

Package: eiballots (via r-universe)

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Title Ballot-Level Microdata and Summaries for Ecological Inference
(Florida 2000)

Version 0.2.0-1

Description Provides access to ballot-level electoral microdata from the Florida 2000 general election and tools for computing summaries suitable for ecological inference. Includes functions to load data by county or race (election), compute marginal distributions at the precinct level, and build joint contingency arrays across multiple races for use with ecological inference packages. Data files are stored in a remote repository and downloaded on demand; local copies are supported via the 'data_dir' option. Acknowledgements: We thank Jaime Ventura (ANES, University of Michigan) and Dan Keating (The Washington Post) for providing the raw data that serve as the starting point for the construction of this package. We also acknowledge funding from the Conselleria de Educaci3n, Cultura y Universidades (grant CIACIO/2023/031).

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as.data.frame.county *Load the full microdata for a county object*

Description

Calls `get_county_data()` using the county code stored in the object. This is the data counterpart to `county_meta()`: it converts the lightweight metadata object into the full voter-level data.

Usage

```
## S3 method for class 'county'  
as.data.frame(x, ..., source = NULL)
```

Arguments

x	A county object (e.g. Lee).
...	Ignored.
source	Character string or NULL. Either a local directory path (e.g. "~/data/") or the base URL of a remote repository. If NULL, the source is resolved automatically (see Details).

Details

To avoid specifying source in every call, set `options(data_dir)` once at the start of your session or in your `.Rprofile`:

```
options(data_dir = "~/my_data/") # local files  
# or leave unset to use the online OSF repository
```

Value

A `data.frame` with one row per voter.

See Also

`county`, `county_meta()`, `get_county_data()`

Examples

```
lee <- as.data.frame(Lee)
```

Broward

*Broward County ballot microdata (Florida 2000)***Description**

Ballot-level microdata for Broward County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Broward

Format

A [county](#) metadata object. The underlying microdata has **588,007 rows** (one per voter) across **747 precincts** and **61 columns**:

COUNTY County identifier ("Broward").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR19 United States Representative Congressional District 19. Observed options: D, R, A, I.

USR20 United States Representative Congressional District 20. Observed options: D, O, A, I.

USR22 United States Representative Congressional District 22. Observed options: D, O, R, A, I.

USR23 United States Representative Congressional District 23. Observed options: D, O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STS31 State Senator - Senatorial District 31. Observed options: D, R, A, I.

STS32 State Senator - Senatorial District 32. Observed options: D, R, A, I.

SRH91 State Representative - House District 91. Observed options: D, R, A, I.

SRH92 State Representative - House District 92. Observed options: D, R, A, I.

SRH96 State Representative - House District 96. Observed options: D, R, A, I.

SRH97 State Representative - House District 97. Observed options: D, R, A, I.

SRH98 State Representative - House District 98. Observed options: D, R, A, I.

SRH100 State Representative - House District 100. Observed options: D, R, A, I.

CCC1 Clerk of the Circuit Court. Observed options: D, R, A, I.

PAP1 Property appraiser. Observed options: D, R, A, I.

SUP1 Supervisor of elections. Observed options: D, R, A, I.

COC3BRO County Commissioner District 3. Observed options: D, O, R, A, I.

COC7BRO County Commissioner District 7. Observed options: D, R, A, I.

- SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.
- SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.
- SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.
- D41 Shall Judge John W. Dell of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D42 Shall Judge Bobby W. Gunther of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D43 Shall Judge Fred A. Hazouri of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D44 Shall Judge Larry A. Klein of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D45 Shall Judge Barry J. Stone of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D46 Shall Judge Carole Y. Taylor of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- CICJ31 Circuit Judge Group 31. Observed options: B, F, A, I.
- SCB5 Member School Board District 5. Observed options: WBa, WBe, A, I.
- WCD Central Broward Water Control District. Observed options: B, L, A, I.
- CDD Community Development District. Supervisor. Multi-member race (vote for 2); candidates: Bourdin, Horn, Shore, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. B). Observed options: B, BH, BS, H, HS, S, A, I.
- PAID Plantation Acres Improvement District. Supervisor. Multi-member race (vote for 2); candidates: Davis, Hawkins, Petti, Uria, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. D). Observed options: D, DH, DP, DU, H, HP, HU, P, PU, U, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- BONRE1 Bond Referendum. Options: N, Y, A, I.
- BRORE1 Increasing number of commissioners needed to call a special meeting of the county commission. Options: N, Y, A, I.
- BRORE2 Increasing number of commissioners votes needed to propose amendments to the charter. Options: N, Y, A, I.
- ANNA Annexation of Unincorporated Area Described as 'Area A'. Options: D, H, A.
- ANNB Annexation of Unincorporated Area Described as 'Area B'. Options: D, H, A.
- ANNC Annexation of Unincorporated Area Described as 'Area C'. Options: D, H, A.
- ANND Annexation of Unincorporated Area Described as 'Area D'. Options: D, H, A, I.
- WERE1 City of Weston. Charter Amendments. Filling of Vacancies on Commission. Options: N, Y, A, I.

- WERE2 City of Weston. Charter Amendments. 60-Day Filing Period for Initiative and Referendum Petitions. Options: N, Y, A, I.
- WERE3 City of Weston. Charter Amendments. Signatures Required for Charter Amendment Petition. Options: N, Y, A, I.
- DEERE1 Authority to lease 30% of city owned 4.6 acre parcel. Options: N, Y, A, I.
- PEMRE1 City of Pembroke Park. Mobile home park zoning preservation. Options: N, Y, A, I.
- WERE4 City of Weston. Charter Amendments. Commission Approval of Site Plans. Options: N, Y, A, I.
- PEMRE2 City of Pembroke Park. Election of commissioners and appointment of mayor following annexation. Options: N, Y, A.
- WERE5 City of Weston. Charter Amendments. Removal of Obsolete Transitional Provisions. Options: N, Y, A, I.
- WERE6 City of Weston. Charter Amendments. Removal of Certain Budgetary Provisions. Options: N, Y, A, I.
- WERE7 City of Weston. Charter Amendments. Technical Changes - Modernizing and Clarifying Language. Options: N, Y, A, I.
- WERE8 City of Weston. Charter Amendments. Residential Area Boundaries. Options: N, Y, A, I.
- WERE9 City of Weston. Charter Amendments. Interim Residence Provision. Options: N, Y, A, I.
- WERE10 City of Weston. Charter Amendments. Anti-discrimination. Options: N, Y, A, I.
- TAMRE1 City of Tamarac. Elimination of additional referendum requirements from the tamarac charter and requiring compliance with state law. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and 0 = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	588,007	747
USS	588,007	747
USR19	151,056	152
USR20	240,068	256
USR22	115,875	171
USR23	80,976	160
TRE	588,007	747
EDU	588,007	747
STS31	107,694	184
STS32	155,453	142
SRH91	36,533	47

SRH92	45,047	81
SRH96	58,494	60
SRH97	85,259	65
SRH98	57,803	68
SRH100	43,844	67
CCC1	588,007	747
PAP1	588,007	747
SUP1	588,007	747
COC3BR0	68,900	58
COC7BR0	60,669	115
SC1	588,007	747
SC2	588,007	747
SC3	588,007	747
D41	588,007	747
D42	588,007	747
D43	588,007	747
D44	588,007	747
D45	588,007	747
D46	588,007	747
CICJ31	588,007	747
SCB5	60,238	117
WCD	5,566	10
CDD	1,249	2
PAID	2,298	4
A01	588,007	747
A02	588,007	747
A03	588,007	747
BONRE1	588,007	747
BRORE1	588,007	747
BRORE2	588,007	747
ANNA	1,168	2
ANNB	1,139	2
ANNC	1,306	2
ANND	1,246	2
WERE1	17,346	9
WERE2	17,346	9
WERE3	17,346	9
DEERE1	26,433	40
PEMRE1	942	5
WERE4	17,346	9
PEMRE2	942	5
WERE5	17,346	9
WERE6	17,346	9
WERE7	17,346	9
WERE8	17,346	9
WERE9	17,346	9
WERE10	17,346	9
TAMRE1	27,008	40

