# Accessing and Using the Quarterly Workforce Indicators (QWI) Application Programming Interface (API)

**Local Employment Dynamics (LED) Partnership Workshop** 

September 4, 2025

Tyson Weister
Center for Enterprise Dissemination
Dissemination Outreach Branch
U.S. Census Bureau

# **Census Programs in the API**

## Demographic Programs

- American Community Survey
- Decennial Census
- Decennial Census Self Response Rates
- Health Insurance stats (from Current Population Survey, Survey of Income Program Participation, ACS, Small Area Health Insurance Estimates)
- International Database
- Population Estimates and Projections
- Poverty stats (from CPS, Small Area Income & Poverty Estimates)

## Economic (Business) Programs

- NEW: Annual Integrated Economic Survey (AIES)
- Annual Survey of Entrepreneurs and Annual Survey of Manufacturers
- Annual Business Survey and Survey of Business Owners
- Business Dynamics Statistics
- County/ZIP Business Patterns and Nonemployer Stats
- Commodity Flow Survey
- Economic Census and Economic Indicators
- International Trade
- Longitudinal Employer-Household Dynamics (LEHD)
- Quarterly Workforce Indicators

## **LEHD Data in the API**

**Longitudinal Employer-Household Dynamics (LEHD)** 

# Post-Secondary Employment Outcomes (PSEO) Time Series (2001-2022)

January 10, 2025

PSEO data provide earnings and employment outcomes for college and university graduates by degree level, degree major, and post-secondary institution.



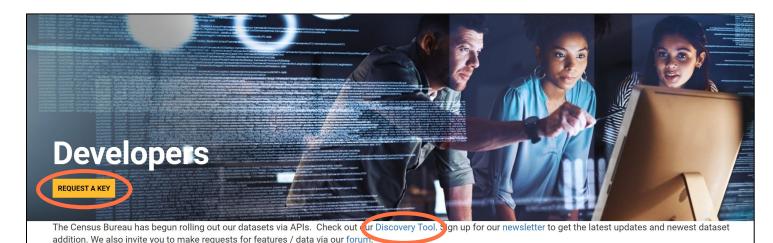
## **Quarterly Workforce Indicators (QWI) (Time Series: 1990 - present)**

September 12, 2016

The QWI are a set of 32 economic indicators including employment, job creation/destruction, wages, hires, and other measures of employment flows.



# **Developers Page**



Read More



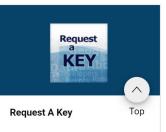
#### **Developers' Forum**

Need help? Check out our Developer Forum to submit questions, share your apps, and provide feedback.





This page provides developers and researchers on how to use the Census Data API and Census Microdata API from U.S. Census Bureau datasets.



Submit Key Request

## Accessing our API

- Request a Key
  - No charge
  - No throttling/limitations
- Browse the Discovery Tool
  - List of available datasets/endpoints (1,712 as of 8/21/2025)
  - Descriptions, etc.
- Review the Updates Periodically
  - Join the Mailing List
  - Check your Spam folder for alerts
- Share your Experiences
  - Developers Forum

## **Developers Home Page**

https://www.census.gov/developers/

# **Discovery Tool**

// Census.gov / Data / Developers / Updates / Census Data API Discovery Tool Within Developers **Census Data API Discovery** About Tool App Gallery Available APIs Developers' Forum March 01, 2014 Geography **Guidance for Developers** News Terms of Service The Census Data API Discovery Tool provides a machine-readable **Updates** dataset discovery service and is available in three formats: • api.census.gov/data.html api.census.gov/data.xml • api.census.gov/data.json Help improve this site

Census API: Datasets in /data/2017/acs/acs5/profile and its descendants

Title	Description	Vintage		Geography List					Developer Documentation	API Base URL
ACS 5- Year Data Profiles	The American Community Survey (ACS) is an ongoing survey that provides data every yeargiving communities the current information they need to plan investments and services. The ACS covers a broad range of topics about social, economic, demographic, and housing characteristics of the U.S. population. The data profiles include the following geographies: nation, all states (including DC and Puerto Rico), all metropolitan areas, all congressional districts, all counties, all places and all tracts. Data profiles contain broad social, economic, housing, and demographic information. The data are presented as both counts and percentages. There are over 2,400 variables in this dataset.		acs> acs5> profile	geographies	<u>variables</u>	groups	N/A	<u>examples</u>	documentation	https://api.census.gov/data/2017/acs/acs5/profile

