Package: redistio (via r-universe)

June 29, 2024

Title Interactive Redistricting

Version 0.0.0.9000

Description A point and click editor for districts built on 'shiny'
and 'Leaflet'. Users can draw districts and calculate standard
redistricting metrics, like compactness or the number of
administrative splits. Maps can be exported as assignment files
or shapefiles, readable by most other redistricting software.

License GPL (>= 3)

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.1

Imports bslib, colourpicker, dplyr, DT, geomander, ggredist, gt,
leaflet, purrr, redistmetrics, rlang, scales, sf, shiny,
stringr, tibble

Depends R (>= 4.1.0)

LazyData true

URL https://github.com/christopherkenny/redistio,
http://www.christophertkenny.com/redistio/

BugReports https://github.com/christopherkenny/redistio/issues

Suggests crayons, planscorer, redist, shinyWidgets, spelling

Language en-US

Repository https://christopherkenny.r-universe.dev

RemoteUrl https://github.com/christopherkenny/redistio

RemoteRef HEAD

RemoteSha 48df8b344880aad770467ade24c43462f71156e8

Contents

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dc   *District of Columbia Geographic Data*

Description

This file contains demographic, partisan, and geographic data for DC at the voting district level.

Format

sf object

GEOID20 US Census Geographic Identifier

state state abbreviation

county county name

vtd voting district identifier

pop total population

pop_hisp Hispanic population

pop_white White, non-Hispanic population

pop_black Black, non-Hispanic population

pop_aian American Indian and Alaskan Native, non-Hispanic population

pop_asian Asian, non-Hispanic population

pop_nhpi Native Hawaiian and Pacific Islander, non-Hispanic population

pop_other Other, non-Hispanic population

pop_two Two or More Races, non-Hispanic population

vap voting age population

vap_hisp Hispanic voting age population

vap_white White, non-Hispanic voting age population

vap_black Black, non-Hispanic voting age population

vap_aian American Indian and Alaskan Native, non-Hispanic voting age population

vap_asian Asian, non-Hispanic voting age population

vap_nhpi Native Hawaiian and Pacific Islander, non-Hispanic voting age population

vap_other Other, non-Hispanic voting age population

vap_two Two or More Races, non-Hispanic voting age population

pre_16_dem_cli votes for Clinton 2016, President (D)

pre_16_rep_tru votes for Trump 2016, President (R)

uss_18_dem_bro votes for Brown 2018, Shadow Senate (D)

atg_18_dem_rac votes for Karl Racine, Attorney General (D)

pre_20_dem_bid votes for Biden 2020, President (D)

pre_20_rep_tru votes for Trump 2020, President (R)

uss_20_dem_str votes for Strauss 2020, Shadow Senate (D)

uss_20_rep_wei votes for Weiss 2020, Shadow Senate (R)

arv_16 average Republican vote in 2016

adv_16 average Democratic vote in 2016

arv_18 average Republican vote in 2018

adv_18 average Democratic vote in 2016

arv_20 average Republican vote in 2020

adv_20 average Democratic vote in 2016

nrv normal Republican vote

ndv normal Democratic vote

geometry sf geometry

adv_nbr Advisory Neighborhood names estimated to VTDs

ward 2022 ward lines estimated to VTDs

Examples

```
data(dc)
```

---

draw	*Interactive Plan Drawing*

Description

Interactive Plan Drawing

Usage

```
draw(
  shp,
  init_plan,
  ndists,
  palette,
  layers = NULL,
  pop_tol = 0.05,
  pop_col = "pop",
  adj_col = "adj",
  split_cols = guess_admins,
  elect_cols = guess_elections,
  demog_cols = guesstimate_demographics,
  hover_fn = hover_precinct,
  opts = redistio_options()
)
```

