

# Package ‘geogenr’

July 22, 2025

**Type** Package

**Title** Generator from American Community Survey Geodatabases

**Version** 2.0.1

**Description** The American Community Survey (ACS)

<<https://www.census.gov/programs-surveys/acs>> offers geodatabases with geographic information and associated data of interest to researchers in the area. The goal of this package is to generate objects that allow us to access and consult the information available in various formats, such as in 'GeoPackage' format or in multidimensional 'ROLAP' (Relational On-Line Analytical Processing) star format.

**License** MIT + file LICENSE

**URL** <https://josesamos.github.io/geogenr/>,  
<https://github.com/josesamos/geogenr>

**BugReports** <https://github.com/josesamos/geogenr/issues>

**Depends** R (>= 2.10)

**Imports** dplyr, geomultistar, httr, readr, rolap, sf, stats, stringr,  
tibble, tidyr, tidymodels, utils

**Suggests** DBI, dbplyr, DiagrammeR, DiagrammeRsvg, dm, knitr, pander,  
rmarkdown, RSQLite, snakecase, testthat (>= 3.0.0)

**VignetteBuilder** knitr

**Config/testthat/edition** 3

**Encoding** UTF-8

**Language** en-GB

**LazyData** true

**RoxygenNote** 7.2.3

**NeedsCompilation** no

**Author** Jose Samos [aut, cre] (ORCID: <<https://orcid.org/0000-0002-4457-3439>>),  
Universidad de Granada [cph]

**Maintainer** Jose Samos <[jsamos@ugr.es](mailto:jsamos@ugr.es)>

**Repository** CRAN

**Date/Publication** 2024-01-09 01:20:03 UTC

## Contents

acs_5yr	2
acs_5yr_md	3
anrc_2021_x01	4
as_acs_5yr_geo	4
as_acs_5yr_topic	5
as_flat_table	6
as_geomultistar	7
as_GeoPackage	8
as_star_database	9
download_selected_files	10
get_areas	11
get_area_file_names	12
get_area_groups	13
get_area_years	13
get_available_areas	14
get_available_area_topics	15
get_available_area_years	16
get_code_from_area_name	17
get_geo_attribute_names	18
get_geo_layer.acs_5yr_geo	19
get_metadata	20
get_names_of_other_topics	21
get_name_from_area_code	21
get_report_names	22
get_selected_file_names	23
get_subreport_names	24
get_too_heavy_file_names	25
get_topic_name	26
select_area_files	27
select_report	28
select_subreport	28
select_topic	29
set_metadata	30
unzip_files	31

<b>Index</b>	<b>33</b>
--------------	-----------

---

acs\_5yr

acs\_5yr *S3 class*

---

### Description

An `acs_5yr` object is created from a given local dir. This dir will contain the geodatabase files that we download.

**Usage**

```
acs_5yr(dir = "")
```

**Arguments**

dir                    A string.

**Value**

An acs\_5yr object.

**See Also**

Other data download functions: [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir = dir)
```

---

acs\_5yr\_md

*Titles and Years of Selected Demographic and Economic Data*

---

**Description**

Available selected Demographic and Economic Data from the American Community Survey (ACS) 5-year estimates data titles and years.

**Usage**

```
acs_5yr_md
```

**Format**

A vector list.

**Source**

<https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-data.2021.html#list-tab-1656998034>

---

anrc_2021_x01	<i>"Alaska Native Regional Corporation", 2021, "X01 Age And Sex"</i>
---------------	--

---

### Description

Topic selected for the area and years indicated: "Alaska Native Regional Corporation", 2021.

### Usage

```
anrc_2021_x01
```

### Format

An acs\_5yr\_topic object.

### Examples

```
# Defined by:
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

anrc_2021_x01 <- ac |>
  as_acs_5yr_topic("Alaska Native Regional Corporation",
                 2021,
                 "X01 Age And Sex")
```

---

as_acs_5yr_geo	<i>Get an acs_5yr_geo object</i>
----------------	----------------------------------

---

### Description

Once we have selected the topics that interest us and, possibly also the reports or subreports, we obtain an acs\_5yr\_geo object with which we can represent or export the geographic layer along with the data of interest more easily.

### Usage