### Information Provided

- Dataset Description
- Variables Included,
   Changes, Variable
   Formats, and Notes
- Annotation Variables and Values
- Cross-Tab Variables
- Supported Geographies
- Example Calls
- Sample Use Cases
- Links to Program Technical Documentation

Links to FTP Servers

# Why would you use the API?

- \* Need older data not available on data.census.gov, such as pre-2010 ACS data
- \* Pull data for multiple tables at once, rather than viewing individual tables on data.census.gov
- \* Need to gather a lot of data at once (usually involves use of third-party software)
- \* Need datasets not available in data.census.gov or the Microdata Access Tool (MDAT)
- \* Problems pulling data from data.census.gov
- \* Using Census data to create your own application or visualization
- \* Easily access data over time for timeseries datasets

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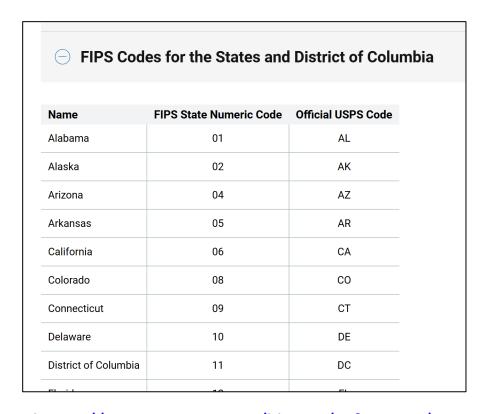
## Demo

## **QWI – Average Monthly Earnings of New Hires**

- a) By educational attainment in Arizona in Q2 2024?
- b) By educational attainment in <u>Arizona, New Mexico, and California</u> in Q2 2024?
- c) By educational attainment for <u>NAICS 52</u> from <u>Q1 2020 to Q2 2024</u>?

# **Finding Geography Codes**

#### **States**



https://www.census.gov/library/reference/co de-lists/ansi/ansi-codes-for-states.html

## **Additional Geographies**



https://www.census.gov/library/reference/codelists/ansi/ansi-codes-for-states.html

# **Identifying Categorical Variables in QWI API**

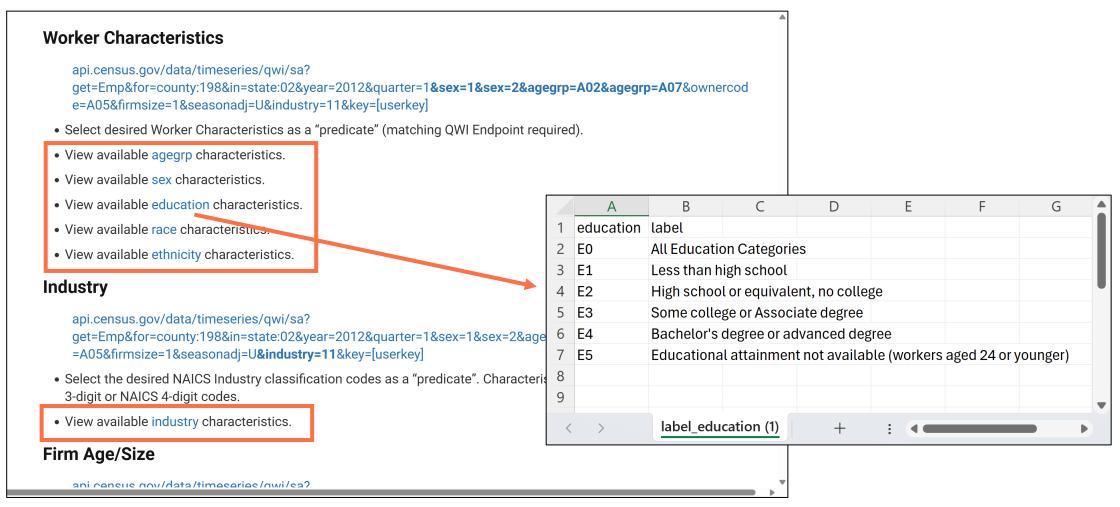
## Reference the 'Concept' column in the variables list of the API Discovery Tool

