Package ‘tigris’

April 14, 2018

Type Package
Title Load Census TIGER/Line Shapefiles
Version 0.7
Date 2018-04-14
URL https://github.com/walkerke/tigris
BugReports https://github.com/walkerke/tigris/issues
Description Download TIGER/Line shapefiles from the United States Census Bureau (<https://www.census.gov/geo/maps-data/data/tiger-line.html>) and load into R as 'SpatialDataFrame' or 'sf' objects.
License MIT + file LICENSE
LazyData TRUE
Depends R (>= 3.3.0)
Suggests acs, testthat, ggplot2, ggthemes, leaflet, knitr, rgeos
Imports stringr, magrittr, rgdal, sp, utils, rappdirs, maptools, httr, uuid, sf, dplyr, methods
RoxygenNote 6.0.1
NeedsCompilation no
Author Kyle Walker [aut, cre],
Bob Rudis [ctb]
Maintainer Kyle Walker <kyle.walker@tcu.edu>
Repository CRAN
Date/Publication 2018-04-14 21:08:05 UTC

R topics documented:

alaska_native_regional_corporations .................................. 3
append_geoid .................................................................. 4
area_water ....................................................................... 4
blocks ............................................................................. 5
R topics documented:

block_groups .............................................. 7
call_geolocator .......................................... 8
call_geolocator_latlon ................................. 9
daylight .................................................... 9
combined_statistical_areas .............................. 10
congressional_districts ................................. 11
core_based_statistical_areas ........................... 12
counties ...................................................... 13
county_subdivisions ...................................... 14
divisions ..................................................... 16
filter_place ............................................... 17
filter_state ............................................... 17
fips_codes ............................................... 18
geo_join .................................................... 19
grep_place ............................................... 20
grep_state ............................................... 20
is_tigris ................................................... 21
landmarks ................................................. 21
linear_water .............................................. 22
list_counties .............................................. 23
list_places ............................................... 24
list_states ............................................... 24
lookup_code .............................................. 25
metro_divisions .......................................... 26
military ..................................................... 26
nation ....................................................... 27
native_areas ............................................. 28
new_england ............................................. 29
places ....................................................... 30
primary_roads .......................................... 31
primary_secondary_roads ................................ 32
pumas ....................................................... 33
rails ......................................................... 34
rbind_tigris .............................................. 35
regions ...................................................... 36
roads ......................................................... 37
school_districts ......................................... 38
states ......................................................... 39
state_legislative_districts ............................... 40
tigris ....................................................... 41
tigris-exports .......................................... 42
tigris_cache_dir ......................................... 42
tigris_type ............................................... 43
tracts ....................................................... 43
tribal_block_groups ....................................... 45
tribal_census_tracts ..................................... 46
tribal_subdivisions ...................................... 47
urban_areas .............................................. 48
From the US Census Bureau: "ANRCs are corporations created according to the Alaska Native Claims Settlement Act. They are organized under the laws of the State of Alaska as "Regional Corporations," to conduct both the for-profit and non-profit affairs of Alaska Natives within defined regions of Alaska." For more information, please see the Census technical documentation at the link provided.

Usage

```r
alaska_native_region_corporations(cb = FALSE, year = NULL, ...)
```

Arguments

- `cb`: If `cb` is set to TRUE, download a generalized (1:500k) file. Defaults to FALSE (the most detailed TIGER/Line file).
- `year`: the data year (defaults to 2016).
- `...`: arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

- Other native/tribal geometries functions: `native_areas`, `tribal_block_groups`, `tribal_census_tracts`, `tribal_subdivisions_national`
append_geoid  Retrieve GEOID from the Census Geocoder by address

Description

Returns GEOID for 2010 geographies.

Usage

append_geoid(address, geoid_type = "block")

Arguments

address  A tibble/data frame with (at a minimum, others can be present) either character columns street, city, and state OR numeric columns lat and lon. Lat/lon columns take priority.

geoid_type  GEOID level to return, c('county', 'tract', 'block group', 'block'). Defaults to block.

Value

the original tibble with GEOIDs appended as a new column called geoid.

Author(s)

Josie Kressner, josie@transportfoundry.com

Examples

## Not run:
airports <- dplyr::data_frame(
  street = "700 Catalina Dr", city = "Daytona Beach", state = "FL"
)
append_geoid(airports, 'tract')
## End(Not run)

area_water  Download an area water shapefile into R

Description

From the US Census Bureau: "The area hydrography shapefile contains the geometry and attributes of both perennial and intermittent area hydrography features, including ponds, lakes, oceans, swamps, glaciers, and the area covered by large streams represented as double-line drainage."
blocks

Usage

area_water(state, county, year = NULL, ...)

Arguments

state
   The two-digit FIPS code of the state of the county you’d like to download the water features for. Can also be state name or abbreviation (case-insensitive).

county
   The three-digit FIPS code of the county you’d like the water features for. Can also be a county name.

year
   the data year (defaults to 2016).

... 
   arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other water functions: coastline, linear_water

Examples

## Not run:
library(tigris)
library(sp)

dallas_water <- area_water("TX", "Dallas")

plot(dallas_water)

## End(Not run)

blocks  Download a Census block shapefile into R

Description

Description from the US Census Bureau (see link for source): Census blocks are statistical areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by non-visible boundaries such as city, town, township, and county limits, and short line-of-sight extensions of streets and roads. Generally, census blocks are small in area; for example, a block in a city. Census blocks in suburban and rural areas may be large, irregular and bounded by a variety of features, such as roads, streams, and/or transmission line rights-of-way. In remote areas census blocks may encompass hundreds of square miles. Census blocks cover all territory in the United States, Puerto Rico, and the Island areas. Blocks do not cross the boundaries of any entity for which the Census Bureau tabulates data.
blocks

Usage

blocks(state, county = NULL, year = NULL, ...)

Arguments

state The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.

county The three-digit FIPS code (string) of the county you’d like to subset for, or a vector of FIPS codes if you desire multiple counties. Can also be a county name or vector of names.

year The year for which you’d like to download data (defaults to 2016).

... arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

Details

This function will download an entire block shapefile for a selected state into R, and optionally subset by county. **A warning:** Census block shapefiles are often very large, especially for large states - for example, the block file for Texas is 462MB zipped! If you have a slow or unreliable internet connection, or insufficient memory, this may prove burdensome given that you have to first download by state and then subset.

See Also


Other general area functions: block_groups, counties, county_subdivisions, places, pumas, school_districts, states, tracts, zctas

Examples

```r
## Not run:
# Simple example using Rose Island, American Samoa
# Be careful with Census blocks for states!

library(tigris)
library(leaflet)

rose_island <- blocks(state = "AS", county = "Rose Island")

leaflet(rose_island) %>%
  addTiles() %>%
  addPolygons()

## End(Not run)
```
block_groups

Download a Census block groups shapefile into R, and optionally subset by county

Description

Description from the US Census Bureau (see link for source): Standard block groups are clusters of blocks within the same census tract that have the same first digit of their 4-character census block number. For example, blocks 3001, 3002, 3003,..., 3999 in census tract 1210.02 belong to Block Group 3. Due to boundary and feature changes that occur throughout the decade, current block groups do not always maintain these same block number to block group relationships. For example, block 3001 might move due to a census tract boundary change but the block number will not change, even if it does not still fall in block group 3. However, the GEOID for that block, identifying block group 3, would remain the same in the attribute information in the TIGER/Line Shapefiles because block GEOIDs are always built using the decennial geographic codes.

