Package 'cvap'

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Title Citizen Voting Age Population

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Description Works with the Citizen Voting Age Population special tabulation from the US Census Bureau <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>. Provides tools to download and process raw data. Also provides a downloading interface to processed data. Implements a very basic approach to estimate block level citizen voting age population from block group data.

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Encoding UTF-8

LazyData true

RoxygenNote 7.3.2

Imports censable, cli, dplyr, fs, readr, rlang, stringr, tidyr

URL https://github.com/christopherkenny/cvap, https://christophertkenny.com/cvap/

BugReports https://github.com/christopherkenny/cvap/issues

Depends R (>= 4.1)

Suggests testthat (>= 3.0.0)

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NeedsCompilation no

Author Christopher T. Kenny [aut, cre] (ORCID: <https://orcid.org/0000-0002-9386-6860>)

Maintainer Christopher T. Kenny <ctkenny@proton.me>

Repository CRAN

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`cvap_census_url` *Get Zip File URL for CVAP Special Tabulation Data*

Description

Get Zip File URL for CVAP Special Tabulation Data

Usage

```
cvap_census_url(year = 2023)
```

Arguments

`year`	numeric. Year for the data in 2009 to 2023.

Value

string

Examples

```
cvap_census_url()
```

cvap_distribute *Estimate CVAP at the Block Level*

Description

Assuming citizenship homogeneity within block group race/ethnicity, estimates down from block groups to the block level, proportionally by group if possible, otherwise by total population.

Usage

```
cvap_distribute(cvap, block, wts = "pop", include_implied = TRUE)
```

Arguments

cvap	cvap data at the block group level, using default settings of `get_cvap()`
block	block data data for the Census before (or the same as) the year of the cvap data
wts	`'pop'` (default) or `'vap'` for the group to distribute by.
include_implied	logical if a column for the implied total (`impl_cvap`) should be included. Default is `TRUE`

Value

cvap tibble estimated at the block level

Examples

```
## Not run:
# Requires API set up with tidycensus
state <- 'DE'
cvap <- cvap_get(state, year = 2019)
de_block <- censable::build_dec(geography = 'block',
state = state, year = 2010, geometry = FALSE)

## End(Not run)
# Alternatively, using example data
state <- 'DE'
cvap <- cvap_get(state, year = 2019)
data('de_block')
cvap_block <- cvap_distribute(cvap, de_block)
```

`cvap_distribute_censable` *Distribute CVAP at the Block Group and Download Data*

Description

Downloads CVAP, block data, and block group data all together. Calls `cvap_distribute` within.

Usage

```
cvap_distribute_censable(
  state,
  year = 2023,
  clean = TRUE,
  wts = "pop",
  include_implied = TRUE
)
```

Arguments

`state`	character. The state to get data for or nation for the nation file.
`year`	numeric. Year for the data in 2009 to 2023.
`clean`	Should variable names be standardized? Default is TRUE.
`wts`	'pop' (default) or 'vap' for the group to distribute by.
`include_implied`	logical if a column for the implied total (`impl_cvap`) should be included. Default is `TRUE`

Value

cvap tibble estimated at the block level

Examples

```
## Not run:
# Requires API set up with tidycensus or censable
cvap_distribute_censable('DE', 2019)

## End(Not run)
```

cvap_get *Download Processed Citizen Voting Age Population Data*

Description

Downloads processed CVAP data for a state. CVAP data is rounded to the nearest 5 so totals may not sum properly, but will be close.

Usage

```
cvap_get(
  state,
  year = 2023,
  geography = "block group",
  out_file = NULL,
  moe = FALSE,
  clean = TRUE
)
```

Arguments

state	character. The state to get data for or nation for the nation file.
year	numeric. Year for the data in 2009 to 2023.
geography	character. Level of geography. Default is 'block group'. See Details.
out_file	file to save downloaded rds to
moe	Include margin of error? Default is FALSE.
clean	Should variable names be standardized? Default is TRUE.

Details

Geography options are

- 'block group': block group level data
- 'cd': congressional district data (years 2016+)
- 'county': county-level data
- 'place': place-level data
- shd': state house district data (years 2016+)
- 'ssd': state senate district data (years 2016+)
- 'state': state-level data
- 'tract': tract-level data
- 'nation': nation-wide data

Value

tibble of data

Examples

```
cvap_get('DE')
```

`cvap_get_raw` *Get Raw Citizen Voting Age Population Files*

Description

Get Raw Citizen Voting Age Population Files

Usage

```
cvap_get_raw(url, out_dir)
```

Arguments

`url`	URL to CVAP zip to download. Use `cvap_census_url()`.
`out_dir`	Directory to unzip to. Defaults to temp directory.

Value

string, path where the data is saved

Examples

```
# takes 10-20 seconds
path <- cvap_get_raw(cvap_census_url())
```

`cvap_process_dir` *Process Directory of CVAP Files*

Description

Process Directory of CVAP Files

Usage

```
cvap_process_dir(dir, year, out_dir, moe = TRUE, csv = FALSE)
```

Arguments

dir	Path to directory with the CVAP files
year	file year
out_dir	directory to create files in
moe	Boolean. Default is TRUE. Should margin of error be kept?
csv	Boolean. Default is FALSE, which creates an rds file instead.

Value

list of tibbles of cvap

Examples

```
path <- fs::path_package('cvap', 'extdata')
cvap_process_dir(path, year = 2019, out_dir = tempdir())
```

---

cvap_process_file *Process Census CVAP File*

Description

Process Census CVAP File

Usage

```
cvap_process_file(path, year, out_dir, moe = TRUE, csv = FALSE)
```

Arguments

path	path to csv file
year	file year
out_dir	directory to create files in
moe	Boolean. Default is TRUE. Should margin of error be kept?
csv	Boolean. Default is FALSE, which creates an rds file instead.

Value

tibble of cvap data

Examples

```
path <- fs::path_package('cvap', 'extdata', 'County.csv')
cvap_process_file(path, year = 2019, out_dir = tempdir())
```

de_block *Delaware Block Example Data*

Description

This data set contains block level data for Delaware for 2010.

Usage

```
data("de_block")
```

Format

A tibble with population data for Delaware blocks from Census 2010

Examples

```
data(de_block)
```

de_block_group *Delaware Block Group Example Data*

Description

This data set contains block group level data for Delaware for 2019 from the American Community Survey. This is the five year variant (2015-2019).

Usage

```
data("de_block_group")
```

Format

A tibble with population data for Delaware blocks groups from ACS 2019

Examples

```
data(de_block_group)
```

`vest_crosswalk` *Download Processed VEST Block Crosswalk*

Description

Provides a friendlier data format for R for working with VEST crosswalks. Data can be retallied with `PL94171::pl_retally()` using this crosswalk.

Usage

```
vest_crosswalk(state)
```

Arguments

`state`	character. The state to get the VEST crosswalk for.

Value

tibble

References

Amos, Brian, 2021, "2020 Census Block Crosswalk Data", https://doi.org/10.7910/DVN/T9VMJO, Harvard Dataverse, V2

Examples

```
de_cw <- vest_crosswalk('DE')
```

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