```
as_acs_5yr_geo(act)

## S3 method for class 'acs_5yr_topic'
as_acs_5yr_geo(act)
```

**Arguments**

act                    An acs\_5yr\_topic object.

**Value**

An acs\_5yr\_geo object.

**See Also**

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_geomultistar\(\)](#), [as\\_star\\_database\(\)](#), [get\\_metadata\(\)](#), [set\\_metadata\(\)](#)

**Examples**

```
act <- anrc_2021_x01 |>
  select_report(report = "B01002-Median Age By Sex")

geo <- act |>
  as_acs_5yr_geo()
```

---

as_acs_5yr_topic	<i>As ACS census topic (report group)</i>
------------------	---

---

**Description**

Gets an ACS census topic object (report group) for the given years of the Demographic and Economic Areas that are downloaded and unzipped, available to be queried.

**Usage**

```
as_acs_5yr_topic(ac, area, years, topic)

## S3 method for class 'acs_5yr'
as_acs_5yr_topic(ac, area, years = NULL, topic = NULL)
```

**Arguments**

ac                    An acs\_5yr object.  
 area                A string, area name.  
 years               A vector, year number.  
 topic               A vector, topic name.

**Details**

If no year is indicated, all available years are taken. If no topic is given, the first one that appears in the files is taken.

**Value**

An acs\_5yr\_topic object.

**See Also**

Other data selection functions: [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

anrc_2021_x01 <- ac |>
  as_acs_5yr_topic("Alaska Native Regional Corporation",
                  2021,
                  "X01 Age And Sex")

anrc_2021_2022_x01_x07 <- ac |>
  as_acs_5yr_topic("Alaska Native Regional Corporation",
                  topic = c("X01 Age And Sex", "X07 Migration"))
```

---

as\_flat\_table

As rolap::flat\_table *object*

---

**Description**

Obtain an rolap::flat\_table object to be able to modify the data or integrate it with other data.

**Usage**

```
as_flat_table(act, attributes)

## S3 method for class 'acs_5yr_topic'
as_flat_table(act, attributes = NULL)
```

**Arguments**

act                    An acs\_5yr\_topic object.  
attributes            A string vector.

## Details

We can indicate the attributes of the geographic layer to include in the export. Otherwise, the default attributes are included (not area, perimeter or location attributes).

## Value

A flat\_table object.

## See Also

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_geomultistar\(\)](#), [as\\_star\\_database\(\)](#), [get\\_metadata\(\)](#), [set\\_metadata\(\)](#)

## Examples

```
ft <- anrc_2021_x01 |>
  as_flat_table()
```

---

as_geomultistar	As geomultistar::geomultistar <i>object</i>
-----------------	---

---

## Description

Obtain an geomultistar::geomultistar object to be able to enrich multidimensional queries with geographic data.

## Usage

```
as_geomultistar(act, attributes)

## S3 method for class 'acs_5yr_topic'
as_geomultistar(act, attributes = NULL)
```

## Arguments

act	An acs_5yr_topic object.
attributes	A string vector.

## Details

We can indicate the attributes of the geographic layer to include in the export. Otherwise, the default attributes are included (not area, perimeter or location attributes).

## Value

A geomultistar object.

**See Also**

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_star\\_database\(\)](#), [get\\_metadata\(\)](#), [set\\_metadata\(\)](#)

**Examples**

```
gms <- anrc_2021_x01 |>
  as_geomultistar()
```

---

as_GeoPackage	<i>Save as GeoPackage</i>
---------------	---------------------------

---

**Description**

Save the data layer (geographic information layer), the metadata layer and the data source description layer in a file in GeoPackage format to be able to work with other tools.