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Broward

# Load the full microdata
broward_data <- get_county_data("Broward")

# Alternatively, using the county object directly
broward_data <- as.data.frame(Broward)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Broward))
```

county

The county class

Description

A county object is a lightweight metadata summary for a single county's ballot data file. It does **not** contain the microdata itself (one row per voter); it only stores precomputed statistics about that county's races, used to build help pages and to give a quick overview before downloading the full dataset.

Details

One such object exists per county (e.g. [Lee](#)), stored as a small package data object. Use [county_meta\(\)](#) to retrieve one by county code, or [get_county_data\(\)](#) / `as.data.frame()` to load the actual microdata.

Structure

A county object is a named list with the class attribute `c("county", "list")` and the following elements:

`county` Character. The county code (e.g. "Lee").

`n_voters_total` Integer. Total number of voters (rows) in the county's microdata file, regardless of eligibility in any particular race.

`n_precincts_total` Integer. Total number of distinct precincts in the county.

`elections` Character vector. Race codes present in this county's data file (a subset of [election_catalog](#)).

`voters_by_election` Named integer vector. Number of eligible (non-NA) voters for each race in elections.

`precincts_by_election` Named integer vector. Number of precincts with at least one eligible voter, for each race.

`options_by_election` Named list of character vectors. The vote options observed in the data for each race (candidate codes or combinations, plus "A"/"I" when present).

See Also

[Lee](#), [county_meta\(\)](#), [get_county_data\(\)](#), [list_counties\(\)](#), [election_catalog](#)

county_catalog

County catalog

Description

A named list mapping each county data file to the race codes it contains. Used internally to determine which county files must be loaded for a given set of races.

Usage

```
county_catalog
```

Format

A named list. Each element is named by the county code (matching the .RData filename without extension) and contains a character vector of the race codes present in that county's file.

Details

The county code is used to construct the filename: county "Lee" maps to `Lee.RData`. This list is consulted by [get_election_data\(\)](#) and [ei_summary\(\)](#) to determine which files to load.

See Also

[election_catalog](#), [list_counties\(\)](#), [get_county_data\(\)](#)

Examples

```
# Races available in Lee county
county_catalog[["Lee"]]

# All counties in the dataset
names(county_catalog)
```

county_meta	Retrieve county metadata
-------------	--------------------------

Description

Returns the county metadata object for a given county. This is the metadata counterpart to [get_county_data\(\)](#): where [get_county_data\(\)](#) loads the full microdata (heavy), [county_meta\(\)](#) returns the lightweight summary (counts, races, observed vote options).

Usage

```
county_meta(county)
```

Arguments

county	Character string (county code, e.g. "Lee") or an object of class county (e.g. Lee). If an object is supplied, it is returned unchanged.
--------	---

Value

An object of class county. See [county](#) for its structure.

See Also

```
county, get\_county\_data\(\), list\_counties\(\)
```

Examples

```
county_meta("Lee")
county_meta(Lee)      # pass-through: already a county object
```

ei_summary

*Compute ecological inference summaries from ballot microdata***Description**

Builds the objects needed for ecological inference over a set of races: marginal distributions per precinct for each race, a joint contingency array across all races and precincts, and its precinct-aggregated versions.

Usage

```
ei_summary(
  elections,
  data = NULL,
  source = NULL,
  format = c("lphom", "eipack")
)
```

Arguments

elections	Character vector of race codes (e.g. <code>c("PRE", "USS")</code>). All codes must be keys in election_catalog .
data	Optional <code>data.frame</code> . If provided, it must contain columns <code>COUNTY</code> , <code>PRECINCT</code> , and all codes in <code>elections</code> . If <code>NULL</code> (default), data are loaded automatically via get_election_data() .
source	Character string or <code>NULL</code> . Data source override; see get_county_data() . Ignored when data is provided.
format	Character. Output format for the margins element: "lphom" (<i>default</i>): a named list of <code>data.frames</code>, one per race. Compatible with <code>lphom</code> and related packages. "eipack": a single wide <code>data.frame</code> with all races side by side (columns named <code><RACE>_<OPTION></code>, e.g. <code>PRE_R</code>, <code>PRE_D</code>).

Details

All summaries share a common **intersection universe**: voters who were eligible to vote in **every** race in `elections` (i.e. non-NA in all selected columns). To obtain the full universe of a single race, pass only that race.

Vote codes:

In the microdata, "A" denotes a blank vote and "I" an invalid vote; both are included as active categories. NA means the voter was not eligible in that race and defines the universe boundary.

Multi-member races:

For races where voters could select more than one candidate (e.g. "H0S3"), each observed combination (e.g. "BauDuf") is treated as an atomic category. See [election_catalog](#) for the candidates field listing the individual candidates on the ballot.

Subsetting:

Use the `[]` operator to extract a subset of races from an existing `ei_summary` object without reloading data:

```
obj3 <- ei_summary(c("PRE", "USS", "HOS3"))
obj2 <- obj3[c("PRE", "USS")] # subset to 2 races
```

Value

An object of class `"ei_summary"` (a named list) with components:

`margins` Marginal distributions per precinct. A named list of `data.frames` (format `"lphom"`) or a single wide `data.frame` (format `"eipack"`). Each `data.frame` contains columns `precinct_id`, `county_id`, `n_voters`, and one column per vote option. `n_voters` is identical across all races because the universe is shared.

`joint_precinct` Integer array of dimensions `[opt_1 x ... x opt_k x precincts]`. NULL when only one race is requested. Summing over any race dimension reproduces the corresponding margin.

`joint_total` Same array collapsed over precincts: `[opt_1 x ... x opt_k]`. NULL when only one race is requested.

`meta` Named list of metadata: `elections`, `counties`, `n_precincts`, `n_voters`, `opt_levels`, `format`, `precinct_info`, `created_at`.

If data is NULL and the data cannot be downloaded, a message is shown and NULL is returned.

See Also

```
ei_summary_random() get_election_data(), get_county_data(), to_lphom(), to_eipack(),
list_elections()
```

Examples

```
# Using the built-in example dataset
obj <- ei_summary(c("PRE", "USS"), data = example_ballots)
print(obj)
summary(obj)

# Single race: margins only, no joint array
pres <- ei_summary("PRE")
summary(pres)

# Two races: margins + 3-D joint array [PRE x USS x precinct]
obj <- ei_summary(c("PRE", "USS"))
print(obj)
summary(obj)
dim(obj$joint_precinct)

# Three races
obj3 <- ei_summary(c("PRE", "USS", "HOS3"))
dim(obj3$joint_precinct) # [opts_PRE x opts_USS x opts_HOS3 x n_precincts]
```

```
# Wide format for eipack-style packages
obj_wide <- ei_summary(c("PRE", "USS"), format = "eipack")
```

ei_summary_random	<i>Compute ecological inference summaries with random voter aggregation</i>
-------------------	---

Description

Randomly assigns voters to artificial units and computes ecological inference summaries, ignoring the geographic boundaries of real precincts. This allows assessing how sensitive the results are to the specific way voters are grouped — a concern known in the literature as the Modifiable Areal Unit Problem (MAUP).

Usage

```
ei_summary_random(
  elections,
  data = NULL,
  source = NULL,
  format = c("lphom", "eipack"),
  n_units = NULL,
  unit_size = NULL,
  size_range = NULL,
  seed = NULL
)
```

Arguments

elections	Character vector of race codes (e.g. <code>c("PRE", "USS")</code>). All codes must be keys in election_catalog . See ei_summary() .
data	Optional <code>data.frame</code> . If provided, must contain columns <code>COUNTY</code> , <code>PRECINCT</code> , and all codes in <code>elections</code> . If <code>NULL</code> (default), data are loaded automatically via get_election_data() .
source	Character string or <code>NULL</code> . Data source override; see get_county_data() . Ignored when data is provided.
format	Character. Output format for the margins element: "lphom" (<i>default</i>): a named list of <code>data.frames</code>, one per race. Compatible with <code>lphom</code> and related packages. "eipack": a single wide <code>data.frame</code> with all races side by side (columns named <code><RACE>_<OPTION></code>, e.g. <code>PRE_R</code>, <code>PRE_D</code>).
n_units	Integer or <code>NULL</code> . Number of random units to create. <code>NULL</code> (default) uses the same number of precincts as in the data. When <code>unit_size</code> or <code>size_range</code> is also supplied, see the precedence rules in the Details section.

unit_size	Integer or NULL. Fixed number of voters per unit. If N (the number of eligible voters) is not an exact multiple of unit_size, a smaller residual unit containing the remaining voters is created. Takes precedence over size_range and n_units; both are ignored with a warning if unit_size is specified.
size_range	Integer vector of length 2, c(min, max), or NULL. When used alone (without n_units), units are created by drawing sizes uniformly from [min, max] until all N voters are assigned; the last unit may be smaller than min. When used with n_units, the effective interval is the largest symmetric range around the required mean (N / n_units) that fits within [min, max]; the last unit absorbs the residual. Takes precedence over n_units. Ignored when unit_size is specified.
seed	Integer or NULL. Random seed passed to <code>set.seed()</code> before shuffling voters, enabling reproducible results. NULL (default) uses the current random state.

Details

The total number of votes for each option is identical to that returned by `ei_summary()` on the same data — only the distribution of votes across units changes.

The function returns a standard `ei_summary` object, fully compatible with `to_lphom()`, `to_eipack()`, and `subset_elections()`. The randomisation parameters are stored in `meta$random` for reproducibility and auditing.

To repeat the randomisation `n` times (e.g. for a sensitivity analysis), call the function inside `lapply()`, varying seed each time:

```
results <- lapply(1:3, function(i)
  ei_summary_random(c("PRE", "USS"), data = d, seed = i))
```

Value

An object of class "ei_summary" with the same structure as `ei_summary()`, which contains the components: `margins`, `joint_precinct`, `joint_total` and `meta`; see `ei_summary()` for details. To document the randomisation the `meta` component includes, in addition to the fields `elections`, `counties`, `n_precincts`, `n_voters`, `opt_levels`, `format`, `precinct_info`, `created_at` the field `random`, with the following components:

`method` Character string describing the aggregation method used and the resulting unit structure.

`n_units` Integer. Number of random units created.

`unit_sizes` Integer vector of length `n_units`. Size (number of voters) of each unit. Always sums to `meta$n_voters`.

`seed` The seed supplied to `seed`, or NULL if none.

`n_units_arg` Value of the `n_units` argument as supplied by the user.

`unit_size_arg` Value of the `unit_size` argument as supplied by the user.

`size_range_arg` Value of the `size_range` argument as supplied by the user.

Argument precedence

When multiple sizing arguments are supplied simultaneously, they are resolved in this order (highest to lowest priority):

1. `unit_size` — fixed size per unit; `n_units` and `size_range` are ignored with a warning.
2. `size_range` — random sizes within bounds; if `n_units` is also supplied, the effective sampling interval is the largest symmetric interval around the required mean (N / n_units) that fits within `[min, max]`. The last unit absorbs the residual and may fall slightly outside the effective interval. A warning is issued if the required mean falls outside `[min, max]`, in which case all units are assigned approximately equal sizes.
3. `n_units` — number of units; sizes are drawn proportionally from the real precinct size distribution.
4. **Default** (no sizing argument) — same number of units as real precincts; sizes match the real precinct size distribution; voters are randomly shuffled across units.

Universe

As in `ei_summary()`, only voters non-NA in **all** elections simultaneously are included (the intersection universe). The randomisation is applied to this universe, not to the full dataset. The `meta$n_voters` field of the returned object always refers to this intersection count.

Relationship to ei_summary()

`ei_summary_random()` produces an object of the same class and structure as `ei_summary()`, and is fully compatible with `to_lphom()`, `to_eipack()`, and `subset_elections()`. The only difference is that voters are grouped into random units rather than real (geographic) precincts. To compare random and real aggregations directly, run both functions on the same data object:

```
d <- get_election_data(c("PRE", "STS35"))
real <- ei_summary(c("PRE", "STS35"), data = d)
rnd <- ei_summary_random(c("PRE", "STS35"), data = d, seed = 1)
```

See Also

[ei_summary\(\)](#), [subset_elections\(\)](#), [to_lphom\(\)](#), [to_eipack\(\)](#), [get_election_data\(\)](#)

Examples

```
# Using the built-in example dataset
obj <- ei_summary(c("PRE", "USS"), data = example_ballots)
print(obj)
summary(obj)

# Default: same number and size distribution as real precincts
obj <- ei_summary_random(c("PRE", "STS35"), seed = 42)

# 200 units with sizes proportional to the real precinct distribution
obj <- ei_summary_random(c("PRE", "STS35"), n_units = 200, seed = 42)
```

```

# Fixed size of 500 voters per unit (residual unit if N not divisible)
obj <- ei_summary_random(c("PRE", "STS35"), unit_size = 500, seed = 42)

# Random size between 200 and 800 voters per unit
obj <- ei_summary_random(c("PRE", "STS35"),
  size_range = c(200, 800), seed = 42)

# 200 units with random sizes between 100 and 1000
obj <- ei_summary_random(c("PRE", "STS35"),
  n_units = 200, size_range = c(100, 1000),
  seed = 42)

# Sensitivity analysis: three random aggregations
hig <- get_county_data("Highlands")
if (!is.null(hig))
  results <- lapply(1:3, function(i)
    ei_summary_random(c("PRE", "USS"), data = hig, seed = i))

```

election_catalog

Election catalog

Description

A named list documenting all races available in the Florida 2000 general election dataset. Each element is named by the election code used as a column name in the county microdata files.

Usage

```
election_catalog
```

Format

A named list. Each element contains:

type Race type: "single_member", "multi_member", or "referendum".

office Full name of the office or ballot measure.

level Level of government of the race, following the types of government of the U.S. Census of Governments: "federal", "state", "county", "municipal" (cities, towns and villages) or "special_district" (independent single-purpose districts such as fire, water, hospital or community development districts).

counties Character vector of county codes/names that include this race, or the string "all" if every county in the dataset participates.

vote_for Maximum number of candidates the voter could select.

options Character vector of the codes used in the data: one per candidate or answer (e.g. "Bau", "Duf"), plus, in multi-member races, the combinations of candidates a voter can select (e.g. "BauDuf"), and "A" and "I".

candidates Character vector of the individual candidates or answers on the ballot (e.g. c("Barrett", "Bauchert", "Berkowitz", "Brown", "Duff", "Abstention", "Invalid vote")).

Details

In the microdata files, votes are recorded as follows:

- A candidate code or combination (e.g. "R", "D", "BauDuf", "Y") for a valid vote cast.
- "A" for a blank vote: the voter was eligible but did not mark a choice in this race. Treated as an active category in all summaries.
- "I" for an invalid vote: the voter's mark(s) was not counted. Treated as an active category in all summaries.
- NA for structural non-participation: the voter was not eligible to vote in this race (e.g. a race restricted to a specific district). NA values exclude the voter from the universe of that race.

The distinction between "A", "I", and NA is critical for ecological inference: only NA values define the universe boundary.

See Also

[county_catalog](#), [list_elections\(\)](#), [list_counties\(\)](#), [ei_summary\(\)](#)

Examples

```
# Inspect the presidential race entry
election_catalog[["PRE"]]

# List all federal races
list_elections(level = "federal")
```

example_ballots	<i>Example ballot-level data</i>
-----------------	----------------------------------

Description

A small simulated dataset used in examples and tests. The dataset contains 100 simulated observations from five simulated precincts in Lee county, with presidential and U.S. Senate vote categories.

Usage

```
data(example_ballots)
```

Format

A data frame with 100 rows and 4 variables:

COUNTY County name.

PRECINCT Precinct identifier.

PRE Presidential vote category.

USS U.S. Senate vote category; may contain missing values.

Source

Simulated data generated for examples.

get_county_data	<i>Load raw microdata for a single county</i>
-----------------	---

Description

Reads a county-level `.RData` file and returns its contents as a `data.frame`. The data source is resolved in this order:

1. The source argument (if not `NULL`).
2. `getOption("data_dir")` (set once with `options(data_dir = ...)`).
3. The default OSF repository (online).

Usage

```
get_county_data(county, source = NULL)
```

Arguments

county	Character string. County code, e.g. "Lee". Must be a key in county_catalog .
source	Character string or <code>NULL</code> . Either a local directory path (e.g. " <code>~/data/</code> ") or the base URL of a remote repository. If <code>NULL</code> , the source is resolved automatically (see Details).

Details

To avoid specifying source in every call, set `options(data_dir)` once at the start of your session or in your `.Rprofile`:

```
options(data_dir = "~/my_data/") # local files
# or leave unset to use the online OSF repository
```

Files downloaded from a remote source are cached for the rest of the R session, so each county is downloaded only once.

Value

A data.frame with one row per voter and columns:

- COUNTY: county code.
- PRECINCT: precinct identifier within the county.
- One column per race on the ballot (see [election_catalog](#) for the code-to-office mapping).

If the file cannot be downloaded (e.g. no internet connection), a message is shown and NULL is returned.

See Also

[get_election_data\(\)](#), [ei_summary\(\)](#), [list_counties\(\)](#)

Examples

