Package ‘swissdd’

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Type Package

Title Get Swiss Federal and Cantonal Vote Results from Opendata.swiss

Version 1.1.4

Description Builds upon the real time data service as well as the archive for national votes <https://opendata.swiss/api/3/action/package_show?id=echtzeitdaten-am-abstimmungstag-zu-eidgenoessischen-abstimmungsvorlagen> and cantonal votes <https://opendata.swiss/api/3/action/package_show?id=echtzeitdaten-am-abstimmungstag-zu-kantonalen-abstimmungsvorlagen>. It brings the results of Swiss popular votes, aggregated at the geographical level of choice, into R. Additionally, it allows to retrieve data from the Swissvotes-Database, one of the most comprehensive data platforms on Swiss referendums and initiatives <https://swissvotes.ch/page/dataset/swissvotes_dataset.csv>.

Depends R (>= 3.5.0)

Imports dplyr, tidyr (>= 1.0.0), ggplot2, RCurl, httr, jsonlite, lubridate, purrr, sf, stringr, tibble

URL https://github.com/politanch/swissdd

BugReports https://github.com/politanch/swissdd/issues

License GPL (>= 2)

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available_votedates  Get a vector of available vote dates via 'get_nationalvotes' and 'get_cantonalvotes'

Description

available_votedates is a utility function to get the available votedates.

Usage

available_votedates(geolevel = "national", call_res)

Arguments

geolevel geographical level for which available votedates should be displayed. options
"national" or "canton".
call_res result of a previous call to the base API. Optional argument.

Details

available_votedates - get available votedates of federal and cantonal popular votes

Value

a vector of votedates (Format: YYYY-MM-DD)

Examples

# Get vector of all available dates
federal_votedates <- available_votedates()
cantonal_votedates <- available_votedates(geolevel = "canton")
canton_json_to_dfr

Transform a opendata.swiss cantonal results json into a tibble

Description

canton_json_to_dfr transforms a single results json for a selected cantonal votedate into a tibble.

Usage

canton_json_to_dfr(
  votedate = NULL,
  geolevel = "municipality",
  dataurl = NULL,
  index = NULL,
  call_res
)

Arguments

  votedate date of the ballot. Default: most recent ballot available.
  geolevel geographical level for which the results should be loaded. Options: "canton", "district" or "municipality".
  dataurl list of datasets / metadata for the given dataset and its resources OR url of the dcat dataset on opendata.swiss
  index selection by index of the resource (last published = 1).
  call_res result of a previous call to the base API. Optional argument.

Value

  a tibble containing the results

Examples

  # Get and transform the json for the most recent vote
  results <- canton_json_to_dfr()

  # Get and transform the json for a single votedate at counting district level
  canton_json_to_dfr(votedate = "2020-02-09", geolevel = "zh_counting_districts")
get_cantonalvotes

get_cantonalvotes is one of the two main functions of swissvote package. It allows to retrieve the results and the counting status for national ballots.

Usage

get_cantonalvotes(
    geolevel = "municipality",
    votedates = NULL,
    from_date = NULL,
    to_date = NULL
)

Arguments

geolevel geographical level for which the results should be loaded. Options: "canton", "district", "municipality" or "zh_counting_districts".

votedates dates of the ballots to be selected. Default: most recent ballot available. Format: "YYYY-MM-DD".

from_date starting point in time from which vote results should be retrieved. Format: "YYYY-MM-DD".

to_date end point in time to which vote results should be retrieved. Format: "YYYY-MM-DD".

Details

get_cantonalvotes - retrieve vote results for cantonal ballots at district- or municipality level for selected dates or a given date range.

Value

a tibble containing the results

Examples

# Select by range
results <- get_cantonalvotes(
    geolevel = "district",
    from_date = "2019-01-01",
    to_date = "2019-12-31"
)
# Select specific votedate(s)
get_cantonalvotes(votedates = "2019-02-10")

# get the results at counting district level
# yields the same result as the municipality level, with the
# exception of Winterthur and Zurich,
# where detailed counting district results are returned instead.
get_cantonalvotes(votedate = "2019-09-22", geolevel = "zh_counting_districts")

---

**get_geodata**

*Get Swiss Geodata*

**Description**

`get_geodata` retrieves the latest geodata provided by the Federal Statistical Office in connection with federal votes.

