Package 'USAboundaries'

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Type Package

Title Historical and Contemporary Boundaries of the United States of
America

Version 0.3.1

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Description The boundaries for geographical units in the United States of
America contained in this package include state, county, congressional
district, and zip code tabulation area. Contemporary boundaries are provided
by the U.S. Census Bureau (public domain). Historical boundaries for the
years from 1629 to 2000 are provided form the Newberry Library's 'Atlas of
Historical County Boundaries' (licensed CC BY-NC-SA). Additional data is
provided in the 'USAboundariesData' package; this package provides an
interface to access that data.

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URL http://lincolnmullen.com/software/usaboundaries/

BugReports https://github.com/ropensci/USAboundaries/issues

Depends R (>= 3.1.1)

Suggests sf (>= 0.5.1), testthat (>= 0.9.1), USAboundariesData (>=
0.3.1), covr, knitr, rmarkdown, dplyr, leaflet

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Additional_repositories http://packages.ropensci.org

LazyData true

LazyDataCompression xz

VignetteBuilder knitr

NeedsCompilation no

Author Lincoln Mullen [aut, cre] (<https://orcid.org/0000-0001-5103-6917>),
Jordan Bratt [aut] (<https://orcid.org/0000-0001-9051-7203>),
United States Census Bureau [cph]

Maintainer Lincoln Mullen <lincoln@lincolnmullen.com>

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R topics documented:

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install_data_package   *Install the* USAboundariesData *package after checking with the user*

Description

Install the USAboundariesData package after checking with the user

Usage

```
install_data_package()
```

---

states_contemporary_lores
                                U.S. state boundaries

Description

The U.S. Census Bureau provides [cartographic boundary files](#) for current U.S. boundaries. This package has only the low-resolution contemporary state boundaries. Other census boundary files are provided by and documented in the USAboundariesData package.

Usage

```
states_contemporary_lores
```

Format

An object of class sf (inherits from data.frame) with 52 rows and 13 columns.

See Also

For citations for the other Census boundary files provided by the USAboundariesData package, see the `census_boundaries` documentation in that package.

---

state_codes *State codes and abbreviations for U.S. states and territories*

Description

This data frame includes abbreviations and codes for states and territories in the United States. It is intended as a lookup table.

Usage

```
state_codes
```

Format

A data.frame with 69 rows and 4 variables:

state_name The state or territory name

state_abbr The two character abbreviation for the state or territory.

state_code A three digit numeric FIPS code for the state or territory.

jurisdiction_type One of `state`, `territory`, or `district`.

References

U.S. Census Bureau, U.S. Gazeteer Files (2014).

Federal Information Processing Standard state code, Wikipedia (accessed July 23, 2015).

---

state_plane *Projections from the State Plane Coordinate System*

Description

Get EPSG codes or PROJ.4 codes for projections from the State Plane Coordinate System.

Usage

```
state_plane(state, plane_id = NULL, type = c("epsg", "proj4"))
```

Arguments

`state`	The postal code for the state.
`plane_id`	The state plane geographic zone identifier. A `NULL` value will return a projection for the entire state.
`type`	The type of output to return: either an EPSG code or PROJ4 string.

Value

Either a PROJ4 string as a character vector or an EPSG code as an integer.

See Also

For documentation of the underlying State Plane Coordinate System projection data frame, see `state_proj`.

Examples

```
if (require(USAboundariesData)) {
  state_plane(state = "MA", type = "epsg")
  state_plane(state = "MA", type = "proj4")
  state_plane(state = "MA", plane_id = "island", type = "epsg")
  state_plane(state = "MA", plane_id = "island", type = "proj4")

  # Show the difference made by a state plane projection
  if (require(sf)) {
    va <- us_states(states = "VA", resolution = "high")
    plot(st_geometry(va), graticule = TRUE)
    va <- st_transform(va, state_plane("VA"))
    plot(st_geometry(va), graticule = TRUE)
  }
}
```

---

state_proj   *Data for projections from the State Plane Coordinate System*

Description

This data frame includes state abbreviations, EPSG codes, and proj4 strings for projections from the State Plane Coordinate System.

Usage

```
state_proj
```

Format

A data frame with 123 rows and 5 variables:

state The state or territory abbreviation.

zone Name of the state plane zone.

epsg The EPSG code for each state plane zone.

proj4_string The PROJ4 string for the state plane projection.

statewide_proj State plane zone for projecting the entire state.

