

Package: jpmmap (via r-universe)

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Title Japan Maps with Insets for Okinawa and Ogasawara

Version 0.1.3

URL <https://yhoriiuchi.github.io/jpmmap/>,
<https://github.com/yhoriiuchi/jpmmap>

BugReports <https://github.com/yhoriiuchi/jpmmap/issues>

Description Provides tools for drawing maps of Japan with prefecture and municipal boundaries. The plotting workflow mirrors the 'usmap' package and includes a transform that moves Okinawa and Ogasawara into visible inset locations. Boundary helpers build local 'GeoPackage' files from Japan's official MLIT N03 administrative area data
<<https://nlftp.mlit.go.jp/ksj/gml/datalist/KsjTmplt-N03-2024.html>>.

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Depends R (>= 4.1.0)

LazyData true

Imports ggplot2, rlang, sf

Suggests dplyr, ggthemes, knitr, leaflet, pkgdown, rmarkdown, testthat (>= 3.0.0), tibble, tidyverse

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Config/Needs/website pkgdown, knitr, rmarkdown, ggplot2, sf, leaflet, dplyr, ggthemes, tibble, tidyverse

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jp_disputed_territories
<i>Retrieve Disputed-Territory Island And Reef Shapes</i>

Description

Returns cartographic island/reef shapes for disputed territories or disputed maritime/EEZ-status areas discussed in Japan territorial-dispute references. These geometries are intentionally separate from the MLIT N03 administrative boundary data and are not authoritative legal boundary polygons.

Usage

```
jp_disputed_territories(  
  territorial_disputes = TRUE,  
  regions = c("prefectures", "prefecture", "municipalities", "municipality"),  
  inset = TRUE,  
  okinawa = TRUE,  
  ogasawara = TRUE  
)
```

Arguments

territorial_disputes	Which disputed-territory shapes to include. Use TRUE for all built-in shapes, FALSE for none, or a character vector containing one or more of "northern_territories", "okinotorishima", "senkaku", and "takeshima". Common aliases such as "kuril", "liancourt", "dokdo", and "diaoyu" are also accepted.
regions	Boundary level whose columns should be mirrored: prefectures or municipalities.
inset	Inset behavior. Use TRUE to move Okinawa and Ogasawara, FALSE for literal projected locations, or a character vector containing "okinawa" and/or "ogasawara".
okinawa	Whether Okinawa should be moved when inset includes it.
ogasawara	Whether Ogasawara should be moved when inset includes it.

Value

An sf data frame.

Source

Territory list based on https://en.wikipedia.org/wiki/Territorial_disputes_of_Japan. Shapes are derived from Natural Earth 1:10m land polygons and OpenStreetMap geometry.

Examples

```
jp_disputed_territories()
jp_disputed_territories(c("senkaku", "takeshima"))
```

 jp_map

Retrieve Japan Map Data

Description

Reads Japan administrative boundary data and returns an sf object.

Usage

```
jp_map(
  regions = c("prefectures", "prefecture", "municipalities", "municipality"),
  include = c(),
  exclude = c(),
  data_year = NULL,
  inset = TRUE,
  okinawa = TRUE,
  ogasawara = TRUE,
  territorial_disputes = TRUE,
  data_dir = NULL
)
```

Arguments

regions	Boundary level: prefectures or municipalities.
include	Regions to include by code, English name, or Japanese name.
exclude	Regions to exclude by code, English name, or Japanese name.
data_year	Boundary data year. The newest appropriate available file is used by default. For example, national prefecture maps prefer a national file, while one-prefecture municipal requests can use a matching prefecture file.
inset	Inset behavior. Use TRUE to move both Okinawa and Ogasawara, FALSE for no movement, or a character vector containing "okinawa" and/or "ogasawara" to move selected island groups.
okinawa	Whether Okinawa should be moved when inset includes it.
ogasawara	Whether Ogasawara should be moved when inset includes it.
territorial_disputes	Whether to include disputed-territory island/reef shapes. Use FALSE to exclude them, or a character vector containing one or more of "northern_territories", "okinotorishima", "senkaku", and "takeshima".
data_dir	Optional directory containing jpmmap_boundaries_YYYY.gpkg.

Value

An sf data frame.

Examples

```
if (nrow(available_jpmmap_data()) > 0) {
  jp_map("prefectures")
  jp_map("prefectures", okinawa = FALSE)
  jp_map("prefectures", territorial_disputes = FALSE)
  jp_map("municipalities", include = "Okinawa")
  jp_map("prefecture")
  jp_map("municipality", include = "Okinawa")
}
```

 jp_map_join

Join User Data to a jpmmap Boundary Object

Description

jp_map_join() attaches columns from a user data frame to an sf object returned by jp_map(). It is designed for common Japan-map keys, including pref_code, jis_code, and municipality_code, and keeps leading zeroes from getting in the user's way.