**Usage**

```r
get_geodata(geolevel = "municipality", latest = T, verbose = F, call_res)
```

**Arguments**

- **geolevel**: geographical level. Options: "national", "canton", "district", "municipality", "zh_counting_districts" or "lakes".
- **latest**: if TRUE, the latest data is retrieved. If FALSE, geo data from the beginning of the year is retrieved. The API does not support finer distinctions. For more detailed information on the exact status of the data, please use verbose = TRUE.
- **verbose**: if TRUE, the date from which the data originates is displayed.
- **call_res**: result of a previous call to the geodata API. Optional argument.

**Value**

a simple feature collection of the desired spatial units with corresponding IDs.

**Examples**

```r
# Get latest geodata at municipal level
get_geodata()

# Get latest geodata at cantonal level
get_geodata(geolevel = "canton")
```
get_nationalvotes

Get national results and counting status in real time or for selected dates or a time range in the past

Description

get_nationalvotes is one of the two main functions of swissvote package. It allows to retrieve the results and the counting status for national ballots.

Usage

get_nationalvotes(
  geolevel = "municipality",
  votedates = NULL,
  from_date = NULL,
  to_date = NULL,
  language = "DE"
)

Arguments

golevel geographical level for which the results should be loaded. Options: "national", "canton", "district", "municipality" or "zh_counting_districts".

votedates dates of the ballots to be selected. Default: most recent ballot available. Format: "YYYY-MM-DD".

from_date starting point in time from which vote results should be retrieved. Format: "YYYY-MM-DD".

to_date end point in time to which vote results should be retrieved. Format: "YYYY-MM-DD".

language defines the language of the vote title. Options: "DE" for German, "FR" for French, "IT" for Italian or "RM" for Romansh.

Details

get_nationalvotes - retrieve vote results for national ballots at district- or municipality level for selected dates or a given date range.

Value

a tibble containing the results
get_poll

Examples

# Selection by range
results <- get_nationalvotes(
geolevel = "district",
from_date = "2018-01-01",
to_date = "2018-12-31"
)

# Selection by end date only
get_nationalvotes(to_date = "1983-12-04")

# Selection of a specific vote date
get_nationalvotes(votedates = "2014-02-09")

get_poll

Download poll data collected after a national vote by gfs.bern and the political science departements of the universities of Berne, Zurich, and Geneva.

Description

get_poll downloads exit poll data Please cite data.

Usage

get_poll(bfsnr = NULL, codebook = F)

Arguments

bfsnr number of identification of the vote, by default = NULL. Polls available after September 2020 (from voteid 6360 onwards). Bfsnr corresponds to anr in swissvotes data and has to be four digits (available through get_swissvotes).

codebook by default = FALSE. If TRUE navigates your browser to the codebook if available.

Details

get_poll - retrieve poll data on votes. The unit of analysis are individuals.

Value

a tibble containing the results

Examples

results <- get_poll(bfsnr=6360, codebook=FALSE)
get_swissvotes

Description

get_swissvotes downloads additional data collected by annee politique suisse. It allows for completely downloading their database. Please cite data.

Usage

get_swissvotes(DB = T, savecitation = F, codebook = F)

Arguments

- **DB** get database
- **savecitation** by default = FALSE. Saves the citation within a .txt file in the working directory if TRUE.
- **codebook** by default = FALSE. If TRUE navigates your browser to the codebook.

Details

get_swissvotes - retrieve data on votes. The unit of analysis are votes.

Value

- a tibble containing the results

Examples

```
# See codebook only
get_swissvotes(codebook=FALSE)
```

```
# See codebook only
get_swissvotes(codebook=FALSE)
```
**keys**

**Merge data**

**Description**

Merge keys that allow to easily combine aggregate data from swissvotes with post-ballot surveys (VOX).

**Usage**

```r
data(keys)
```

**Format**

An object of class `data.frame` with 297 rows and 3 columns.

**Source**

Walder, Maxime ([Twitter](https://twitter.com/WalderMaxime))

**Examples**

```r
data(keys)
bsnr <- keys$bfsnr
voxnr <- keys$projex
```

---

**plot_cantonalvotes**

**Plot Cantonal Votes**

**Description**

plot_cantonalvotes plots the results of cantonal votes in a choropleth map using ggplot2.

