Package 'jpmesh'

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Type Package

Title Utilities for Japanese Mesh Code

Version 2.1.0

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Description Helpful functions for using mesh code (80km to 100m) data in Japan. Visualize mesh code using 'ggplot2' and 'leaflet', etc.

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URL https://uribo.github.io/jpmesh/

BugReports https://github.com/uribo/jpmesh/issues/

Depends R (>= 3.1)

Imports leaflet (>= 1.1.0), memoise (>= 1.1.0), miniUI (>= 0.1.1), purrr (>= 0.2.4), rlang (>= 0.1.4), sf (>= 0.5-5), shiny (>= 1.0.5), tibble (>= 3.0.0), units (>= 0.5-1), magrittr (>= 1.5), vctrs (>= 0.3.4)

Suggests knitr (>= 1.20), lintr (>= 2.0.1), lwgeom (>= 0.1-4), testthat (>= 2.1.0), rmarkdown (>= 1.10), vdiffr (>= 0.3.1)

VignetteBuilder knitr

LazyData true

Encoding UTF-8

RoxygenNote 7.1.2

NeedsCompilation no

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Repository CRAN

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R topics documented:

`administration_mesh` *Extract administration mesh code*

Description

Extract administration mesh code

Usage

```
administration_mesh(code, to_mesh_size)
```

Arguments

`code`	administration code
`to_mesh_size`	target mesh size. That is, 1 for 1km, and 0.5 for 500m. From 80km to 0.100km.

Examples

```
## Not run:
administration_mesh(code = "35201", to_mesh_size = 1)
administration_mesh(code = "08220", to_mesh_size = 80)
administration_mesh(code = c("08220", "08221"), to_mesh_size = 10)
administration_mesh(code = "35", to_mesh_size = 80)
administration_mesh(code = c("33", "34"), to_mesh_size = 80)

## End(Not run)
```

coarse_gather *Gather more coarse mesh*

Description

Return coarse gather mesh codes

Usage

```
coarse_gather(meshcode, distinct = FALSE)
```

Arguments

meshcode	character. mesh code
distinct	return unique meshcodes

Value

meshcode

Examples

```
m <- c("493214294", "493214392", "493215203", "493215301")
coarse_gather(m)
coarse_gather(coarse_gather(m))
coarse_gather(coarse_gather(m), distinct = TRUE)
```

coords_to_mesh *Convert from coordinate to mesh code*

Description

From coordinate to mesh codes.

Usage

```
coords_to_mesh(longitude, latitude, to_mesh_size = 1, geometry = NULL, ...)
```

Arguments

longitude	longitude that approximately to .120.0 to 154.0 (double)
latitude	latitude that approximately to 20.0 to 46.0 (double)
to_mesh_size	target mesh size. That is, 1 for 1km, and 0.5 for 500m. From 80km to 0.100km.
geometry	XY sfg object
...	other parameters

Value

mesh code (default 3rd meshcode aka 1km mesh)

References

Akio Takenaka: http://takenaka-akio.org/etc/j_map/index.html # nolint

See Also

mesh_to_coords() for convert from meshcode to coordinates

Examples

```
coords_to_mesh(141.3468, 43.06462, to_mesh_size = 1)
coords_to_mesh(139.6917, 35.68949, to_mesh_size = 0.250)
coords_to_mesh(139.71475, 35.70078)
coords_to_mesh(139.71475, 35.70078, to_mesh_size = 0.1)
coords_to_mesh(c(141.3468, 139.71475),
               c(43.06462, 35.70078),
               mesh_size = c(1, 10))
# Using sf (point as sfg object)
library(sf)
coords_to_mesh(geometry = st_point(c(139.71475, 35.70078)))
coords_to_mesh(geometry = st_point(c(130.4412895, 30.2984335)))
```

---

cut_off *Cutoff mesh of outside the area*

Description

Cutoff mesh of outside the area

Usage

```
cut_off(meshcode)
```

Arguments

meshcode	character. mesh code

eval_jp_boundary *Check include mesh areas*

Description

It roughly judges whether the given coordinates are within the mesh area.

