

Update on 2020 Census Data Products

Arizona State Data Center (AZ SDC) Meeting

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Background

- Census Bureau has a long history of collecting and disseminating data and protecting information provided by respondents
- Over time, more and more granular census data have been published
- Advances in data science, more powerful computers, and externally accessible 'big data' has increased the risk of identifying individuals from published statistics
- To mitigate, the Census Bureau is implementing new disclosure avoidance methods for the 2020 Census
- Census Bureau's goal is to meet data user needs while implementing new disclosure avoidance methods for 2020 Census data products

2020 Census Data Products

- Apportionment
- Redistricting File (Public Law 94-171)
- **Demographic Profile**
- **Demographic and Housing Characteristics File (DHC)**
- **Detailed Demographic and Housing Characteristics File (Detailed DHC)**
- Public Use Microdata Sample (PUMS) File
- Congressional District Demographic and Housing Characteristics Product
- Special Tabulations

Apportionment

Apportionment is the process of dividing the 435 memberships, or seats, in the U.S. House of Representatives among the 50 states. At the conclusion of each decennial census, the results are used to calculate the number of seats to which each state is entitled.

- **Results were released on April 26, 2021**
- **Subjects include:**
 - Resident population
 - Overseas population
 - Apportionment population
- **Geography:** 50 states, the District of Columbia (DC), and Puerto Rico
- **Disclosure avoidance:** Results do not undergo disclosure avoidance

Redistricting File (Public Law 94-171)

Public Law 94-171 directs the Census Bureau to provide data to the governors and legislative leadership in each of the 50 states for redistricting purposes. This product is the first file released that includes demographic and housing characteristics.

- **Results were released on August 12, 2021 and September 16, 2021**
- **Subjects include:**
 - Voting age
 - Race
 - Hispanic or Latino origin
 - Housing occupancy
 - Group quarters (GQ) population by major GQ type
- **Lowest level of geography:** Census Block
- **Disclosure avoidance:** Differentially private TopDown Algorithm (TDA)

Demographic Profile

This product will provide select demographic and housing characteristics about local communities in a streamlined, easy to use format.

- **Subjects will include:**

- Sex by 5-year age groups
- Median age by sex
- Race
- Hispanic or Latino origin
- Relationship to householder
- GQ population
- Household type
- Housing occupancy
- Housing tenure

- **Lowest level of geography:** Place/Minor Civil Division (MCD)

- **Disclosure avoidance:** Differentially private TDA

Demographic and Housing Characteristics File (DHC)

The DHC will include many of the demographic and housing tables previously included in 2010 Summary File 1 (2010 SF1). Some tables are repeated by race and ethnicity.

- **Subjects will include:**

- Sex by single year-of-age
 - Hispanic or Latino origin of householder by race of householder
 - GQ population by sex by age
 - Relationship by age for population under 18 years
 - Household type by relationship and presence of people of specific ages
 - Multigenerational households
 - Family type by presence of children
 - Tenure by household size
 - Tenure by household type by age of householder
 - Vacancy Status
- **Lowest level of geography:** Various with many tables proposed at Census Block
 - **Disclosure avoidance:** Differentially private TDA

Detailed Demographic and Housing Characteristics File (Detailed DHC)

The Detailed DHC will include some tables iterated by detailed race, ethnicity, and American Indian and Alaska Native (AIAN) tribes and villages from 2010 Summary File 2 and AIAN Summary File. It will also include some complex person and household join tables from 2010 Summary File 1.

- **Subjects will include:**

- Total population*
 - Sex by age for selected age categories*
 - Household type*
 - Housing tenure*
 - Average household and family size
 - Population by family type and tenure
 - Population by household type and relationship
 - Own children by family type
 - Average household size by tenure
- **Geography:** Various with many tables proposed at County and American Indian, Alaska Native, and Native Hawaiian (AIANNH) Areas
 - **Disclosure avoidance:** Differentially private SafeTab and PHSafe algorithms

**iterated by detailed race, ethnicity, AIAN*

DHC: Key Developments

- Refining accuracy targets and evaluating privacy/accuracy tradeoff
- Revisiting DHC use cases
- Continuing to design disclosure avoidance system to maintain consistency between the Redistricting and DHC data
- Developing external engagement strategy
 - Engagement/education
 - Feedback/listening
 - Demonstration/implementation
- Planning to publish demonstration data using 2010 Census for public assessment of privacy/accuracy tradeoff
- Considering changes to DHC tables