**Usage**

```r
plot_cantonalvotes(
  votedate = NULL,
  vote_id = NULL,
  geolevel = "municipality",
  measure = "result",
  standardize = T,
  language = "DE",
  theme = "srf"
)
```
Arguments

votedate  date of the ballot. Default: most recent ballot available.
vote_id  id of the vote. Default: first id mentioned in the data set.
geolevel  geographical level. Options: "district", "municipality" or "zh_counting_districts".
measure  measure to color the administrative units. Options: "result" for the yes vote share or "turnout" for the voter turnout of a given vote.
standardize  if TRUE, the scale of the measure ranges from 0 to 100 percent. Recommended for comparisons between votes.
language  defines the language. Options: "DE" for German, "FR" for French, "IT" for Italian or "RM" for Romansh.
theme  defines basic appearance of the map. Five options are available: "srf" for a theme inspired by the plots of Swiss Radio and Television, and "A" to "E" for the viridis color scales magma, inferno, plasma, viridis and cividis.

Value

a ggplot object

Examples

# Plot the most recent cantonal vote
plot_cantonalvotes()

# Plot a specific cantonal vote
plot_cantonalvotes(votedate = "2020-02-09", vote_id = 104945)

plot_nationalvotes  Plot National Votes

Description

plot_nationalvotes plots the results of national votes in a choropleth map using ggplot2.

Usage

plot_nationalvotes(
  votedate = NULL,
  vote_id = NULL,
  geolevel = "municipality",
  measure = "result",
  standardize = TRUE,
  lakes = TRUE,
  language = "DE",
  theme = "srf"
)
similar_votes

Arguments

votedate  date of the ballot. Default: most recent ballot available.
vote_id   id of the vote. Default: first id mentioned in the data set.
geolevel  geographical level. Options: "canton", "district", "municipality" or "zh_counting_districts".
measure  measure to color the administrative units. Options: "result" for the yes vote share or "turnout" for the voter turnout of a given vote.
standardize  if TRUE, the scale of the measure ranges from 0 to 100 percent. Recommended for comparisons between votes.
lakes  if TRUE, the largest Swiss lakes are shown in color on the map.
language  defines the language. Options: "DE" for German, "FR" for French, "IT" for Italian or "RM" for Romansh.
theme  defines basic appearance of the map. Five options are available: "srf" for a theme inspired by the plots of Swiss Radio and Television, and "A" to "E" for the viridis color scales magma, inferno, plasma, viridis and cividis.

Value

a ggplot object

Examples

# Plot the most recent national vote
plot_nationalvotes()

# Plot a specific national vote at cantonal level
plot_nationalvotes(
  votedate = "2014-02-09",
  vote_id = 5800,
  geolevel = "canton"
)

similar_votes

Obtain similarities a vote result shares with other votes

Description

similar_votes allows to obtain correlations of specified vote with other votes.
Usage

```r
similar_votes(
  federalvotes = NULL,
  id = NULL,
  corr = TRUE,
  from = NULL,
  to = NULL
)
```

Arguments

- `federalvotes`: tibble or data.frame that is returned by `get_swissvotes`.
- `id`: identification number of the vote, needs four digits. Vote 626 (Zersiedelungsinitiative) needs 6260.
- `corr`: set to TRUE by default. If FALSE return the variance-covariance matrix.
- `from`: lower limit of correlations.
- `to`: upper limit of correlations.

Value

a tibble containing the results

Examples

```r
defvotes <- get_nationalvotes(geolevel = "canton", from_date = "2010-03-07", to_date="2019-02-10")

#Find correlating votes for the 'Zersiedelungsinitiative', 2019-02-10
results <- similar_votes(fedvotes, id=6260)

#Zersiedelungsinitiative, 2019-02-10, filter stronger correlations (>0.5)
results <- similar_votes(fedvotes, id=6260, from = 0.5)
```

swiss_json_to_dfr

Transform an opendata.swiss national results json into a tibble

Description

`swiss_json_to_dfr` transforms the json containing the results of a selected federal votedate into a tibble.
Usage

```r
swiss_json_to_dfr(
  votedate = NULL,
  geolevel = "municipality",
  dataurl = NULL,
  index = NULL,
  language = "DE",
  call_res
)
```

Arguments

- **votedate**: date of the ballot. Default: most recent ballot available. To select multiple ballots use the `get_swissvotes`-function. Format = YYYYMMDD
- **geolevel**: geographical level for which the results should be loaded. Options: "national", "canton", "district" or "municipality".
- **dataurl**: url of the dataset on opendata.swiss
- **index**: selection by index of the resource (last published = 1)
- **language**: defines the language of the vote title. Options: "DE" for German, "FR" for French, "IT" for Italian or "RM" for Romansh.
- **call_res**: result of a previous call to the base API. Optional argument.

Value

a tibble containing the results

Examples

```r
# Transform the json of the most recent vote
results <- swiss_json_to_dfr()

# Transform the json of a selected votedate
swiss_json_to_dfr(votedate = "2019-02-10")
```
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