# Package 'gchartsmap'

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**Type** Package

**Title** Access 'Google Charts' Map Data

**Version** 1.0.1

**Description** Connects to the 'Google Charts' geographic data resources described in <https://developers.google.com/chart/interactive/docs/gallery/geochart>, allowing the user to download contents to use as a reference for related services like 'Google Trends'.

**License** GPL-3

**URL** https://github.com/odeleongt/gchartsmap

**Imports** httr, jsonlite, sf, tigris

**Encoding** UTF-8

**RoxygenNote** 7.3.2

**Depends** R (>= 4.2.0)

**Suggests** testthat (>= 3.0.0)

**Config/testthat/edition** 3

**BugReports** https://github.com/odeleongt/gchartsmap/issues

**NeedsCompilation** no

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**Repository** CRAN

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## Contents

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`gchart_available_areas` *Get available areas*

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## Description

Get a list of areas that have been downloaded

## Usage

```
gchart_available_areas(
  type = c("countries", "us-areas"),
  cache = gchart_get_cache_path()
)
```

## Arguments

| | |
|---|---|
| `type` | Type of geo-resource. Defaults to countries. |
| `cache` | Path where the downloaded data is stored. |

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`gchart_cache_dir` *Verify cache directory*

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## Description

Ensure that the cache directory exists

## Usage

```
gchart_cache_dir(
  path = tools::R_user_dir(package = "gchartsmap", which = "cache")
)
```

## Arguments

| | |
|---|---|
| `path` | Path to verify |

## gchart_countries *Extracts the list of available countries from the Google Charts documentation*

### Description

Extracts the list of available countries from the Google Charts documentation

### Usage

```
gchart_countries(
  server = "https://developers.google.com/chart/interactive/docs/gallery/geochart",
  cache = gchart_get_cache_path(),
  format = c("rds", "rda"),
  update = FALSE,
  verbose = TRUE
)
```

### Arguments

| | |
|---|---|
| server | Location for the relevant Google Charts documentation. Use the default. |
| cache | Path to store downloaded data. |
| format | Which format to use for storing the countries table. |
| update | Whether to update the table even if it is cached. |
| verbose | Whether to show messages during processing. |

### Details

Extracts the information of countries available in the Google Charts geochart service from the online documentation

### Value

A `data.frame` with information for all countries available in the service.

## gchart_generate_countries *Generate Google Charts spatial data for all countries*

### Description

This function queries 'Google Charts' resources to identify countries for which geographical data is available, and generates the simple features for local use.

## Usage

```
gchart_generate_countries(
  countries = "all",
  server = "https://www.gstatic.com/charts/geochart/10/mapfiles/",
  cache = gchart_get_cache_path(),
  verbose = TRUE
)
```

## Arguments

| | |
|---|---|
| countries | Which countries to process. Defaults to "all". Use country codes from gchartsmap::gchart_countries |
| server | Google geochart server to access. |
| cache | Path to store downloaded data. |
| verbose | Whether to show messages during processing. |

## Value

Returns a simple features ‘data.frame‘ with class ‘sf‘, representing the spatial data for all countries from the Google Charts servers, using the WGS84 (epsg = 4326) coordinate reference system. You need to first run ‘gchart_set_cache()‘ so the package knows where to store the downloaded data.

## Examples

```
library(package = "gchartsmap")

# set the cache path to your system's cache path
gchartsmap::gchart_set_cache(path = tempdir())

# GET and process all countries
gchartsmap::gchart_generate_countries(countries = "GT")

# clean up
list.files(
  tempdir(), all.files = TRUE, full.names = TRUE, recursive = TRUE
)
```

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# gchart_generate_us_areas

*Generate Google Charts spatial data for US areas*

---

## Description

This function queries 'Google Charts' resources to identify the US geographic areas used in services like Google Trends, and uses geographic data from the US Census Bureau to provide those areas with subdivisions at the county level.

### Usage

```
gchart_generate_us_areas(areas = 1:1000L, limit = 1000)
```

### Arguments

| | |
|---|---|
| areas | Area codes to get. Should be integers. |
| limit | Maximum number of areas to look for. |

### Value

Returns a simple features 'data.frame' with class 'sf', representing the spatial data for all areas with a valid id between 1 and a 1000 from the Google Charts servers, using the WGS84 (epsg = 4326) coordinate reference system. You need to first run 'gchart_set_cache()' so the package knows where to store the downloaded data.

