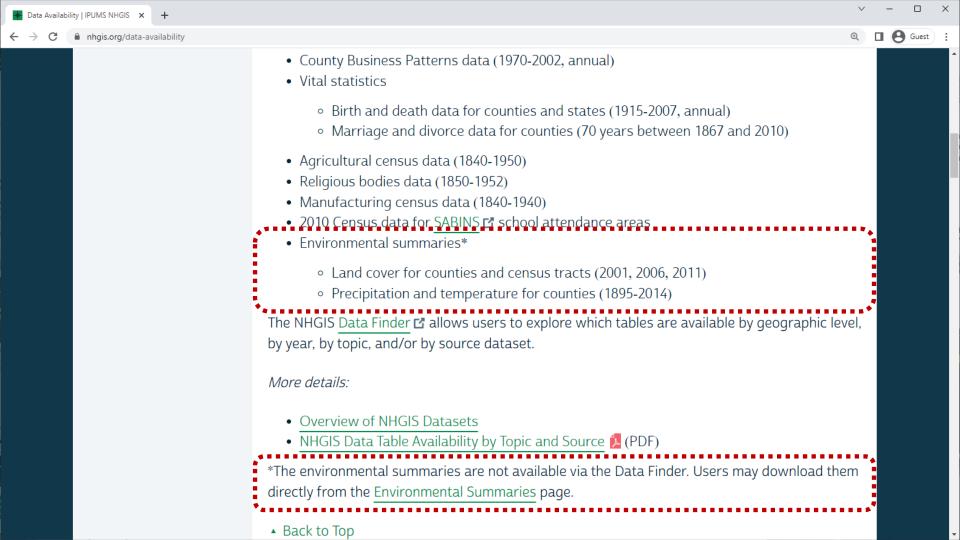
Years	States & counties	Census tracts*	All census levels down to blocks
1790- 1900	X		
1910- 1960	X	X	
1970- 2020	X	X	X

