Package 'jpmesh'

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Type Package

Title Utilities for Japanese Mesh Code

Version 2.0.1

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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 7.1.1

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 type. From 80km to 0.100km. If `NULL`, 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.

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, 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)
mesh_size	Gives the unit in km for target mesh type. That is, 1 for 1km, and 0.5 for 500m. From 80km to 125m. Default is 1.
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, mesh_size = 1)
coords_to_mesh(139.6917, 35.68949, mesh_size = 0.250)
coords_to_mesh(139.71475, 35.70078)
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.

Usage

```
export_mesh(meshcode)
```

Arguments

meshcode	character. mesh code

Value

sfc object

Examples

```
export_mesh("6441427712")
```

export_meshes *Export meshcode to geometry*

Description

Convert and export meshcode area to sf.

Usage

```
export_meshes(meshcode)

meshcode_sf(data, mesh_var)
```

Arguments

meshcode	character. mesh code
data	data.frame
mesh_var	unquoted expressions for meshcode variable.

Examples

```
export_meshes("4128")
find_neighbor_mesh("37250395") %>%
  export_meshes()
d <- data.frame(id = seq.int(4),
            meshcode = rmesh(4),
            stringsAsFactors = FALSE)
meshcode_sf(d, meshcode)
```

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_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 type. From 80km to 0.100km. If NULL, 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 *Identifer 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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