```
# From the online repository
lee <- get_county_data("Lee")

# From a local directory containing the .RData files
dir <- tempdir()
Lee <- lee
save(Lee, file = file.path(dir, "Lee.RData"))
lee <- get_county_data("Lee", source = dir)
```

get_election_data	<i>Load raw microdata for one or more races</i>
-------------------	---

Description

Determines which county files are needed for the requested races, loads them (downloading if necessary), and returns a combined data.frame with only the relevant columns.

Usage

```
get_election_data(elections, source = NULL)
```

Arguments

elections	Character vector of race codes, e.g. <code>c("PRE", "USS")</code> . All codes must be keys in election_catalog .
source	Character string or NULL. Either a local directory path (e.g. <code>"~/data/"</code>) or the base URL of a remote repository. If NULL, the source is resolved automatically (see Details).

Details

The counties to load are determined automatically from [election_catalog](#). For races spanning all counties (`counties = "all"`), every county in [county_catalog](#) is loaded. For district-level races, only the relevant counties are loaded.

To avoid specifying source in every call, set `options(data_dir)` once at the start of your session or in your `.Rprofile`:

```
options(data_dir = "~/my_data/") # local files
# or leave unset to use the online OSF repository
```

Value

A `data.frame` with columns `COUNTY`, `PRECINCT`, and one column per requested race. Rows from all relevant counties are combined via `rbind`. Voters not eligible for a given race have `NA` in that column. If a county file cannot be downloaded, a message is shown and `NULL` is returned.

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#)

Examples

```
# Presidential and Senate races (all counties)
df <- get_election_data(c("PRE", "USS"))

# Including a district-level race (only counties with that race)
df <- get_election_data(c("PRE", "HOS3"))
```

Highlands

Highlands County ballot microdata (Florida 2000)

Description

Ballot-level microdata for Highlands County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Highlands

Format

A **county** metadata object. The underlying microdata has **22,237 rows** (one per voter) across **20 precincts** and **25 columns**:

COUNTY County identifier ("Highlands").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR12 United States Representative Congressional District 12. Observed options: O, R, A, I.

USR16 United States Representative Congressional District 16. Observed options: D, O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

SRH77 State Representative - House District 77. Observed options: D, R, A, I.

CCC2 Clerk of the Circuit Court. Observed options: D, R, A, I.

COC3HIG County Commissioner District 3. Observed options: O, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.

A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.

A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.

LPTRE1 City of Lake Placid. Amendment charter section 404. Options: N, Y, A.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	22,237	20
USS	22,237	20
USR12	1,088	2
USR16	21,149	18
TRE	22,237	20
EDU	22,237	20
SRH77	20,538	17
CCC2	22,237	20
COC3HIG	22,237	20
SC1	22,237	20
SC2	22,237	20
SC3	22,237	20
D21	22,237	20
D22	22,237	20
D23	22,237	20
D24	22,237	20
D25	22,237	20
D26	22,237	20
D27	22,237	20
A01	22,237	20
A02	22,237	20
A03	22,237	20
LPTRE1	66	2

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Highlands

# Load the full microdata
highlands_data <- get_county_data("Highlands")

# Alternatively, using the county object directly
highlands_data <- as.data.frame(Highlands)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Highlands))
```

Hillsborough

*Hillsborough County ballot microdata (Florida 2000)***Description**

Ballot-level microdata for Hillsborough County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

```
Hillsborough
```

Format

A **county** metadata object. The underlying microdata has **355,027 rows** (one per voter) across **366 precincts** and **54 columns**:

COUNTY County identifier ("Hillsborough").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR9 United States Representative Congressional District 9. Observed options: O, R, A, I.

USR11 United States Representative Congressional District 11. Observed options: D, O, A, I.

USR12 United States Representative Congressional District 12. Observed options: D, R, A, I.

USR13 United States Representative Congressional District 13. Observed options: D, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STA13 State Attorney Thirteenth Judicial Circuit. Observed options: D, R, A, I.

PUB1 Public Defender Thirteenth Judicial Circuit. Observed options: D, R, A, I.

STS13 State Senator - Senatorial District 13. Observed options: D, R, A, I.

STS21 State Senator - Senatorial District 21. Observed options: D, O, R, A, I.

SRH47 State Representative - House District 47. Observed options: D, R, A, I.

SRH48 State Representative - House District 48. Observed options: O, R, A, I.

SRH56 State Representative - House District 56. Observed options: D, R, A, I.

SRH57 State Representative - House District 57. Observed options: O, R, A, I.

SRH58 State Representative - House District 58. Observed options: D, R, A, I.

SRH60 State Representative - House District 60. Observed options: D, R, A, I.

SRH61 State Representative - House District 61. Observed options: D, R, A, I.

SRH62 State Representative - House District 62. Observed options: D, R, A, I.

SRH66 State Representative - House District 66. Observed options: O, R, A, I.

CCC3 Clerk of the Circuit Court. Observed options: O, R, A, I.

SHE1 Sheriff. Observed options: O, R, A, I.

PAP2 Property appraiser. Observed options: D, R, A, I.

SUP2 Supervisor of elections. Observed options: D, R, A, I.

COC1HIL County Commissioner District 1. Observed options: D, R, A, I.

COC3HIL County Commissioner District 3. Observed options: D, O, A, I.

COC6HIL County Commissioner District 6. Observed options: D, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

CICJ25 Circuit Judge Group 25. Observed options: B, F, A, I.

COCJ3 County Court Judge Group 3. Observed options: Na, Ob, A, I.

SCB7HIL Member School Board District 7. Observed options: Ku, WI, A, I.

- TTE Temple Terrace. City Council. Multi-member race (vote for 2); candidates: Chillura, Curry, Jeter, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. ChCu). Observed options: Ch, ChCu, ChJe, Cu, CuJe, Je, A, I.
- STP Supervisor, Tampa Palms Community Development District. Multi-member race (vote for 3); candidates: Cameron, Copeland, Fitzpatrick, Miller, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. CaCo). Observed options: Ca, CaCo, CaCoFi, CaCoMi, CaFi, CaFiMi, CaMi, Co, CoFi, CoFiMi, CoMi, Fi, Mi, MiFi, A, I.
- SCW Supervisor, Cheval West Community Development District. Multi-member race (vote for 3); candidates: Burley, Lencioni, Miller, Rankin, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. BuLeMi). Observed options: Bu, BuLeMi, BuLeRa, Le, LeMiRa, A.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- TAM3 City of Tampa Charter Amendments. NO. 3. Options: N, Y, A, I.
- TAM1 City of Tampa Charter Amendments. NO. 1. Options: N, Y, A, I.
- TAM2 City of Tampa Charter Amendments. NO. 2. Options: N, Y, A, I.
- TAM4 City of Tampa Charter Amendments. NO. 4. Options: N, Y, A, I.
- TAM5 City of Tampa Charter Amendments. NO. 5. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	355,027	366
USS	355,027	366
USR9	81,313	80
USR11	205,659	226
USR12	47,927	38
USR13	20,128	22
TRE	355,027	366
EDU	355,027	366
STA13	355,027	366
PUB1	355,027	366

STS13	128,276	123
STS21	62,938	99
SRH47	47,845	42
SRH48	4,776	7
SRH56	43,330	53
SRH57	50,440	32
SRH58	35,688	45
SRH60	36,286	50
SRH61	25,960	34
SRH62	50,984	35
SRH66	20,640	25
CCC3	355,027	366
SHE1	355,027	366
PAP2	355,027	366
SUP2	355,027	366
COC1HIL	85,531	82
COC3HIL	57,604	88
COC6HIL	355,027	366
SC1	355,027	366
SC2	355,027	366
SC3	355,027	366
D21	355,027	366
D22	355,027	366
D23	355,027	366
D24	355,027	366
D25	355,027	366
D26	355,027	366
D27	355,027	366
CICJ25	355,027	366
COCJ3	355,027	366
SCB7HIL	355,027	366
TTE	8,898	7
STP	4,025	4
SCW	19	1
A01	355,027	366
A02	355,027	366
A03	355,027	366
TAM3	102,904	116
TAM1	102,904	116
TAM2	102,904	116
TAM4	102,904	116
TAM5	102,904	116

