Package ‘censusapi’

April 14, 2019

Version 0.6.0
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.

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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

Source

https://www.census.gov/geo/reference/ansi_statetables.html

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, date = NULL, period = NULL, monthly = NULL, category_code = NULL, data_type_code = NULL, naics = NULL, pscode = NULL, naics2012 = NULL, naics2007 = NULL, naics2002 = NULL, naics1997 = NULL, sic = NULL, ...)
getCensus

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
key      Your Census API key, gotten from https://api.census.gov/data/key_signup.html
vars     List of variables to get
region   Geography to get
regionin Optional hierarchical geography to limit region
time, date, period, monthly
          Optional arguments used for some time series APIs
category_code, data_type_code
          Arguments used in Economic Indicators Time Series API
naics, pscode Arguments used in Annual Survey of Manufactures API
          Arguments used in Economy Wide Key Statistics APIs and Business Patterns APIs
...

Other valid parameters to pass to the Census API. Note: the APIs are case sensitive.

Examples

df <- getCensus(name = "acs/acs5", vintage = 2017,
     vars = c("B01001_001E", "NAME", "B01002_001E", "B19013_001E"),
     region = "tract:*", regionin = "state:06")
head(df)

# Use American Community Survey variable groups to get all data from a given table.
# This returns estimates as well as margins of error and annotation flags.
acs_group <- getCensus(name = "acs/acs5",
     vintage = 2017,
     vars = c("NAME", "group(B19013)"),
     region = "county:*")
head(acs_group)

# Retreive block-level data within a specific tract using a nested regionin argument
data2010 <- getCensus(name = "dec/sf1",
     vintage = 2010,
     vars = c("NAME","P001001"),
     region = "block:*",
     regionin = "state:36+county:027+tract:010000")
head(data2010)

# Retreive block-level data for Decennial Census sf1, 2000
# Note, for this dataset a tract needs to be specified to retrieve blocks
data2000 <- getCensus(name = "sf1",
     vintage = 2000,
     vars = c("P001001", "P003001"),
     region = "block:*",
     regionin = "state:36+county:27+tract:010000")
head(data2000)

# Get poverty rates for children and all ages over time
saipe <- getCensus(name = "timeseries/poverty/saipe",
vars = c("NAME", "SAEPOVRT0_17_PT", "SAEPOVRTALL_PT"),
region = "state:01",
time = "from 2000 to 2017")
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:*",
aics2012 = "23")
head(cbp_2016)

---

### listCensusApis

Get 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, name, vintage (where applicable), url, isTimeseries (binary), temporal (helpful for some time series), description, modified date

**Usage**

`listCensusApis()`

**Examples**

```r
apis <- listCensusApis()
head(apis)
```

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### listCensusMetadata

Get variable or geography metadata for a given API as a data frame

**Description**

Get variable or geography metadata for a given API as a data frame

**Usage**

`listCensusMetadata(name, vintage = NULL, type = "variables", group = NULL)`
makeVarlist

Arguments

name  
API name - e.g. acs5. See list at https://api.census.gov/data.html

vintage  
Vintage of dataset, e.g. 2014 - not required for timeseries APIs

type  
Type of metadata to return, either "variables", "geographies" or "geography", or "groups". Default is variables.

group  
An optional variable group code, used to return metadata for a specific group of variables only.

Examples

bds_vars <- listCensusMetadata(name = "timeseries/bds/firms", type = "variables")
head(bds_vars)

bds_geos <- listCensusMetadata(name = "timeseries/bds/firms", type = "geographies")
head(bds_geos)

acs_geos <- listCensusMetadata(name = "acs/acs5", vintage = 2017, type = "geographies")
head(acs_geos)

acs_groups <- listCensusMetadata(name = "acs/acs5", vintage = 2017, type = "groups")
head(acs_groups)

group_B17020 <- listCensusMetadata(name = "acs/acs5",
vintage = 2017,
type = "variables",
group = "B17020")
head(group_B17020)

makeVarlist

Use variable metadata to find variables containing a given string.

Description

Return a list of variable names or data frame of variable metadata containing a given string. This can be used to 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
makeVarlist

- **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**

```r
# Return a list, and then use getCensus function to retrieve those variables
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)
```
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