

Package ‘censusapi’

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Version 0.8.0

Title Retrieve Data from the Census APIs

Description A wrapper for the U.S. Census Bureau APIs that returns data frames of Census data and metadata. Available datasets include the Decennial Census, American Community Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, Population Estimates and Projections, and more.

URL <https://www.hrecht.com/censusapi/>,
<https://github.com/hrecht/censusapi>

BugReports <https://github.com/hrecht/censusapi/issues>

Depends R (>= 3.0.0)

License GPL-3

LazyData true

RoxygenNote 7.2.1

Imports httr, jsonlite, utils

Suggests knitr, rmarkdown

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R topics documented:

fips	2
getCensus	2
listCensusApis	4
listCensusMetadata	5
makeVarlist	7
Index	8

fips *List of state fips codes - 50 states plus DC*

Description

Some small geographies in some Census APIs can only be used under a state hierarchy. This is a list of fips codes that may be looped over to retrieve data for all states.

Usage

fips

Format

A list of fips codes for 50 states and the District of Columbia

Examples

fips

getCensus *Retrieve Census data from a given API*

Description

Retrieve Census data from a given API

Usage

```
getCensus(  
  name,  
  vintage = NULL,  
  key = Sys.getenv("CENSUS_KEY"),  
  vars,  
  region = NULL,  
  regionin = NULL,  
  time = NULL,  
  year = NULL,  
  date = NULL,  
  period = NULL,  
  monthly = NULL,  
  show_call = FALSE,  
  convert_variables = TRUE,  
  category_code = NULL,  
  data_type_code = NULL,  
  naics = NULL,
```

```

    pscode = NULL,
    naics2012 = NULL,
    naics2007 = NULL,
    naics2002 = NULL,
    naics1997 = NULL,
    sic = NULL,
    ...
  )

```

Arguments

name	The programmatic name of your dataset, e.g. ‘timeseries/poverty/saipe’ or ‘acs/acs5’. See ‘listCensusApis()’ for options.
vintage	Vintage (year) of dataset, e.g. 2014. Not required for timeseries APIs.
key	Your Census API key, obtained at https://api.census.gov/data/key_signup.html . This function will default to a ‘CENSUS_KEY’ stored in your .Renviron if available.
vars	List of variables to get. Required.
region	Geography to get.
regionin	Optional hierarchical geography to limit region.
time, year, date, period, monthly	Optional arguments used for some time series APIs.
show_call	List the underlying API call that was sent to the Census Bureau.
convert_variables	Convert likely numeric variables into numeric data. Default is true. If false, results will be characters, which is the type returned by the Census Bureau.
category_code, data_type_code, naics, pscode, naics2012, naics2007, naics2002, naics1997, sic	Optional arguments used in economic data APIs.
...	Other valid arguments to pass to the Census API. Note: the APIs are case sensitive.

Examples

```

## Not run:
# Get total population and median household income for places (cities, towns, villages)
# in one state from the 5-year ACS.
acs_simple <- getCensus(
  name = "acs/acs5",
  vintage = 2020,
  vars = c("NAME", "B01001_001E", "B19013_001E"),
  region = "place:*",
  regionin = "state:01")
head(acs_simple)

# Get all data from the B19013 variable group.
# This returns estimates as well as margins of error and annotation flags.
acs_group <- getCensus(

```

```

    name = "acs/acs5",
    vintage = 2020,
    vars = c("B01001_001E", "group(B19013)"),
    region = "place:*",
    regionin = "state:01")
head(acs_group)

# Retrieve 2010 Decennial Census block-level data within a specific tract,
# using the regionin argument to precisely specify the Census tract.
decennial_2010 <- getCensus(
  name = "dec/sf1",
  vintage = 2010,
  vars = c("NAME", "P001001"),
  region = "block:*",
  regionin = "state:36+county:027+tract:010000")
head(decennial_2010)

# Get poverty rates for children and for people of all ages over time using the
# Small Area Income and Poverty Estimates API
saipe <- getCensus(
  name = "timeseries/poverty/saipe",
  vars = c("NAME", "SAEPOVRT0_17_PT", "SAEPOVRTALL_PT"),
  region = "state:01",
  year = "2000:2019")
head(saipe)

# Get County Business Patterns data for a specific NAICS sector.
cbp_2016 <- getCensus(
  name = "cbp",
  vintage = "2016",
  vars = c("EMP", "ESTAB", "NAICS2012_TTL", "GEO_TTL"),
  region = "state:*",
  naics2012 = "23")
head(cbp_2016)

## End(Not run)

```

listCensusApis

Get useful dataset metadata on all available APIs as a data frame

Description

Scrapes <https://api.census.gov/data.json> and returns a dataframe that includes: title, description, name, vintage, url, dataset type, and other useful fields.

