

Status Update: 2020 Census Data Products

National Conference of State Legislatures (NCSL)

Michael Hawes

Cynthia Davis Hollingsworth

U.S. Census Bureau

National Webinar

September 21, 2022

Data Protection in the 2020 Census Products

- We are legally obligated to protect all data under US Code Title 13
- Technology and computing power has advanced to the point where new methods are needed that more strongly protect against disclosure
 - We have added a new tool, called **Differential Privacy (DP)**, to our toolbox
 - We are using it in our 2020 Census data products to protect against disclosure
- DP inserts small differences into counts of people and households, making it very difficult to identify people
- Data users are concerned about how this approach will impact the usefulness of the data, especially at small levels of geography or small population groups
- We are working to make the data as useful as possible, within disclosure protection constraints
- To help us understand user needs, we have created “demonstration products” that show the proposed balance between data usefulness and protection

2010 Demonstration Data Products

- Census Bureau applies the new disclosure avoidance protections to the 2010 Census tables
- Census Bureau produces measures of the differences from the 2010 Census tables (Detailed Summary Metrics)
- Release the demonstration tables and the measures of the differences
- Public analyzes the difference between the demonstration and 2010 Census data
- Public assesses the impact for different uses of the data and then provides feedback to the Census Bureau through 2020DAS@census.gov

2020 Census Data Products

Released

Apportionment
April 26, 2021

Redistricting File
(Public Law 94-171)
August 12, 2021
September 16, 2021

Demographic Profile
Demographic and
Housing Characteristics
File (DHC)

Planned May 2023

118th Congressional District File
Planned August 2023

Detailed DHC-A
Planned August 2023

Detailed DHC-B
Release Date TBD

Supplemental DHC (S-DHC)
Release Date TBD

Future Effort

Public Use Microdata
Sample (PUMS) File

Special Tabulations

The Second DHC Demonstration Data Product

- The second DHC Demonstration Data product was released on **August 25, 2022**
- Includes tables and geographies added to the Demographic and Housing Characteristics (DHC) product
 - Lowered the proposed level of geography from state or county level to the census tract level for 16 tables and 63 iterated tables or tables repeated by race and ethnicity
 - Added a sex by single year of age table repeated by race and ethnicity at the tract level
- Increased accuracy across many topics
- Made enhancements to supporting material such as the 2020 Census Data Planning Crosswalk
- Released person and housing unit Summary Files at the same time

Public Feedback Request

- Analyze the differences between the demonstration data and the 2010 Census data
- If the numeric differences were the same in the 2020 Census tables as those in the 2010 demonstration data product:
 - Would there be specific tables or geographies where the differences would be **acceptable**?
 - Would there be specific tables or geographies where the differences would be **not acceptable**?
 - How would that impact your uses of the data?
- We look forward to your feedback and recommendations!
 - Public feedback is due **Monday, September 26** to 2020DAS@census.gov

This is the last demonstration data product and opportunity to provide feedback before the disclosure avoidance settings for the DHC are finalized

Tentative Process for Detailed DHC-A, Detailed DHC-B, and S-DHC

- Identify tables to be included in proposal
- Create analysis tool to assess confidentiality and accuracy
- Develop proposal based on analysis of tool
- Develop the disclosure avoidance system algorithms
- S-DHC only: execute modeling experiments and update proposal
- Test the disclosure avoidance system
- Produce a proof of concept demonstration data product
- Additional development and testing based on public feedback
- Conduct final production and quality assurance

We engage with stakeholders and advisory committees throughout this process

2020 Census Data Products: Resources

About the 2020 Census Data Products:

<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/release/about-2020-data-products.html>

Disclosure Avoidance Modernization:

<https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/process/disclosure-avoidance.html>

2020 Disclosure Avoidance Webinar Series:

<https://www.census.gov/data/academy/webinars/series/disclosure-avoidance.html>

Introductory Handbook on Disclosure Avoidance:

<https://www.census.gov/library/publications/2021/decennial/2020-census-disclosure-avoidance-handbook.html>

Resources

2020 Census Data Products Page

About 2020 Census Data Products

Share | Facebook | Twitter | LinkedIn

[VIEW DATA PRODUCTS SUMMARIES](#)

[VIEW 2010/2020 DATA PRODUCTS COMPARISON](#)

The apportionment results and redistricting data are now available, and there's much more to come from the 2020 Census. We are excited to share the next set of 2020 Census data products and are moving

Disclosure Avoidance Modernization Web Page

2020 Decennial Census: Processing the Count: Disclosure Avoidance Modernization

Share | Facebook | Twitter | LinkedIn

Modern computers and today's data-rich world have rendered the Census Bureau's traditional confidentiality protection methods obsolete. Those legacy methods are no match for hackers aiming to piece together the identities of the people and businesses behind published data.

A powerful new disclosure avoidance system (DAS) designed to withstand modern re-identification threats will protect 2020 Census data products (other than the apportionment data; those state-level totals remain unaltered by statistical noise).

The 2020 DAS is based on a framework for assessing privacy risk known as differential privacy. It is the only solution that can respond to this threat while maximizing the availability and utility of published census data.

[Understanding Differential Privacy](#)
Why we're modernizing protections – and how differential privacy works.

[Disclosure Avoidance Protections by Data Product](#)
Learn more about why we are modernizing protections and how.

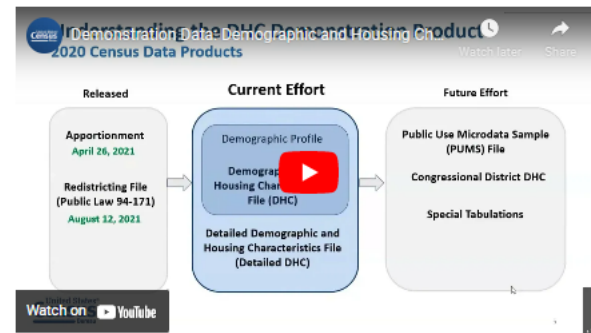
[Protecting Privacy in Census Bureau Statistics](#)

[Protecting Privacy with MAT...](#)

Webinars

Description

Learn more about the first round of demonstration data for the Demographic and Housing Characteristics File (DHC). Census Bureau subject matter experts walk through the release and answer user questions. Data users can expect release of the first round's "person" tables on March 16, with housing characteristics tables to follow shortly thereafter.



Webinar Materials

- [Presentation](#) [[<1.0 MB](#)]
- [Transcript](#) [[<1.0 MB](#)]

Data User Handbook

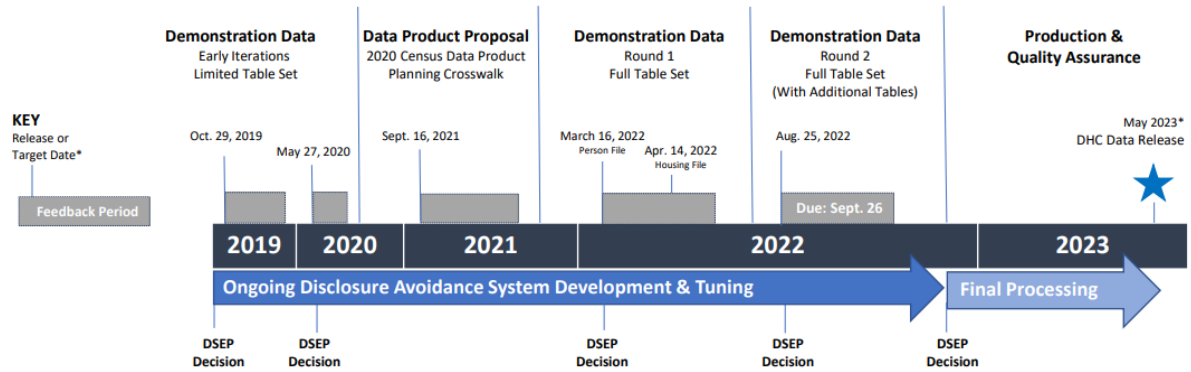
Disclosure Avoidance for the 2020 Census: An Introduction