References

State Plane Coordinate System

USAboundaries   *USAboundaries: Historical and Contemporary Boundaries of the*
                    United States of America

Description

This package provides contemporary (2014) boundaries for states, counties, zip code tabulation areas, and congressional districts in the United States of America. This data is provided by the U.S. Census Bureau.

Details

This package also provides spatial objects with historical boundaries of states or counties in the United States of America from 1629 to 2000. It provides data from the Atlas of Historical County Boundaries. The copyright to the historical data used in this package is owned by the Newberry Library, and it is included in the USAboundariesData package under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 2.5 Generic (CC BY-NC-SA 2.5) license.

The code in this package is copyrighted by Lincoln Mullen, and is released under the terms of the MIT License.

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us_boundaries   *Get historical or contemporary boundaries of the United States*

Description

This function is a general-purpose wrapper around the more specific functions in this package. It is provided for convenience and backward-compatibility with earlier versions of the package. In most cases you should use the more specific functions for the type of boundary that you need.

Usage

```
us_boundaries(map_date = NULL, type = c("state", "county", "congressional"),
  resolution = c("low", "high"), states = NULL)
```

Arguments

map_date   The date of the boundaries as some object coercible to a date with `as.Date()`.
                 For state maps the date must be between 3 September 1783 and 31 December
                 2000; for county maps the date must be between 30 December 1636 and 31
                 December 2000. A `NULL` value will return contemporary boundaries. This value
                 is ignored for types of boundaries other than states and counties.

type   The type of the map, either `state`, `county`, or `congressional`.

resolution   The resolution of the map. High resolution data is contained in the suggested
                 package `USAboundariesData`. If that package is not available, you will be
                 prompted to install it.

states   A character vector of state or territory names. Only boundaries for these states/territories
                 will be returned.

Value

An `sf` object.

See Also

[us_states](#), [us_counties](#), [us_congressional](#)

Examples

```
if (require(USAboundariesData) && require(sf)) {
  map_states   <- us_boundaries("1850-07-04")
  map_counties <- us_boundaries(as.Date("1850-07-04"), type = "county")
  new_england <- c("Massachusetts", "Vermont", "New Hampshire", "Connecticut",
                   "Rhode Island", "Maine")
  map_ne <- us_boundaries("1943-02-12", states = new_england)
  map_congressional <- us_boundaries(type = "congressional",
                                     states = new_england)

  plot(st_geometry(map_states))
  plot(st_geometry(map_counties))
  plot(st_geometry(map_ne))
  plot(st_geometry(map_congressional))
}
```

---

us_cities	*City locations and populations (historical and contemporary)*

Description

This function returns an sf object of cities (or populated places) with their populations and latitudes and longitudes. Population data is taken from the U.S. Census.

Usage

```
us_cities(map_date = NULL, states = NULL)
```

Arguments

map_date   If NULL, then city populations from the 2010 census (the most recent census) are returned. This parameter accepts a Date object or a character string coercible to a Date object, as well as numeric values representing a year. If a year or date is used, then city populations from the decennial census from 1790 to 2010 *prior* to that year is returned. For example, 1805 or "1805-07-04" would return city populations from the 1800 census.

states   A character vector of state or territory names or abbreviations. Only boundaries for those states/territories will be returned. If NULL, all boundaries will be returned.

References

The data was compiled by Erik Steiner and Jason Heppler at the Center for Spatial and Textual Analysis, Stanford University. See their description of the data for a fuller accounting of how the data was gathered.

Examples

```
if (require(USAboundariesData)) {
  us_cities(1805)
  us_cities("1828-05-08")
  us_cities()
}
```

---

us_congressional   *Congressional district boundaries (contemporary)*

Description

Get the current (2016) boundaries for U.S. Congressional districts.

Usage

```
us_congressional(resolution = c("low", "high"), states = NULL)
```

Arguments

resolution   The resolution of the boundaries.

states   A character vector of state or territory names. Only boundaries inside these
                 states/territories will be returned. If NULL, all boundaries will be returned.

Value

An sf object.

See Also

For documentation of and citation to the underlying shapefiles for contemporary data from the U.S.
Census Bureau, see the census_boundaries help file in the USAboundariesData package.

