Package 'jpgrid'

May 26, 2024

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

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Repository CRAN

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R topics documented:

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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`.

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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.

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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

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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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