Issued November 2021

United States[®] Census Bureau | U.S. Department of Commerce | U.S. CENSUS BUREAU | census.gov

Resources

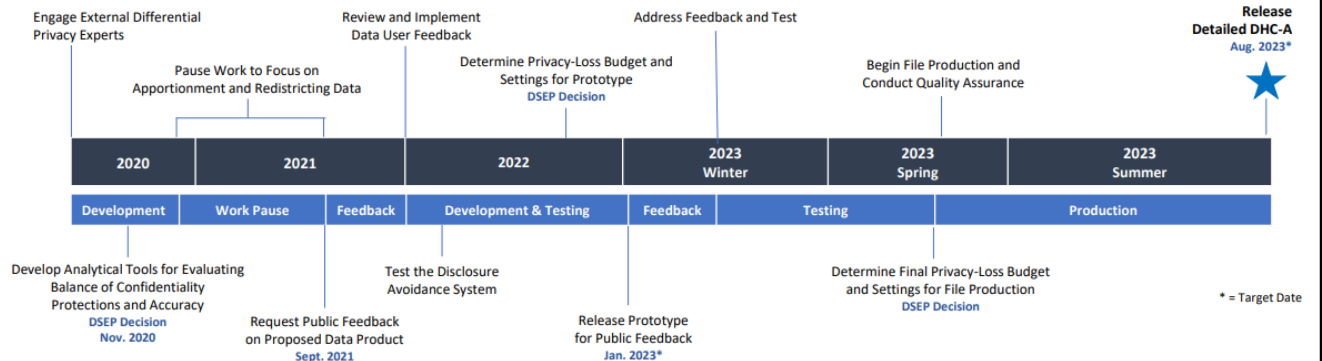
Demographic and Housing Characteristics File (DHC) Development and Production Timeline



Product Development Timelines



Detailed Demographic and Housing Characteristics File A (Detailed DHC-A)

Total Population and Sex by Age for Approximately 370 Detailed Racial and Ethnic Groups and 1,200 American Indian and Alaska Native Tribes and Villages



Resources

[Subscribe](#) to our newsletter for the latest updates



Just Released: New Demonstration Data for the DHC; Webinar August 31

August 25, 2022: Today, the Census Bureau released [new 2010 demonstration data and performance metrics](#) for the 2020 Census Demographic and Housing Characteristics File (DHC). A 30-day public feedback period begins today and will end on September 26, 2022. This

Videos



Blogs

2020 Census Data Products: Next Steps for Data Releases

April 27, 2022

WRITTEN BY: CYNTHIA DAVIS HOLLINGSWORTH, PROGRAM MANAGER FOR 2020 CENSUS DATA PRODUCTS AND DISSEMINATION, DECENNIAL CENSUS MANAGEMENT DIVISION; JASON DEVINE, ASSISTANT DIVISION CHIEF FOR CENSUS PROGRAMS, POPULATION DIVISION

Fact Sheets

Understanding Disclosure Avoidance-Related Variability in the 2020 Census Redistricting Data

While the U.S. Census Bureau used block group-level statistics for much of the tuning of the Disclosure Avoidance System (DAS) (and for which we have published analyses of the resulting accuracy), we have received requests from several data users to provide more information on the expected variation in block-level data for blocks of varying sizes.

While this method is not as accurate as a full simulation since it relies on geographic variation and not the intrinsic randomness of the DAS, we feel that it illustrates the general scope and magnitude of the population changes resulting from the DAS.