*Tract coverage... 1910: 8 cities →

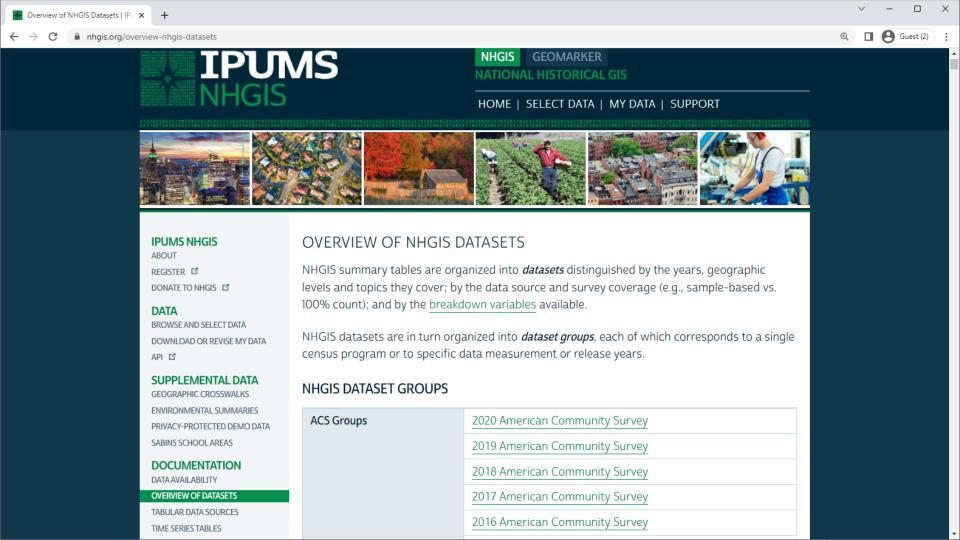
1990: nationwide

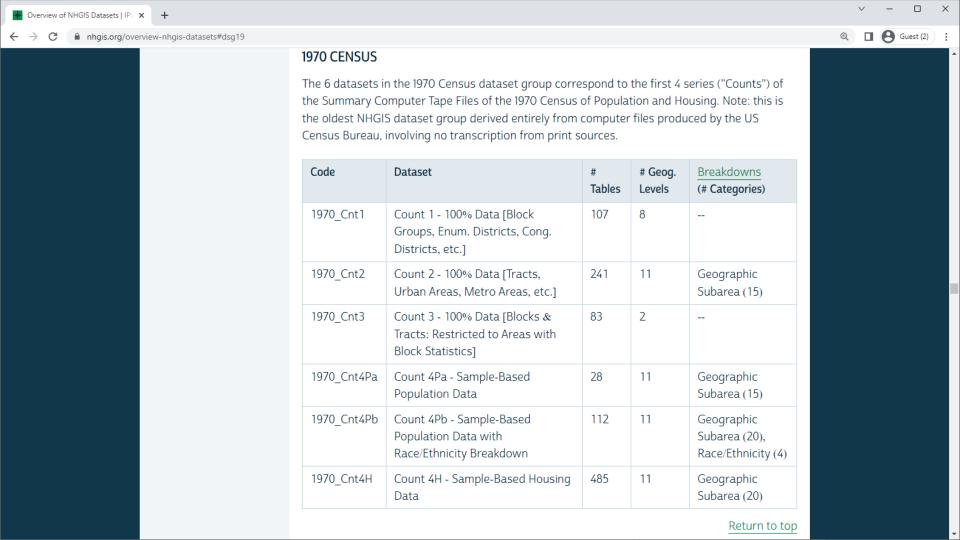










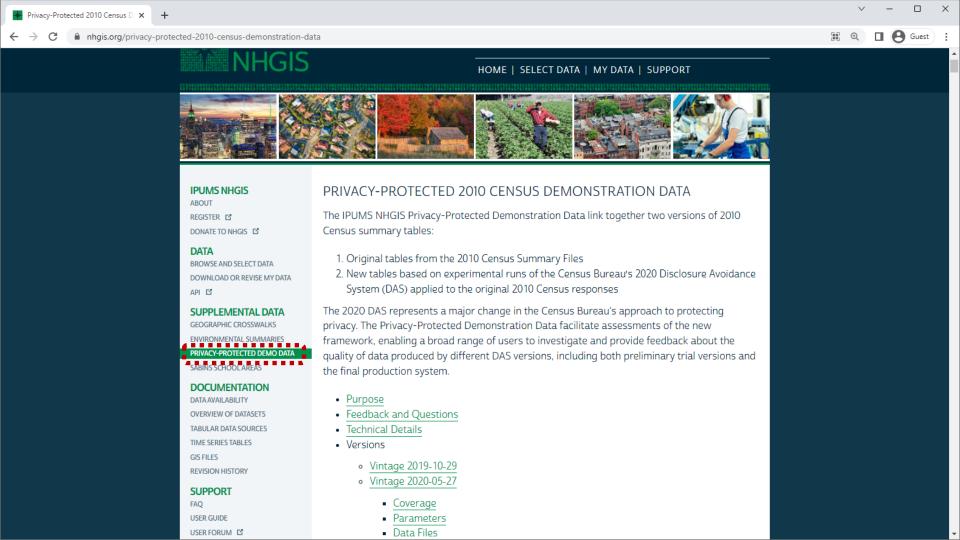




Forthcoming...

- ACS
 - 1-Year Summary File: September+
 - 5-Year Summary File: December+
- 2020 census summary files
 - Demographic & Housing Characteristics (DHC)
 - May 2023
 - Detailed DHC-A, Detailed DHC-B, Supplemental-DHC
 - Starting August 2023