**Usage**

```
as_GeoPackage(geo, dir, name)

## S3 method for class 'acs_5yr_geo'
as_GeoPackage(geo, dir = NULL, name = NULL)
```

**Arguments**

geo	An acs_5yr_geo object.
dir	A string.
name	A string, file name.

**Details**

The GeoPackage format only allows defining a maximum of 1998 columns. If the number of variables and columns in the geographic layer exceeds this number, it cannot be saved in this format.

**Value**

A string, file name.

**See Also**

Other data exploitation and export functions: [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_geomultistar\(\)](#), [as\\_star\\_database\(\)](#), [get\\_metadata\(\)](#), [set\\_metadata\(\)](#)



## Examples

```
act <- anrc_2021_x01 |>
  select_report(report = "B01002-Median Age By Sex")

geo <- act |>
  as_acs_5yr_geo()

dir <- tempdir()
file <- geo |>
  as_GeoPackage(dir)
```

---

as\_star\_database      *As rolap::star\_database object*

---

## Description

Obtain an `rolap::star_database` object to be able to export it to a RDBMS and make queries with other tools.

## Usage

```
as_star_database(act, attributes)

## S3 method for class 'acs_5yr_topic'
as_star_database(act, attributes = NULL)
```

## Arguments

`act`                    An `acs_5yr_topic` object.  
`attributes`            A string vector.

## Details

We can indicate the attributes of the geographic layer to include in the export. Otherwise, the default attributes are included (not area, perimeter or location attributes).

## Value

A `star_database` object.

## See Also

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_geomultistar\(\)](#), [get\\_metadata\(\)](#), [set\\_metadata\(\)](#)

## Examples

```
st <- anrc_2021_x01 |>
  as_star_database()
```

---

download\_selected\_files

*Download selected files*

---

## Description

Download the files that have been selected and have not been downloaded yet, unzip them (if desired) and, if everything went well and is indicated in the parameter, delete the downloaded files.

## Usage

```
download_selected_files(ac, subdir = NULL, unzip = TRUE, delete_zip = FALSE)
```

## Arguments

ac	An acs_5yr object.
subdir	NULL/'year'/'area', output subdir.
unzip	A boolean, unzip files.
delete_zip	A boolean, delete zip files if correctly unzipped.

## Details

In the subdir parameter, the values NULL, 'year' or 'area' can be indicated. With NULL it does not create any subdirs, with 'year' it creates them by years of downloaded files and with 'area' it creates them by areas.

## Value

A vector, files correctly obtained.

## See Also

Other data download functions: [acs\\_5yr\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

ac <- ac |>
  select_area_files("Alaska Native Regional Corporation", 2020:2021)

files <- ac |>
  download_selected_files(unzip = FALSE)
```

---

get_areas	<i>Get area names of a group</i>
-----------	----------------------------------

---

**Description**

Gets the names of the Demographic and Economic Areas of a group or set of groups.

**Usage**

```
get_areas(ac, group)

## S3 method for class 'acs_5yr'
get_areas(ac, group = NULL)
```

**Arguments**

ac	An acs_5yr object.
group	A string, area group name.

**Details**

If no group is indicated, all available areas are obtained.

**Value**

A vector, area names.

**See Also**

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

### Examples

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

areas <- ac |>
  get_areas(group = "Statistical Areas")
```

---

get\_area\_file\_names    *Get area file names*

---

### Description

Get area url file names for the given years. If no year is indicated, all available ones are obtained.

### Usage

```
get_area_file_names(ac, area, years)

## S3 method for class 'acs_5yr'
get_area_file_names(ac, area, years = NULL)
```

### Arguments

ac	An acs_5yr object.
area	A string, area name.
years	A vector, year number.

### Value

A vector, file urls.