Usage

block_groups(state, county = NULL, cb = FALSE, year = NULL, ...)

Arguments

state
The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.

county
The three-digit FIPS code (string) of the county you’d like to subset for, or a vector of FIPS codes if you desire multiple counties. Can also be a county name or vector of names.

cb
If cb is set to TRUE, download a generalized (1:500k) file. Defaults to FALSE (the most detailed TIGER/Line file)

year
the data download year (defaults to 2016)

... arguments to be passed to the underlying ‘load_tiger‘ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

Details

Block groups delineated for the 2010 Census generally contain between 600 and 3,000 people. Most block groups were delineated by local participants in the Census Bureau’s Participant Statistical Areas Program (PSAP). The Census Bureau delineated block groups only where a local or tribal government declined to participate or where the Census Bureau could not identify a potential local participant.

A block group usually covers a contiguous area. Each census tract contains at least one block group and block groups are uniquely numbered within census tract. Within the standard census geographic hierarchy, block groups never cross county or census tract boundaries, but may cross the boundaries of county subdivisions, places, urban areas, voting districts, congressional districts, and American Indian, Alaska Native, and Native Hawaiian areas.
See Also


Other general area functions: blocks, counties, county_subdivisions, places, pumas, school_districts, states, tracts, zctas

Examples

```r
## Not run:
library(tigris)

benton_bgs <- block_groups("Oregon", "Benton")

plot(benton_bgs)

## End(Not run)
```

---

call_geolocator Call geolocator for one address

Description

Call geolocator for one address

Usage

```r
call_geolocator(street, city, state)
```

Arguments

- `street`  A character string indicating a street name and number
- `city`  A character string indicating a city
- `state`  A two-digit character string with a state postal code

Value

A character string representing the Census block of the supplied address.
call_geolocator_latlon

Call geolocator for one address with lat/lon

Description

Call geolocator for one address with lat/lon

Usage

call_geolocator_latlon(lat, lon)

Arguments

lat       A numeric value
lon       A numeric value

Value

A character string representing the Census block of the supplied lat/lon.

Author(s)

Josie Kressner, josie@transportfoundry.com

costline

Download a shapefile of the US coastline into R

Description

Download a shapefile of the US coastline into R

Usage

costline(year = NULL, ...)

Arguments

year       The year of the dataset (defaults to 2016)
...        arguments to be passed to the underlying 'load_tiger' function, which is not ex-
            ported. Options include refresh, which specifies whether or not to re-download
            shapefiles (defaults to FALSE).

See Also

Other water functions: area_water, linear_water
combined_statistical_areas

Examples

```r
## Not run:
library(tigris)
library(ggplot2)
library(ggthemes)
library(rgeos)
library(sp)

coast <- coastline()

# ggplot really doesn't like a ton of detailed lines so
# we use rgeos::gSimplify to get the structure to a reasonable size
# but we also lose the SpatialLinesDataFrame, so re-bind the
# data from the original spatial structure so we can use fortify

coast_simp <- gSimplify(coast, tol=1/200, topologyPreserve=TRUE)
coast_simp <- SpatialLinesDataFrame(coast_simp, coast@data)

coast_map <- fortify(coast_simp)

gg <- ggplot()
gg <- gg + geom_map(data=coast_map, map=coast_map,
                    aes(x=long, y=lat, map_id=id),
                    color="black", fill="white", size=0.25)
gg <- gg + coord_map(xlim=c(-125.0011, -66.9326),
                     ylim=c(24.9493, 49.5984))
gg <- gg + theme_map()
gg
## End(Not run)
```

combined_statistical_areas

Download a combined statistical areas shapefile into R

Description

Combined statistical areas are "two or more adjacent CBSAs that have significant employment interchanges." In turn, CSAs are composed of multiple metropolitan and/or micropolitan areas, and should not be compared with individual core-based statistical areas.

Usage

```r
combined_statistical_areas(cb = FALSE, resolution = "500k", year = NULL, ...
```

---
Arguments

- **cb**
  If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).

- **resolution**
  The resolution of the cartographic boundary file (if cb == TRUE). Defaults to '500k'; options include '5m' (1:5 million) and '20m' (1:20 million).

- **year**
  the data year (defaults to 2016).

... arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other metro area functions: core_based_statistical_areas, metro_divisions, new_england, urban_areas

---

congressional_districts

*Download a congressional districts shapefile for the 114th Congress into R*

Description

Description from the US Census Bureau (see link for source): The 2015 TIGER/Line Shapefiles contain the 114th Congressional Districts. All congressional districts appearing in the 2015 TIGER/Line Shapefiles reflect the information provided to the Census Bureau by the states by May 1, 2014. The 114th Congressional District shapefile contains the areas in effect January 2015 to 2017.

Usage

congressional_districts(cb = FALSE, resolution = "500k", year = NULL, ...)

Arguments

- **cb**
  If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).

- **resolution**
  The resolution of the cartographic boundary file (if cb == TRUE). Defaults to '500k'; options include '5m' (1:5 million) and '20m' (1:20 million).

- **year**
  the data year (defaults to 2016). To get boundaries for the 115th congress, set year = 2016.

... arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).
Core-based statistical areas include both metropolitan areas and micropolitan areas. The US Census Bureau defines these areas as follows: "A metro area contains a core urban area of 50,000 or more population, and a micro area contains an urban core of at least 10,000 (but less than 50,000) population. Each metro or micro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core." Please see the link provided for more information.
counties

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cb</td>
<td>If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).</td>
</tr>
<tr>
<td>resolution</td>
<td>The resolution of the cartographic boundary file (if cb == TRUE). Defaults to '500k'; options include '5m' (1:5 million) and '20m' (1:20 million).</td>
</tr>
<tr>
<td>year</td>
<td>the data year (defaults to 2016).</td>
</tr>
<tr>
<td>...</td>
<td>arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).</td>
</tr>
</tbody>
</table>

See Also

http://www.census.gov/population/metro/

Other metro area functions: combined_statistical_areas, metro_divisions, new_england, urban_areas

counties(state = NULL, cb = FALSE, resolution = "500k", year = NULL, ...)