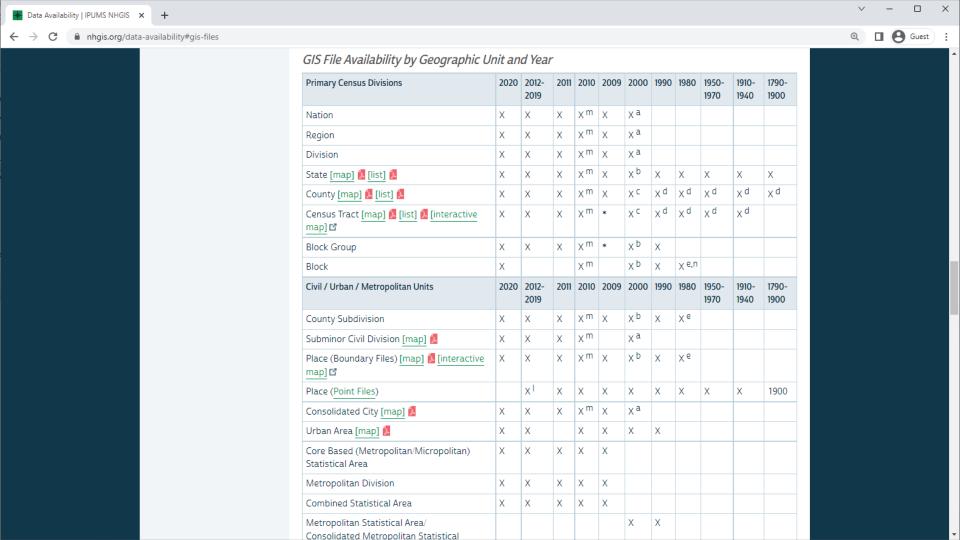


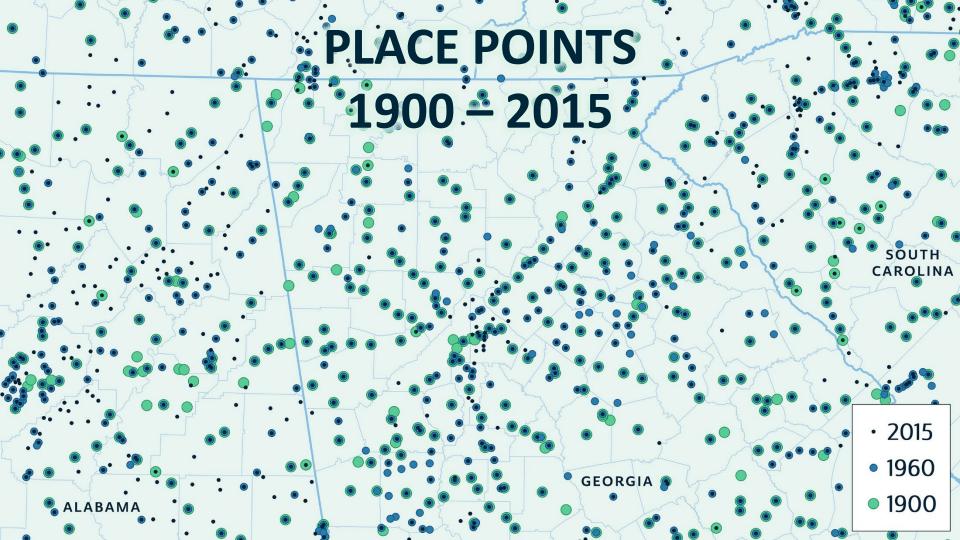


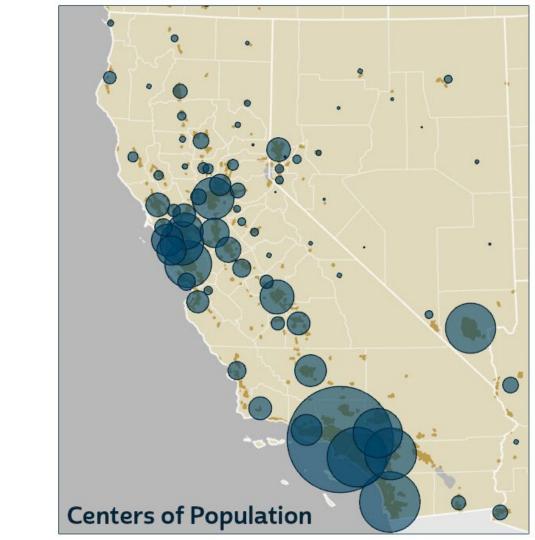


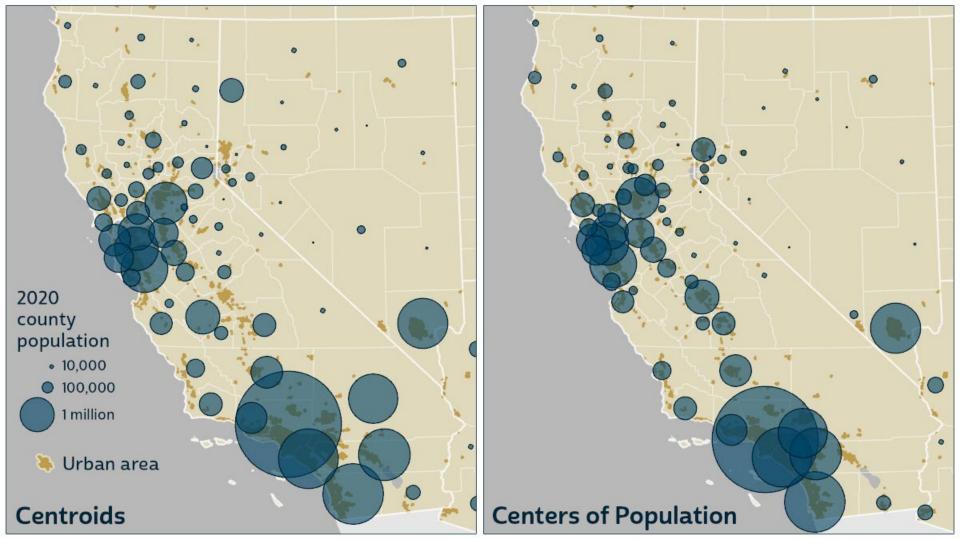
GIS Files

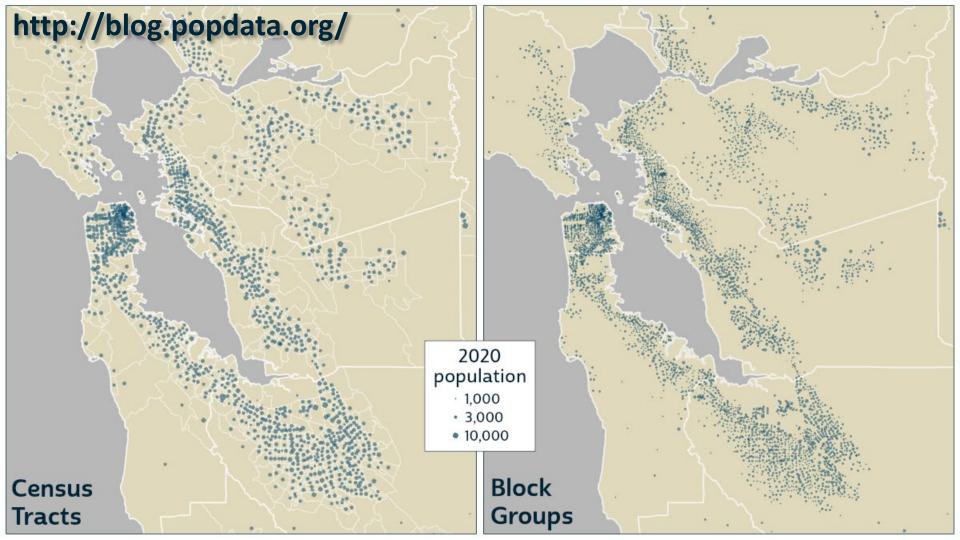




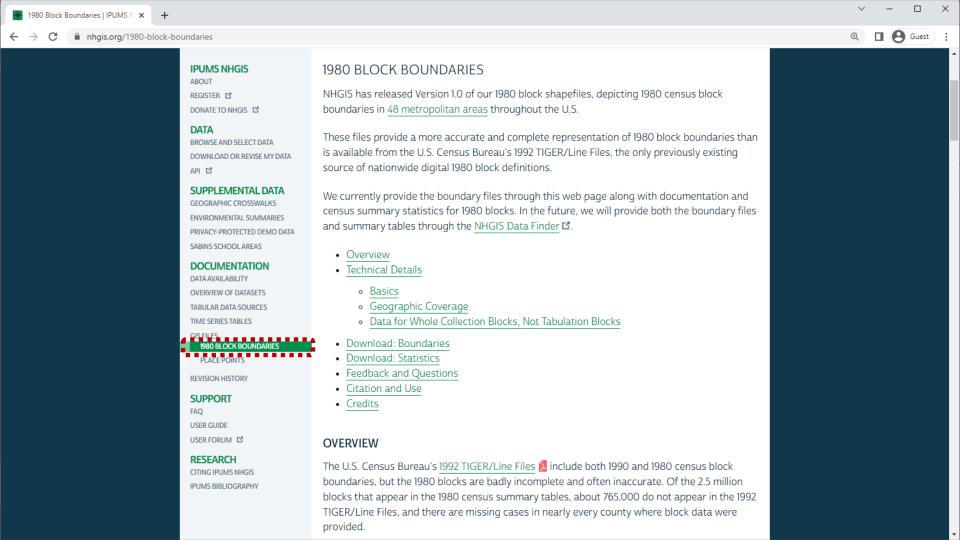


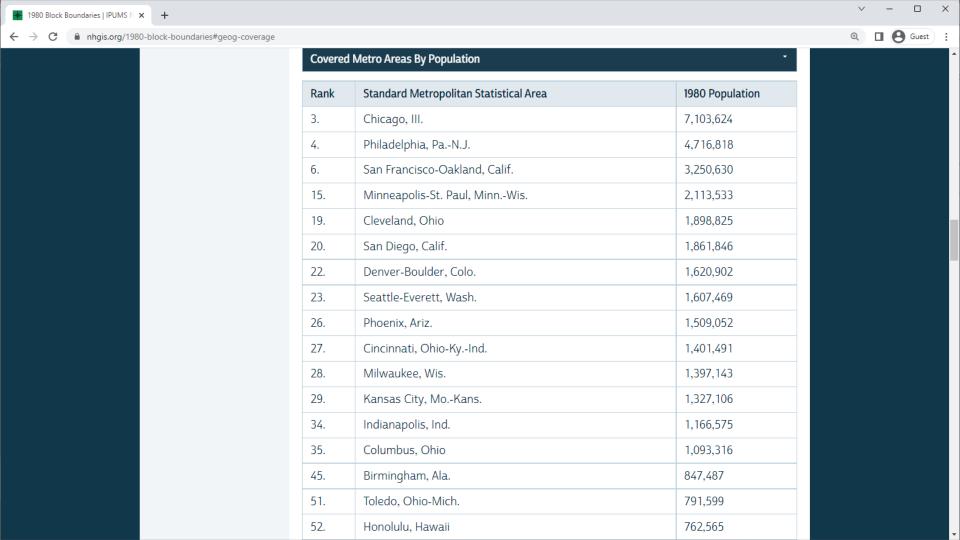














Time Series & Crosswalks



Nominal integration GISJOIN STATE BL1AA1970 BL1AA1980 BL1AA1990 BL1AA2000 BL1AA125 BL1AA125M BL1AB1970 STATEA Margin of error: 1980: Persons: 1990: Persons: 2008-2012: GIS Join 1970: Persons: 2000: Persons: 2008-2012: 1970: Persons: Male ~ Never Male ~ Never Male ~ Never Persons: Male ~ Persons: Male ~ Male ~ Now Match State Male ~ Never State Name Code married married Never married Code married married Never married married G010 Alabama G020 Alaska G040 Arizona G050 Arkansas G060 California G080 Colorado G090 Connecticut 10 G100 Delaware District Of Co 11 G110 12 G120 Florida 13 G130 Georgia 14 