Census	Data API:	Variables	in /data	timeseries/	awi/se	variables
Census	рин л. т.	variables	iri /aaia/	timeser tes/	y W 1/36/	variables

Name	Label	Concept	Required	Attributes		Predicate Type	Group
<u>agegrp</u>	Group: Age group code (WIA)	QWI Categorical Variable	default displayed		9	string	N/A
EarnBeg	End-of-Quarter Employment: Average Monthly Earnings	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
<u>EarnHirAS</u>	Hires All (Stable): Average Monthly Earnings	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
<u>EarnHirNS</u>	Hires New (Stable): Average Monthly Earnings	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
<u>EarnS</u>	Full Quarter Employment (Stable): Average Monthly Earnings	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
<u>EarnSepS</u>	Separations (Stable): Average Monthly Earnings	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
education	Group: education	QWI Categorical Variable	default displayed		6	string	N/A
<u>Emp</u>	Beginning-of-Quarter Employment: Counts	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
EmpEnd	End-of-Quarter Employment: Counts	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A
<u>EmpS</u>	Full-Quarter Employment (Stable): Counts	Quarterly Workforce Indicators (QWI)	not required		0	int	N/A

# **Understanding Categorical Variables in QWI API**

View Excel files on the QWI Developers page to find the meaning of categorical variable values



https://www.census.gov/data/developers/data-sets/qwi.html

## Demo

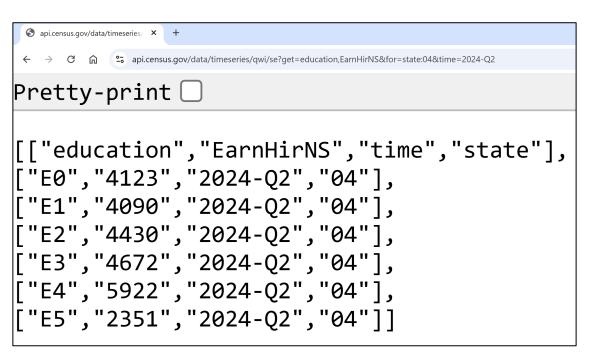
## **QWI – Average Monthly Earnings of New Hires**

- a) By educational attainment in Arizona in Q2 2024?
- b) By educational attainment in Arizona, Nevada, and New Mexico in Q2 2024?
- c) By educational attainment for <u>NAICS 52</u> from <u>Q1 2020 to Q2 2024</u>?

# Additional Options for Categorical Variables in QWI API

# Categorical variables typically provide results for all categories by default:

https://api.census.gov/data/timeseries/qwi/se?get=<u>education</u>, EarnHirNS&for=state:04&time=2024-Q2



Add parameters to the end of your query when you would like to only return data for specific categories:

&[InsertCategoricalVariable]=[VariableValue]

https://api.census.gov/data/timeseries/qwi/se?get=EarnHirNS &for=state:04&time=2024-Q2&education=E4

```
Pretty-print 
[["EarnHirNS","time","education","state"],
["5922","2024-Q2","E4","04"]]
```

## Demo

## **QWI – Average Monthly Earnings of New Hires**

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## **Hands-On Practice!**













These participatory classes walk you through examples of using data.census.gov to find demographic and economic data.

Time is allotted throughout the training for questions, and participation is strongly encouraged.

- Please click the box below to view available classes.
- Registration is required to attend these workshops. Attendance is limited to 50 participants per session.

\*\*\*When registering, if you receive a message that you are waitlisted, please sign up for later class. We are trying to move classes to Waitlist as they fill, but sometimes there is a lag in that update.

#### **Basics of Finding Data Using** data.census.gov

In these participatory classes. data.census.gov outreach staff walk you through examples that cover basics and advanced of using data.census.gov to find data.

#### Basics of Using the Microdata Access Tool in data.census.gov

Join us for a participatory class that walks you through the Microdata Access Tool (MDAT) within data.census.gov.

#### **Finding American Community Survey Data**

In this participatory class, our staff will walk you through various ways of accessing data from the ACS via three of our data tools.