Usage

```
eval_jp_boundary(longitude = NULL, latitude = NULL, ...)
```

Arguments

longitude	longitude that approximately to .120.0 to 154.0 (double)
latitude	latitude that approximately to 20.0 to 46.0 (double)
...	other parameters

Examples

```
eval_jp_boundary(139.71471056, 35.70128943)
```

export_mesh *Export meshcode to geometry*

Description

Convert and export meshcode area to sfc_POLYGON and sf.

Usage

```
export_mesh(meshcode)

export_meshes(meshcode, .keep_class = FALSE)
```

Arguments

meshcode	character. mesh code
.keep_class	Do you want to assign a class to the meshcode column in data.frame? If FALSE, it will be treated as a character type.

Value

sfc object

sf object

Examples

```
export_mesh("6441427712")
export_meshes("4128")
find_neighbor_mesh("37250395") %>%
  export_meshes()
```

`fine_separate` *Separate more fine mesh order*

Description

Return contains fine mesh codes

Usage

```
fine_separate(meshcode = NULL, .type = "standard", ...)
```

Arguments

`meshcode`	`character`. mesh code
`.type`	Specify the `subdivision` if you want to get a 100m mesh.
`...`	other parameters for paste

Value

meshcode

Examples

```
fine_separate("5235")
fine_separate("523504")
fine_separate("52350432")
fine_separate("523504321")
fine_separate("5235043211")
# to 100m mesh code
fine_separate("64414315", .type = "subdivision")
```

is_mesh *Predict meshcode format and positions*

Description

Predict meshcode format and positions for utility and certain.

Usage

```
is_meshcode(meshcode)

is_corner(meshcode)
```

Arguments

meshcode	character. mesh code

jpnrect *Simple displaed as rectangel for Japan (fortified)*

Description

Rectangle Japanese prefectures positions.

Usage

```
jpnrect
```

Format

A data frame with 235 rows 11 variables:

- long
- lat
- order
- hole
- piece
- id
- group
- mesh_code
- latitude
- longitude
- abb_name

Examples

```
## Not run:
plot(jpnrect["abb_name"])

## End(Not run)
```

`meshcode_set` *Export meshcode vectors ranges 80km to 1km.*

Description

Unique 176 meshcodes. The output code may contain values not found in the actual mesh code.

Usage

```
meshcode_set(mesh_size = c(80, 10, 1), .raw = TRUE)
```

Arguments

`mesh_size`	Export mesh size from 80km to 1km.
`.raw`	return as character.

Value

character or meshcode

Examples

```
meshcode_set(mesh_size = 80)
meshcode_set(mesh_size = 80, .raw = FALSE)
```

`meshcode_sf` *Conversion to sf objects containing meshcode*

Description

Convert and export meshcode area to `sf`.

Usage

```
meshcode_sf(data, mesh_var, .type, .keep_class = FALSE)
```

Arguments

data	data.frame
mesh_var	unquoted expressions for meshcode variable.
.type	Specify the subdivision if you want to get a 100m mesh.
.keep_class	Do you want to assign a class to the meshcode column in data.frame? If FALSE, it will be treated as a character type.

Value

sf object

Examples

```
d <- data.frame(id = seq.int(4),
            meshcode = rmesh(4),
            stringsAsFactors = FALSE)
meshcode_sf(d, meshcode)
```

---

meshcode_vector *Vector of meshcode*

Description

Vector of meshcode

Usage

```
meshcode_vector(x = character(), size = double(), .type = "standard")

meshcode(x, .type = "standard")

as_meshcode(x, ...)

## S3 method for class 'meshcode'
format(x, ...)

## S3 method for class 'subdiv_meshcode'
format(x, ...)
```

Arguments

x	input meshcode value
size	input meshcode size. Default set to NULL. The decision is automatically made based on the meshsize.
.type	Specify the subdivision if you want to get a 100m mesh.
...	path to another function

Value

meshcode

Examples

```
meshcode("6441")
meshcode(c("6441", "6442"))
meshcode(c("6441", "644143"))
meshcode("6441431552", .type = "subdivision")
```

`mesh_convert` *Mesh unit converter*

Description

Return different meshcode values included in the mesh.