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data

available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Hillsborough

# Load the full microdata
hillsborough_data <- get_county_data("Hillsborough")

# Alternatively, using the county object directly
hillsborough_data <- as.data.frame(Hillsborough)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Hillsborough))
```

Lee

Lee County ballot microdata (Florida 2000)

Description

Ballot-level microdata for Lee County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Lee

Format

A [county](#) metadata object. The underlying microdata has **188,857 rows** (one per voter) across **194 precincts** and **37 columns**:

COUNTY County identifier ("Lee").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR14 United States Representative Congressional District 14. Observed options: O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STS35 State Senator - Senatorial District 35. Observed options: D, O, R, A, I.

- SRH72 State Representative - House District 72. Observed options: O, R, A, I.
- SRH73 State Representative - House District 73. Observed options: D, R, A, I.
- SRH74 State Representative - House District 74. Observed options: O, R, A, I.
- SRH75 State Representative - House District 75. Observed options: O, R, A, I.
- SHE2 Sheriff. Observed options: D, O, R, A, I.
- TAX1 Tax Collector. Observed options: D, R, A, I.
- COC1LEE County Commissioner District 1. Observed options: O, R, A, I.
- COC5LEE County Commissioner District 5. Observed options: O, R, A, I.
- HOS3 Hospital Board of Directors Lee County District 3. Multi-member race (vote for 2); candidates: Barrett, Bauchert, Berkowitz, Brown, Duff, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. BarBau). Observed options: Bar, BarBau, BarBer, BarBro, BarDuf, Bau, BauBer, BauBro, BauDuf, Ber, BerBro, BerDuf, Bro, BroDuf, Duf, A, I.
- HOS5 Hospital Board of Directors Lee County District 5. Multi-member race (vote for 2); candidates: Doragh, Farabee, Green, Smith, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. DorFar). Observed options: Dor, DorFar, DorGre, DorSmi, Far, FarGre, FarSmi, Gre, GreSmi, Smi, A, I.
- MOS1 Lee County Mosquito Control. Mosquito Board Area 1. Observed options: Mu, So, A, I.
- MOS3 Lee County Mosquito Control. Mosquito Board Area 3. Observed options: Ga, Mc, A, I.
- MOS7 Lee County Mosquito Control. Mosquito Board Area 7. Observed options: As, Sa, A, I.
- SCB2 Member School Board District 2. Observed options: Do, Mo, A, I.
- SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.
- SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.
- SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.
- D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.

A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.

A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.

CCR County Charter Revisions to Adoption of County Ordinances by Citizen Initiative. Options: N, Y, A, I.

FMSRE Fort Myers Shores Referendum. Options: N, Y, A.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	188,857	194
USS	188,857	194
USR14	188,857	194
TRE	188,857	194
EDU	188,857	194
STS35	41,349	57
SRH72	17,522	24
SRH73	40,545	52
SRH74	57,595	52
SRH75	73,195	66
SHE2	188,857	194
TAX1	188,857	194
COC1LEE	188,857	194
COC5LEE	188,857	194
HOS3	188,857	194
HOS5	188,857	194
MOS1	188,857	194
MOS3	188,857	194
MOS7	188,857	194
SCB2	188,857	194
SC1	188,857	194
SC2	188,857	194
SC3	188,857	194
D21	188,857	194
D22	188,857	194
D23	188,857	194
D24	188,857	194

D25	188,857	194
D26	188,857	194
D27	188,857	194
A01	188,857	194
A02	188,857	194
A03	188,857	194
CCR	188,857	194
FMSRE	2,910	6

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Lee

# Load the full microdata
lee_data <- get_county_data("Lee")

# Alternatively, using the county object directly
lee_data <- as.data.frame(Lee)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Lee))
```

<code>list_counties</code>	<i>List available counties</i>
----------------------------	--------------------------------

Description

Returns a `data.frame` with each county in the dataset and the number of races in its data file.

Usage

```
list_counties()
```

Value

A data.frame with columns county and n_elections.

See Also

[county_catalog](#), [list_elections\(\)](#)

Examples

```
list_counties()
```

list_elections	<i>List available races</i>
----------------	-----------------------------

Description

Returns a summary data.frame of the races available in the dataset, optionally filtered by type or level.

Usage

```
list_elections(type = NULL, level = NULL)
```

Arguments

type	Optional. Filter by race type: "single_member", "multi_member", or "referendum".
level	Optional. Filter by level of government: "federal", "state", "county", "municipal", or "special_district".

Value

A data.frame with columns code, office, type, level, and counties.

See Also

[election_catalog](#), [list_counties\(\)](#)

Examples

```
list_elections()
list_elections(level = "federal")
list_elections(type = "referendum")
```

Marion

*Marion County ballot microdata (Florida 2000)***Description**

Ballot-level microdata for Marion County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Marion

Format

A **county** metadata object. The underlying microdata has **105,185 rows** (one per voter) across **115 precincts** and **30 columns**:

COUNTY County identifier ("Marion").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR5 United States Representative Congressional District 5. Observed options: D, O, R, A, I.

USR6 United States Representative Congressional District 6. Observed options: O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STS5 State Senator - Senatorial District 5. Observed options: D, R, A, I.

STS11 State Senator - Senatorial District 11. Observed options: D, R, A, I.

SRH10 State Representative - House District 10. Observed options: D, R, A, I.

SRH21 State Representative - House District 21. Observed options: D, R, A, I.

SRH22 State Representative - House District 22. Observed options: D, O, R, A, I.

SRH23 State Representative - House District 23. Observed options: D, O, A, I.

SRH24 State Representative - House District 24. Observed options: D, R, A, I.

SRH25 State Representative - House District 25. Observed options: D, R, A, I.

SRH42 State Representative - House District 42. Observed options: D, O, R, A, I.

SHE3 Sheriff. Observed options: D, R, A, I.

SSC Superintendent of Schools. Observed options: D, R, A, I.

COC1MRN County Commissioner District 1. Observed options: D, R, A, I.

COC3MRN County Commissioner District 3. Observed options: D, R, A, I.

COC5MRN County Commissioner District 5. Observed options: D, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

- SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.
- SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.
- D51 Shall Judge Emerson R. Thompson, Jr. of the 5TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- SSS Silver Springs Shores Tax District, Advisory Council. Multi-member race (vote for 3); candidates: Calkins, Cimjotti, Hodges, Popejoy, Scott, Walker, Warburton, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. CalCimHod). Observed options: Cal, CalCimHod, CalCimPop, CalCimSco, CalCimWal, CalCimWar, CalHodPop, CalHodSco, CalHodWal, CalHodWar, CalPopSco, CalPopWal, CalPopWar, CalScoWal, CalWalWar, Cim, CimHodPop, CimHodSco, CimPopSco, CimPopWal, CimPopWar, CimScoWal, CimScoWar, CimWalWar, Hod, HodPopSco, HodPopWal, HodPopWar, HodScoWal, HodScoWar, HodWalWar, Pop, PopScoWal, PopScoWar, PopWalWar, Sco, ScoWalWar, Wal, War, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	105,185	115
USS	105,185	115
USR5	7,802	10
USR6	97,383	105
TRE	105,185	115
EDU	105,185	115
STS5	10,535	18
STS11	57,273	53
SRH10	5,319	6
SRH21	5,825	11
SRH22	9,314	15
SRH23	6,145	14
SRH24	62,340	54
SRH25	1,789	4
SRH42	13,471	15

SHE3	105,185	115
SSC	105,185	115
COC1MRN	105,185	115
COC3MRN	105,185	115
COC5MRN	105,185	115
SC1	105,185	115
SC2	105,185	115
SC3	105,185	115
D51	105,185	115
A01	105,185	115
A02	105,185	115
A03	105,185	115
SSS	4,103	4