Usage

```
jp_map_join(
  map,
  data,
  by = NULL,
  values = NULL,
  unmatched = c("warning", "error", "ignore"),
  multiple = c("error", "first")
)
```

Arguments

map	An sf object returned by <code>jp_map()</code> .
data	A data frame with one row per region to join.
by	Join column. If NULL, <code>jpmap</code> guesses from common columns such as <code>jis_code</code> , <code>municipality_code</code> , <code>pref_code</code> , <code>prefecture</code> , <code>prefecture_ja</code> , <code>municipality</code> , and <code>municipality_ja</code> . To join columns with different names, use a named character vector such as <code>c("pref_code" = "code")</code> , where the name is the map column and the value is the data column.
values	Optional column expected to exist after joining. This is useful when checking data before passing it to a plotting function.
unmatched	What to do when user data rows do not match the map, or map regions do not receive a data row. One of "warning", "error", or "ignore".
multiple	What to do when data has duplicate join keys. One of "error" or "first".

Value

An sf object with non-geometry columns from data joined to map.

Examples

```
if (requireNamespace("dplyr", quietly = TRUE) &&
    nrow(available_jpmap_data()) > 0) {
  data("jp_prefecture_gdp")

  gdp <- jp_prefecture_gdp |>
    dplyr::select(pref_code, gdp_per_capita_jpy)

  joined <- jp_map("prefecture") |>
    jp_map_join(gdp, by = "pref_code")

  "gdp_per_capita_jpy" %in% names(joined)
}
```

jp_map_leaflet

*Draw an Interactive Japan Map with leaflet***Description**

jp_map_leaflet() creates a simple interactive web map from jpmmap boundaries. It uses literal longitude/latitude geography because Leaflet web tiles expect WGS84 coordinates. Use plot_jpmmap() when you want the static Okinawa and Ogasawara inset layout.

Usage

```
jp_map_leaflet(
  regions = c("prefectures", "prefecture", "municipalities", "municipality"),
  include = c(),
  exclude = c(),
  data = data.frame(),
  values = NULL,
  by = NULL,
  data_year = NULL,
  territorial_disputes = TRUE,
  data_dir = NULL,
  palette = "Blues",
  fill = "grey92",
  color = "grey35",
  weight = 1,
  opacity = 1,
  fill_opacity = 0.75,
  na_color = "#D9D9D9",
  label = NULL,
  popup = NULL,
  tiles = TRUE,
  legend = TRUE,
  fit_bounds = TRUE,
  simplify_tolerance = NULL,
  disputed_fill = NULL,
  disputed_color = NULL,
  disputed_dots = FALSE,
  disputed_dot_radius = 5,
  ...
)
```

Arguments

regions	Boundary level: prefectures or municipalities.
include	Regions to include by code, English name, or Japanese name.
exclude	Regions to exclude by code, English name, or Japanese name.

<code>data</code>	Optional data frame to join to the map before drawing.
<code>values</code>	Optional column to use for polygon fill colors.
<code>by</code>	Optional join column passed to <code>jp_map_join()</code> .
<code>data_year</code>	Boundary data year. The newest appropriate available file is used by default.
<code>territorial_disputes</code>	Whether to include disputed-territory island/reef shapes. Use FALSE to exclude them, or a selected character vector.
<code>data_dir</code>	Optional directory containing <code>jpmmap_boundaries_YYYY.gpkg</code> .
<code>palette</code>	Palette name or color vector passed to Leaflet palette functions when values is supplied.
<code>fill</code>	Polygon fill color used when values is NULL.
<code>color</code>	Polygon outline color.
<code>weight</code>	Polygon outline weight.
<code>opacity</code>	Polygon outline opacity.
<code>fill_opacity</code>	Polygon fill opacity.
<code>na_color</code>	Fill color for missing values.
<code>label</code>	NULL for default region labels, FALSE for no labels, a column name, or a character vector with one value per map row.
<code>popup</code>	NULL for default popups, FALSE for no popups, a column name, or a character vector with one value per map row.
<code>tiles</code>	Whether to add default OpenStreetMap tiles.
<code>legend</code>	Whether to add a legend when values is supplied.
<code>fit_bounds</code>	Whether to zoom the widget to the map bounds.
<code>simplify_tolerance</code>	Optional tolerance passed to <code>sf::st_simplify()</code> before drawing polygons. This is useful for smaller website widgets.
<code>disputed_fill</code>	Optional fill color for disputed-territory shapes. When NULL, the ordinary map fill is used.
<code>disputed_color</code>	Optional outline color for disputed-territory shapes. When NULL, the ordinary map outline is used.
<code>disputed_dots</code>	Whether to draw circle markers on disputed-territory shapes.
<code>disputed_dot_radius</code>	Radius for disputed-territory circle markers.
<code>...</code>	Additional arguments passed to <code>leaflet::leaflet()</code> .