Description

Description from the US Census Bureau (see link for source): The primary legal divisions of most states are termed counties. In Louisiana, these divisions are known as parishes. In Alaska, which has no counties, the equivalent entities are the organized boroughs, city and boroughs, municipalities, and census areas; the latter of which are delineated cooperatively for statistical purposes by the state of Alaska and the Census Bureau. In four states (Maryland, Missouri, Nevada, and Virginia), there are one or more incorporated places that are independent of any county organization and thus constitute primary divisions of their states. These incorporated places are known as independent cities and are treated as equivalent entities for purposes of data presentation. The District of Columbia and Guam have no primary divisions, and each area is considered an equivalent entity for purposes of data presentation. All of the counties in Connecticut and Rhode Island and nine counties in Massachusetts were dissolved as functioning governmental entities; however, the Census Bureau continues to present data for these historical entities in order to provide comparable geographic units at the county level of the geographic hierarchy for these states and represents them as nonfunctioning legal entities in data products. The Census Bureau treats the following entities as equivalents of counties for purposes of data presentation: municipios in Puerto Rico, districts and islands in American Samoa, municipalities in the Commonwealth of the Northern Mariana Islands, and islands in the U.S. Virgin Islands. Each county or statistically equivalent entity is assigned a three-character numeric Federal Information Processing Series (FIPS) code based on alphabetical sequence that is unique within state and an eight-digit National Standard feature identifier.

Usage

counties(state = NULL, cb = FALSE, resolution = "500k", year = NULL, ...)

county_subdivisions

Download a county subdivision shapefile into R

Description

From the US Census Bureau (see link for source, and more information): "County subdivisions are the primary divisions of counties and their equivalent entities for the reporting of decennial census data. They include census county divisions, census subareas, minor civil divisions, and unorganized..."
territories. They may represent legal or statistical entities. The 2015 TIGER/Line Shapefiles contain a 5-character FIPS code field for county subdivisions and an 8-character National Standards (GNIS) code.

Usage

```r
county_subdivisions(state, county = NULL, cb = FALSE, year = NULL, ...)
```

Arguments

- **state**: The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.
- **county**: The three-digit FIPS code (string) of the county you’d like to subset for, or a vector of FIPS codes if you desire multiple counties. Can also be a county name or vector of names.
- **cb**: If cb is set to TRUE, download a generalized (1:500k) file. Defaults to FALSE (the most detailed TIGER/Line file)
- **year**: the data year (defaults to 2016).
- **...**: arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other general area functions: `block_groups`, `blocks`, `counties`, `places`, `pumas`, `school_districts`, `states`, `tracts`, `zctas`

Examples

```r
## Not run:
library(tigris)

or <- county_subdivisions('Oregon', c('Linn', 'Benton'))

plot(or)

## End(Not run)```
## divisions

*Download a US Census divisions cartographic boundary shapefile into R*

### Description

Download a US Census divisions cartographic boundary shapefile into R

### Usage

```r
divisions(resolution = "500k", year = NULL, ...)
```

### Arguments

- `resolution`: The resolution of the cartographic boundary file. Defaults to ‘500k’; options include ‘5m’ (1:5 million) and ‘20m’ (1:20 million).
- `year`: the data year (defaults to 2016).
- `...`: arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

### See Also

Other national cartographic boundary functions: `nation, regions`

### Examples

```r
## Not run:
library(tigris)
library(leaflet)

divs <- divisions(resolution = '20m')

leaflet(divs) %>%
  addTiles() %>%
  addPolygons()

## End(Not run)
```
filter_place

Filter a places Spatial object for only those places matching the contents of the place vector.

Description

Filter a places Spatial object for only those places matching the contents of the place vector.

Usage

filter_place(places, place)

Arguments

places object returned from a call to places
place a vector of full place names. The function performs the comparison in a case-insensitive manner.

Examples

## Not run:
places("Maine") %>% filter_place("berwick")

## End(Not run)

filter_state

Filter a states Spatial object for only those states matching the contents of the state vector.

Description

Filter a states Spatial object for only those states matching the contents of the state vector.

Usage

filter_state(states, state)

Arguments

states object returned from a call to states
state a vector of full state names. The function performs the comparison in a case-insensitive manner.
Examples

```r
## Not run:
states() %>% filter_state("south")

## End(Not run)
```

---

**fips_codes**

*Dataset with FIPS codes for US states and counties*

Description

Built-in dataset for use with the `lookup_code` function. To access the data directly, issue the command `data(fips_codes)`.

- `county`: County name, title-case
- `county_code`: County code. (3-digit, 0-padded, character)
- `state`: Upper-case abbreviation of state
- `state_code`: State FIPS code (2-digit, 0-padded, character)
- `state_name`: Title-case name of state

Usage

`data(fips_codes)`

Format

A data frame with 3,236 rows and 5 variables

Details

Dataset with FIPS codes for US states and counties

Built-in dataset for use with the `lookup_code` function. To access the data directly, issue the command `data(fips_codes)`.

Note

Last updated 2015-07-01
**geo_join**

Easily merge a data frame to a spatial data frame

**Description**

The pages of StackOverflow are littered with questions about how to merge a regular data frame to a spatial data frame in R. The `merge` function from the `sp` package operates under a strict set of assumptions, which if violated will break your data. This function wraps a couple StackOverflow answers I’ve seen that work in a friendlier syntax.

**Usage**

```r
geo_join(spatial_data, data_frame, by_sp, by_df, by = NULL, how = "left")
```

**Arguments**

- **spatial_data**: A spatial data frame to which you want to merge data.
- **data_frame**: A regular data frame that you want to merge to your spatial data.
- **by_sp**: The column name you’ll use for the merge from your spatial data frame.
- **by_df**: The column name you’ll use for the merge from your regular data frame.
- **by**: (optional) If a named argument is supplied to the by parameter, `geo_join` will assume that the join columns in the spatial data and data frame share the same name.
- **how**: The type of join you’d like to perform. The default, 'left', keeps all rows in the spatial data frame, and returns NA for unmatched rows. The alternative, 'inner', retains only those rows in the spatial data frame that match rows from the target data frame.

**Value**

a `SpatialXxxDataFrame` object

**Examples**

```r
## Not run:
library(rnaturalearth)
library(WDI)
library(tigris)

