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.

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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

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Repository CRAN

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R topics documented:

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---

alaska_native_regional_corporations

Download an Alaska Native Regional Corporation shapefile into R.

Description

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

```
alaska_native_regional_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 ex-
              ported. Options include refresh, which specifies whether or not to re-download
              shapefiles (defaults to FALSE).

See Also

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.
pdf

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."

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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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.

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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

Examples

```
## 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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.
pdf

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

Examples

```
## 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

```
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.

importFrom utils URLencode importFrom httr GET stop_for_status

---

`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>

`coastline`   *Download a shapefile of the US coastline into R*

Description

Download a shapefile of the US coastline into R

Usage

```
coastline(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 exported. Options include refresh, which specifies whether or not to re-download shapefiles (defaults to FALSE).

See Also

Other water functions: `area_water`, `linear_water`

Examples

```
## 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, 49.5904))
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

```
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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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).

Details

Congressional districts are the 435 areas from which people are elected to the U.S. House of Representatives and the five areas with nonvoting delegates from state equivalents. After the apportionment of congressional seats among the states based on decennial census population counts, each state is responsible for establishing the boundaries of the congressional districts for the purpose of electing representatives. Each congressional district is to be as equal in population to all other congressional districts in a state as practicable.

See Also

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

Other legislative district functions: state_legislative_districts, voting_districts

Examples

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

cd114 <- congressional_districts(cb = TRUE, resolution = '20m')

leaflet(cd114) %>%
   addTiles() %>%
   addPolygons()

## End(Not run)
```

---

core_based_statistical_areas

Download a core-based statistical area shapefile into R

Description

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

Usage

```
core_based_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

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

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

---

counties	*Download a US Counties shapefile into R, and optionally subset by state*

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,
  ...)
```

Arguments

state	The two-digit FIPS code (string) of the state you want, or a vector of codes if you want multiple states. Can also be state name or state abbreviation.
cb	If cb is set to TRUE, download a generalized (1:500k) counties file. Defaults to FALSE (the most detailed TIGER 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

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

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

Examples

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

me <- counties("Maine", cb = TRUE)
me_map <- fortify(me)

gg <- ggplot()
gg <- gg + geom_map(data=me_map, map=me_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)
```

---

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

```
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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

Examples

```
## 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

```
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

```
## 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

```
## 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

```
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

```
## 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')
```

```
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)
```

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

https://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc_Ch3.pdf

---

linear_water   *Download an linear water shapefile into R*

Description

From the US Census Bureau: "The linear hydrography shapefile contains all linear features with "H" (Hydrography) type MTFCCs 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, ...)
```

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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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)
```

---

list_counties	*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 l ike 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

```
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. T he 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

```
## 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

```
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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

```
military(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`).

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. Although 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 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](), [regions]()

Examples

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

boundary <- nation(resolution = '20m')

leaflet(boundary) %>%
   addTiles() %>%
   addPolygons()

## End(Not run)
```

---

native_areas   *Download an American Indian / Alaska Native / Native Hawaiian Ar-*
                             eas 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 ex-
              ported. Options include refresh, which specifies whether or not to re-download
              shapefiles (defaults to FALSE).

See Also

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

Examples

```
## 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),  # alaska
                     ylim=c(51.2097, 71.4410))
gg <- gg + theme_map()
gg

## 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

type
: 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').

cb
: 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'.

| 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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

Examples

```
## 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).

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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

Other transportation functions: primary_secondary_roads, rails, roads

Examples

```
## 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

```
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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

Other transportation functions: primary_roads, rails, roads

Examples

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

rds <- primary_secondary_roads()

plot(rds)


## End(Not run)
```

---

pumas   *Download a Public Use Microdata Area (PUMA) shapefile into R*

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

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

Examples

```
## 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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

Other transportation functions: [primary_roads](), [primary_secondary_roads](), [roads]()

Examples

```
## 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

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

Arguments

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

Value

one combined Spatial object

Examples

```
## 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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

Other transportation functions: primary_roads, primary_secondary_roads, rails

Examples

```
## 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)
```

```
roads_simp <- 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

```
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

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

Examples

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

schools <- school_districts("Maine")

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

## End(Not run)
```

---

states   *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

```
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).

year	the year of the data download (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

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

```
## 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 leg-islatures 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

```
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

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

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

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

## End(Not run)
```

---

tigris	*Download and use U.S. Census TIGER shapefiles in R*

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)

  `tigris-exports`   *tigris exported operators*

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

  `tigris_cache_dir`   *Set the cache directory to store shapefiles with tigris*

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

```
## 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

```
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

```
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

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

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

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

## End(Not run)
```

---

tribal_block_groups   *Download a Tribal block groups shapefile into R.*

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

```
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

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_census_tracts, tribal_subdivisions_national

Examples

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

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

```
                 weight = 0.5)

## End(Not run)
```

tribal_census_tracts   *Download a Tribal Census tract shapefile into R.*

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 feder-
ally 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 cen-
sus 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 ex-
                    ported. Options include refresh, which specifies whether or not to re-download
                    shapefiles (defaults to FALSE).

See Also

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)
```

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

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 (OTSAs)." 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 ex-
              ported. Options include refresh, which specifies whether or not to re-download
              shapefiles (defaults to FALSE).

See Also

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_census_tracts

Examples

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

trib <- tribal_subdivisions_national()
leaflet(trib) %>%
  addProviderTiles("CartoDB.Positron") %>%
  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 ex-
            ported. Options include refresh, which specifies whether or not to re-download
            shapefiles (defaults to FALSE).

See Also

http://www2.census.gov/geo/pdfs/maps-data/data/tiger/tgrshp2015/TGRSHP2015_TechDoc.pdf

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

```
## 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

```
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

```
## 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)
```

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