### See Also

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

### Examples

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

url <- ac |>
  get_area_file_names("State", 2019:2021)

url <- ac |>
  get_area_file_names("State")
```

---

get_area_groups	<i>Get area groups</i>
-----------------	------------------------

---

**Description**

Gets the names of the Demographic and Economic Area Groups where data is available.

**Usage**

```
get_area_groups(ac)

## S3 method for class 'acs_5yr'
get_area_groups(ac)
```

**Arguments**

ac                    An acs\_5yr object.

**Value**

A vector, area group names.

**See Also**

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

groups <- ac |>
  get_area_groups()
```

---

get_area_years	<i>Get available area years</i>
----------------	---------------------------------

---

**Description**

Get the years for which data has been found to be available for an area.

**Usage**

```
get_area_years(ac, area)

## S3 method for class 'acs_5yr'
get_area_years(ac, area)
```

**Arguments**

ac	An acs_5yr object.
area	A string, area name.

**Value**

A vector, area years.

**See Also**

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

years <- ac |>
  get_area_years(area = "State")
```

---

get\_available\_areas    *Get available area names*

---

**Description**

Gets the names of the Demographic and Economic Areas that are downloaded and unzipped, available to be queried.

**Usage**

```
get_available_areas(ac)

## S3 method for class 'acs_5yr'
get_available_areas(ac)
```

**Arguments**

ac	An acs_5yr object.
----	--------------------

**Value**

A vector, area names.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

areas <- ac |>
  get_available_areas()
```

---

get\_available\_area\_topics

*Get available area topics (report groups)*

---

**Description**

Gets the topics (report groups) for the given years of the Demographic and Economic Areas that are downloaded and unzipped, available to be queried.

**Usage**

```
get_available_area_topics(ac, area, years)

## S3 method for class 'acs_5yr'
get_available_area_topics(ac, area, years = NULL)
```

**Arguments**

ac	An acs_5yr object.
area	A string, area name.
years	A vector, year number.

**Value**

A vector, available report groups.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

topics <- ac |>
  get_available_area_topics("Alaska Native Regional Corporation",
    2021)

topics <- ac |>
  get_available_area_topics("Alaska Native Regional Corporation")
```

---

get\_available\_area\_years

*Get available area years*

---

**Description**

Gets the years of the Demographic and Economic Areas that are downloaded and unzipped, available to be queried.

**Usage**

```
get_available_area_years(ac, area)

## S3 method for class 'acs_5yr'
get_available_area_years(ac, area)
```

**Arguments**

ac	An acs_5yr object.
area	A string, area name.



**Value**

A vector, area years.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

years <- ac |>
  get_available_area_years(area = "Alaska Native Regional Corporation")
```

---

get\_code\_from\_area\_name

*Get code from area name*

---

**Description**

Obtain the code that appears in the name of the file associated with the area.

**Usage**

```
get_code_from_area_name(ac, area)

## S3 method for class 'acs_5yr'
get_code_from_area_name(ac, area)
```

**Arguments**

ac	An acs_5yr object.
area	A string, area name.

**Value**

A vector, area code.

**See Also**

Other information functions: [get\\_name\\_from\\_area\\_code\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

code <- ac |>
  get_code_from_area_name(area = "State")
```

---

```
get_geo_attribute_names
  Get geographical attributes
```

---

**Description**

Get the names of the geographic layer attributes (except for the geometry field).

**Usage**

```
get_geo_attribute_names(act)

## S3 method for class 'acs_5yr_topic'
get_geo_attribute_names(act)
```

**Arguments**

`act` An `acs_5yr_topic` object.

**Value**

A vector, geographical attribute names.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
names <- anrc_2021_x01 |>
  get_geo_attribute_names()
```

---

```
get_geo_layer.acs_5yr_geo
      Get geographic layer
```

---

### Description

Get the geographic layer.

### Usage

```
## S3 method for class 'acs_5yr_geo'
get_geo_layer(glc)

get_geo_layer(glc)

## S3 method for class 'acs_5yr_topic'
get_geo_layer(glc)
```

### Arguments

glc                    An acs\_5yr\_topic or acs\_5yr\_geo object.

### Value

A sf object.

### See Also

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

### Examples

```
layer <- anrc_2021_x01 |>
  get_geo_layer()
```

---

`get_metadata`*Get the metadata layer*

---

### Description

The metadata layer includes the names and description through various fields of the variables contained in the reports.

