

Appendix B: Redistricting Data Hub 2021 CVAP Readme File

2021 Citizen Voting Age Population (CVAP) Data for Alabama from the American Community Survey (ACS) 5-Year Estimates (2017-2021) Disaggregated to 2020 Census Blocks

RDH Date Retrieval
03/01/23

Sources

CVAP data originally downloaded from this [link](https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.2021.html).

PL data and CVAP data retrieved from U.S. Census via Redistricting Data Hub website.

Fields:

Field Name Description

GEOID20 Census Block GEOID

CVAP_TOT21 CVAP Estimate for Total

CVAP_NHS21 CVAP Estimate for Not Hispanic or Latino

CVAP_AIA21 CVAP Estimate for American Indian or Alaska Native Alone or In Combination

CVAP_ASN21 CVAP Estimate for Asian Alone or In Combination

CVAP_BLK21 CVAP Estimate for Black or African American Alone or In Combination

CVAP_NHP21 CVAP Estimate for Native Hawaiian or Other Pacific Islander Alone

CVAP_WHT21 CVAP Estimate for White Alone

CVAP_AIW21 CVAP Estimate for American Indian or Alaska Native and White

CVAP_ASW21 CVAP Estimate for Asian and White

CVAP_BLW21 CVAP Estimate for Black or African American and White

CVAP_AIB21 CVAP Estimate for American Indian or Alaska Native and Black or African American

CVAP_2OM21 CVAP Estimate for Remainder of Two or More Race Responses

CVAP_HSP21 CVAP Estimate for Hispanic or Latino

C_TOT21 Citizen Estimate for Total

C_NHS21 Citizen Estimate for Not Hispanic or Latino

C_AIA21 Citizen Estimate for American Indian or Alaska Native Alone or In Combination

C_ASN21 Citizen Estimate for Asian Alone or In Combination

C_BLK21 Citizen Estimate for Black or African American Alone or In Combination

C_NHP21 Citizen Estimate for Native Hawaiian or Other Pacific Islander Alone

C_WHT21 Citizen Estimate for White Alone

C_AIW21 Citizen Estimate for American Indian or Alaska Native and White

C_ASW21 Citizen Estimate for Asian and White

C_BLW21 Citizen Estimate for Black or African American and White

C_AIB21 Citizen Estimate for American Indian or Alaska Native and Black or African American

C_2OM21 Citizen Estimate for Remainder of Two or More Race Responses

C_HSP21 Citizen Estimate for Hispanic or Latino

Processing Steps

The processing for this dataset was completed in multiple parts.

Part 1: Processing the 2021 Block Group CVAP data

CVAP data was retrieved at the block group level from link in "Sources" above.

The Alabama data was extracted from the national data to create a statewide dataset.

The data was pivoted from narrow to wide data based on GEOIDs so that one row is one block group, and each field represents a particular race/ethnicity.

The fields were renamed to fit character length requirements.

Processing was primarily completed using the pandas library.

To improve the usefulness of the data, we have modified three categories to correspond with the Office of Management and Budget (OMB) racial categories. The "Alone" categories for American Indian or Alaska Native (fields with "AIA"), Asian (fields with "ASN"), and Black or African American (fields with "BLK") represent an encompassing racial category that is inclusive of all categories that include that race. For example, CVAP_AIA21 would be the sum of the original "Alone" CVAP_AIA21, CVAP_AIB21, and CVAP_AIW21. For CVAP_BLK21, the field would be the sum of the original CVAP_BLK21, CVAP_AIB21, and CVAP_BIW21. For CVAP_ASN21, the field would be the sum of the original CVAP_ASN21 and CVAP_ASW21. These fields are also noted in the description as being "Alone or In Combination". No other estimate categories were modified. All of the racial estimates provided are Non-Hispanic. Breakdowns for Hispanic/Non-Hispanic by race are not provided in the CVAP special tabulation.

Part 2: Disaggregating the 2021 Block Group CVAP data to 2020 Blocks

The 2021 CVAP data was disaggregated using 2020 PL 94-171 data. The following variables were created from block-level PL files retrieved on the RDH website (some were summed or subtracted, as indicated below, to better resemble the OMB categories):

CVAP Field Corresponding PL Field(s)

CVAP_TOT21 P0040001

CVAP_NHS21 P0040003

CVAP_AIA21 P0040007 + P0040018 + P0040014

CVAP_ASN21 P0040008 + P0040015

CVAP_BLK21 P0040006 + P0040013 + P0040018

CVAP_NHP21 P0040009

CVAP_WHT21 P0040005

CVAP_AIW21 P0040014

CVAP_ASW21 P0040015

CVAP_BIW21 P0040013

CVAP_AIB21 P0040018

CVAP_2OM21 P0040011 - P0040018 - P0040014 - P0040013 - P0040015

CVAP_HSP21 P0040002

C_TOT21 P0020001

C_NHS21 P0020003

C_AIA21 P0020007 + P0020018 + P0020014

C_ASN21 P0020008 + P0020015

C_BLK21 P0020006 + P0020013 + P0020018

C_NHP21 P0020009

C_WHT21 P0020005

C_AIW21 P0020014
C_ASW21 P0020015
C_BLW21 P0020013
C_AIB21 P0020018
C_2OM21 P0020011 - P0020018 - P0020014 - P0020013 - P0020015
C_HSP21 P0020002

For each block in each column (e.g. CVAP_TOT21) the value for the 2020 block was multiplied by the 2020 total for the block group.

The totals for the block group were retrieved by grouping the block data by block group ID.

This provides a ratio of block to block group population for each individual racial category.

The ratios for each block in each column were multiplied by the 2021 CVAP total for the block's corresponding block group.

In the scenario where no blocks in a block group contain a value for a particular race/ethnicity combination in 2020, but have a value in the 2021 estimates, total CVAP population or total citizen estimate population was used as a proxy, depending on the variable.

In the scenario where a block group does not contain a value in its respective population or voting-age population field in the PL data, the 2021 population is divided evenly amongst all blocks in the block group.

All data fields are rounded to two decimal places.

Additional Notes

For more information on the ACS CVAP documentation please refer to the ACS technical documentation included in this folder (also available at this [\[link\]\(https://www2.census.gov/programs-surveys/decennial/rdo/technical-documentation/special-tabulation/CVAP_2017-2021_ACS_documentation_v1.pdf\)](https://www2.census.gov/programs-surveys/decennial/rdo/technical-documentation/special-tabulation/CVAP_2017-2021_ACS_documentation_v1.pdf)).

For more information on OMB racial categories, please see this [\[link\]\(https://obamawhitehouse.archives.gov/omb/bulletins_b00-02/#n_1_\)](https://obamawhitehouse.archives.gov/omb/bulletins_b00-02/#n_1_).

Visit the RDH GitHub and the processing script for this code [\[here\]\(https://github.com/nonpartisan-redistricting-datahub/cvap-processing\)](https://github.com/nonpartisan-redistricting-datahub/cvap-processing)

Please direct questions related to processing this dataset to info@redistrictingdatahub.org.