### Examples

```
library(package = "gchartsmap")

# set the cache path to your system's cache path
gchartsmap::gchart_set_cache(path = tempdir())

# GET and process area 500
gchartsmap::gchart_generate_us_areas(500L)

# clean up
list.files(
  tempdir(), all.files = TRUE, full.names = TRUE, recursive = TRUE
)
```

---

## gchart_get_cache_path *Get the cache path*

---

### Description

Get the saved cache path

### Usage

```
gchart_get_cache_path(path = NULL)
```

### Arguments

| | |
|---|---|
| path | Path to use as cache |

## Value

Returns the path to the local cache as set in the 'R_GOOGLE_CHART_CACHE' environment variable. If that is not set, gets the system's default cache path for the package as provided by 'tools::R_user_dir()'.

## Examples

```
library(package = "gchartsmap")

# set the cache path to a temp folder
gchartsmap::gchart_set_cache(path = tempdir())

# check the set cache
gchartsmap::gchart_get_cache_path()
```

---

# gchart_get_countries *Get Google Charts data for countries*

---

## Description

Access the Google Charts geochart data for countries

## Usage

```
gchart_get_countries(
  countries = "all",
  server = "https://www.gstatic.com/charts/geochart/10/mapfiles/",
  cache = gchart_get_cache_path(),
  verbose = FALSE
)
```

## Arguments

| | |
|---|---|
| countries | Country codes to get. |
| server | Google geochart server to access. |
| cache | Path to store downloaded data. |
| verbose | Whether to show messages during processing. |

## Details

The function invisibly returns the file path for successful requests or the response status code for failed requests, in a character vector with the country code for each element.

## gchart_get_us_areas *Get Google Charts data for US areas*

### Description

Access the Google Charts geochart data for US areas

### Usage

```
gchart_get_us_areas(
  areas,
  server = "https://www.gstatic.com/charts/geochart/10/mapfiles/",
  cache = gchart_get_cache_path(),
  limit = 1000
)
```

### Arguments

| | |
|---|---|
| areas | Area codes to get. Should be integers. |
| server | Google geochart server to access. |
| cache | Path to store downloaded data. |
| limit | Maximum number of areas to look for |

### Details

The function invisibly returns the file path for successful requests or the response status code for failed requests, in a character vector with the area name for each element.

## gchart_process_areas *Process Google Charts data for US areas*

### Description

Process the downloaded Google Charts geochart data for US areas

### Usage

```
gchart_process_areas(
  areas,
  type = c("countries", "us-areas"),
  cache = gchart_get_cache_path()
)
```

### Arguments

| | |
|---|---|
| areas | Area codes to get. Should be integers. If not provided, all available areas are processed. |
| type | Type of geo-resource. Defaults to countries. |
| cache | Path where the downloaded data is stored. |

### Details

Google Charts data is served as JavaScript code that defines objects with the desired data. This function processes the locally-available Google Charts js files to generate spatial objects.

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## gchart_set_cache *Set up a cache directory*

---

### Description

Ensures that the directory exists and sets the environment variable for access.

### Usage

```
gchart_set_cache(
  path = tools::R_user_dir(package = "gchartsmap", which = "cache"),
  install = FALSE,
  overwrite = FALSE,
  home = "HOME"
)
```

### Arguments

| | |
|---|---|
| path | Path to use for the package cache. |
| install | if TRUE, will install the cache path in your .Renviron file for use in future sessions. Defaults to FALSE. |
| overwrite | If this is set to TRUE, it will overwrite an existing cache path that you already have in your .Renviron file. |
| home | Path for the .Renviron file. Defaults to "HOME". |

### Value

Sets and returns the path to the cache where downloaded data will be stored. Is used for the side effect of setting the 'R_GOOGLE_CHART_CACHE' environment variable, and can store the path in '.Renviron' for use in future R sessions if requested.

## Examples

```
library(package = "gchartsmap")

# set the cache path to a temp folder
gchartsmap::gchart_set_cache(path = tempdir())


# save the cache path in a temporary folder
# if you want to save the cache path in your default .Renviron,
# use the default for path
gchartsmap::gchart_set_cache(
  install = TRUE, path = tempdir(), overwrite = TRUE, home = tempdir()
)

# clean up
list.files(
  tempdir(), all.files = TRUE, full.names = TRUE, pattern = ".Renv"
) |>
 unlink()
```

# Index