dat <- WDI(country = "all", indicator = "SP.DYN.LE00.IN", start = 2012, end = 2012)
dat$SP.DYN.LE00.IN <- round(dat$SP.DYN.LE00.IN, 1)
countries <- ne_countries()
countries2 <- geo_join(countries, dat, 'iso_a2', 'iso2c')
```
grep_state

nrow(countries2)
## [1] 177
countries3 <- geo_join(countries, dat, 'iso_a2', 'iso2c', how = 'inner')
nrow(countries3)
## [1] 169

## End(Not run)

grep_place  

Find places matching a term in a places object

Description

This is just shorthand for `grep(term, list_places(places), value=TRUE, ignore.case=TRUE)`

Usage

grep_place(places, term)

Arguments

places object returned from a call to `places`
term equivalent to the pattern argument of `grep`

Examples

## Not run:
places("Maine") %>% grep_place("south")

## End(Not run)

grep_state  

Find states matching a term in a state object

Description

This is just shorthand for `grep(term, list_states(states), value=TRUE, ignore.case=TRUE)`

Usage

grep_state(states, term)
is_tigris

Arguments

states  object returned from a call to state
term    equivalent to the pattern argument of grep

Examples

## Not run:
states() %>% grep_state("north")
## End(Not run)

is_tigris  Returns TRUE if obj has a tigris attribute

Description

It’s unlikely that said object was not created by this package

Usage

is_tigris(obj)

Arguments

obj  R object to test

Value

TRUE if obj was made by this package

landmarks  Download a point or area landmarks shapefile into R

Description

Description from the US Census Bureau: "The Census Bureau includes landmarks in the MAF/TIGER
database (MTDB) for locating special features and to help enumerators during field operations. Some of the
more common landmark types include area landmarks such as airports, cemeteries, parks, and educational
facilities and point landmarks such as schools and churches."

Usage

landmarks(state, type = "point", year = NULL, ...)


Arguments

- **state**: The state for which you’d like to download the landmarks
- **type**: Whether you would like to download point landmarks ("point") or area landmarks ("area"). Defaults to "point".
- **year**: The data year (defaults to 2016).
- **...**: arguments to be passed to the underlying ‘load_tiger‘ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

Details

The Census Bureau adds landmark features to the database on an as-needed basis and makes no attempt to ensure that all instances of a particular feature were included. The absence of a landmark such as a hospital or prison does not mean that the living quarters associated with that landmark were excluded from the 2010 Census enumeration. The landmarks were not used as the basis for building or maintaining the address list used to conduct the 2010 Census.

Area landmark and area water features can overlap; for example, a park or other special land-use feature may include a lake or pond. In this case, the polygon covered by the lake or pond belongs to a water feature and a park landmark feature. Other kinds of landmarks can overlap as well. Area landmarks can contain point landmarks, but these features are not linked in the TIGER/Line Shapefiles.

Landmarks may be identified by a MAF/TIGER feature class code only and may not have a name. Each landmark has a unique area landmark identifier (AREAID) or point landmark identifier (POINTID) value.

See Also


linear_water

Description

From the US Census Bureau: "The linear hydrography shapefile contains all linear features with "H" (Hydrography) type MTFCs in the MAF/TIGER database by county. The shapefiles are provided at a county geographic extent and in linear elemental feature geometry. The linear hydrography shapefile includes streams/rivers, braided streams, canals, ditches, artificial paths, and aqueducts. A linear hydrography feature may include edges with both perennial and intermittent persistence."

Usage

linear_water(state, county, year = NULL, ...)

Download an linear water shapefile into R
list_counties

Arguments

state
The two-digit FIPS code of the state of the county you’d like to download the water features for. Can also be state name or abbreviation (case-insensitive).

county
The three-digit FIPS code of the county you’d like the water features for. Can also be a county name.

year
the data year (defaults to 2016).

... arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other water functions: area_water, coastline

Examples

## Not run:
library(tigris)
library(sp)

dallas_water <- linear_water("TX", "Dallas")

plot(dallas_water)

## End(Not run)

\[
\text{list_counties} \quad \text{Return a data frame of county names & FIPS codes for a given state}
\]

Description

Return a data frame of county names & FIPS codes for a given state

Usage

list_counties(state)

Arguments

state
String representing the state you’d like to look up. Accepts state names (spelled correctly), e.g. "Texas", or postal codes, e.g. "TX". Can be lower-case.

Value

data frame of county name and FIPS code or NULL if invalid state
list_places  

Return a list of all the places in a places object

Description

Return a list of all the places in a places object

Usage

list_places(places, sorted = TRUE)

Arguments

places  

object returned from a call to places

sorted  

return the list sorted or in the order found in the shapefile?

Examples

## Not run:
places("Maine") %>% list_places()

## End(Not run)

list_states  

Return a list of all the states in a state object

Description

Return a list of all the states in a state object

Usage

list_states(states, sorted = TRUE)

Arguments

states  

object returned from a call to state

sorted  

return the list sorted or in the order found in the shapefile?

Examples

## Not run:
states() %>% list_states()

## End(Not run)
**lookup_code**  

*Look up state and county codes*

**Description**

Function to look up the FIPS codes for states and optionally counties you’d like to load data for. As the package functions require the codes to return the data correctly, this function makes it easy to find the codes that you need.

**Usage**

```r
lookup_code(state, county = NULL)
```

**Arguments**

- `state`  
  String representing the state you’d like to look up. Accepts state names (spelled correctly), e.g. "Texas", or postal codes, e.g. "TX". Can be lower-case.

- `county`  
  The name of the county you’ll like to search for. The state that the county is located in must be supplied for this to work, as there are multiple counties with the same names across states. Can be lower-case.

**Value**

character string with an explanation of state/county FIPS codes

**Examples**

```r
## Not run:
lookup_code("me")
## [1] "The code for Maine is '23'."

lookup_code("Maine")
## [1] "The code for Maine is '23'."

lookup_code("23")
## [1] "The code for Maine is '23'."

lookup_code(23)
## [1] "The code for Maine is '23'."

lookup_code("me", "york")
## [1] "The code for Maine is '23' and the code for York County is '031'."

lookup_code("Maine", "York County")
## [1] "The code for Maine is '23' and the code for York County is '031'."

## End(Not run)
```
metro_divisions  

Download a metropolitan divisions shapefile into R.

Description

Metropolitan divisions are subdivisions of metropolitan areas with population of at least 2.5 million. Please note: not all metropolitan areas have metropolitan divisions.

Usage

```r
metro_divisions(year = NULL, ...)
```

Arguments

- `year`  
The data year (defaults to 2016).
- `...`  
Arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to `FALSE`), and `year`, the year for which you’d like to download data (defaults to 2016).

See Also


Other metro area functions: `combined_statistical_areas`, `core_based_statistical_areas`, `new_england`, `urban_areas`

military  

Download the Military Installation National Shapefile into R

Description

Description from the US Census Bureau: "The Census Bureau includes landmarks such as military installations in the MAF/TIGER database for locating special features and to help enumerators during field operations. The Census Bureau adds landmark features to the database on an as-needed basis and does not attempt to ensure that all instances of a particular feature are included. For additional information about area landmarks, please see Section 3.12, Landmarks (Area and Point)."

Usage

```r
military(year = NULL, ...)
```
Arguments

year the data year (defaults to 2016).

... arguments to be passed to the underlying `load_tiger` function, which is not ex-
ported. Options include `refresh`, which specifies whether or not to re-download
shapefiles (defaults to `FALSE`).

Details

This file does not include the three point landmarks identified as military installation features in the
MAF/TIGER database. These point landmarks are included in the point landmark shapefile. Al-
though almost all military installations have assigned 8-character National Standard (GNIS) codes,
the Census Bureau has not loaded most of this data into the MAF/TIGER database. The 2015
military shapefiles contain few values in the ANSICODE field.

See Also

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc_
Ch3.pdf

nation Download a US national boundary shapefile into R

Description

Download a US national boundary shapefile into R

Usage

nation(resolution = "5m", year = NULL)

Arguments

resolution The resolution of the cartographic boundary file. Defaults to '5m'; options in-
clude '5m' (1:5 million) and '20m' (1:20 million).

year the data year (defaults to 2016).

... arguments to be passed to the underlying `load_tiger` function, which is not ex-
ported. Options include `refresh`, which specifies whether or not to re-download
shapefiles (defaults to `FALSE`).

See Also

Other national cartographic boundary functions: `divisions, regions`
native_areas

Download an American Indian / Alaska Native / Native Hawaiian Areas shapefile into R.

Description

Description from the Census Bureau: "This shapefile contain both legal and statistical American Indian, Alaska Native, and Native Hawaiian entities for which the Census Bureau publishes data. The legal entities consist of federally recognized American Indian reservations and off-reservation trust land areas, state-recognized American Indian reservations, and Hawaiian home lands (HHLs)."
For more information, please see the link provided.

Usage

native_areas(cb = FALSE, year = NULL, ...)

Arguments

cb If cb is set to TRUE, download a generalized (1:500k) file. Defaults to FALSE (the most detailed TIGER/Line file)
year the data year (defaults to 2016).
... arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other native/tribal geometries functions: alaska_native_regional_corporations, tribal_block_groups, tribal_census_tracts, tribal_subdivisions_national
new_england

Examples