Value

A leaflet htmlwidget.

Examples

```
if (requireNamespace("leaflet", quietly = TRUE) &&
    requireNamespace("dplyr", quietly = TRUE) &&
    nrow(available_jpmap_data()) > 0) {
  data("jp_prefecture_gdp")

  gdp <- jp_prefecture_gdp |>
    dplyr::select(pref_code, prefecture, gdp_per_capita_jpy)

  jp_map_leaflet(
    "prefecture",
    data = gdp,
    values = "gdp_per_capita_jpy",
    popup = "prefecture"
  )
}
```

jp_map_with_data	<i>Join Data to a jpmap Map</i>
------------------	---------------------------------

Description

Joins user data to a Japan map object. This is a compact wrapper around `jp_map_join()` kept for plotting workflows that call it internally.

Usage

```
jp_map_with_data(map, data, values = NULL, by = NULL)
```

Arguments

<code>map</code>	An sf object returned by <code>jp_map()</code> .
<code>data</code>	A data frame containing a matching administrative code or name column.
<code>values</code>	Optional value column to check after joining.
<code>by</code>	Optional join column. If omitted, jpmap guesses from common columns.

Value

An sf object.

jp_prefecture_gdp *GDP per capita by Japanese prefecture*

Description

A sample data frame containing 2021 prefecture GDP per capita values.

Format

A data frame with 47 rows and 6 variables:

pref_code Two-digit Japanese prefecture code.

prefecture Prefecture name in English.

year Reference year.

gdp_per_capita_jpy GDP per capita in Japanese yen.

gdp_per_capita_usd_ppp GDP per capita in U.S. dollars at PPP.

source Source note.

Source

OECD 2021 regional GDP per-capita values as tabulated at https://en.wikipedia.org/wiki/List_of_Japanese_prefectures_by_GDP_per_capita.

jp_us_military_bases *Selected U.S. military installations in Japan*

Description

A sample data frame containing selected U.S. military installations in Japan with longitude/latitude coordinates and public approximate personnel figures where those figures have a clear source.

Format

A data frame with 17 rows and 12 variables:

base Installation or command name.

branch Primary U.S. military branch.

prefecture Japanese prefecture.

municipality Municipality or municipalities.

lon Longitude in WGS84.

lat Latitude in WGS84.

personnel Approximate public personnel figure, when available.

personnel_scope What the public figure counts.

personnel_geography Whether the figure describes an installation, regional total, command, or broader installation community.

personnel_is_base_specific Whether personnel is interpreted as a base-specific figure.

source_url Source URL.

note Caveat for use in examples.

Details

These values are intended for examples and are not an official personnel accounting. Some rows describe broader installation, regional, command, or community populations; see `personnel_scope` and `personnel_geography`.

Source

Public installation, command, and regional pages listed in the `source_url` column, including https://en.wikipedia.org/wiki/Misawa_Air_Base, https://en.wikipedia.org/wiki/Yokota_Air_Base, and https://en.wikipedia.org/wiki/Okinawa_Island.

jpmmap_crs

Coordinate Reference System for jpmmap

Description

Returns the projected coordinate reference system used by jpmmap.

Usage

```
jpmmap_crs()
```

Value

An `sf::st_crs()` object.

jpmmap_data

Manage jpmmap Boundary Data

Description

Helpers for locating and building the GeoPackage boundary data used by jpmmap. Boundary GeoPackage files can come from the separate jpmmapdata package or from files built locally with jpmmap_build_data().

Usage

```
jpmmap_data_dir(create = TRUE)

available_jpmmap_data(data_dir = NULL)

jpmmap_build_data(
  year = 2024,
  prefecture = NULL,
  destdir = jpmmap_data_dir(),
  url = NULL,
  overwrite = FALSE,
  quiet = FALSE,
  simplify_tolerance = NULL
)
```

Arguments

create	Whether to create the default data directory.
data_dir	Optional directory to scan for boundary data.
year	Boundary data year.
prefecture	Optional prefecture code, English name, or Japanese name. When supplied, only that prefecture's official MLIT N03 file is downloaded and built.
destdir	Directory where the generated GeoPackage should be written.
url	Optional source URL. By default, an MLIT N03 URL is constructed.
overwrite	Whether to overwrite an existing GeoPackage.
quiet	Whether to suppress messages from download and spatial reads/writes.
simplify_tolerance	Optional tolerance passed to sf::st_simplify().