#### Advanced Usage of data.census.gov

These participatory classes walk you through some of the more advanced ways to use data.census.gov to find demographic and economic data.

#### Basics of Using the Census API

Join us in this hands-on class as we learn how to access data through the Census Data Application Programming Interface

#### Finding Economic Data on data.census.gov and the API

This workshop is geared towards intermediate/advanced data.census.gov users who want to learn how to access economic datasets on data.census.gov and

#### Making the Most of Mapping in data.census.gov

Join us in this participatory class as we look at mapping capabilities in data.census.gov.

#### Data.census.gov Geography **Essentials for Beginners**

This introductory workshop is geared towards data users who want to master the fundamentals of census geographies.



census.gov/data/what-is-data-census-gov/workshops.html

## **Learn More**

#### **API Resources Page:**

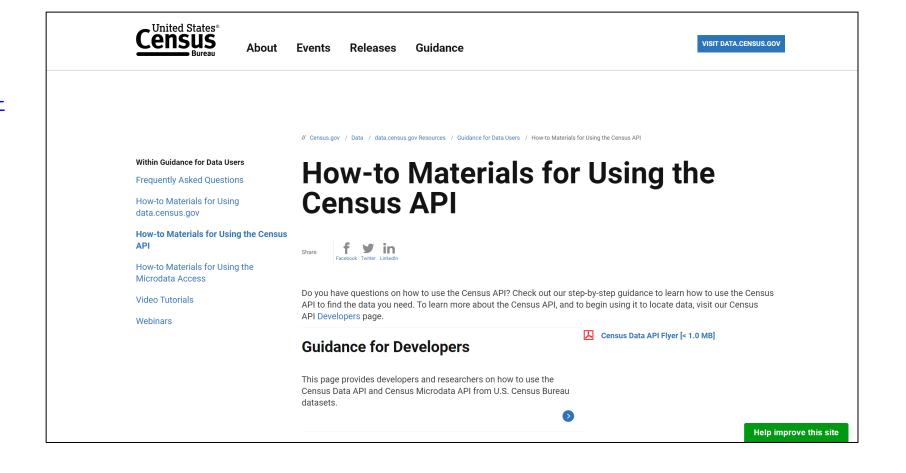
census.gov/data/what-is-datacensus-gov/guidance-for-datausers/how-to-materials-for-usingthe-census-api.html

#### **Feedback/Data Questions:**

census.data@census.gov

#### **Developers Forum on Slack:**

<u>census.gov/data/developers/api-forum.html</u>



Annual Integrated Economic Survey & 2022 Economic Census Update

2025 Local Employment Dynamics Partnership Workshop September 4, 2025

**Tristan St. Onge – U.S. Census Bureau**Senior Survey Manager, Economy-Wide Statistics Division

**Kari Klinedinst – U.S. Census Bureau**Senior Program Advisor, Economy-Wide Statistics Division

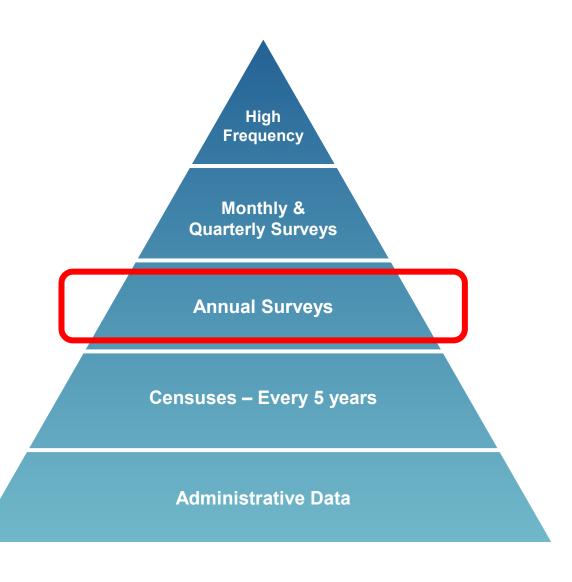






# **Census Economic Programs**

- A key source for official statistics:
  - High-frequency data
  - Monthly and quarterly small sample surveys provide **TIMELY** data
  - Annual surveys have larger samples and provide the most up-to-date **TREND** data available
  - Every 5 years, the Censuses measure businesses and governments and provide the most **COMPREHENSIVE** data available
  - Plus, FOUNDATIONAL administrative data from the Business Register to supplement or produce additional economic products