```r
## Not run:
library(tigris)
library(ggplot2)
library(ggthemes)

nat <- native_areas(cb = TRUE)
nat_map <- fortify(nat)

gg <- ggplot()

gg <- gg + geom_map(data=nat_map, map=nat_map,
  aes(x=long, y=lat, map_id=id),
  color="black", fill="white", size=0.25)

gg <- gg + coord_map(xlim=c(-179.1506, -129.9795), ylim=c(51.2097, 71.4410))

## End(Not run)
```

new_england

Download a New England City and Town Area shapefile into R

Description

From the US Census Bureau (see link for source): "In New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont), the OMB has defined an alternative county subdivision (generally city and town) based definition of CBSAs known as New England city and town areas (NECTAs). NECTAs are defined using the same criteria as metropolitan and micropolitan statistical areas and are identified as either metropolitan or micropolitan, based, respectively, on the presence of either an urbanized area of 50,000 or more inhabitants or an urban cluster of at least 10,000 and less than 50,000 inhabitants." Combined NECTAs, or CNECTAs, are two or more NECTAs that have significant employment interchange, like Combined Statistical Areas; NECTA divisions are subdivisions of NECTAs.

Usage

```
new_england(type = "necta", cb = FALSE, year = NULL, ...)
```

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>Specify whether to download the New England City and Town Areas file ('necta', the default), the combined NECTA file ('combined'), or the NECTA divisions file ('divisions').</td>
</tr>
<tr>
<td>cb</td>
<td>If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file). Only available when type = 'necta'.</td>
</tr>
</tbody>
</table>
places

year

The data year (defaults to 2016).

... arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE), and `year`, the year for which you’d like to download data (defaults to 2016).

See Also


Other metro area functions: `combined_statistical_areas`, `core_based_statistical_areas`, `metro_divisions`, `urban_areas`

Examples

```r
# Not run:
library(tigris)
library(sp)

ne <- new_england(cb = TRUE)
plot(ne)

# End(Not run)
```

places

Download a Census-designated places shapefile into R

Description

Census Designated Places (CDPs) are the statistical counterparts of incorporated places, and are delineated to provide data for settled concentrations of population that are identifiable by name but are not legally incorporated under the laws of the state in which they are located.

Usage

`places(state, cb = FALSE, year = NULL, ...)`

Arguments

state

The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.

cb

If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).

year

the data year (defaults to 2016).

... arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).
**primary_roads**

**Details**

The boundaries usually are defined in cooperation with local or tribal officials and generally updated prior to each decennial census.

These boundaries, which usually coincide with visible features or the boundary of an adjacent incorporated place or another legal entity boundary, have no legal status, nor do these places have officials elected to serve traditional municipal functions.

CDP boundaries may change from one decennial census to the next with changes in the settlement pattern; a CDP with the same name as in an earlier census does not necessarily have the same boundary.

CDPs must be contained within a single state and may not extend into an incorporated place.

There are no population size requirements for CDPs.

**See Also**

https://www.census.gov/geo/reference/gtc/gtc_place.html

Other general area functions: `block_groups, blocks, counties, county_subdivisions, pumas, school_districts, states, tracts, zctas`

---

**primary_roads**  
*Download a national primary roads shapefile into R*

**Description**

From the Census Bureau: "Primary roads are generally divided, limited-access highways within the Federal interstate highway system or under state management. These highways are distinguished by the presence of interchanges and are accessible by ramps and may include some toll highways."

**Usage**

`primary_roads(year = NULL, ...)`

**Arguments**

- `year`  
  the data year (defaults to 2016).
- `...`  
  arguments to be passed to the underlying ‘load_tiger‘ function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

**See Also**


Other transportation functions: `primary_secondary_roads, rails, roads`
**Examples**

```r
## Not run:
library(tigris)

rds <- primary_roads()

plot(rds)

## End(Not run)
```

---

**primary_secondary_roads**

*Download a primary & secondary roads shapefile into R*

---

**Description**

From the Census Bureau: "Primary roads are generally divided, limited-access highways within the Federal interstate highway system or under state management. These highways are distinguished by the presence of interchanges and are accessible by ramps and may include some toll highways. Secondary roads are main arteries, usually in the U.S. highway, state highway, or county highway system. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways."

**Usage**

```r
primary_secondary_roads(state, year = NULL, ...)
```

**Arguments**

- `state` The two-digit FIPS code of the state of the county you’d like to download the roads for. Can also be state name or abbreviation (case-insensitive).
- `year` the data year (defaults to 2016).
- `...` arguments to be passed to the underlying ‘load_tiger‘ function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

**See Also**


Other transportation functions: `primary_roads`, `rails`, `roads`
### Examples

```r
## Not run:
library(tigris)
library(sp)

rds <- primary_secondary_roads()

plot(rds)

## End(Not run)
```

### Description

Public use microdata areas (PUMAs) are decennial census areas that have been defined for the tabulation and dissemination of Public Use Microdata Sample (PUMS) data, American Community Survey (ACS) data, and ACS period estimates. For the 2010 Census, the State Data Centers (SDCs) in each state, the District of Columbia, and the Commonwealth of Puerto Rico were given the opportunity to delineate PUMAs within their state or statistically equivalent entity. All PUMAs must nest within states and have a minimum population threshold of 100,000 persons. 2010 PUMAs were built on census tracts and cover the entirety of the United States, Puerto Rico, Guam, and the U.S. Virgin Islands. Because they do not meet the minimum population requirement, the Commonwealth of the Northern Mariana Islands and American Samoa do not contain any 2010 PUMAs.

### Usage

`pumas(state, cb = FALSE, year = NULL, ...)`

### Arguments

- **state**: The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.
- **cb**: If `cb` is set to `TRUE`, download a generalized (1:500k) states file. Defaults to `FALSE` (the most detailed TIGER/Line file).
- **year**: the data year (defaults to 2016).
- **...**: arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to `FALSE`).

### See Also

- [http://www.census.gov/geo/reference/puma.html](http://www.census.gov/geo/reference/puma.html)
- Other general area functions: `block_groups`, `blocks`, `counties`, `county_subdivisions`, `places`, `school_districts`, `states`, `tracts`, `zctas`
Examples

```r
## Not run:
library(tigris)
library(sp)

us_states <- unique(fips_codes$state)[1:51]

continental_states <- us_states[us_states %in% c("AK", "HI")]
pumas_list <- lapply(continental_states, function(x) {
  pumas(state = x, cb = TRUE)
})

us_pumas <- rbind_tigris(pumas_list)

plot(us_pumas)