Examples

```
if (require(USAboundariesData) && require(sf)) {
  us_congressional <- us_congressional()
  va_congressional <- us_congressional(states = "Virginia", resolution = "high")
  plot(st_geometry(us_congressional))
  plot(st_geometry(va_congressional))
}
```

---

us_counties   *County boundaries (contemporary and historical)*

Description

Get the current (2016) boundaries for U.S counties from the U.S. Census Bureau, or get historical
county boundaries for dates between 30 December 1636 and 31 December 2000.

Usage

```
us_counties(map_date = NULL, resolution = c("low", "high"), states = NULL)
```

Arguments

map_date	The date of the boundaries as some object coercible to a date with as.Date(); the easiest option is a character vector following the [ISO 8601](#) data format. If NULL (the default) the contemporary boundaries will be returned.
resolution	The resolution of the map.
states	A character vector of state or territory names or abbreviations. Only boundaries for those states/territories will be returned. If NULL, all boundaries will be returned.

Value

An sf object.

See Also

For documentation of and citation to the underlying shapefiles for contemporary data from the U.S. Census Bureau, see the census_boundaries help file in the USAboundariesData package. For documentation of and citation to the underlying shapefiles for historical data from the Atlas of Historical County Boundaries, see the ahcb_boundaries help file in the USAboundariesData package.

Examples

```
if (require(USAboundariesData) && require(sf)) {
  contemporary_us  <- us_counties()
  historical_us    <- us_counties("1820-07-04")
  contemporary_ne  <- us_counties(states = c("Massachusetts", "Vermont", "Maine",
                                             "New Hampshire", "Rhode Island",
                                             "Connecticut"))
  historical_ne    <- us_counties("1803-04-28",
                                  states = c("Massachusetts", "Vermont", "Maine",
                                             "New Hampshire", "Rhode Island",
                                             "Connecticut"),
                                  resolution = "high")

  plot(st_geometry(contemporary_us))
  plot(st_geometry(historical_us))
  plot(st_geometry(contemporary_ne))
  plot(st_geometry(historical_ne))
}
```

---

us_states	*State boundaries (contemporary and historical)*

Description

Get the current (2016) boundaries for U.S states from the U.S. Census Bureau, or get historical state boundaries for dates between 3 September 1783 and 31 December 2000.

Usage

```
us_states(map_date = NULL, resolution = c("low", "high"), states = NULL)
```

Arguments

map_date   The date of the boundaries as some object coercible to a date with as.Date();
                the easiest option is a character vector following the ISO 8601 data format. If
                NULL (the default) the contemporary boundaries will be returned.

resolution   The resolution of the map.

states   A character vector of state or territory names or abbreviations. Only bound-
                aries for those states/territories will be returned. If NULL, all boundaries will be
                returned.

Value

An sf object.

See Also

For documentation of and citation to the underlying shapefiles for contemporary data from the U.S.
Census Bureau, see census_boundaries documentation in the USAboundariesData package. For
documentation of and citation to the underlying shapefiles for historical data from the Atlas of His-
torical County Boundaries, see the ahcb_boundaries documentation in the USAboundariesData
package.

Examples

```
contemporary_us <- us_states()

if (require(USAboundariesData) && require(sf)) {
  historical_us   <- us_states("1820-07-04")
  contemporary_ne <- us_states(states = c("Massachusetts", "Vermont", "Maine",
                                          "New Hampshire", "Rhode Island",
                                          "Connecticut"))
  historical_ne   <- us_states(as.Date("1805-03-12"),
                               states = c("Massachusetts", "Vermont", "Maine",
                                          "New Hampshire", "Rhode Island",
                                          "Connecticut"),
                               resolution = "high")
  plot(st_geometry(contemporary_us))
  plot(st_geometry(historical_us))
  plot(st_geometry(contemporary_ne))
  plot(st_geometry(historical_ne))
}
```

---

us_zipcodes *Zip Code Tabulation Areas (contemporary)*

Description

Get the current (2016) centroids for U.S Zipcode Tabulation Areas from the U.S. Census Bureau. The centroids were calculated from the ZCTA boundary files available on the U.S. Census Bureau website.

Usage

```
us_zipcodes()
```

Value

An sf object.

See Also

For documentation of and citation to the underlying shapefiles for contemporary data from the U.S. Census Bureau, see the census_boundaries documentation in the USAboundariesData package.

Examples

```
if (require(USAboundariesData)) {
  us_zipcodes()
}
```

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