# About the Annual Integrated Economic Survey (AIES)

## Discontinued Surveys

- Newly designed survey that **replaces and integrates seven annual business surveys** into one survey
- Provides the only comprehensive **national**, **regional**, divisional, and state level data on business revenues, expenses, payroll, and employment on an annual basis
- Sent to approximately **298,000 companies** that cover domestic and nonfarm employer businesses
- Participation is mandatory and responses are protected under strict confidentiality rules to ensure data privacy

- Annual Capital Expenditures Survey (ACES)
- Annual Retail Trade Survey (ARTS)
- Annual Survey of Manufactures (ASM)
- Annual Wholesale Trade Survey (AWTS)
- Manufacturers' Unfilled Orders Survey (M3UFO)
- Report of Organization (COS)
- Service Annual Survey (SAS)



# Origins of the AIES

- A National Academy of Sciences (NAS) panel studied the annual economic surveys administered by the U.S. Census Bureau and provided recommendations in 2018.
- Main drivers of this effort include:
  - Meeting Data User Needs
  - Improve Efficiencies
  - Reducing Costs
  - Reducing Respondent Burden







# **AIES Status by Survey Year**

2023	<ul> <li>Launched: March 2024</li> <li>First Look (Preliminary) Published: July 2025</li> <li>Full Release: October 2025</li> <li>Experimental Data Release: Fall/Winter 2025</li> </ul>
2024	<ul> <li>Launched: March 2025</li> <li>Closes: Fall 2025</li> <li>Data Releases: Starting Spring 2026</li> </ul>
2025	Launching: March 2026



# **Available AIES Data**

## First Look (Preliminary) Estimates

- 2 to 3-digit NAICS
- National, Regional, and Divisional Levels
- Summary Statistics
  - Sales, Value of Shipments, or Revenue
  - Annual Payroll
  - First-Quarter Payroll
  - Number of Employees

## **Experimental Data Release**

- Robotics Manufacturing by Subsector/State
- Summary Statistics by State
- Product Revenue (NAPCS)
- Limited Scope Industries

## **Full Release** – Sector/NAICS/Geo Level Dependent

- Summary Statistics
- Operating Expenses
- **Detailed Operating Expense**
- **Inventories**
- Capital Expenditures
- Trade-Specific Statistics
  - Class of Customer
  - Electronic Health Records
  - Inpatient Days/Revenue
  - **Outpatient Visits/Revenue**
  - E-Commerce
  - **Production Workers**





# **Accessing AIES Data**

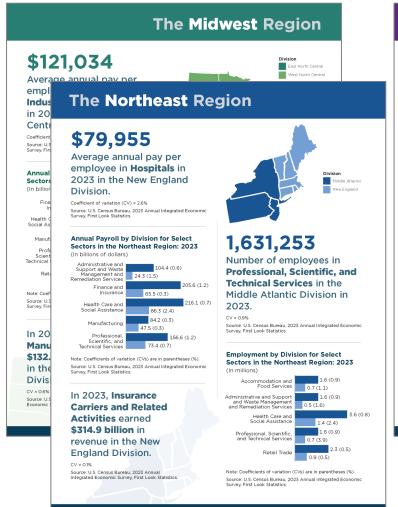
# census.gov/aies

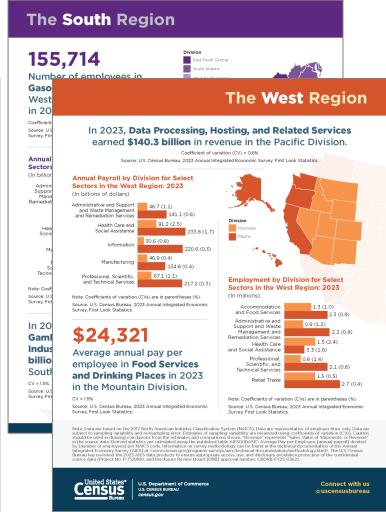
- data.census.gov
- Excel Spreadsheets
- FTP (File Transfer Protocol) Files
- API (Application Programming Interface)
- FRED (Federal Reserve Economic Data) for **Select Tables**



