Package 'mapSpainHist'

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Type Package

Title Historical Municipal Boundaries of Spain (1900-2001)

Version 0.1.0

Description Municipal boundaries of Spain for each population census between 1900 and 2001, together with provinces, judicial districts and electoral districts (Cortes of the Restoration in 1920 and constituencies of the Second Republic in 1931, 1933 and 1936) built from them, and the census figures of every municipality from 1842 to 2011. All maps derive from a single partition of the territory, so they have no gaps or overlaps and can be aggregated consistently. Boundaries of historical municipalities are an approximate reconstruction. Geometries are downloaded from 'Zenodo' <doi:10.5281/zenodo.23663208> and cached locally.

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URL https://github.com/pauvallprat/mapSpainHist, https://pauvallprat.github.io/mapSpainHist/

BugReports https://github.com/pauvallprat/mapSpainHist/issues

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`censos` *Census figures of Spanish municipalities, 1842-2011*

Description

Population census data for every municipality and census edition, from `Municipis_Espanya_1842-2011.xlsx`. A municipality is in force at a census when `hogares` is not missing. Rows with `no_munic == 1` are the non-municipal territories (codes 53xxx) present in the maps, which have no census figures.

Usage

```
censos
```

Format

A data frame with columns:

cod_ine INE municipality code (5 characters; 6 for municipalities extinct before 1900).

censo Census year.

municipio Municipality name.

prov Province.

cod_ccaa, ccaa Autonomous community code and name.

PJ Judicial district (partido judicial).

hogares Households.

pder De jure population.

phec De facto population.

pob_serie Continuous population series.

no_munic 1 for non-municipal territories (53xxx), 0 otherwise.

`esp_get_circ_hist` *Historical electoral districts of Spain*

Description

Electoral districts built by dissolving the municipalities of the census:

- `1920`: districts for the Cortes of the Restoration, on the 1920 municipalities (Melilla has no district and is not included).
- `1931`, `1933`, `1936`: constituencies (circunscripciones) of the Second Republic, on the 1930 municipalities.

`cod_unit` has 4 digits: the province code and the district number (alphabetical order within the province). Non-municipal territories (53xxx) are assigned to the district of their province with which they share the longest boundary.

Usage

```
esp_get_circ_hist(
  year,
  epsg = 4258,
  moveCAN = FALSE,
  census_data = TRUE,
  cache_dir = NULL,
  update_cache = FALSE,
  verbose = FALSE
)
```

Arguments

`year`	1920, 1931, 1933 or 1936. Census figures come from the 1920 census (1920) or the 1930 census (1931-1936).
`epsg`	EPSG code of the output (default 4258, ETRS89, as in mapSpain).
`moveCAN`	Position of the Canary Islands. `FALSE` (default) keeps their real position. `TRUE` moves them next to the Peninsula exactly as `mapSpain::esp_move_can()` does. A numeric vector `c(lon, lat)` adds an extra displacement, also as in mapSpain. When the islands are moved, draw the box that separates them with `mapSpain::esp_get_can_box()`, which matches this displacement.
`census_data`	If `TRUE` (default), adds the number of municipalities and the sum of the census figures (`hogares`, `pder`, `phec`, `pob_serie`) of the municipalities of each unit.
`cache_dir`	Cache directory. If `NULL`, `mhist_cache_dir()` is used.
`update_cache`	If `TRUE`, downloads the geometries again.
`verbose`	If `TRUE`, shows download messages.

Value

An `sf` object with columns `cod_unit`, `nom`, `n_mun` and, optionally, the census figures.

Examples

```
c1933 <- esp_get_circ_hist(1933, cache_dir = tempdir())
```

`esp_get_munic_hist` *Historical municipalities of Spain for a census year*

Description

Returns the municipalities in force at the given census. All census maps come from the same partition of the territory, so they have no gaps or overlaps and can be aggregated (provinces, judicial districts, electoral districts...) without slivers.

Usage

```
esp_get_munic_hist(
  year,
  epsg = 4258,
  moveCAN = FALSE,
  include_nonmunicipal = TRUE,
  census_data = TRUE,
  cache_dir = NULL,
  update_cache = FALSE,
  verbose = FALSE
)
```

Arguments

`year`	Census year, one of `mhist_census_years()`.
`epsg`	EPSG code of the output (default 4258, ETRS89, as in mapSpain).
`moveCAN`	Position of the Canary Islands. `FALSE` (default) keeps their real position. `TRUE` moves them next to the Peninsula exactly as `mapSpain::esp_move_can()` does. A numeric vector `c(lon, lat)` adds an extra displacement, also as in mapSpain. When the islands are moved, draw the box that separates them with `mapSpain::esp_get_can_box()`, which matches this displacement.
`include_nonmunicipal`	If `FALSE`, drops the non-municipal territories (codes 53xxx, `no_munic == 1`).
`census_data`	If `TRUE` (default), adds the census figures of `year` from censos (municipality name, province, households, population...). If `FALSE`, returns only `cod_ine`, `no_munic` and the geometry.
`cache_dir`	Cache directory. If `NULL`, `mhist_cache_dir()` is used.
`update_cache`	If `TRUE`, downloads the geometries again.
`verbose`	If `TRUE`, shows download messages.

Details

The geometries are downloaded from Zenodo the first time and stored in a cache directory (see `mhist_cache_dir()`).

Value

An `sf` object with one row per municipality, or `NULL` (with a message) if the geometries cannot be downloaded.

Warning

the boundaries of most historical municipalities are an approximate reconstruction. See mapSpainHist-package.