Block-Level Relative Impact of Confidentiality Protections is Minimal, Especially for Smaller Blocks

2020 Census Data Products: United States

Data will be released via data.census.gov and FTP download

Release date (as of 8/11/22)	2020 Census product	Selected Geographies ¹									
		Availability: ✓ = All tables ★ = Selected tables T = To be determined									
		Nation	State	County	Tract	Block group	Block	Urban/Rural	Place/MCD	ZCTA ²	AIANNH ³
April 26, 2021	Apportionment <ul style="list-style-type: none"> The resident population of the 50 states, plus a count of the U.S. military personnel and federal civilian employees living outside the United States (and their dependents living with them) who can be allocated to a home state. The populations of the District of Columbia and Puerto Rico are not included in the apportionment population because they do not have voting seats in the U.S. House of Representatives. However, the District of Columbia and Puerto Rico are included in the resident population tables. 	✓	✓								
August 12, 2021 and September 16, 2021 ⁵	Census (P.L. 94-171) Redistricting Data Summary File <ul style="list-style-type: none"> Population counts for race and Hispanic or Latino categories. Housing unit counts by occupancy status (occupied units, vacant units). Group quarters population counts by major group quarters type. 		✓	✓	✓	✓	✓		✓	✓	
	Census National Redistricting Data Summary File <ul style="list-style-type: none"> Same content as the Census Redistricting Data (P.L. 94-171) Summary File above, but for the United States, regions, divisions, and American Indian, Alaska Native, and Native Hawaiian Areas. 	✓	✓							✓	
May 2023	Demographic and Housing Characteristics File (DHC) <ul style="list-style-type: none"> Selected demographic and housing characteristics about local communities. Includes 5-year age groups, sex, race, Hispanic or Latino origin, household type, relationship to householder, group quarters population, housing occupancy, and housing tenure. 	✓	✓	★	★	★	★	★	★	★	★
	Demographic Profile <ul style="list-style-type: none"> Selected population and housing characteristics. Includes Congressional Districts of the 116th Congress. 	✓	✓	✓	✓			✓	✓	✓	
August 2023	Congressional District Summary Files <ul style="list-style-type: none"> Retabulation of selected summary levels from the DHC. When changes to congressional districts are reported by any state, the Census Bureau retabulates data to the new boundaries. Following the 2020 Census, the first of these data products -- for the 118th Congress -- is planned as a re-tabulation of the DHC. If additional boundary changes are reported for future congressional sessions (e.g. 119th, 120th, etc.), this product is regenerated to those new boundaries and reissued. If no changes for a future session are reported, the previously generated congressional district file is used as both its original and subsequent congressional session product and no re-tabulation is created. 		✓	★	★				★	★	
August 2023	Detailed Demographic and Housing Characteristics File A (Detailed DHC-A)⁶ <ul style="list-style-type: none"> Population counts and sex and age statistics for approximately 370 detailed racial and ethnic groups and 1,200 American Indian and Alaska Native tribe and village population groups — such as German, Lebanese, Jamaican, Chinese, Native Hawaiian, Mexican, and the Navajo Nation. 	★	★	★	T				T	★	
TBD	Detailed Demographic and Housing Characteristics File B (Detailed DHC-B)⁶ <ul style="list-style-type: none"> Household type and tenure information for approximately 370 detailed racial and ethnic groups and 1,200 American Indian and Alaska Native tribe and village population groups — such as German, Lebanese, Jamaican, Chinese, Native Hawaiian, Mexican, and the Navajo Nation. 	★	★	★	T				T	★	
TBD	Supplemental Demographic and Housing Characteristics File (S-DHC) <ul style="list-style-type: none"> Combined characteristics about households and the people living in them. For example, the count of people living in certain types of households and housing units. Data on population in households, including average household size by age and tenure, average family size, household/family type of people under 18 years and total population in households by tenure. These tables are also known as the person-household join tables. 	✓	✓	✓	✓				★	★	★

Questions?