Package 'jpgrid'

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Type Package

Title Functions for the Grid Square Codes in Japan

Version 0.2.1

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, https://uchidamizuki.github.io/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, stickyr (>= 0.1.1), lifecycle, pillar, tidyselect

Suggests testthat (>= 3.0.0)

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R topics documented:

`as_tbl_grid` *Convert a data frame into a tbl_grid object*

Description

The `tbl_grid` object is a data frame with `grid` objects in the columns. `as_tbl_grid` converts a data frame into a tbl_grid object.

Usage

```
as_tbl_grid(x, var = NULL, size = NULL, strict = TRUE, ...)
```

Arguments

`x`	An object to be converted into an object class `tbl_grid`.
`var`	A variable to specify the grid object. By default, the first column of the grid object is taken.
`size`	A grid size.
`strict`	A logical scalar. Should the number of digits in the grid square code match a given number of digits?
`...`	Additional arguments passed to `stickyr::new_sticky_tibble()`

Value

A `tbl_grid` object.

bbox_to_grid *Converting bbox to grid square codes*

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 *Converting sfc geometries to grid square codes*

Description

Converting sfc geometries to grid square codes

Usage

```
geometry_to_grid(geometry, size, options = "ALL_TOUCHED=TRUE", ...)
```

Arguments

geometry	A sfc vector.
size	A grid size.
options	Options vector for GDALRasterize passed on to stars::st_rasterize().
...	Passed on to stars::st_rasterize().

Value

A list of grid vectors.

grid_as_sf *Converting data frame containing grid square codes to sf*

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 or a grid.
as_points	Return the center points of the grids or not?
crs	Coordinate reference system.
grid_column_name	A scalar character.
...	passed on to sf::st_as_sf().

Value

A sf object.

grid_as_stars *Converting data frame containing regional grids to stars*

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 or a grid.
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.

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grid_bbox *Convert grid square codes into bounding codes*

Description

Convert grid square codes into bounding codes

Usage

```
grid_bbox(grid)
```

Arguments

grid	A grid vector.

Value

A grid vector.

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grid_circle *Circular grid square codes*

Description

Circular grid square codes

Usage

```
grid_circle(X, Y, dist, size, crs = 4326, ...)
```

Arguments

X	A numeric vector of longitude.
Y	A numeric vector of latitude.
dist	A numeric vector of distances passed on to sf::st_buffer().
size	A grid size.
crs	Coordinate reference system.
...	Passed on to geometry_to_grid().

Value

A list of grid vector.

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grid_city2015 *List of grid square codes by Japanese municipalities in 2015*

Description

List of grid square codes by Japanese municipalities in 2015

Usage

```
grid_city2015
```

Format

An object of class tbl_grid (inherits from sticky_tbl_df, tbl_df, tbl, data.frame) with 462915 rows and 6 columns.

Source

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

grid_class *Grid square code vector*

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 *Distance between grid square codes*

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 *Draw line segments between grid square codes*

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 *Moving on grid square codes*

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 *Neighborhood grid square codes*

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_subdivide *Subdivide grid square codes*

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

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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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