DHC: Changes Under Consideration

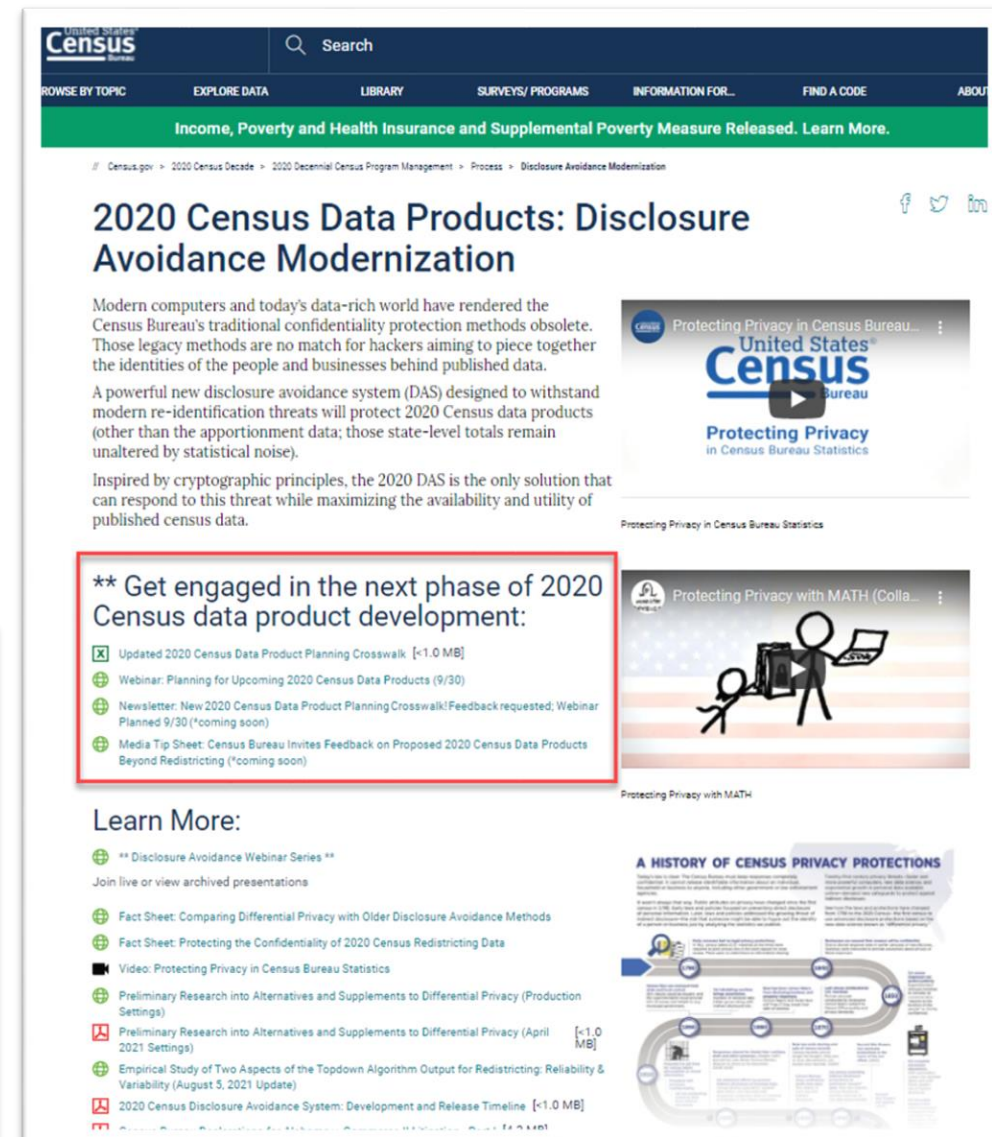
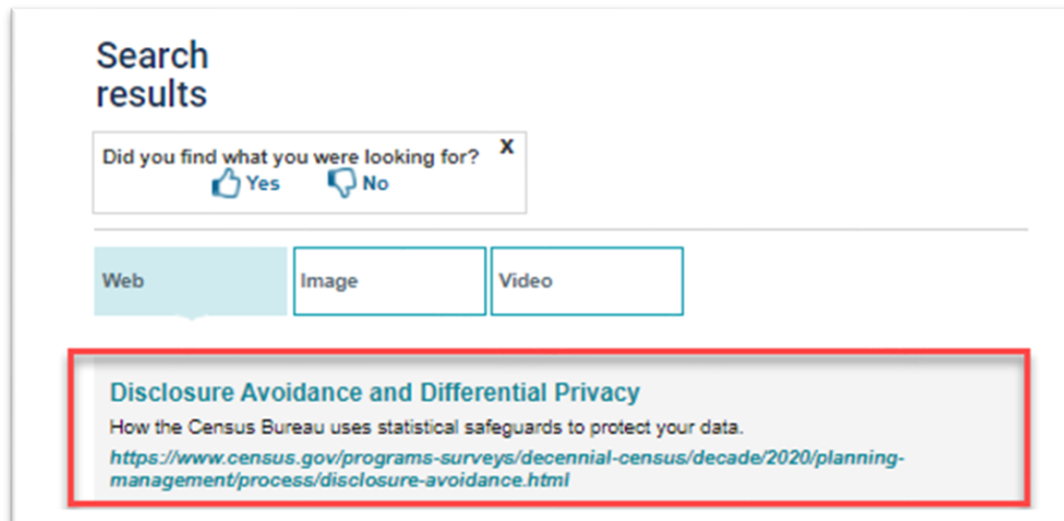
- Reduce or eliminate block and block group data
- Produce the protected tables without the underlying protected microdata
- Revisit the timing of the release of the DHC relative to the Demographic Profile

Detailed DHC: Key Developments

- Determined name and scope of the Detailed DHC
 - No microdata requirement for Detailed DHC
- Engaged with Tumult Labs researchers on disclosure avoidance system
- Evaluating privacy and accuracy balance using analytical tools
- Engaging with public on Detailed DHC proposal and use cases
- Developing external engagement strategy
- Need to conduct tribal consultations

2020 Census Data Products Planning Crosswalk Walk-through

- Go to <https://www.census.gov/>
- Search “disclosure avoidance”
- Click “Disclosure Avoidance and Differential Privacy”
- Click “Updated 2020 Census Data Product Planning Crosswalk”



Additional Resources

Recorded Walkthrough of the 2020 Census Data Product Planning Crosswalk

<https://census.gov/data/academy/webinars/2021/disclosure-avoidance-series/planning-for-upcoming-2020-census-data-products.html>

How to submit feedback

Submit comments by October 22 to: 2020DAS@census.gov

<https://content.govdelivery.com/accounts/USCENSUS/bulletins/2f179ae>

2020 Census Disclosure Avoidance website

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

Questions or Comments?

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