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Marion

# Load the full microdata
marion_data <- get_county_data("Marion")

# Alternatively, using the county object directly
marion_data <- as.data.frame(Marion)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Marion))
```

Miami_Dade

Miami-Dade County ballot microdata (Florida 2000)

Description

Ballot-level microdata for Miami-Dade County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Miami_Dade

Format

A [county](#) metadata object. The underlying microdata has **651,650 rows** (one per voter) across **762 precincts** and **55 columns**:

COUNTY County identifier ("Miami_Dade").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR17 United States Representative Congressional District 17. Observed options: D, A.

USR18 United States Representative Congressional District 18. Observed options: R, A.

USR20 United States Representative Congressional District 20. Observed options: D, A.

USR21 United States Representative Congressional District 21. Observed options: R, A.

USR22 United States Representative Congressional District 22. Observed options: D, R, A, I.

USR23 United States Representative Congressional District 23. Observed options: D, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STA11 State Attorney Eleventh Judicial. Observed options: D, R, A, I.

STS39 State Senator - Senatorial District 39. Observed options: R, A.

STS32 State Senator - Senatorial District 32. Observed options: D, R, A, I.

SRH106 State Representative - House District 106. Observed options: D, O, A, I.

SRH108 State Representative - House District 108. Observed options: D, O, R, A, I.

SRH116 State Representative - House District 116. Observed options: D, R, A, I.

SRH119 State Representative - House District 119. Observed options: D, R, A, I.

SRH120 State Representative - House District 120. Observed options: D, R, A, I.

SRH109 State Representative - House District 109. Observed options: D, A.

SRH115 State Representative - House District 115. Observed options: R, A.

SRH117 State Representative - House District 117. Observed options: R, A.

SRH118 State Representative - House District 118. Observed options: D, A.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D31 Shall Judge James R. Jorgenson of the 3RD DISTRICT court of appeal be retained in office?
Options: N, Y, A, I.

CICJ8 Circuit Judge Group 8. Observed options: M, P, A, I.

CICJ4 Circuit Judge, Eleventh Circuit, Group 25. Observed options: Me, Mu, A, I.

- COCJ4 County Court Judge Group 4. Observed options: H, Ri, A, I.
- SCB7MD Member School Board District 7. Observed options: Pp, Pr, A, I.
- NBMY City of North Bay. Mayor. Observed options: Di, Do, A, I.
- OLMY City of Opa Locka. Mayor. Observed options: H, M, A, I.
- KBMY City of Key Biscayne. Mayor. Observed options: P, Ra, A, I.
- NBALC City of North Bay. At Large Commissioner. Observed options: L, S, A, I.
- OLC City of Opa Locka. Commissioner. Multi-member race (vote for 2); candidates: Barrett, Cobbs, Kelley, Tydus, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. B). Observed options: B, BC, BK, BT, C, CK, CT, K, KT, T, A, I.
- NBC3 City of North Bay (Harbor Island). Commissioner. Observed options: Ka, Os, Te, A, I.
- KBC0 City of Key Biscayne. Village Council. Multi-member race (vote for 2); candidates: Broucek, Fried, Garcia, Guillen, Abstention, Invalid vote. Each observed combination is an atomic category (e.g. BrFr). Observed options: Br, BrFr, BrGa, BrGu, Fr, FrGa, FrGu, Ga, GaGu, Gu, A, I.
- NBC1 City of North Bay. Commissioner. Observed options: Du, Is, A, I.
- NBC2 City of North Bay (Treasure Island). Commissioner. Observed options: Ab, S, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- DADRE1 Limited Public Financing for Candidates. Options: N, Y, A, I.
- DADRE2 Improve Fire and Rescue Service. Options: N, Y, A, I.
- HIRE1 Non-binding straw ballot question. Hialeah Special Election. Options: N, Y, A, I.
- NMRE1 City of North Miami. Amendment building height. Options: N, Y, A, I.
- MIARE1 City of Miami. Amendment assets transfer. Options: N, Y, A, I.
- NMRE2 City of North Miami. Amendment poll watchers. Options: N, Y, A, I.
- MBRE1 Miami Beach. Lease of Park Land. Options: N, Y, A, I.
- NBRE1 City of North Bay Village. Amendment general revisions. Options: N, Y, A, I.
- MIARE2 City of Miami. Amendment board composition. Options: N, Y, A, I.
- NBRE2 City of North Bay Village. Amendment election date. Options: N, Y, A, I.
- NBRE3 City of North Bay Village. Amendment term limits. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	651,650	762
USS	651,650	762
USR17	156,855	222
USR18	186,421	213
USR20	26,337	42
USR21	210,131	180
USR22	64,412	79
USR23	6,783	8
TRE	651,650	762
EDU	651,650	762
STA11	651,650	762
STS39	118,955	120
STS32	25,721	25
SRH106	41,507	48
SRH108	29,470	41
SRH116	38,954	39
SRH119	34,706	50
SRH120	5,779	14
SRH109	29,622	49
SRH115	41,029	54
SRH117	38,895	39
SRH118	42,047	62
SC1	651,650	762
SC2	651,650	762
SC3	651,650	762
D31	651,650	762
CICJ8	651,650	762
CICJ4	651,650	762
COCJ4	651,650	762
SCB7MD	97,371	98
NBMY	1,666	3
OLMY	3,470	7
KBMY	3,847	4
NBALC	1,666	3
OLC	3,470	7
NBC3	1,666	3
KBC0	3,847	4
NBC1	1,666	3
NBC2	1,666	3
A01	651,650	762
A02	651,650	762
A03	651,650	762
DADRE1	651,650	762
DADRE2	17,130	24

HIRE1	54,379	45
NMRE1	14,811	19
MIARE1	94,881	125
NMRE2	14,811	19
MBRE1	7,465	9
NBRE1	1,666	3
MIARE2	94,881	125
NBRE2	1,666	3
NBRE3	1,666	3

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

`get_county_data()`, `ei_summary()`, `election_catalog`, `list_elections()`

Examples

```
# Inspect metadata
Miami_Dade

# Load the full microdata
miami_dade_data <- get_county_data("Miami_Dade")

# Alternatively, using the county object directly
miami_dade_data <- as.data.frame(Miami_Dade)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Miami_Dade))
```

Palm_Beach	<i>Palm Beach County ballot microdata (Florida 2000)</i>
------------	--

Description

Ballot-level microdata for Palm Beach County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Palm_Beach

Format

A **county** metadata object. The underlying microdata has **447,466 rows** (one per voter) across **592 precincts** and **45 columns**:

COUNTY County identifier ("Palm_Beach").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR16 United States Representative Congressional District 16. Observed options: D, O, R, A, I.

USR19 United States Representative Congressional District 19. Observed options: D, O, R, A, I.

USR22 United States Representative Congressional District 22. Observed options: D, O, R, A, I.

USR23 United States Representative Congressional District 23. Observed options: D, O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

PUB2 Public Defender Fifteenth Judicial Circuit. Observed options: D, R, A, I.

STS27 State Senator - Senatorial District 27. Observed options: O, R, A, I.

STS31 State Senator - Senatorial District 31. Observed options: D, R, A, I.

STS35 State Senator - Senatorial District 35. Observed options: D, O, R, A, I.

SRH82 State Representative - House District 82. Observed options: O, R, A.

SRH83 State Representative - House District 83. Observed options: D, O, R, A, I.

SRH84 State Representative - House District 84. Observed options: D, O, R, A, I.

SRH85 State Representative - House District 85. Observed options: D, R, A, I.

SRH87 State Representative - House District 87. Observed options: D, R, A, I.

SRH88 State Representative - House District 88. Observed options: D, O, A, I.

SRH89 State Representative - House District 89. Observed options: D, O, A, I.

SRH91 State Representative - House District 91. Observed options: D, R, A, I.

CCC4 Clerk of the Circuit Court. Observed options: D, R, A, I.

SHE5 Sheriff. Observed options: D, R, A, I.

TAX2 Tax Collector. Observed options: D, R, A, I.

PPB1 Port of Palm Beach. Group 1. Observed options: D, R, A, I.

PPB3 Port of Palm Beach. Group 3. Observed options: D, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D41 Shall Judge John W. Dell of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D42 Shall Judge Bobby W. Gunther of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

- D43 Shall Judge Fred A. Hazouri of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D44 Shall Judge Larry A. Klein of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D45 Shall Judge Barry J. Stone of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D46 Shall Judge Carole Y. Taylor of the 4TH DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- SCB7PB Member School Board District 7. Observed options: Cu, Ri, A, I.
- SWC Palm Beach Soil and Water Conservation District. Observed options: L, M, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- PALRE Children's Service Council. Options: N, Y, A, I.
- BBRE1 City of Boynton Beach. Ordinance 000-41. Options: N, Y, A, I.
- BBRE2 City of Boynton Beach. Ordinance 000-43. Options: N, Y, A, I.
- LARE1 Town of Lantana. Sale real property. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	447,466	592
USS	447,466	592
USR16	139,521	175
USR19	183,011	177
USR22	65,512	108
USR23	59,422	135
TRE	447,466	592
EDU	447,466	592
PUB2	447,466	592
STS27	76,217	89
STS31	39,627	58

STS35	80,291	127
SRH82	25,574	28
SRH83	62,462	84
SRH84	35,102	76
SRH85	49,671	65
SRH87	51,117	74
SRH88	74,788	87
SRH89	63,780	52
SRH91	20,897	21
CCC4	447,466	592
SHE5	447,466	592
TAX2	447,466	592
PPB1	126,723	202
PPB3	126,723	202
SC1	447,466	592
SC2	447,466	592
SC3	447,466	592
D41	447,466	592
D42	447,466	592
D43	447,466	592
D44	447,466	592
D45	447,466	592
D46	447,466	592
SCB7PB	56,213	83
SWC	447,466	592
A01	447,466	592
A02	447,466	592
A03	447,466	592
PALRE	447,466	592
BBRE1	20,877	36
BBRE2	20,877	36
LARE1	2,246	7

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Palm_Beach
```

```
# Load the full microdata
palm_beach_data <- get_county_data("Palm_Beach")

# Alternatively, using the county object directly
palm_beach_data <- as.data.frame(Palm_Beach)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Palm_Beach))
```

