Package 'jpgrid'

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Type Package

Title Functions for the Grid Square Codes in Japan

Version 0.4.0

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, https://uchidamizuki.github.io/jpgrid/

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

Depends R (>= 4.1.0)

Imports dplyr (>= 0.8.0), purrr (>= 1.0.0), rlang (>= 0.3.0), stars, sf, stringr (>= 1.4.0), tibble, tidyr (>= 1.3.0), units, vctrs, lifecycle, pillar, cli, tidygraph

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

Encoding UTF-8

LazyData true

RoxygenNote 7.3.1

NeedsCompilation no

Author Mizuki Uchida [aut, cre]

Maintainer Mizuki Uchida <uchidamizuki@vivaldi.net>

Repository CRAN

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Contents

`bbox_to_grid` *Converting bbox to grid square codes*

Description

Converting bbox to grid square codes

Usage

```
bbox_to_grid(bbox, grid_size)
```

Arguments

`bbox`	A `bbox`.
`grid_size`	A grid size.

Value

A `grid` vector.

coords — *Conversion between grid square codes and coordinates (longitude and latitude)*

Description

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

Usage

```
coords_to_grid(X, Y, grid_size)

grid_to_coords(grid, center = TRUE)
```

Arguments

X	A numeric vector of longitude.
Y	A numeric vector of latitude.
grid_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

coords_to_grid() returns a grid vector.

grid_to_coords() returns a tbl_df.

geometry_to_grid — *Converting sfc geometries to grid square codes*

Description

Converting sfc geometries to grid square codes

Usage

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

Arguments

geometry	A sfc vector.
grid_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.

---

grid_city_2020 *List of grid square codes by Japanese municipalities*

Description

List of grid square codes by Japanese municipalities

Usage

```
grid_city_2020
```

Format

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

Source

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

grid_components *Connected components of grid square codes*

Description

Connected components of grid square codes

Usage

```
grid_components(grid, n = 0:1, type = NULL)
```

Arguments

grid	A grid vector.
n	A numeric vector of degrees. By default, 0:1.
type	A character vector of neighborhood types, "von_neumann" or "moore". By default, "von_neumann". (FALSE, default).

Value

A integer vector of group IDs.

grid_convert *Convert the grid size of grid objects*

Description

Convert the grid size of grid objects

Usage

```
grid_convert(grid, grid_size)
```

Arguments

grid	A grid vector.
grid_size	A grid size.

Value

A grid vector.

Examples

```
grid_500m <- parse_grid(c("533945263", "533935863", "533945764"), "500m")
grid_convert(grid_500m, "10km")
```

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 = NULL,
  close = FALSE,
  type = c("keep_na", "ignore_na", "skip_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 = NULL, 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 (Deprecated)*

Description

[Deprecated]

Usage

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

Arguments

grid	A grid vector.
n	A numeric vector of degrees. By default, 1L.
moore	Moore neighborhood (TRUE, default) or Von Neumann neighborhood (FALSE).
simplify	Should simplify the format of the return?

Value

A list of grid vectors.

---

grid_neighborhood *Neighborhood grid square codes*

Description

Neighborhood grid square codes

Usage

```
grid_neighborhood(grid, n = 1L, type = NULL, simplify = TRUE)
```

Arguments

grid	A grid vector.
n	A numeric vector of degrees. By default, 1L.
type	A character vector of neighborhood types, "von_neumann" or "moore". By default, "von_neumann".
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, grid_size)
```

Arguments

`grid`	A `grid` vector.
`grid_size`	A grid size.

Value

A list of `grid` vector.

is_grid *Test if the object is a grid*

Description

Test if the object is a grid

Usage

```
is_grid(x, grid_size = NULL)
```

Arguments

`x`	An object.
`grid_size`	A grid size.

Value

`TRUE` if the object inherits from the `grid` class.

jpgrid *Functions for the Grid Square Codes in Japan*

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Author(s)

Maintainer: Mizuki Uchida <uchidamizuki@vivaldi.net>

See Also

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

parse_grid *Parse grid square codes*

Description

Parse grid square codes

Usage

```
parse_grid(x, grid_size = NULL, strict = TRUE)
```

Arguments

x	A character vector of grid square codes.
grid_size	A grid size.
strict	A scalar logical. Should the number of digits in the grid square code match a given number of digits? By default, TRUE.

Examples

```
parse_grid("53394526313")
parse_grid("53394526313", "80km")
parse_grid("53394526313", "80km",
           strict = FALSE)
```

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