Arguments

shp	an sf tibble that you want to draw with
init_plan	Plan to initialize with.
ndists	Number of districts to draw if init_plan is not supplied.
palette	Color palette to fill shapes with. Default is Polychrome 36 or, if installed, crayons::crayons$no_48.
layers	Named list of sf objects to overlay. Also takes column names in shp to group by.
pop_tol	the population tolerance.
pop_col	Name of column in shp that contains population data.
adj_col	Name of column in shp that contains adjacency information.
split_cols	Names of column in shp that contain administrative units
elect_cols	Names of column in shp that contain election data
demog_cols	Names of column in shp that contain demographic data
hover_fn	Function to generate tables for mouse hovering. Default is hover_precinct().
opts	list of options. Default is redistio_options()

Value

Shiny app

Examples

```
if (interactive()) {
  draw(dc, dc$ward)
  draw(dc, dc$ward, layers = list(neighborhoods = 'adv_nbr'))
}
```

`guesstimate_demographics`

Guess and estimate which columns contain demographic data

Description

Guess and estimate which columns contain demographic data

Usage

```
guesstimate_demographics(shp)
```

Arguments

shp   an `sf` tibble that you want to draw with

Value

a named `list` of columns

Examples

```
guesstimate_demographics(dc)
```

`guess_admins`   *Guess which columns contain administrative units*

Description

Guess which columns contain administrative units

Usage

```
guess_admins(shp)
```

Arguments

shp   an `sf` tibble that you want to draw with

Value

a named `list` of types

Examples

```
guess_admins(dc)
```

---

guess_elections   *Guess which columns contain election data*

Description

Guess which columns contain election data

Usage

```
guess_elections(shp)
```

Arguments

shp   an sf tibble that you want to draw with

Value

a named list of columns

Examples

```
guess_elections(dc)
```

---

hover_precinct   *Create a* tibble *of precinct stats*

Description

Create a tibble of precinct stats

Usage

```
hover_precinct(shp, ...)
```

Arguments

shp   a tibble::tibble with precinct stats
...   named tidyselections

Value

A tibble::tibble

Examples

```
hover_precinct(dc, 1, pop = dplyr::starts_with('pop'), vap = dplyr::starts_with('vap'))
```

---

redistio_options   *Set options for* redistio

Description

Set options for redistio

Usage

```
redistio_options(
  theme = "flatly",
  panels = c("elections", "demographics", "integrity", "algorithms"),
  select_color = "purple",
  palette_pop = "Purples",
  palette_pct = "PuOr",
  palette_party = ggredist::ggredist$partisan,
  map_tiles = "CartoDB.Positron",
  leaflet_height = "91vh",
  crs = 4326,
  na_color = "#0000",
  layer_weight = 1.5,
  layer_color = "#000000",
  locked_districts = NULL,
  use_algorithms = TRUE,
  alg_max_districts = 3,
  alg_max_sims = 100,
  use_planscore = TRUE,
  save_assignment_path = "redistio.csv",
  save_shape_path = "redistio.geojson",
  ...
)
```

Arguments

theme	a name of a bootswatch preset theme or other bslib::bs_theme() object
panels	which panels to display in the app, 'draw' is always shown.
select_color	a color to use for highlighting selected districts
palette_pop	a color palette to use for whole people
palette_pct	a color palette to use for percentages of people
palette_party	a color palette to use for parties
map_tiles	a tileset to use for the map background, from leaflet::providers
leaflet_height	height to pass to leaflet::leafletOutput()
crs	a coordinate reference system to use in leaflet::leaflet()
na_color	a color to use for unassigned precincts

`layer_weight`   a stroke width to use for layers in `leaflet::leaflet()`

`layer_color`   colors to use for layers in `leaflet::leaflet()`

`locked_districts`

                       districts to lock on app start to stop edits

`use_algorithms`   whether to use redistricting simulation algorithms

`alg_max_districts`

                       maximum number of districts to use in algorithms

`alg_max_sims`   maximum number of simulations to use in algorithms

`use_planscore`   whether to use PlanScore to evaluate plans

`save_assignment_path`

                       Output path to save assignment file to.

`save_shape_path`

                       Output path to save shapefile to.

`...`   additional arguments (currently ignored)

Value

a `list`

Examples

```
redistio_options()
```

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