

Package ‘sfReapportion’

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Type Package

Title Reapportion Data from One Geography to Another

Version 0.2.0

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Description A port of the 'spReapportion' package, using Simple Features in order to lose the dependencies to the retired 'maptools' and 'rgeos' packages.

License GPL-3

LazyData TRUE

URL <https://github.com/briatte/sfReapportion>

BugReports <https://github.com/briatte/sfReapportion/issues>

Depends R (>= 4.1)

Imports dplyr, sf, sp (>= 2.0-0)

Suggests areal, populR, testthat

RoxygenNote 7.3.3

Encoding UTF-8

NeedsCompilation no

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Paris20eAddresses	<i>Voter addresses in the 20th arrondissement of Paris</i>
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Description

All voter addresses located in the 20th arrondissement of Paris, according to the Répertoire électoral unique (REU). We first extracted polling stations from `table-bv-reu.parquet`, and then extracted addresses located within them from `table-adresses-reu.parquet`. Addresses were converted into spatial points of class `sf`. The weight variable is `nb_adresses`, although that variable does not count voters per se: it measures the number of voter addresses at that particular location, which is probably the best publicly available proxy at that level of precision.

Usage

```
Paris20eAddresses
```

Format

An object of class `sf` (inherits from `grouped_df`, `tbl_df`, `tbl`, `data.frame`) with 5820 rows and 3 columns.

Source

INSEE: <https://www.data.gouv.fr/datasets/bureaux-de-vote-et-adresses-de-leurs-electeurs>

ParisIris	<i>Paris IRIS shapefile, 2013</i>
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Description

A shapefile of the IRIS (French census tract) of Paris in 2013.

Usage

```
ParisIris
```

Format

An object of class `SpatialPolygonsDataFrame` with 992 rows and 7 columns.

Source

IGN: https://cartes.gouv.fr/rechercher-une-donnee/dataset/IGNF_CONTOURS-IRIS

ParisPollingStations2012

Paris polling stations shapefile, 2012

Description

A shapefile of the polling stations in Paris in 2012.

Usage

ParisPollingStations2012

Format

An object of class SpatialPolygonsDataFrame with 867 rows and 5 columns.

Source

Ville de Paris: <https://opendata.paris.fr/explore/dataset/zones-de-rattachement-des-bureaux-de-vote-en-table/>

RP_2011_CS8_Paris

Socio-professional breakdown of the population aged 15+ in Paris, 2011

Description

A dataset containing the number of inhabitants by socio-professional category in 2011 in Paris, by IRIS (the French census tract).

Usage

RP_2011_CS8_Paris

Format

An object of class data.frame with 992 rows and 10 columns.

Details

- C11_POP15P: *nombre de personnes de 15 ans ou plus*
- C11_POP15P_CS1: *Agriculteurs exploitants*
- C11_POP15P_CS2: *Artisans, Commerçants, Chefs d'entreprise*
- C11_POP15P_CS3: *Cadres et Professions intellectuelles supérieures*
- C11_POP15P_CS4: *Professions intermédiaires*

- C11_POP15P_CS5: *Employés*
- C11_POP15P_CS6: *Ouvriers*
- C11_POP15P_CS7: *Retraités*
- C11_POP15P_CS8: *Autres sans activité professionnelle*

Source

INSEE: <https://www.insee.fr/fr/statistiques/2028584>

sfAggregate	<i>Aggregate Spatial Polygons</i>
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Description

A replacement for `rgeos:: unaryUnion`.

Usage

```
sfAggregate(sp, id)
```

Arguments

sp	an <code>SpatialPolygonsDataFrame</code> object
id	a grouping vector, as required by <code>aggregate</code>

Value

a `SpatialPolygonsDataFrame` object with unique and valid feature IDs

Note

Source: <https://github.com/r-spatial/sf/issues/2563>

Author(s)

Roger Bivand (thanks)

sfReapportion	<i>Reapportion data from one geography to another</i>
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Description

This function allows to reapportion data from one geography to another, for example in the context of working with different administrative units.

Usage

```
sfReapportion(
  old_geom,
  new_geom,
  data,
  old_ID,
  new_ID,
  data_ID,
  variables = names(data)[-which(names(data) %in% data_ID)],
  mode = "count",
  weights = NULL,
  weight_matrix = NULL,
  weight_matrix_var = NULL
)
```

Arguments

old_geom	a 'SpatialPolygonsDataFrame' or 'sf' object representing the initial geometry.
new_geom	a 'SpatialPolygonsDataFrame' or 'sf' object representing the geometry you want to reapportion data to.
data	a 'data.frame' containing the data to reapportion, and an ID allowing to match it to the 'old_geom'.
old_ID	a string, the name of the ID variable in the 'old_geom'.
new_ID	a string, the name of the ID variable in the 'new_geom'.
data_ID	a string, the name of the ID variable in the 'data'.
variables	a character vector, representing the names of the variables in the 'data' set to reapportion. By default, all data variables except for the ID.
mode	either "count" or "proportion". "count" is for absolute values, "proportion" is for, well, proportions (expressed between 0 and 1). If "proportion", a 'weights' variable needs to be provided. Note: "proportion" has only been lightly tested.
weights	(optional, lightly tested only) In case the variables are proportions, the name of the variable containing weights (i.e. the total number of observations per unit in the 'old_geom').
weight_matrix	(optional, lightly tested only) a 'SpatialPointsDataFrame' or 'sf' object indicating the spatial coordinates of the observations (inhabitants, voters, etc.).

`weight_matrix_var`

(optional, lightly tested only) the name of the (numeric) variable containing the weights in `weight_matrix`.

Value

a 'data.frame' containing `new_ID` and the reapportioned variables from `data`

Note

Inspiration from <https://stackoverflow.com/a/17703903> and <https://rpubs.com/PaulWilliamson/6577>. Original sp version available at <https://github.com/joelgombin/spReapportion>. All mistakes are mine, obviously. More details appear in the README file.

Author(s)

Joël Gombin (initial sp version), François Briatte (sf port)

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