## End(Not run)
```

rails  Download a national rails shapefile into R

Description
National dataset for US railroads, including carlines, streetcars, monorails, mass transit, cog rail, incline rail, and trams.

Usage

```
rails(year = NULL, ...)
```

Arguments

- `year`  the data year (defaults to 2016).
- `...` arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

- Other transportation functions: `primary_roads`, `primary_secondary_roads`, `roads`
### Examples

```r
## Not run:
library(tigris)
library(sp)

rls <- rails()

plot(rls)
```

## End(Not run)

---

**rbind_tigris**  
Row-bind tigris Spatial objects

### Description

If multiple school district types are rbound, coerces to "sdall" and does it

### Usage

```r
rbind_tigris(...)```

### Arguments

- `...`: individual (optionally names) tigris Spatial objects or a list of them

### Value

one combined Spatial object

### Examples

```r
## Not run:
library(sp)
library(rgeos)
library(maptools)
library(maps)
library(tigris)

me_ctys <- list_counties("me")
aw <- lapply(me_ctys$county_code[1:3], function(x) {
  area_water("Maine", x)
})
tmp <- rbind_tigris(aw)
tmp_simp <- gSimplify(tmp, tol=1/200, topologyPreserve=TRUE)
tmp_simp <- SpatialPolygonsDataFrame(tmp_simp, tmp@data)
plot(tmp_simp)
```

## End(Not run)
regions

Download a US regions cartographic boundary shapefile into R

Description

Download a US regions cartographic boundary shapefile into R

Usage

regions(resolution = "500k", year = NULL, ...)

Arguments

resolution The resolution of the cartographic boundary file. Defaults to '500k'; options include '5m' (1:5 million) and '20m' (1:20 million).

year the data year (defaults to 2016).

... arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

Other national cartographic boundary functions: divisions, nation

Examples

## Not run:
library(tigris)
library(leaflet)

us_regions <- regions(resolution = '20m')

leaflet(us_regions) %>%
  addTiles() %>%
  addPolygons()

## End(Not run)
**roads**

*Download a roads shapefile into R*

---

**Description**

From the Census Bureau: "The content of the all roads shapefile includes primary roads, secondary roads, local neighborhood roads, rural roads, city streets, vehicular trails (4WD), ramps, service drives, walkways, stairways, alleys, and private roads."

**Usage**

`roads(state, county, year = NULL, ...)`

**Arguments**

- `state`: The two-digit FIPS code of the state of the county you’d like to download the roads for. Can also be state name or abbreviation (case-insensitive).
- `county`: The three-digit FIPS code of the county you’d like the roads for. Can also be a county name.
- `year`: the data year (defaults to 2016).
- `...`: arguments to be passed to the underlying ‘load_tiger‘ function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

**See Also**

- Other transportation functions: `primary Roads, primary secondary roads, rails`

**Examples**

```r
# Not run:
library(tigris)
library(ggplot2)
library(ggthemes)
library(rgeos)
library(sp)

roads <- roads("Maine", "031")

# for ggplot, we need to simplify the lines otherwise it'll take
# forever to plot. however, gSimplify whacks the SpatialLinesDataFrame
# so we need to re-bind the data from the original object to it so
# we can use "fortify"

roads_simp <- gSimplify(roads, tol=1/200, topologyPreserve=TRUE)
```
school_districts <- SpatialLinesDataFrame(roads_simp, roads@data)

roads_map <- fortify(roads_simp) # this takes a bit

gg <- ggplot()
gg <- gg + geom_map(data=roads_map, map=roads_map, 
                aes(x=long, y=lat, map_id=id),
                color="black", fill="white", size=0.25)
gg <- gg + coord_map()
gg <- gg + theme_map()
gg

## End(Not run)

---

**school_districts**  *Download a school district shapefile into R*

---

**Description**

From the US Census Bureau (see link for source): School Districts are single-purpose administrative units within which local officials provide public educational services for the area’s residents. The Census Bureau obtains school district boundaries, names, local education agency codes, grade ranges, and school district levels biennially from state education officials. The Census Bureau collects this information for the primary purpose of providing the U.S. Department of Education with annual estimates of the number of children in poverty within each school district, county, and state. This information serves as the basis for the Department of Education to determine the annual allocation of Title I funding to states and school districts.

**Usage**

```r
school_districts(state, type = "unified", year = NULL, ...)
```

**Arguments**

- **state**: The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.
- **type**: Specify whether you want to return a unified school district (the default, ‘unified’), an elementary school district (‘elementary’), or a secondary school district (‘secondary’). Please note: elementary and secondary school districts do not exist in all states
- **year**: the data year; defaults to 2016
- **...**: arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to `FALSE`).
Details

The Census Bureau creates pseudo-unified school districts for areas in which unified school districts do not exist. Additionally, elementary and secondary school districts do not exist in all states. Please see the link for more information on how the Census Bureau creates the school district shapefiles.

See Also


Other general area functions: block_groups, blocks, counties, county_subdivisions, places, pumas, states, tracts, zctas

Examples

```r
## Not run:
library(tigris)
library(leaflet)

schools <- school_districts("Maine")

leaflet(schools) %>%
  addProviderTiles("CartoDBPOSITRON") %>%
  addPolygons(fillColor = "white",
             color = "black",
             weight = 0.5)

## End(Not run)
```

dstates Download shapefile for all states into R

Description

States and Equivalent Entities are the primary governmental divisions of the United States. In addition to the 50 states, the Census Bureau treats the District of Columbia, Puerto Rico, American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands as the statistical equivalents of states for the purpose of data presentation.

Usage

```r
states(cb = FALSE, resolution = "500k", year = NULL, ...)
```

Arguments

- `cb` If `cb` is set to TRUE, download a generalized (1:500k) states file. Defaults to FALSE (the most detailed TIGER/Line file)
- `resolution` The resolution of the cartographic boundary file (if `cb` == TRUE). Defaults to '500k'; options include '5m' (1:5 million) and '20m' (1:20 million).
state_legislative_districts

year

the year of the data download (defaults to 2016)

... arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

https://www.census.gov/geo/reference/gtc/gtc_state.html

Other general area functions: `block_groups`, `blocks`, `counties`, `county_subdivisions`, `places`, `pumas`, `school_districts`, `tracts`, `zctas`

Examples

```r
## Not run:
library(tigris)
library(leaflet)

states <- states(cb = TRUE)

leaflet(states) %>%
  addProviderTiles("CartoDB.Positron") %>%
  addPolygons(fillColor = "white",
              color = "black",
              weight = 0.5) %>%
  setView(-98.5795, 39.8282, zoom=3)

## End(Not run)
```

---

state_legislative_districts

*Download a state legislative districts shapefile into R - upper or lower*

Description

This function allows you to download boundaries for state legislatures into R. Generally, state legislatures are comprised of an "upper" house, which is typically referred to as the Senate, and a "lower" house, which is often (but not exclusively) referred to as the House. The exception is Nebraska, which has a unicameral state legislature.