Usage

```
mesh_convert(meshcode = NULL, to_mesh_size = NULL)
```

Arguments

`meshcode`	`character`. mesh code
`to_mesh_size`	target mesh size. That is, 1 for 1km, and 0.5 for 500m. From 80km to 0.100km.

Details

If `NULL` for to_mesh_size, the meshcode of one small scale will be returned. If it is the same as the original size, the meshcode of the input will be return.

Value

meshcode

Examples

```
mesh_convert(meshcode = "52350432", to_mesh_size = 80)
mesh_convert("52350432", 10)
# Scale down
mesh_convert("52350432", 0.500)
mesh_convert("52350432", 0.250)
mesh_convert(meshcode = "52350432", 0.125)
mesh_convert("523504323", 0.250)
mesh_convert("5235043213", 0.125)
mesh_convert(64414315, 0.1)
# Not changes
mesh_convert("52350432", 1)
mesh_convert("52350432131", 0.125)
```

mesh_size *Identifier to mesh size*

Description

Returns a unit object of mesh size for the given number.

Usage

```
mesh_size(meshcode, .type = "standard")
```

Arguments

meshcode	character. mesh code
.type	Specify the subdivision if you want to get a 100m mesh.

Examples

```
mesh_size("6740")
```

mesh_to_coords *Get from mesh code to latitude and longitude*

Description

mesh centroid

Usage

```
mesh_to_coords(meshcode, ...)
```

Arguments

meshcode	character. mesh code
...	other parameters

References

Akio Takenaka: http://takenaka-akio.org/etc/j_map/index.html # nolint

See Also

coords_to_mesh() for convert from coordinates to meshcode.

Examples

```
mesh_to_coords("64414277")
mesh_to_coords(c("64414277", "64414278"))
```

mesh_viewer *interactive meshcode check*

Description

Shiny gadgets for jpmesh.

Usage

```
mesh_viewer(...)
```

Arguments

...	other parameters

Examples

```
## Not run:
mesh_viewer()

## End(Not run)
```

neighbor_mesh *Find out neighborhood meshes collection*

Description

input should use meshcode under the 1km mesh size.

Usage

```
neighbor_mesh(meshcode, contains = TRUE)

find_neighbor_mesh(meshcode = NULL, contains = TRUE)
```

Arguments

meshcode	character. mesh code
contains	logical. contains input meshcode (default TRUE)

Value

meshcode

Examples

```
neighbor_mesh(53394501)
neighbor_mesh(533945011)
neighbor_mesh(533945011, contains = FALSE)
```

rmesh *Generate random sample meshcode*

Description

Generate random sample meshcode

Usage

```
rmesh(n, mesh_size = 1)
```

Arguments

n	Number of samples
mesh_size	Export mesh size from 80km to 1km.

Value

meshcode

Examples

```
rmesh(3, mesh_size = 1)
```

sf_jpmesh *1:200,000 Scale Maps Name with Meshcode of Japan.*

Description

Information for the 1:200,000 Scale Maps.

Usage

```
sf_jpmesh
```

Format

A data frame with 175 rows 9 variables:

- meshcode: 80km meshcode
- name: names for map
- name_roman: names for map (roman)
- lng_center: centroid coordiates of mesh
- lat_center: centroid coordiates of mesh
- lng_error: mesh area
- lat_error: mesh area
- type: evalueate value to mesh

Examples

```
## Not run:
plot(sf_jpmesh["name_roman"])

## End(Not run)
```

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