Pasco

Pasco County ballot microdata (Florida 2000)

Description

Ballot-level microdata for Pasco County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Pasco

Format

A [county](#) metadata object. The underlying microdata has **146,648 rows** (one per voter) across **148 precincts** and **29 columns**:

COUNTY County identifier ("Pasco").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR12 United States Representative Congressional District 12. Observed options: D, R, A, I.

USR5 United States Representative Congressional District 5. Observed options: D, R, A, I.

USR9 United States Representative Congressional District 9. Observed options: O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STS13 State Senator - Senatorial District 13. Observed options: D, R, A, I.

SRH45 State Representative - House District 45. Observed options: R, A.

SRH46 State Representative - House District 46. Observed options: D, R, A, I.

SRH61 State Representative - House District 61. Observed options: D, R, A.

SHE4 Sheriff. Observed options: D, R, A, I.

COC1PAS County Commissioner District 1. Observed options: D, R, A, I.

- COC5PAS County Commissioner District 5. Observed options: D, R, A, I.
- SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.
- SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.
- SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.
- D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	146,648	148
USS	146,648	148
USR12	8,691	20
USR5	56,176	56
USR9	81,711	70
TRE	146,648	148
EDU	146,648	148

STS13	38,289	35
SRH45	54,914	57
SRH46	52,947	46
SRH61	38,350	40
SHE4	146,648	148
COC1PAS	146,648	148
COC5PAS	146,648	148
SC1	146,648	148
SC2	146,648	148
SC3	146,648	148
D21	146,648	148
D22	146,648	148
D23	146,648	148
D24	146,648	148
D25	146,648	148
D26	146,648	148
D27	146,648	148
A01	146,648	148
A02	146,648	148
A03	146,648	148

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

`get_county_data()`, `ei_summary()`, `election_catalog`, `list_elections()`

Examples

```
# Inspect metadata
Pasco

# Load the full microdata
pasco_data <- get_county_data("Pasco")

# Alternatively, using the county object directly
pasco_data <- as.data.frame(Pasco)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Pasco))
```

Pinellas

*Pinellas County ballot microdata (Florida 2000)***Description**

Ballot-level microdata for Pinellas County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Pinellas

Format

A [county](#) metadata object. The underlying microdata has **406,956 rows** (one per voter) across **377 precincts** and **44 columns**:

COUNTY County identifier ("Pinellas").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR9 United States Representative Congressional District 9. Observed options: O, R, A, I.

USR10 United States Representative Congressional District 10. Observed options: O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

STS21 State Senator - Senatorial District 21. Observed options: D, O, R, A, I.

SRH47 State Representative - House District 47. Observed options: D, R, A, I.

SRH48 State Representative - House District 48. Observed options: O, R, A, I.

SRH49 State Representative - House District 49. Observed options: D, R, A, I.

SRH50 State Representative - House District 50. Observed options: D, R, A, I.

SRH51 State Representative - House District 51. Observed options: D, R, A, I.

SRH52 State Representative - House District 52. Observed options: D, R, A, I.

SRH53 State Representative - House District 53. Observed options: D, R, A, I.

COC3PIN County Commissioner District 3. Observed options: O, R, A, I.

COC6PIN County Commissioner District 6. Observed options: D, R, A, I.

COC7PIN County Commissioner District 7. Observed options: D, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

- D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- ELTC3 East Lake Tarpon. Special Fire Control District. Commissioner seat 3. Observed options: Bo, Sc, A, I.
- LEAC1 Lealman. Special Fire Control District. Commissioner seat 1. Observed options: Ca, Ha, A, I.
- PAHC2 Palm Harbor. Special Fire Control District. Commissioner seat 2. Observed options: An, He, Pe, Si, St, A, I.
- ELTC4 East Lake Tarpon. Special Fire Control District. Commissioner seat 4. Observed options: De, Ho, A, I.
- LEAC5 Lealman. Special Fire Control District. Commissioner seat 5. Observed options: Ad, Su, A, I.
- PINC1 Pinellas Suncoast Fire and Rescue District. Commissioner seat 1 (precinct 419). Observed options: Ho, Mc, A, I.
- PINC2 Pinellas Suncoast Fire and Rescue District. Indian Rocks Beach sub-district. Commissioner seat 2 (precinct 420). Observed options: Pi, Ri, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- PINRE1 Amends Charter to Provide Voting Standards Regarding County Administrator's Employment Based on Seven Member Board. Options: N, Y, A, I.
- PINRE2 Pinellas County Charter Amendment Modifying Restrictions on Citizens' Initiative Process. Options: N, Y, A, I.
- PINRE3 Authorizes the County to Establish Exclusive Methods, Criteria, and Geographic Boundaries for Voluntary Municipal Annexation. Options: N, Y, A, I.
- PAHRE1 Palm Harbor. Senior recreational programs and facilities. Options: N, Y, A, I.
- LEARE2 Lealman. Fire suppression service. Options: N, Y, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
PRE	406,956	377
USS	406,956	377
USR9	155,627	125
USR10	251,083	250
TRE	406,956	377
EDU	406,956	377
STS21	21,499	32
SRH47	10,552	9
SRH48	67,557	44
SRH49	54,734	48
SRH50	46,304	44
SRH51	40,675	43
SRH52	44,452	48
SRH53	48,083	49
COC3PIN	406,956	377
COC6PIN	105,612	93
COC7PIN	90,772	105
SC1	406,956	377
SC2	406,956	377
SC3	406,956	377
D21	406,956	377
D22	406,956	377
D23	406,956	377
D24	406,956	377
D25	406,956	377
D26	406,956	377
D27	406,956	377
ELTC3	16,629	13
LEAC1	17,102	20
PAHC2	30,456	23
ELTC4	16,629	13
LEAC5	12,710	20
PINC1	817	1
PINC2	1,994	1
A01	406,956	377
A02	406,956	377
A03	406,956	377

PINRE1	406,956	377
PINRE2	406,956	377
PINRE3	406,956	377
PAHRE1	30,456	23
LEARE2	17,102	20

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

[get_county_data\(\)](#), [ei_summary\(\)](#), [election_catalog](#), [list_elections\(\)](#)

Examples

```
# Inspect metadata
Pinellas

# Load the full microdata
pinellas_data <- get_county_data("Pinellas")

# Alternatively, using the county object directly
pinellas_data <- as.data.frame(Pinellas)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Pinellas))
```

print.county	<i>Print a county metadata object</i>
--------------	---------------------------------------

Description

Displays the schema and summary statistics for the county's ballot data: races present, vote options observed in each race, total voters, precincts, and per-race eligibility counts.

Usage

```
## S3 method for class 'county'
print(x, ...)
```

Arguments

x	A county object (e.g. Lee).
...	Ignored.

Value

The input object x, returned invisibly. Called for its side effect of printing a structured metadata summary to the console.

See Also

[county](#), [county_meta\(\)](#), [as.data.frame.county](#)

print.ei_summary	<i>Print an ei_summary object</i>
------------------	-----------------------------------

Description

Print an ei_summary object

Usage

```
## S3 method for class 'ei_summary'  
print(x, ...)
```

Arguments

x	An "ei_summary" object.
...	Ignored.

Value

The input object x, returned invisibly. Called for its side effect of printing a structured summary to the console.

Sarasota

*Sarasota County ballot microdata (Florida 2000)***Description**

Ballot-level microdata for Sarasota County, Florida general election, November 7, 2000. Each row represents one voter.