### Usage

```
get_metadata(geo)

## S3 method for class 'acs_5yr_geo'
get_metadata(geo)
```

### Arguments

`geo` An `acs_5yr_geo` object.

### Details

The way to select the variables we want to work with is to filter this layer and subsequently set it as the object's metadata layer using the `set_metadata()` function.

### Value

A tibble object.

### See Also

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_geomultistar\(\)](#), [as\\_star\\_database\(\)](#), [set\\_metadata\(\)](#)

### Examples

```
act <- anrc_2021_x01 |>
  select_report(report = "B01002-Median Age By Sex")

geo <- act |>
  as_acs_5yr_geo()

metadata <- geo |>
  get_metadata()
```

---

```
get_names_of_other_topics
```

*Get names of other topics (report groups)*

---

### Description

The area that we have downloaded has a set of defined topics, we have selected one of them, this function shows us the rest of the available topics in the area.

### Usage

```
get_names_of_other_topics(act)
```

```
## S3 method for class 'acs_5yr_topic'
```

```
get_names_of_other_topics(act)
```

### Arguments

`act` An `acs_5yr_topic` object.

### Value

A vector, available topics.

### See Also

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

### Examples

```
topics <- anrc_2021_x01 |>
  get_names_of_other_topics()
```

---

```
get_name_from_area_code
```

*Get name from area code*

---

### Description

Get the name of the area from the code that appears in the name of the area files.

**Usage**

```
get_name_from_area_code(ac, area)

## S3 method for class 'acs_5yr'
get_name_from_area_code(ac, area)
```

**Arguments**

```
ac          An acs_5yr object.
area       A string, area name.
```

**Value**

A vector, area code.

**See Also**

Other information functions: [get\\_code\\_from\\_area\\_name\(\)](#)

**Examples**

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

name <- ac |>
  get_name_from_area_code(area = "METDIV")
```

---

get_report_names	<i>Get report names</i>
------------------	-------------------------

---

**Description**

Each topic includes several reports. Once a topic has been selected, using this function we obtain the name of the available reports. The report code is included with the name. Each report can contain multiple subreports.

**Usage**

```
get_report_names(act)

## S3 method for class 'acs_5yr_topic'
get_report_names(act)
```

**Arguments**

```
act          An acs_5yr_topic object.
```

**Value**

A vector, report names.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
reports <- anrc_2021_x01 |>
  get_report_names()
```

---

```
get_selected_file_names
```

*Get selected file names*

---

**Description**

Gets the names of the files selected to be downloaded.

**Usage**

```
get_selected_file_names(ac)

## S3 method for class 'acs_5yr'
get_selected_file_names(ac)
```

**Arguments**

ac                    An acs\_5yr object.

**Value**

A vector, file names.

**See Also**

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

## Examples

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

groups <- ac |>
  get_selected_file_names()
```

---

get\_subreport\_names    *Get subreport names*

---

## Description

Each topic includes several reports and subreports. Once a topic has been selected, using this function we obtain the name of the available subreports of a report. If no report is indicated, all subreports of the topic are obtained.

## Usage

```
get_subreport_names(act, report)

## S3 method for class 'acs_5yr_topic'
get_subreport_names(act, report = NULL)
```

## Arguments

act	An acs_5yr_topic object.
report	A string, report name.

## Value

A vector, subreport names.

## See Also

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_report\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

## Examples

```
reports <- anrc_2021_x01 |>
  get_subreport_names(report = "B01002-Median Age By Sex")
```



---

```
get_too_heavy_file_names
```

*Get too heavy file names*

---

## Description

Gets the names of the files that are too heavy to be download with the available function. We have downloaded them directly with the web browser.

## Usage

```
get_too_heavy_file_names(ac)

## S3 method for class 'acs_5yr'
get_too_heavy_file_names(ac)
```

## Arguments

ac                    An acs\_5yr object.

## Value

A vector, too heavy file names.

## See Also

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#), [unzip\\_files\(\)](#)

## Examples

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

groups <- ac |>
  get_too_heavy_file_names()
```

---

get_topic_name	<i>Get topic name (report groups)</i>
----------------	---------------------------------------

---

### Description

Get the selected topic by which this object has been defined.

