Package: USAboundaries (via r-universe)

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Type Package

Title Historical and Contemporary Boundaries of the United States of America

Version 0.5.1

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 https://docs.ropensci.org/USAboundaries/, https://github.com/ropensci/USAboundaries

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

Depends R (>= 3.5)

Imports cli

Suggests covr, dplyr, knitr, leaflet, pak, rmarkdown, sf (>= 1.0.0), testthat (>= 3.0.0), tibble, USAboundariesData (>= 0.5.0)

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`check_data_package` *Check whether to install USAboundariesData and install if necessary*

Description

If the `USAboundariesData` package is not installed, install it from the

Usage

```
check_data_package()
```

Value

No return value, called for side effects: if USAboundariesData is not installed or a newer version is required, a console message will appear asking to install USAboundariesData. Else nothing will return.

install_USAboundariesData

Install the USAboundariesData *package after checking with the user*

Description

Install the USAboundariesData package after checking with the user

Usage

```
install_USAboundariesData()
```

Value

No return value, called for side effects: if USAboundariesData is not installed, it will ask the user if they want to install it. If user selects "yes" then it will be installed. If no, abort.

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 3-digit numeric FIPS code for the state or territory.

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

References

U.S. Census Bureau, Ameri. National Standards Institute (ANSI), Federal Information Processing Series (FIPS), and Other Standardized Geographic Codes U.S. Census Bureau (2025).

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, quietly = TRUE)) {
  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, quietly = TRUE)) {
    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

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.

`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.

Value

An `sf` object.

References

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

Examples

```
if (require(USAboundariesData, quietly = TRUE)) {
  us_cities(1805)
  us_cities("1828-05-08")
  us_cities()
}
```

us_congressional *Congressional district boundaries (contemporary)*

Description

Get the current (2024) 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, quietly = TRUE) && require(sf, quietly = TRUE)) {
  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 (2024) 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, quietly = TRUE) && require(sf, quietly = TRUE)) {
  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 (2019) 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 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 `census_boundaries` documentation 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` documentation in the USAboundariesData package.

Examples

```
contemporary_us <- us_states()
if (require(USAboundariesData, quietly = TRUE) && require(sf, quietly = TRUE)) {
  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 (2019) 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, quietly = TRUE)) {
  us_zipcodes()
}
```

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