Usage

```
listCensusApis()
```

Examples

```
## Not run:  
apis <- listCensusApis()  
head(apis)  
  
## End(Not run)
```

listCensusMetadata *Get information about a specific API as a data frame*

Description

Get information about a specific API as a data frame

Usage

```
listCensusMetadata(  
  name,  
  vintage = NULL,  
  type = "variables",  
  group = NULL,  
  variable_name = NULL,  
  include_values = FALSE  
)
```

Arguments

name	API programmatic name - e.g. acs/acs5. See list of names with listCensusApis().
vintage	Vintage (year) of dataset. Not required for timeseries APIs
type	Type of metadata to return. Options are: * 'variables' (default) - list of variable names and descriptions for the dataset. * 'geographies' - available geographies. * 'groups' - available variable groups. Not used for all datasets. * 'values' - encoded value labels for a given variable. Pair with 'variable_name'. Not used for all datasets.
group	An optional variable group code, used to return metadata for a specific group of variables only. Variable groups are not used for all APIs.
variable_name	A name of a specific variable used to return value labels for that variable. Value labels are not published for all APIs.
include_values	Use with 'type = "variables"'. Include value metadata for all variables in a dataset if value metadata exists. Default is "FALSE".

Examples

```
## Not run:

# List the variables available in the Small Area Health Insurance Estimates.
sahie_variables <- listCensusMetadata(
  name = "timeseries/healthins/sahie",
  type = "variables")
head(sahie_variables)

# List the geographies available in the 5-year 2020 American Community Survey.
acs_geographies <- listCensusMetadata(
  name = "acs/acs5",
  vintage = 2020,
  type = "geographies")
head(acs_geographies)

# List the variable groups available in the 5-year 2020 American Community Survey.
acs_groups <- listCensusMetadata(
  name = "acs/acs5",
  vintage = 2020,
  type = "groups")
head(acs_groups)

# Create a data dictionary with all variable names and encoded values for
# a microdata API.
cbp_dict <- listCensusMetadata(
  name = "cbp",
  vintage = 2020,
  type = "variables",
  include_values = TRUE)
head(cbp_dict)

# List the value labels of the NAICS2017 variable in the 2020 County
# Business Patterns dataset.
cbp_naics_values <- listCensusMetadata(
  name = "cbp",
  vintage = 2020,
  type = "values",
  variable = "NAICS2017")
head(cbp_naics_values)

# List of variables that are included in the B17020 group in the
# 5-year American Community Survey.
group_B17020 <- listCensusMetadata(
  name = "acs/acs5",
  vintage = 2017,
  type = "variables",
  group = "B17020")
head(group_B17020)

## End(Not run)
```

makeVarlist	<i>Use variable metadata to find variables containing a given string.</i>
-------------	---

Description

Return a list of variable names or data frame of variable metadata containing a given string. This can be used create a list of variables to later pass to getCensus, or a data frame documenting variables used in a given project.

Usage

```
makeVarlist(name, vintage = NULL, find, varsearch = "all", output = "list")
```

Arguments

name	API name - e.g. acs5. See list at https://api.census.gov/data.html
vintage	Year of dataset, e.g. 2014 - not required for timeseries APIs
find	A string to find in the variable metadata
varsearch	Optional argument specifying which fields to search. Default is "all". Options are "all", "name", "label", or "concept".
output	Optional argument, specifying output to "list" or "dataframe". Default is "list".

Examples

```
# Return a list, and then use getCensus function to retrieve those variables
## Not run:
myvars <- makeVarlist(name = "timeseries/poverty/saipe",
  find = "Ages 0-4",
  varsearch = "label")
myvars
saipe_dt <- getCensus(name = "timeseries/poverty/saipe",
  time = 2016,
  vars = myvars,
  region = "state:*")
head(saipe_dt)

## End(Not run)
```

Index

* **api**

getCensus, 2

* **datasets**

fips, 2

* **metadata**

listCensusApis, 4

listCensusMetadata, 5

fips, 2

getCensus, 2

listCensusApis, 4

listCensusMetadata, 5

makeVarlist, 7