Usage

```r
state_legislative_districts(state, house = "upper", cb = FALSE,
year = NULL, ...)
```
Arguments

state  The two-digit FIPS code (string) of the state. Can also be state name or abbreviation (case-insensitive)

house Specify here whether you want boundaries for the upper or lower house. Defaults to upper.

cb  If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).

year  the data year (defaults to 2016).

...  arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

Other legislative district functions: congressional_districts, voting_districts

Examples

```r
## Not run:
library(tigris)
library(leaflet)

leg <- state_legislative_districts("Maine", "lower", cb = TRUE)

leaflet(leg) %>%
  addProviderTiles("CartoDBPOSITRON") %>%
  addPolygons(fillColor = "white",
              color = "black",
              weight = 0.5)

## End(Not run)
```

Description

Use option tigris_use_cache to tell tigris to cache Census shapefile downloads. This is TRUE by default. e.g. options(tigris_use_cache=TRUE)

Details

Use option tigris_refresh to force a refresh of cached tigris Shapefiles. e.g. options(tigris_refresh=TRUE)

Use option tigris_year to change the year for which you’d like to download data. e.g. options(tigris_year = 2013). The default year for the package is 2015, the most recent year for which data are available.
Note

Four options control behavior of various tigris functions. See Description for more information.

Author(s)

Kyle Walker
Kyle Walker (@kyle_e_walker)

Description

The following functions are imported and then re-exported from the tigris package to enable use of the magrittr pipe operator and the sp plot method without any additional library calls

Pipe operator
Spatial plotting

Description

By default, tigris uses the rappdirs package to determine a suitable location to store shapefiles on the user's computer. However, it is possible that the user would want to store shapefiles in a custom location. This function allows users to set the cache directory, and stores the result in the user's .Renviron so that tigris will remember the location.

Windows users: please note that you'll need to use double-backslashes or forward slashes when specifying your cache directory's path in R.

Usage

tigris_cache_dir(path)

Arguments

path The full path to the desired cache directory
Examples

```r
## Not run:
# Set the cache directory
tigris_cache_dir('PATH TO MY NEW CACHE DIRECTORY')

# Check to see if it has been set correctly
Sys.getenv('TIGRIS_CACHE_DIR')

## End(Not run)
```

---

### tigris_type

*Get the type of tigris object obj is*

**Description**

Get the type of `tigris` object `obj` is

**Usage**

```r
tigris_type(obj)
```

**Arguments**

- **obj**
  
  R object to test

**Value**

character vector containing the `tigris` type of `obj` or `NA` if `obj` is not a code `tigris` object

---

### tracts

*Download a Census tracts shapefile into R, and optionally subset by county*

**Description**

Description from the US Census Bureau (see link for source): Census Tracts are small, relatively permanent statistical subdivisions of a county or equivalent entity that are updated by local participants prior to each decennial census as part of the Census Bureau’s Participant Statistical Areas Program. The Census Bureau delineates census tracts in situations where no local participant existed or where state, local, or tribal governments declined to participate. The primary purpose of census tracts is to provide a stable set of geographic units for the presentation of statistical data.

**Usage**

```r
tracts(state, county = NULL, cb = FALSE, year = NULL, ...)
```
Arguments

state  The two-digit FIPS code (string) of the state you want. Can also be state name or state abbreviation.

county  The three-digit FIPS code (string) of the county you’d like to subset for, or a vector of FIPS codes if you desire multiple counties. Can also be a county name or vector of names.

cb  If cb is set to TRUE, download a generalized (1:500k) tracts file. Defaults to FALSE (the most detailed TIGER/Line file)

year  defaults to 2016

...  arguments to be passed to the underlying `load_tiger` function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

Details

Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. A census tract usually covers a contiguous area; however, the spatial size of census tracts varies widely depending on the density of settlement. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census. Census tracts occasionally are split due to population growth or merged as a result of substantial population decline.

Census tract boundaries generally follow visible and identifiable features. They may follow non- visible legal boundaries, such as minor civil division (MCD) or incorporated place boundaries in some states and situations, to allow for census-tract-to-governmental-unit relationships where the governmental boundaries tend to remain unchanged between censuses. State and county boundaries always are census tract boundaries in the standard census geographic hierarchy.

See Also

https://www.census.gov/geo/reference/gtc/gtc_ct.html

Other general area functions: block_groups, blocks, counties, county_subdivisions, places, pumas, school_districts, states, zctas

Examples

```r
## Not run:
library(tigris)
library(leaflet)

tarrant <- tracts("TX", "Tarrant", cb = TRUE)

leaflet(tarrant) %>%
  addTiles() %>%
  addPolygons(popup = ~NAME)

## End(Not run)
```
tribal_block_groups

*Description*

From the US Census Bureau: "Tribal block groups are subdivisions of a tribal census tract. Tribal block groups were defined by federally recognized tribal government officials in the Census Bureau’s Tribal Statistical Areas Program (TSAP) for the 2010 Census. If a tribal government declined to participate in TSAP, the Census Bureau delineated tribal block groups on the American Indian reservation and/or off-reservation trust land (ORTL). Tribal block groups are intended to generally contain between 600 and 3000 persons or between 240 and 1200 housing units. Many American Indian reservations and ORTLs have less than the minimum population thresholds for more than one tribal block group and in those cases one tribal block group was delineated that covers the entire American Indian reservation and/or ORTL. Unlike standard block groups, the cluster of blocks that comprises each tribal block group will not necessarily begin with the same first number of their 4-character census block number, but may contain blocks from several different standard census block groups.” For more information, please see the link provided.

*Usage*

```r
tribal_block_groups(year = NULL, ...)
```

*Arguments*

- `year` the data year (defaults to 2016).
- `...` arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

*See Also*

- Other native/tribal geometries functions: `alaska_native_regional_corporations`, `native_areas`, `tribal_census_tracts`, `tribal_subdivisions_national`

*Examples*

```r
## Not run:
library(tigris)
library(leaflet)

trib <- tribal_block_groups()
leaflet(trib) %>%
  addProviderTiles("CartoDB.Positron") %>%
  addPolygons(fillColor = "white",
             color = "black",
```
tribal_census_tracts

Description

From the US Census Bureau: "Tribal census tracts are relatively small statistical subdivisions of an American Indian reservation and/or off-reservation trust land (ORTL) and were defined by federally recognized tribal government officials in the Census Bureau’s Tribal Statistical Areas Program (TSAP) for the 2010 Census. If a tribal government declined to participate in TSAP, the Census Bureau delineated tribal census tracts on the American Indian reservation and/or ORTL. Tribal census tracts are conceptually similar and equivalent to standard census tracts. Unlike standard census tracts, however, tribal census tracts may cross state, county, and standard census tract boundaries." For more information, please view the link provided.

Usage

tribal_census_tracts(year = NULL, ...)

Arguments

year the data year (defaults to 2016).
...

Arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

[link](http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf)

Other native/tribal geometries functions: alaska_native_regional_corporations, native_areas, tribal_block_groups, tribal_subdivisions_national

Examples

## Not run:
library(tigris)
library(leaflet)

trib <- tribal_census_tracts()
leaflet(trib) %>%
  addProviderTiles("CartoDB(Positron)") %>%
  addPolygons(fillColor = "white",
              color = "black",
              weight = 0.5)
tribal_subdivisions_national

Download an American Indian Tribal Subdivision National shapefile into R.