Examples

```
m1930 <- esp_get_munic_hist(1930, cache_dir = tempdir())
m1930_can <- esp_get_munic_hist(1930, moveCAN = TRUE, cache_dir = tempdir())
if (!is.null(m1930)) plot(sf::st_geometry(m1930))
if (!is.null(m1930_can) && requireNamespace("mapSpain", quietly = TRUE)) {
  plot(sf::st_geometry(m1930_can))
  plot(sf::st_geometry(mapSpain::esp_get_can_box()), add = TRUE)
}
```

---

esp_get_pj_hist *Historical judicial districts (partidos judiciales) of Spain*

Description

Judicial districts for the censuses of 1900, 1910, 1920 and 1930, built by dissolving the municipalities of each census. `cod_unit` has 4 digits: the province code and the district number (alphabetical order within the province, the same in all censuses). Non-municipal territories (53xxx) are assigned to the district of their province with which they share the longest boundary.

Usage

```
esp_get_pj_hist(
  year,
  epsg = 4258,
  moveCAN = FALSE,
  census_data = TRUE,
  cache_dir = NULL,
  update_cache = FALSE,
  verbose = FALSE
)
```

Arguments

year	Census year: 1900, 1910, 1920 or 1930.
epsg	EPSG code of the output (default 4258, ETRS89, as in mapSpain).
moveCAN	Position of the Canary Islands. FALSE (default) keeps their real position. TRUE moves them next to the Peninsula exactly as mapSpain::esp_move_can() does. A numeric vector c(lon, lat) adds an extra displacement, also as in mapSpain. When the islands are moved, draw the box that separates them with mapSpain::esp_get_can_box(), which matches this displacement.
census_data	If TRUE (default), adds the number of municipalities and the sum of the census figures (hogares, pder, phec, pob_serie) of the municipalities of each unit.
cache_dir	Cache directory. If NULL, mhist_cache_dir() is used.
update_cache	If TRUE, downloads the geometries again.
verbose	If TRUE, shows download messages.

Value

An sf object with columns cod_unit, nom, n_mun and, optionally, the census figures.

Examples

```
pj1910 <- esp_get_pj_hist(1910, cache_dir = tempdir())
```

---

esp_get_prov_hist *Historical provinces of Spain for a census year*

Description

Provinces built by dissolving the municipalities of the census, so they nest exactly with esp_get_munic_hist(). Non-municipal territories (53xxx) are assigned to the province that contains them.

Usage

```
esp_get_prov_hist(
  year,
  epsg = 4258,
  moveCAN = FALSE,
  census_data = TRUE,
  cache_dir = NULL,
  update_cache = FALSE,
  verbose = FALSE
)
```

Arguments

year	Census year, one of mhist_census_years().
epsg	EPSG code of the output (default 4258, ETRS89, as in mapSpain).
moveCAN	Position of the Canary Islands. FALSE (default) keeps their real position. TRUE moves them next to the Peninsula exactly as mapSpain::esp_move_can() does. A numeric vector c(lon, lat) adds an extra displacement, also as in mapSpain. When the islands are moved, draw the box that separates them with mapSpain::esp_get_can_box(), which matches this displacement.
census_data	If TRUE (default), adds the number of municipalities and the sum of the census figures (hogares, pder, phec, pob_serie) of the municipalities of each unit.
cache_dir	Cache directory. If NULL, mhist_cache_dir() is used.
update_cache	If TRUE, downloads the geometries again.
verbose	If TRUE, shows download messages.

Value

An sf object with columns cod_unit (2-digit INE province code), nom, n_mun and, optionally, the census figures; NULL (with a message) if the geometries cannot be downloaded.

Examples

```
p1930 <- esp_get_prov_hist(1930, cache_dir = tempdir())
```

---

mhist_cache_dir *Cache directory of mapSpainHist*

Description

The geometries are downloaded from Zenodo the first time they are needed and stored in a cache directory. By default it is the user cache directory given by tools::R_user_dir(). It can be changed for the session with mhist_set_cache_dir() or with the cache_dir argument of the esp_get_*_hist() functions.

Usage

```
mhist_cache_dir(cache_dir = NULL)

mhist_set_cache_dir(cache_dir)
```

Arguments

cache_dir	Path of the cache directory. If NULL, returns the current one.

Value

The path of the cache directory (invisibly for `mhist_set_cache_dir()`).

Examples

```
mhist_cache_dir()

old <- mhist_set_cache_dir(tempdir())
options(mapSpainHist.cache_dir = NULL)
```

`mhist_census_years` *Census editions available*

Description

Census editions available

Usage

```
mhist_census_years()
```

Value

Integer vector with the census years covered by the package.

Examples

```
mhist_census_years()
```

`mhist_clear_cache` *Clear the cache of mapSpainHist*

Description

Deletes the downloaded geometries, which will be downloaded again the next time they are needed.

Usage

```
mhist_clear_cache(cache_dir = NULL)
```

Arguments

`cache_dir`	Path of the cache directory. If `NULL`, returns the current one.

Value

TRUE invisibly if a file was deleted, FALSE otherwise.

Examples

```
mhist_clear_cache(tempdir())
```

---

unitats *Municipalities of each historical higher-level unit*

Description

Correspondence between municipalities (cod_ine) and the units returned by esp_get_prov_hist(), esp_get_pj_hist() and esp_get_circ_hist(). Useful to aggregate municipal data. Non-municipal territories (53xxx) are included with the unit they were assigned to.

Usage

```
unitats
```

Format

A data frame with columns:

tipus "prov", "pj" (judicial district) or "circ" (electoral district).

any Census year (prov, pj) or election year (circ: 1920, 1931, 1933, 1936).

cod_ine INE municipality code.

cod_unit Unit code (2 digits for provinces, 4 digits otherwise).

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