### Usage

```
get_topic_name(act)

## S3 method for class 'acs_5yr_topic'
get_topic_name(act)
```

### Arguments

act                    An acs\_5yr\_topic object.

### Details

A topic is made up of a set of reports.

### Value

A vector, topic name.

### See Also

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

### Examples

```
topic <- anrc_2021_x01 |>
  get_topic_name()
```

---

select_area_files	<i>Select area files</i>
-------------------	--------------------------

---

### Description

Select area files for the given years. If no year is indicated, all available ones are selected.

### Usage

```
select_area_files(ac, area, years)

## S3 method for class 'acs_5yr'
select_area_files(ac, area, years = NULL)
```

### Arguments

ac	An acs_5yr object.
area	A string, area name.
years	A vector, year number.

### Value

An acs\_5yr object.

### See Also

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [unzip\\_files\(\)](#)

### Examples

```
dir <- system.file("extdata/acs_5yr", package = "geogenr")
ac <- acs_5yr(dir)

ac <- ac |>
  select_area_files("State", 2019:2021)

ac <- ac |>
  select_area_files("State")
```

---

select_report	<i>Select report</i>
---------------	----------------------

---

**Description**

Select the reports whose names are indicated. We reduce the available reports and variables to those of the selected reports.

**Usage**

```
select_report(act, report)

## S3 method for class 'acs_5yr_topic'
select_report(act, report = NULL)
```

**Arguments**

act	An acs_5yr_topic object.
report	A string vector, report names.

**Value**

An acs\_5yr\_topic object.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_subreport\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
act <- anrc_2021_x01 |>
  select_report(report = "B01002-Median Age By Sex")
```

---

select_subreport	<i>Select subreport</i>
------------------	-------------------------

---

**Description**

Select the subreports whose names are indicated. We reduce the available subreports and variables to those of the selected subreports.

**Usage**

```
select_subreport(act, subreport)

## S3 method for class 'acs_5yr_topic'
select_subreport(act, subreport = NULL)
```

**Arguments**

act                    An acs\_5yr\_topic object.  
subreport             A string vector, subreport names.

**Value**

A vector, topic name.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topi](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_topic\(\)](#)

**Examples**

```
act2 <- anrc_2021_x01 |>
  select_subreport(
    c(
      "B01002-B-Median Age By Sex (Black Or African American Alone)",
      "B01002-C-Median Age By Sex (American Indian And Alaska Native Alone)"
    )
  )
```

---

select_topic	<i>Select topic (report group)</i>
--------------	------------------------------------

---

**Description**

Select a topic. If no topic is given, the first one that appears in the area is taken.

**Usage**

```
select_topic(act, topic)

## S3 method for class 'acs_5yr_topic'
select_topic(act, topic = NULL)
```

**Arguments**

act                An acs\_5yr\_topic object.  
 topic             A string, topic name.

**Value**

An acs\_5yr\_topic object.

**See Also**

Other data selection functions: [as\\_acs\\_5yr\\_topic\(\)](#), [get\\_available\\_area\\_topics\(\)](#), [get\\_available\\_area\\_years\(\)](#), [get\\_available\\_areas\(\)](#), [get\\_geo\\_attribute\\_names\(\)](#), [get\\_geo\\_layer.acs\\_5yr\\_geo\(\)](#), [get\\_names\\_of\\_other\\_topics\(\)](#), [get\\_report\\_names\(\)](#), [get\\_subreport\\_names\(\)](#), [get\\_topic\\_name\(\)](#), [select\\_report\(\)](#), [select\\_subreport\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()

act <- ac |>
  as_acs_5yr_topic("Alaska Native Regional Corporation",
                  2021,
                  "X01 Age And Sex")

act <- act |>
  select_topic(topic = "X03 Hispanic Or Latino Origin")
```

---

 set\_metadata

*Set metadata layer*


---

**Description**

The metadata layer includes the names and description through various fields of the variables contained in the reports.