# **AIES Data Products**









# The Future AIES

- NAPCS being collected from all trades. Not just Manufacturing (SY25)
- Simplifying the electronic instrument for smaller companies especially
- Introducing subsamples to reduce respondent burden
  - Maintains critical content without asking all respondents
- Moves us toward further integrating AIES and 2027 Economic Census

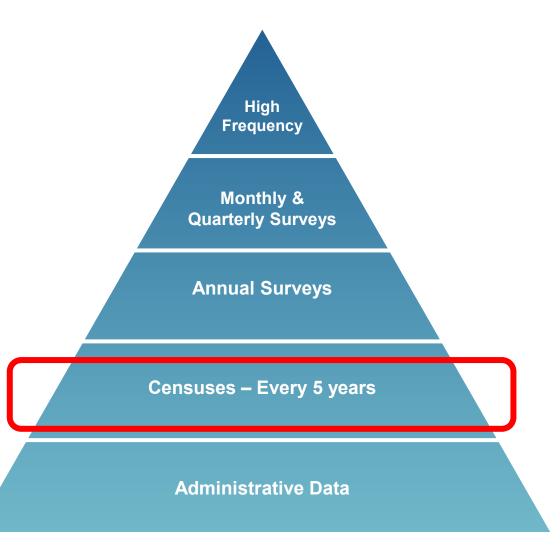






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# 2022 Economic Census

- Conducted every 5 years, the economic census produces the most comprehensive economic data available
- Businesses reported their 2022 year-end numbers
- Responses are strictly confidential and used for statistical purposes only
- Data covers 19 economic sectors that encompass 950 NAICS industries, that span almost 20,000 geographic areas
  - Includes number of establishments, products, revenue, employment, payroll and more
  - Data released January 2024 March 2026
- More information at <u>census.gov/EconomicCensus</u>





# **U.S.** Business **Target Universe**

**Economic Census only** covers businesses with paid employees.





# **2022** Economic Census **Industry Expansion**

## **New Industry Subsectors**

- 1151 Support Activities for Crop Production
- 1152 Support Activities for Animal Production

2022 Focus for NAICS 115

Frame coverage

Basic data items

- Primary business activity
- Receipts
- **Employment**
- Payroll





## **2022 Economic Census**

# Measuring A Changing Economy

## **New Content - Topics**

- Remanufacturing
- Telemedicine

## **NAPCS**

- Cannabis
- Cryptocurrency
- Electric Vehicles





# **2022** Economic Census **Product Statistics**

- Industry by Products, U.S. and States
  - Pet and pet supplies stores (NAICS 453910)
    - Retail sales of books
    - Retail sales of pets, including fish
    - Retail sales of pet foods and supplies
    - Retail sales of farm and agricultural supplies
    - Retail sales of other goods, not elsewhere classified
    - Non-medical services for household pets, except training services

- Products by Industry, U.S.
  - Retail sales of pet foods and supplies (NAPCS 5001250000)
    - Pet and pet supplies stores
    - Warehouse clubs and supercenters
    - Electronic shopping and mail-order houses
    - Home centers
    - Convenience stores
    - Plus 30 additional industries





# **Accelerated Data Releases**

Series	Description	Release
First Look Report	General statistics data at the 2 – 3 digit NAICS level	January 2024
Island Area Series	<ul> <li>Guam, American Samoa, Northern Mariana Islands</li> <li>U.S. Virgin Islands</li> <li>Puerto Rico</li> </ul>	<ul><li>June 2024</li><li>July 2024</li><li>December 2024</li></ul>
Geographic Area Statistics	General statistics data at the U.S., State, Metro Area, County, and Place level; All States simultaneously released	December 2024
Comparative & Bridge Statistics	Industries whose NAICS changed between 2022 and 2017/All 2-6 2022 NAICS for 2022 and 2017	February 2025
Establishment & Firm Size Statistics	Summary statistics at the U.S. level about revenue and employment size, concentration and legal form of organization of businesses	April 2025
Product Statistics	North American Product Classification System (NAPCS) details for industries at the U.S. and States	May 2025





# **New Cross-Program Economic Data Page**

A restructured Business and Economy Data webpage designed with a streamlined, user-friendly interface and serving as an informational launchpad for data users with beginner-level experience.