Usage

Sarasota

Format

A [county](#) metadata object. The underlying microdata has **163,750 rows** (one per voter) across **159 precincts** and **40 columns**:

COUNTY County identifier ("Sarasota").

PRECINCT Precinct identifier within the county.

PRE President and Vice President of the United States. Observed options: D, O, R, A, I.

USS United States Senator. Observed options: D, O, R, A, I.

USR13 United States Representative Congressional District 13. Observed options: D, O, R, A, I.

TRE State Treasurer. Observed options: D, R, A, I.

EDU Commissioner of Education. Observed options: D, O, R, A, I.

SRH69_70 State Representative - House Districts 69 and 70 (combined). Observed options: D, R, A, I.

SRH71_74 State Representative - House Districts 71 and 74 (combined). Observed options: R, A, I.

SUP3 Supervisor of elections. Observed options: D, R, A, I.

COC1SAR County Commissioner District 1. Observed options: D, R, A, I.

COC5SAR County Commissioner District 5. Observed options: O, R, A, I.

CRB5 Charter Review Board. District 5. Observed options: D, R, A, I.

SC1 Justice of the Supreme Court R. Fred Lewis. Options: N, Y, A, I.

SC2 Justice of the Supreme Court Barbara J. Pariente. Options: N, Y, A, I.

SC3 Justice of the Supreme Court Peggy A. Quince. Options: N, Y, A, I.

D21 Shall Judge John R. Blue of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D22 Shall Judge Darryl C. Casanueva of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D23 Shall Judge Charles A. Davis, Jr. of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

D24 Shall Judge Oliver L. Green of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.

- D25 Shall Judge E. J. Salcines of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D26 Shall Judge Thomas E. Stringer of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- D27 Shall Judge Edward F. Threadgill of the 2ND DISTRICT court of appeal be retained in office?. Options: N, Y, A, I.
- SCB3 Member School Board District 3. Observed options: Ko, Zu, A, I.
- EW4 Englewood Area Fire Control District Seat 4. Observed options: Ka, Ke, A, I.
- EW5 Englewood Area Fire Control District Seat 5. Observed options: Cy, Ha, A, I.
- EW1 Englewood Water District Seat 1. Observed options: Ma, Mo, A, I.
- EW2 Englewood Water District Seat 2. Observed options: Hu, Ma, Tr, A, I.
- A01 Florida Transportation Initiative for statewide high speed monorail, fixed guideway or magnetic levitation system. Options: N, Y, A, I.
- A02 Referendum No. 2: Circuit Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each judicial circuit. Options: N, Y, A, I.
- A03 Referendum No. 3: County Court Judge Referendum (implementing Article V, Section 10 of the Florida Constitution). Local option, voted separately in each county. Options: N, Y, A, I.
- SARRE1 Shall Chapter 00-480, Laws of Florida, providing for the appointment of board members of the Sarasota-Manatee Airport Authority, be approved?. Options: N, Y, A, I.
- SARRE2 Charter Compliance with state law requirements for recall of county commissioners. Options: N, Y, A, I.
- SARRE3 Removal of unconstitutional definition of 'Political Committee'. Options: N, Y, A, I.
- SARRE4 Limitation on Political Committee Campaign Contributions. Options: N, Y, A, I.
- SARRE5 Compliance with U.S. supreme court ruling on total campaign contribution caps. Options: N, Y, A, I.
- SARRE6 Adoption of six-month county residency requirement for candidates. Options: N, Y, A, I.
- NPC3 City North Port. Commissioner. Seat 3. Observed options: Fi, Mc, A, I.
- VEN3 City of Venice. Council member. Seat 3. Observed options: Fa, Wi, A, I.
- VEN4 City of Venice. Council member. Seat 4. Observed options: Br, Ho, A, I.

Voting-code conventions:

NA in a race column means that the voter was not eligible to vote in that race. A = blank vote (it also includes write-in votes, which are not recorded on the ballot images); I = invalid vote.

For partisan races, D = Democratic candidate, R = Republican candidate and O = candidate from another party. In some races, however, these codes may have a different meaning (e.g., candidate initials) and should be interpreted according to the coding of the specific race (see [election_catalog](#)).

For referendums, Y = yes and N = no.

Eligible voters and precincts by race:

Race	Eligible voters	Precincts
------	-----------------	-----------

PRE	163,750	159
USS	163,750	159
USR13	163,750	159
TRE	163,750	159
EDU	163,750	159
SRH69_70	121,306	117
SRH71_74	32,142	33
SUP3	163,750	159
COC1SAR	163,750	159
COC5SAR	163,750	159
CRB5	163,750	159
SC1	163,750	159
SC2	163,750	159
SC3	163,750	159
D21	163,750	159
D22	163,750	159
D23	163,750	159
D24	163,750	159
D25	163,750	159
D26	163,750	159
D27	163,750	159
SCB3	163,750	159
EWf4	7,724	8
EWf5	7,724	8
EWw1	8,668	13
EWw2	8,668	13
A01	163,750	159
A02	163,750	159
A03	163,750	159
SARRE1	163,750	159
SARRE2	163,750	159
SARRE3	163,750	159
SARRE4	163,750	159
SARRE5	163,750	159
SARRE6	163,750	159
NPC3	9,350	9
VEN3	10,438	10
VEN4	10,438	10

Source

Own elaboration from raw ballot data made available to the authors through personal communication by Dan Keating (data reporter, *The Washington Post*) and the American National Election Studies (ANES, University of Michigan). Florida general election, November 7, 2000. Full data available at [doi:10.17605/OSF.IO/NP73B](https://doi.org/10.17605/OSF.IO/NP73B).

See Also

`get_county_data()`, `ei_summary()`, `election_catalog`, `list_elections()`

Examples

```
# Inspect metadata
Sarasota

# Load the full microdata
sarasota_data <- get_county_data("Sarasota")

# Alternatively, using the county object directly
sarasota_data <- as.data.frame(Sarasota)

# Pass directly to ei_summary
obj <- ei_summary(c("PRE", "USS"), data = get_county_data(Sarasota))
```

subset_elections	<i>Subset an ei_summary to fewer races</i>
------------------	--

Description

Extracts a subset of races from an existing "ei_summary" object without reloading or recomputing from raw data. Vote counts remain exactly as in the original object because the universe is unchanged.

Usage

```
subset_elections(x, elections)

## S3 method for class 'ei_summary'
x[elections]
```

Arguments

x	An "ei_summary" object.
elections	Character vector of race codes to retain. Must be a subset of x\$meta\$elections.

Details

The `[]` operator is also available as a shorthand: `x[elections]` is equivalent to `subset_elections(x, elections)`.

Value

A new "ei_summary" object restricted to elections.

Examples

```
obj3 <- ei_summary(c("PRE", "USS", "H0S3"))

# Equivalent ways to extract a 2-race subset
obj2 <- subset_elections(obj3, c("PRE", "USS"))
obj2 <- obj3[c("PRE", "USS")]

obj1 <- obj3["PRE"] # single race: no joint array
```

summary.ei_summary	<i>Summarise an ei_summary object</i>
--------------------	---------------------------------------

Description

Prints aggregate vote totals and percentages for each race, and (when there are exactly two races) the full joint contingency table.

Usage

```
## S3 method for class 'ei_summary'
summary(object, ...)
```

Arguments

object	An "ei_summary" object.
...	Ignored.

Value

The input object object, returned invisibly. Called for its side effect of printing aggregate vote totals and the joint contingency table (when two races are present) to the console.

to_eipack	<i>Convert an ei_summary to eipack wide format</i>
-----------	--

Description

Converts the margins element to a single wide data.frame where columns are named <RACE>_<OPTION> (e.g. PRE_R, PRE_D).

Usage

```
to_eipack(x)
```

Arguments

x An "ei_summary" object.

Value

An "ei_summary" object with margins as a wide data.frame and meta\$format == "eipack".

See Also

[to_lphom\(\)](#), [ei_summary\(\)](#)

to_lphom

Convert an ei_summary to lphom list format

Description

Converts the margins element to a named list of data.frames (one per race). This is the default format of [ei_summary\(\)](#) and the input format expected by lphom and related ecological inference functions.

Usage

```
to_lphom(x)
```

Arguments

x An "ei_summary" object.

Value

An "ei_summary" object with margins as a named list of data.frames and meta\$format == "lphom".

See Also

[to_eipack\(\)](#), [ei_summary\(\)](#)

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