**Usage**

```
set_metadata(geo, metadata)

## S3 method for class 'acs_5yr_geo'
set_metadata(geo, metadata)
```

**Arguments**

geo            An acs\_5yr\_geo object.  
metadata      A tibble object.

**Details**

When we set the metadata layer, after filtering it, the data layer is also filtered keeping only the variables from the metadata layer.

**Value**

A sf object.

**See Also**

Other data exploitation and export functions: [as\\_GeoPackage\(\)](#), [as\\_acs\\_5yr\\_geo\(\)](#), [as\\_flat\\_table\(\)](#), [as\\_geomultistar\(\)](#), [as\\_star\\_database\(\)](#), [get\\_metadata\(\)](#)

**Examples**

```
act <- anrc_2021_x01 |>
  select_report(report = "B01002-Median Age By Sex")

geo <- act |>
  as_acs_5yr_geo()

metadata <- geo |>
  get_metadata()

metadata <- dplyr::filter(metadata, item2 == "Female")

geo2 <- geo |>
  set_metadata(metadata)
```

---

unzip\_files

*Unzip files*

---

**Description**

Unzip files that are not already unzipped in the object and, if everything went well and is indicated in the parameter, delete the unzipped files.

**Usage**

```
unzip_files(ac, subdir = NULL, delete_zip = FALSE)
```

**Arguments**

ac	An acs_5yr object.
subdir	NULL/'year'/'area', output subdir.
delete_zip	A boolean, delete zip files if correctly unzipped.

**Details**

In the `subdir` parameter, the values `NULL`, `'year'` or `'area'` can be indicated. With `NULL` it does not create any subdirs, with `'year'` it creates them by years of files and with `'area'` it creates them by areas.

**Value**

A vector of strings, name of the processed files.

**See Also**

Other data download functions: [acs\\_5yr\(\)](#), [download\\_selected\\_files\(\)](#), [get\\_area\\_file\\_names\(\)](#), [get\\_area\\_groups\(\)](#), [get\\_area\\_years\(\)](#), [get\\_areas\(\)](#), [get\\_selected\\_file\\_names\(\)](#), [get\\_too\\_heavy\\_file\\_names\(\)](#), [select\\_area\\_files\(\)](#)

**Examples**

```
dir <- tempdir()
source_dir <- system.file("extdata/acs_5yr", package = "geogenr")
files <- list.files(source_dir, "*.zip", full.names = TRUE)
file.copy(from = files, to = dir, overwrite = TRUE)
ac <- acs_5yr(dir)

files <- ac |>
  unzip_files()
```



# Index

## \* data download functions

- [acs\\_5yr](#), 2
- [download\\_selected\\_files](#), 10
- [get\\_area\\_file\\_names](#), 12
- [get\\_area\\_groups](#), 13
- [get\\_area\\_years](#), 13
- [get\\_areas](#), 11
- [get\\_selected\\_file\\_names](#), 23
- [get\\_too\\_heavy\\_file\\_names](#), 25
- [select\\_area\\_files](#), 27
- [unzip\\_files](#), 31

## \* data exploitation and export functions

- [as\\_acs\\_5yr\\_geo](#), 4
- [as\\_flat\\_table](#), 6
- [as\\_geomultistar](#), 7
- [as\\_GeoPackage](#), 8
- [as\\_star\\_database](#), 9
- [get\\_metadata](#), 20
- [set\\_metadata](#), 30