#### Highlights include:

- New & Featured showcasing the latest econ-produced visuals and products
- Learn How To... data gems, webinars, data tool demos, and more
- Data For Featured Industries learn more about specific industries and the surveys their data come from





# **State Economic Snapshots**

Highlights statistics on the economy from the 2022 Census of Governments and the 2022 Economic Census for all 50 states and DC. Each highlights a selection of industries, some chosen for their prominence or relevance to the state's economic identity.

#### For Example:

- Select Sectors by Number of Employees
- Select Statistics for the State compared to the **United States**
- Percent of Total State and Local Government Expenditures by Function

State Economic Snapshots: 2022





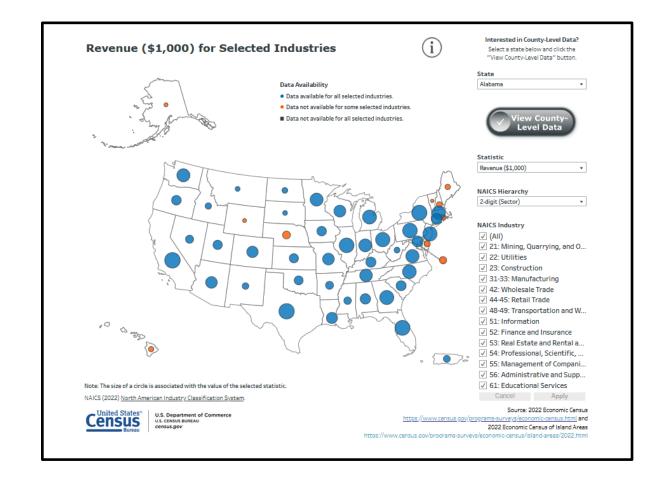
# **2022** Economic Census **Data Visualization**

View state-level statistics quickly by hovering over states on the U.S. map or by using the drop-down arrow at the top right of the chart to select the desired state.

From there, access statistics for:

- Revenue.
- Number of employees.
- First quarter payroll.
- Annual payroll.
- Number of establishments.

2022 Economic Census: Exploring Industry Data by Geography

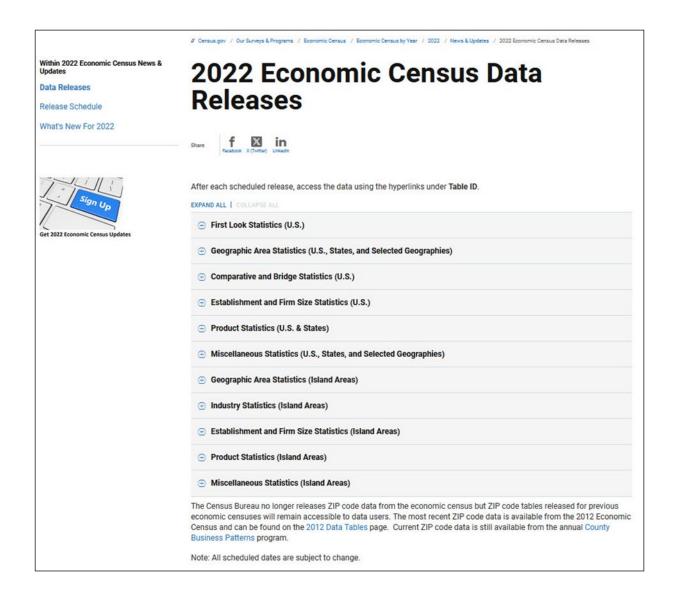




## 2022 Economic Census Data.Census.Gov

Direct links to all available data tables: 2022 Economic Census Data Releases.

Additionally, a Data Gem was created to learn how to access key economic data to support your analysis of local business statistics and industry data by NAICS codes from the 2022 Economic Census.





# **Additional Ways to Access Econ Data**

- QuickFacts
- My Congressional District
- My Tribal Area
- OnTheMap for Emergency Management
- TIGER/Line Shapefiles w/ Selected **Demographic Data**
- Application Programming Interface (API)

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









# Q & A

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