Description

Definition from the US Census Bureau: "American Indian Tribal Subdivisions (AITS) are legally defined administrative subdivisions of federally recognized American Indian reservations and/or off-reservation trust lands or Oklahoma tribal statistical areas (OTSA)." For more information, please see the link provided.

Usage

tribal_subdivisions_national(year = NULL, ...)

Arguments

year The year for which you’d like to download data (defaults to 2016).
...

arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also


Other native/tribal geometries functions: alaska_native_regional_corporations, native_areas, tribal_block_groups, tribal_censustracts

Examples

## Not run:
library(tigris)
library(leaflet)

trib <- tribal_subdivisions_national()
leaflet(trib) %>%
  addProviderTiles("CartoDBPOSITRON") %>%
  addPolygons(fillColor = "white",
              color = "black",
              weight = 0.5)

## End(Not run)
urban_areas

Download an urban areas shapefile into R

Description

Urban areas include both "urbanized areas," which are densely developed areas with a population of at least 50,000, and "urban clusters," which have a population of greater than 2,500 but less than 50,000. For more information, please see the link provided.

Usage

urban_areas(cb = FALSE, year = NULL, ...)

Arguments

cb If cb is set to TRUE, download a generalized (1:500k) cartographic boundary file. Defaults to FALSE (the most detailed TIGER/Line file).
year the data year (defaults to 2016).
... arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

Other metro area functions: combined_statistical_areas, core_based_statistical_areas, metro_divisions, new_england

voting_districts

Download a voting districts shapefile (2012 TIGER/Line) into R

Description

This function allows you to download a voting districts boundary file into R. The voting districts shapefile is found in the 2012 TIGER/Line dataset, and has not been updated since then. The Census Bureau (see link for source) describes voting districts as follows: "‘Voting district’ is the generic name for geographic entities such as precincts, wards, and election districts established by state and local governments for the purpose of conducting elections. States participating in the Census 2010 Redistricting Data Programs as part of Public Law 94-171 (1975) provided the Census Bureau with boundaries, codes, and names for their voting districts."

Usage

voting_districts(state)
Arguments

state The state for which you’d like to retrieve data. Can be a state name, state abbreviation, or FIPS code.

... arguments to be passed to the underlying ‘load_tiger’ function, which is not exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

Other legislative district functions: congressional_districts, state_legislative_districts

Examples

```r
## Not run: #'
library(tigris)
library(sp)

ia <- voting_districts("Iowa")

plot(ia)

## End(Not run)
```

---

**zctas** Download a Zip Code Tabulation Area (ZCTA) shapefile into R

Description

ZIP Code Tabulation Areas (ZCTAs) are generalized areal representations of United States Postal Service (USPS) ZIP Code service areas. Please see the link provided for information on how the Census Bureau creates ZCTAs, and for important information on the differences between ZCTAs and ZIP Codes.

Usage

```r
zctas(cb = FALSE, starts_with = NULL, year = NULL, state = NULL, ...)
```

Arguments

cb If cb is set to TRUE, download a generalized (1:500k) ZCTA file. Defaults to FALSE (the most detailed TIGER/Line file). A warning: the detailed TIGER/Line ZCTA file is massive (around 502MB unzipped), and the generalized version is also large (64MB zipped). Be prepared for this especially if you have a slower internet connection.
starts_with  Character vector specifying the beginning digits of the ZCTAs you want to return. For example, supplying the argument `starts_with = c("75", "76")` will return only those ZCTAs that begin with 75 or 76. Defaults to NULL, which will return all ZCTAs in the US.

year       the data year (defaults to 2016).
state      the state for which you are requesting data; only available for 2000 and 2010

...        arguments to be passed to the underlying 'load_tiger' function, which is not exported. Options include `refresh`, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

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

Other general area functions: `block_groups`, `blocks`, `counties`, `county_subdivisions`, `places`, `pumas`, `school_districts`, `states`, `tracts`

Examples

```r
## Not run:
# Example: get ZCTAs that intersect the Memphis, TN urbanized area

library(tigris)
library(rgeos)
library(sp)

df <- zctas(cb = TRUE, starts_with = c("37", "38", "72"))

uas <- urban_areas()
memphis_ua <- uas[grep("Memphis", uas$NAME10), ]

mem_zcta <- df[as.vector(gIntersects(df, memphis_ua, byid = TRUE)), ]

plot(mem_zcta)

## End(Not run)
```
Index

*Topic **datasets**
  fips_codes, 18
  `>`% (tigris=exports), 42

alaska_native_regional_corporations, 3, 28, 45–47
append_geoid, 4
area_water, 4, 9, 23
block_groups, 6, 7, 14, 15, 31, 33, 39, 40, 44, 50
blocks, 5, 8, 14, 15, 31, 33, 39, 40, 44, 50
call_geolocator, 8
call_geolocator_lation, 9
goastline, 5, 9, 23
combined_statistical_areas, 10, 13, 26, 30, 48
congressional_districts, 11, 41, 49
core_based_statistical_areas, 11, 12, 26, 30, 48
counties, 6, 8, 13, 15, 31, 33, 39, 40, 44, 50
county_subdivisions, 6, 8, 14, 15, 31, 33, 39, 40, 44, 50
divisions, 16, 27, 36
filter_place, 17
filter_state, 17
fips_codes, 18
gojoin, 19
grep_place, 20
grep_state, 20
is_tigris, 21
landmarks, 21
linear_water, 5, 9, 22
list_counties, 23
list_places, 24
list_states, 24
lookup_code, 25
metro_divisions, 11, 13, 26, 30, 48
military, 26
nation, 16, 27, 36
native_areas, 3, 28, 45–47
new_england, 11, 13, 26, 29, 48
places, 6, 8, 14, 15, 30, 33, 39, 40, 44, 50
plot (tigris=exports), 42
primary_roads, 31, 32, 34, 37
primary_secondary_roads, 31, 32, 34, 37
pumas, 6, 8, 14, 15, 31, 33, 39, 40, 44, 50
rails, 31, 32, 34, 37
rbind_tigris, 35
regions, 16, 27, 36
roads, 31, 32, 34, 37
school_districts, 6, 8, 14, 15, 31, 33, 38, 40, 44, 50
state_legislative_districts, 12, 40, 49
states, 6, 8, 14, 15, 31, 33, 39, 40, 44, 50
tigris, 41
tigris-exports, 42
tigris-package (tigris), 41
tigris_cache_dir, 42
tigris_type, 43
tracts, 6, 8, 14, 15, 31, 33, 39, 40, 43, 50
tribal_block_groups, 3, 28, 45, 46, 47
tribal_census_tracts, 3, 28, 45, 46, 47
tribal_subdivisions_national, 3, 28, 45, 46, 47
urban_areas, 11, 13, 26, 30, 48
voting_districts, 12, 41, 48
zctas, 6, 8, 14, 15, 31, 33, 39, 40, 44, 49