## \* data selection functions

- [as\\_acs\\_5yr\\_topic](#), 5
- [get\\_available\\_area\\_topics](#), 15
- [get\\_available\\_area\\_years](#), 16
- [get\\_available\\_areas](#), 14
- [get\\_geo\\_attribute\\_names](#), 18
- [get\\_geo\\_layer.acs\\_5yr\\_geo](#), 19
- [get\\_names\\_of\\_other\\_topics](#), 21
- [get\\_report\\_names](#), 22
- [get\\_subreport\\_names](#), 24
- [get\\_topic\\_name](#), 26
- [select\\_report](#), 28
- [select\\_subreport](#), 28
- [select\\_topic](#), 29

## \* datasets

- [acs\\_5yr\\_md](#), 3
- [anrc\\_2021\\_x01](#), 4

## \* information functions

- [get\\_code\\_from\\_area\\_name](#), 17
- [get\\_name\\_from\\_area\\_code](#), 21

## \* selection data

- [anrc\\_2021\\_x01](#), 4

- [acs\\_5yr](#), 2, 10–14, 23, 25, 27, 32
- [acs\\_5yr\\_md](#), 3
- [anrc\\_2021\\_x01](#), 4
- [as\\_acs\\_5yr\\_geo](#), 4, 7–9, 20, 31
- [as\\_acs\\_5yr\\_topic](#), 5, 15–19, 21, 23, 24, 26, 28–30
- [as\\_flat\\_table](#), 5, 6, 8, 9, 20, 31
- [as\\_geomultistar](#), 5, 7, 7, 8, 9, 20, 31
- [as\\_GeoPackage](#), 5, 7, 8, 8, 9, 20, 31
- [as\\_star\\_database](#), 5, 7, 8, 9, 20, 31

- [download\\_selected\\_files](#), 3, 10, 11–14, 23, 25, 27, 32

- [get\\_area\\_file\\_names](#), 3, 10, 11, 12, 13, 14, 23, 25, 27, 32

- [get\\_area\\_groups](#), 3, 10–12, 13, 14, 23, 25, 27, 32

- [get\\_area\\_years](#), 3, 10–13, 13, 23, 25, 27, 32

- [get\\_areas](#), 3, 10, 11, 12–14, 23, 25, 27, 32

- [get\\_available\\_area\\_topics](#), 6, 15, 15, 17–19, 21, 23, 24, 26, 28–30

- [get\\_available\\_area\\_years](#), 6, 15, 16, 16, 18, 19, 21, 23, 24, 26, 28–30

- [get\\_available\\_areas](#), 6, 14, 16–19, 21, 23, 24, 26, 28–30

- [get\\_code\\_from\\_area\\_name](#), 17, 22

- [get\\_geo\\_attribute\\_names](#), 6, 15–17, 18, 19, 21, 23, 24, 26, 28–30

- [get\\_geo\\_layer](#)
  - [\(get\\_geo\\_layer.acs\\_5yr\\_geo\)](#), 19

- [get\\_geo\\_layer.acs\\_5yr\\_geo](#), 6, 15–18, 19, 21, 23, 24, 26, 28–30

- [get\\_metadata](#), 5, 7–9, 20, 31

- [get\\_name\\_from\\_area\\_code](#), 18, 21

- [get\\_names\\_of\\_other\\_topics](#), 6, 15–19, 21, 23, 24, 26, 28–30

`get_report_names`, 6, 15–19, 21, 22, 24, 26, 28–30  
`get_selected_file_names`, 3, 10–14, 23, 25, 27, 32  
`get_subreport_names`, 6, 15–19, 21, 23, 24, 26, 28–30  
`get_too_heavy_file_names`, 3, 10–14, 23, 25, 27, 32  
`get_topic_name`, 6, 15–19, 21, 23, 24, 26, 28–30  
  
`select_area_files`, 3, 10–14, 23, 25, 27, 32  
`select_report`, 6, 15–19, 21, 23, 24, 26, 28, 29, 30  
`select_subreport`, 6, 15–19, 21, 23, 24, 26, 28, 28, 30  
`select_topic`, 6, 15–19, 21, 23, 24, 26, 28, 29, 29  
`set_metadata`, 5, 7–9, 20, 30  
  
`unzip_files`, 3, 10–14, 23, 25, 27, 31