G150 Hawaii 15 G160 Idaho 16 G170 Illinois 17 G180 Indiana 18 G190 Iowa 19 G200 Kansas 20 G210 Kentucky 21 G220 Louisiana 22 G230 Maine 23 G240 Maryland 24 G250 Massachuset Michigan 25 G260 26 G270 Minnesota 27 G280 Mississippi

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NHGISCODE

NHGIS Integrated

Geographic Unit

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73391 G3701190001501

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73414 G3701190001800 North Carolina

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Geographic standardization														
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									Lower	Upper		Lower	Upper	
									bound:	bound:		bound:	bound:	
							Census	1990:	1990:	1990:	2000:	2000:	2000:	2010:
	GIS Join Match	Geography		State		County	Tract	Persons:	Persons:	Persons:	Persons:	Persons:	Persons:	Persons:
2	Code	Year	State Name	Code	County Name	Code	Code	Total	Total	Total	Total	Total	Total	Total
49315	G3701190001400	2010	North Carolina	37	Mecklenburg Co	119	1400	2389.68	2366	2391	2652.31	2640	2653	2607
49316	G3701190001504	2010	North Carolina	37	Mecklenburg Co	119	1504	4629	4629	4629	4806	4806	4806	6401
49317	G3701190001505	2010	North Carolina	37	Mecklenburg Co	119	1505	2901	2901	2901	2906	2906	2906	3678
49318	G3701190001507	2010	North Carolina	37	Mecklenburg Co	119	1507	3419	3419	3419	4791	4791	4791	4004
49319	G3701190001508	2010	North Carolina	37	Mecklenburg Co	119	1508	3662	3662	3662	4400	4400	4400	6061
49320	G3701190001509	2010	North Carolina	37	Mecklenburg Co	119	1509	3213	3213	3213	3229	3229	3229	2976
49321	G3701190001510	2010	North Carolina	37	Mecklenburg Co	119	1510	3146.1	3146	3211	3194.36	3194	3367	3047
49322	G3701190001603	2010	North Carolina	37	Mecklenburg Co	119	1603	3660	3660	3660	4065	4065	4065	4598
49323	G3701190001605	2010	North Carolina	37	Mecklenburg Co	119	1605	1389	1389	1389	1978	1978	1978	1776

