

Package ‘jpgrid’

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Type Package

Title Functions for the Grid Square Codes in Japan

Version 0.2.0

Description Provides functions for grid square codes in Japan
(<https://www.stat.go.jp/english/data/mesh/index.html>).
Generates the grid square codes from longitude/latitude, geometries, and
the grid square codes of different scales, and vice versa.

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URL <https://github.com/UchidaMizuki/jpgrid>

BugReports <https://github.com/UchidaMizuki/jpgrid/issues>

Depends R (>= 2.10)

Imports dplyr (>= 0.8.0), geosphere, magrittr, purrr (>= 0.3.0), rlang
(>= 0.3.0), stars, sf, stringr (>= 1.4.0), tibble, tidyr (>=
1.0.0), units, utils, vctrs

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Encoding UTF-8

LazyData true

RoxygenNote 7.1.2

NeedsCompilation no

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bbox_to_grid	<i>Converting bbox to grid square codes</i>
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Description

Converting bbox to grid square codes

Usage

`bbox_to_grid(bbox, size)`

Arguments

bbox	A bbox.
size	A grid size.

Value

A grid vector.

geometry_to_grid	<i>Converting sfc geometries to grid square codes</i>
------------------	---

Description

Converting sfc geometries to grid square codes

Usage

`geometry_to_grid(geometry, size, ...)`

Arguments

geometry	A sfc vector.
size	A grid size.
...	Passed on to <code>stars::st_rasterize()</code> .

Value

A list of grid vectors.

grid_as_sf	<i>Converting data frame containing grid square codes to sf</i>
------------	---

Description

Converting data frame containing grid square codes to sf

Usage

```
grid_as_sf(
  x,
  as_points = FALSE,
  crs = sf::NA_crs_,
  grid_column_name = NULL,
  ...
)
```

Arguments

x	A data frame.
as_points	Return the center points of the grids or not?
crs	Coordinate reference system.
grid_column_name	A scalar character.
...	passed on to <code>sf::st_as_sf()</code> .

Value

A sf object.

grid_as_stars	<i>Converting data frame containing regional grids to stars</i>
---------------	---

Description

Converting data frame containing regional grids to stars

Usage

```
grid_as_stars(
  x,
  coords = NULL,
  crs = sf::NA_crs_,
  grid_column_name = NULL,
  ...
)
```

Arguments

x	A data frame.
coords	The column names or indices that form the cube dimensions.
crs	Coordinate reference system.
grid_column_name	A scalar character.
...	Passed on to stars::st_as_stars() .

Value

A stars object.

grid_city2015	<i>List of grid square codes by Japanese municipalities in 2015</i>
---------------	---

Description

List of grid square codes by Japanese municipalities in 2015

Usage

```
grid_city2015
```

Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 461373 rows and 4 columns.

Source

https://www.stat.go.jp/data/mesh/m_itiran.html

grid_class	<i>Grid square code vector</i>
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Description

A series of functions return grid class for each grid size. grid_auto returns automatically determine grid size by the largest grid size.

Usage

```
grid_80km(x, strict = TRUE)
```

```
grid_10km(x, strict = TRUE)
```

```
grid_1km(x, strict = TRUE)
```

```
grid_500m(x, strict = TRUE)
```

```
grid_250m(x, strict = TRUE)
```

```
grid_125m(x, strict = TRUE)
```

```
grid_100m(x, strict = TRUE)
```

```
grid_auto(x, strict = TRUE)
```

```
is_grid(x)
```

Arguments

x A list or vector.

strict A logical scalar. Should the number of digits in the grid square code match a given number of digits?

Value

A grid vector.

Examples

```
grid_80km("53394526313")
```

```
grid_80km("53394526313", strict = FALSE)
```

```
grid_auto(c("53394526313", "5339358633", "533945764"))
```

```
grid_auto(c("53394526313", "5339358633", "533945764"), strict = FALSE)
```

grid_distance	<i>Distance between grid square codes</i>
---------------	---

Description

If grid and grid_to are both vectors, the distance between grid and grid_to is calculated. If grid is a list, The path distance of each element is calculated.

Usage

```
grid_distance(grid, grid_to, close = FALSE, type = "keep_na")
```

Arguments

grid	A grid vector or a list of grid vector.
grid_to	A grid vector.
close	Should the path of each element be closed when grid is a list?
type	How is the NA grid treated when grid is a list? "skip_na" skips the NA grid and connects the paths. "keep_na" by default.

Value

A double vector.

grid_line	<i>Draw line segments between grid square codes</i>
-----------	---

Description

If grid and grid_to are both vectors, the line between grid and grid_to is drawn (using Bresenham's line algorithm). If grid is a list, The path lines for each element in the grid will be drawn.

Usage

```
grid_line(grid, grid_to, close = FALSE, skip_na = FALSE)
```

Arguments

grid	A grid vector or a list of grid vector.
grid_to	A grid vector.
close	Should the path of each element be closed when grid is a list?
skip_na	Should skip the NA grid and connects the paths? FALSE by default.

Value

A list of grid vectors.

grid_move	<i>Moving on grid square codes</i>
-----------	------------------------------------

Description

Moving on grid square codes

Usage

```
grid_move(grid, n_X, n_Y)
```

Arguments

grid	A grid vector.
n_X	Number of moving cells in the longitude direction.
n_Y	Number of moving cells in the latitude direction.

Value

A grid vector.

grid_neighbor	<i>Neighborhood grid square codes</i>
---------------	---------------------------------------

Description

Neighborhood grid square codes

Usage

```
grid_neighbor(grid, n = 1L, moore = TRUE, simplify = TRUE)
```

Arguments

grid	A grid vector.
n	A numeric vector of degrees.
moore	Moore neighborhood (TRUE) or Von Neumann neighborhood (FALSE).
simplify	Should simplify the format of the return?

Value

A list of grid vectors.

grid_rectangle	<i>Convert grid square codes into rectangular codes</i>
----------------	---

Description

Convert grid square codes into rectangular codes

Usage

```
grid_rectangle(grid)
```

Arguments

grid	A grid vector.
------	----------------

Value

A grid vector.

grid_subdivide	<i>Subdivide grid square codes</i>
----------------	------------------------------------

Description

grid_subdivide() makes the grid square codes finer.

Usage

```
grid_subdivide(grid, size)
```

Arguments

grid	A grid vector.
size	A grid size.

Value

A list of grid vector.

 jpgrid

Functions for the Grid Square Codes in Japan

Description

Provides functions for grid square codes in Japan (<<https://www.stat.go.jp/english/data/mesh/index.html>>). Generates the grid square codes from longitude/latitude, geometries, and the grid square codes of different scales, and vice versa.

Author(s)

Maintainer: Mizuki Uchida <uchidamizuki@vivaldi.net>

See Also

<https://www.stat.go.jp/english/data/mesh/index.html>

 XY

Conversion between grid square codes and coordinates (longitude and latitude)

Description

Conversion between grid square codes and coordinates (longitude and latitude)

Usage

```
XY_to_grid(X, Y, size)
```

```
grid_to_XY(grid, center = TRUE)
```

Arguments

X	A numeric vector of longitude.
Y	A numeric vector of latitude.
size	A grid size.
grid	A grid class vector.
center	Should the center point of the grid be returned? Otherwise the end points will be returned. TRUE by default.

Value

XY_to_grid returns a grid vector.

grid_to_XY returns a tbl_df.

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