Total 37 Mecklenburg Co 2010 North Carolina 2010 North Carolina 37 Mecklenburg Co 37 Mecklenburg Co 2010 North Carolina 37 Mecklenburg Co 2251.16 2445.55 2010 North Carolina 2010 North Carolina 37 Mecklenburg Co 37 Mecklenburg Co 2010 North Carolina 1813.95 37 Mecklenburg Co 1706.96 2010 North Carolina 2010 North Carolina 37 Mecklenburg Co 37 Mecklenburg Co 2010 North Carolina 37 Mecklenburg Co 2010 North Carolina 2010 North Carolina 37 Mecklenburg Co 5096.84 5506.45 2010 North Carolina 37 Mecklenburg Co

49324 G3701190001606 49325 G3701190001607 49326 G3701190001608 49327 G3701190001609 49328 G3701190001701 49329 G3701190001702 49330 G3701190001801 49331 G3701190001802 49332 G3701190001910 49333 G3701190001911 49334 G3701190001912 49335 G3701190001914 49336 G3701190001915 37 Mecklenburg Co 2010 North Carolina 49337 G3701190001916 2010 North Carolina 37 Mecklenburg Co 3003.8 3005.23 49338 G3701190001917 37 Mecklenburg Co 3050.2 3294.77 2010 North Carolina 49339 G3701190001918 2010 North Carolina 37 Mecklenburg Co 2842.4 49340 G3701190001919 37 Mecklenburg Co 3243.6 2010 North Carolina nhgis0570_ts_geog2010_tract (+) 1 4 + 110%







































































Geographically standardized time series

- 1990–2020 data for 2010 census units
- 10 geographic levels: states, counties, tracts, block groups, county subdivisions, places, congressional districts, CBSAs, urban areas, ZCTAs
- ~1,600 time series in 111 tables
- "Short-form" counts only
 - Race, ethnicity, age, sex, household size & relationships, housing occupancy & tenure
 - Not income, education, employment, ...

Nominally integrated time series

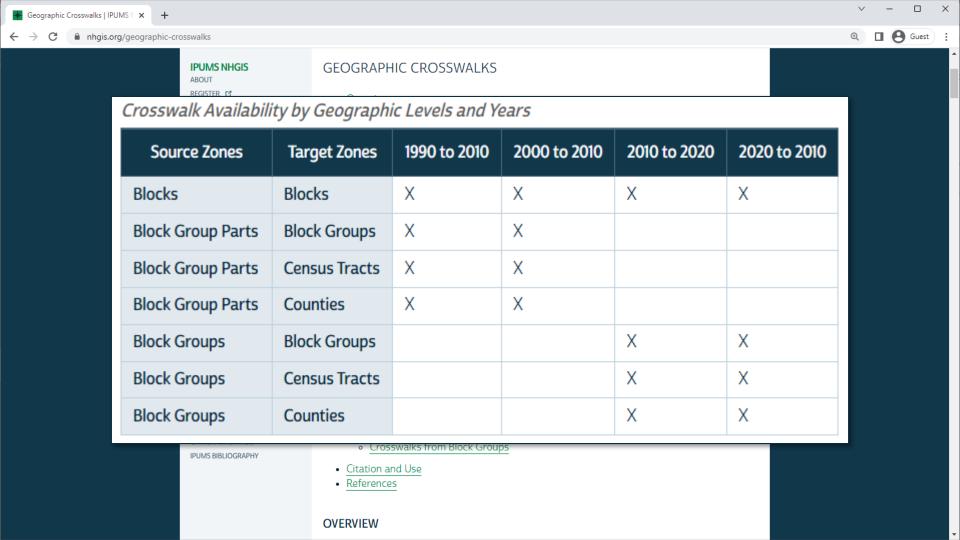
~5,700 time series in 273 tables

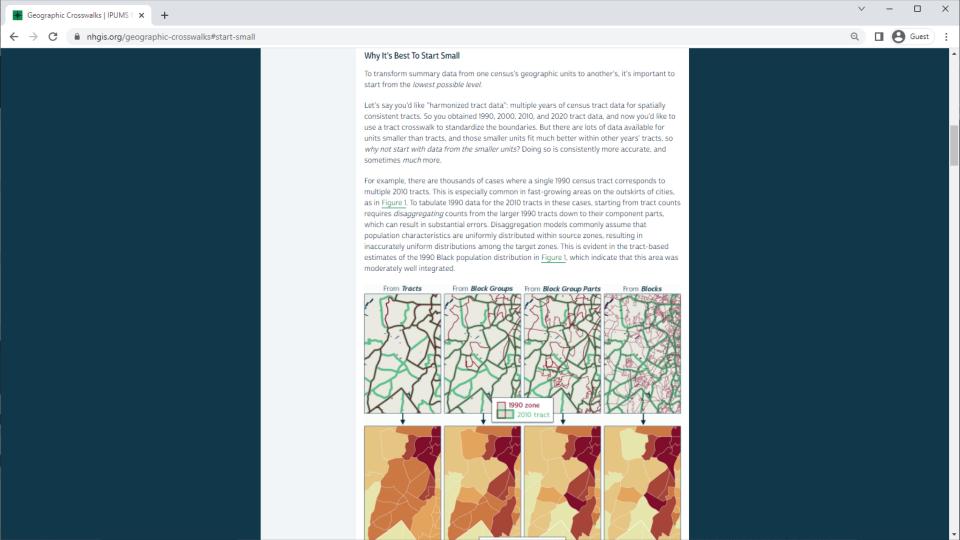
Including: marital status, nativity & place of birth, education, employment, means of transportation, travel time, income, poverty

8 geographic levels:

nation, regions, divisions, states, counties, tracts, county subdivisions, places

- Years mainly in 1970-2020 range
 - Total Population back to 1790 & Persons by Sex back to 1820
 - "Long-form" tables use ACS 2008-2012 & 2015-2019







API & ipumsr



v1.0!

The docs have all the info.

OUR DATA, YOUR WAY!

IPUMS Developer Portal | Docum X

Now you can interact with IPUMS data products programmatically! IPUMS APIs allow you to explore and retrieve IPUMS data in a whole new way. You can

automate and integrate IPUMS data into your own tools and workflows. Our first public APIs, the IPUMS Metadata and Data Extract APIs, allow you to submit a JSON request to describe the data you want, monitor our progress building your data extract, and download your data when it is ready. Currently it supports IPUMS NHGIS data, IPUMS USA coming soon!

December 17, 2019 - NHGIS Metadata and Data Extract APIs have reached

October 30, 2019 - We've added shapefiles, extent selection, year selection and breakdown values to the IPUMS NHGIS Metadata and Data Extract Beta APIs!

September 23, 2019 - We've added time series data and table-level metadata to

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Introduction to ipumsr - IPUMS □ x +

Introduction to ipumsr - IPUMS Data in R

Minnesota Population Center

2019-06-04

The ipumsr package allows you to read data from your IPUMS extract into R along with the associated metadata like variable labels, value labels and more. IPUMS is a great source of international census and survey data.

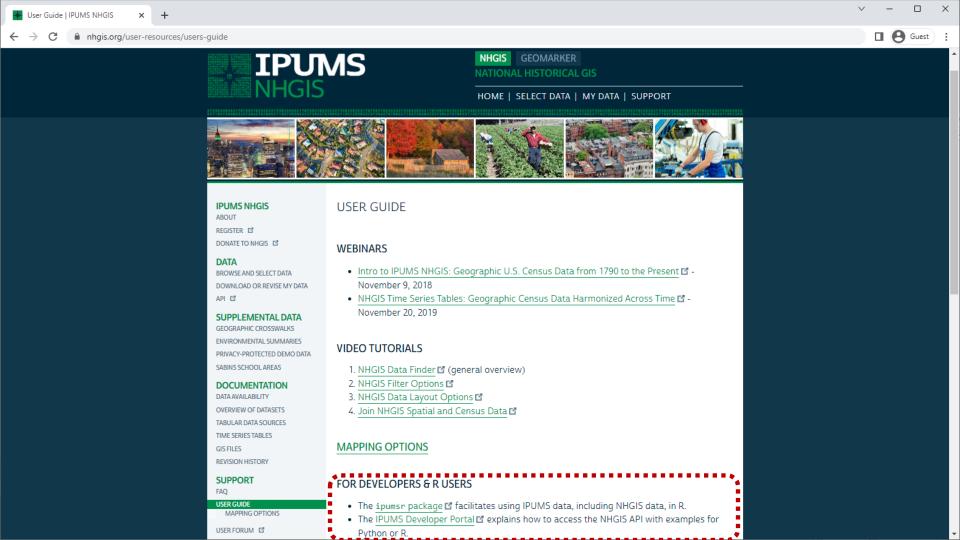
IPUMS provides census and survey data from around the world integrated across time and space. IPUMS integration and documentation makes it easy to study change, conduct comparative research, merge information across data types, and analyze individuals within family and community context. Data and services are available free of charge.

Learn more here: https://ipums.org/what-is-ipums

Additional Vignettes

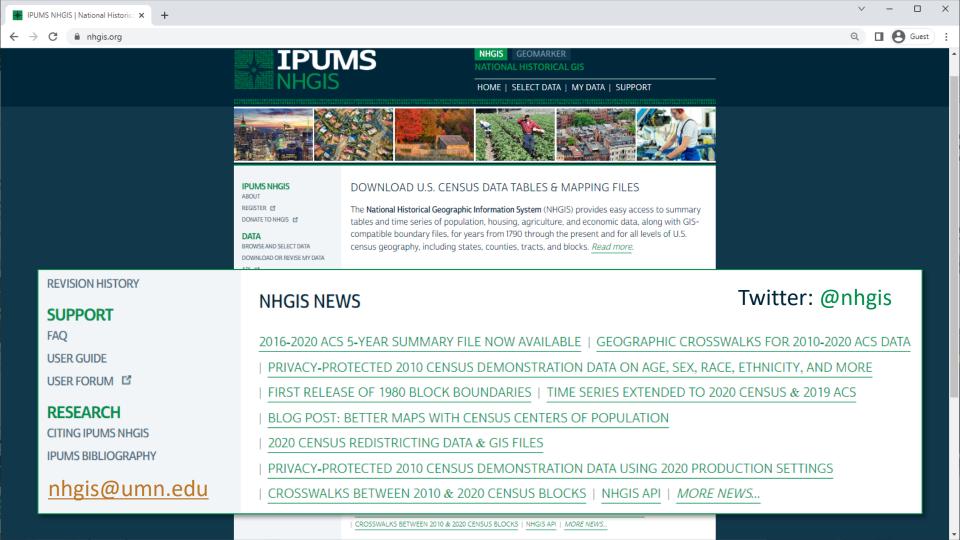
This vignette gives the basic outline of the ipumsr package. Additional vignettes provide guidance on working with IPUMS value labels, IPUMS geographic data, and data from three specific IPUMS projects - CPS, NHGIS, and Terra.

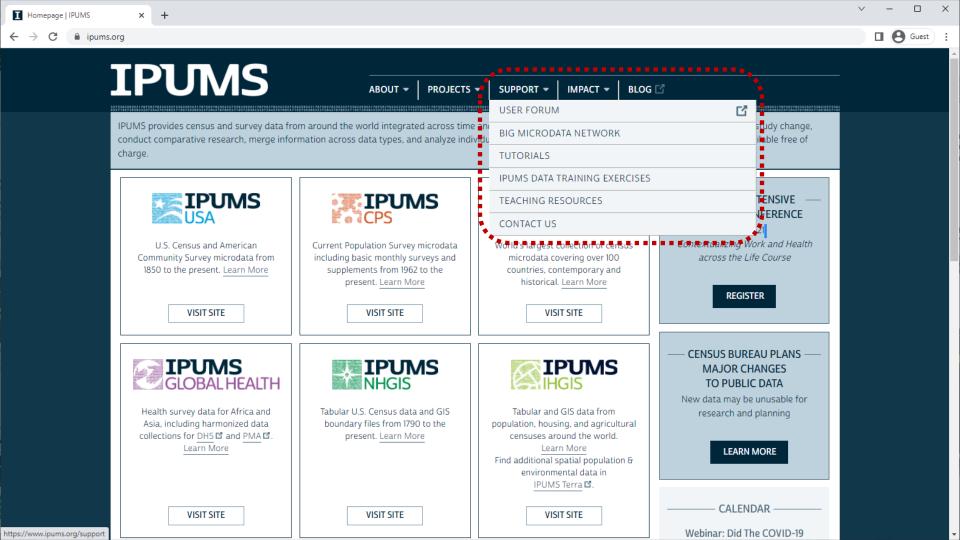
To view any of these additional vignettes, run one the following commands after installing the ipumsr package:





User Support





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