Value

jpmmap_data_dir() returns a path, available_jpmmap_data() returns a data frame with year, pref_code, prefecture, source, and path, and jpmmap_build_data() invisibly returns the generated file.

Source

MLIT National Land Numerical Information N03 administrative area data: <https://nlftp.mlit.go.jp/ksj/gml/datalist/KsjTmplt-N03-2024.html>.

Examples

```
jpmmap_data_dir(create = FALSE)
available_jpmmap_data()
```

```
jpmmap_build_data(
  year = 2024,
  prefecture = "Ehime",
  destdir = tempdir(),
  overwrite = TRUE,
  quiet = TRUE
)
```

jpmmap_transform

Transform Data to the jpmmap Projection

Description

Transforms geographic data to the jpmmap projected coordinate system. When inset = TRUE, Okinawa and Ogasawara are moved to visible inset locations. Use okinawa = FALSE, ogasawara = FALSE, inset = "okinawa", or inset = "ogasawara" to transport only one island group.

Usage

```
jpmmap_transform(
  data,
  input_names = c("lon", "lat"),
  output_names = input_names,
  inset = TRUE,
  okinawa = TRUE,
  ogasawara = TRUE
)
```

Arguments

data	An sf object, sfc geometry vector, or data frame.
input_names	Longitude and latitude column names for data frames.
output_names	Output coordinate column names for data frames.
inset	Inset behavior. Use TRUE to move both Okinawa and Ogasawara, FALSE for no movement, or a character vector containing "okinawa" and/or "ogasawara" to move selected island groups.

okinawa	Whether Okinawa should be moved when inset includes it.
ogasawara	Whether Ogasawara should be moved when inset includes it.

Value

An object of the same general type as data.

Examples

```
if (requireNamespace("tibble", quietly = TRUE)) {
  places <- tibble::tribble(
    ~place, ~lon, ~lat,
    "Tokyo", 139.767, 35.681,
    "Naha", 127.681, 26.212,
    "Ogasawara", 142.191, 27.094
  )

  places |>
    jpmap_transform(output_names = c("x", "y"))
  places |>
    jpmap_transform(output_names = c("x", "y"), inset = "okinawa")
  places |>
    jpmap_transform(output_names = c("x", "y"), ogasawara = FALSE)
}
```

plot_jpmap

Plot a Japan Map

Description

Plots Japan prefecture or municipal boundaries using ggplot2.

Usage

```
plot_jpmap(
  regions = c("prefectures", "prefecture", "municipalities", "municipality"),
  include = c(),
  exclude = c(),
  data = data.frame(),
  values = NULL,
  labels = FALSE,
  label_color = "black",
  data_year = NULL,
  inset = TRUE,
  okinawa = TRUE,
  ogasawara = TRUE,
  territorial_disputes = TRUE,
  disputed_fill = NULL,
```

```

disputed_color = NULL,
disputed_linewidth = NULL,
disputed_dots = FALSE,
disputed_dot_fill = "#001040",
disputed_dot_color = "white",
disputed_dot_size = 1.25,
disputed_dot_stroke = 0.2,
inset_boxes = TRUE,
inset_box_color = "grey50",
inset_box_linewidth = 0.35,
data_dir = NULL,
xlim = NULL,
ylim = NULL,
x_breaks = ggplot2::waiver(),
y_breaks = ggplot2::waiver(),
x_labels = ggplot2::waiver(),
y_labels = ggplot2::waiver(),
fill = "grey92",
color = "grey35",
linewidth = 0.25,
...
)

```

Arguments

regions	Boundary level: prefectures or municipalities.
include	Regions to include by code, English name, or Japanese name.
exclude	Regions to exclude by code, English name, or Japanese name.
data	Optional data frame to join to the map.
values	Column name in data to use as the fill variable.
labels	Whether to draw region labels.
label_color	Label text color.
data_year	Boundary data year.
inset	Inset behavior. Use TRUE to move both Okinawa and Ogasawara, FALSE for no movement, or a character vector containing "okinawa" and/or "ogasawara" to move selected island groups. For filtered municipality maps such as <code>plot_jpmap("municipality", include = "Okinawa")</code> , the default plot frame is local and non-inset unless inset is supplied explicitly.
okinawa	Whether Okinawa should be moved when inset includes it.
ogasawara	Whether Ogasawara should be moved when inset includes it.
territorial_disputes	Whether to include disputed-territory island/reef shapes. Use FALSE to exclude them, or a character vector containing one or more of "northern_territories", "okinotorishima", "senkaku", and "takeshima".
disputed_fill	Optional fill color for disputed-territory shapes. When NULL, the ordinary map fill is used.

disputed_color Optional outline color for disputed-territory shapes. When NULL, the ordinary map outline is used.
disputed_linewidth Optional line width for disputed-territory shapes.
disputed_dots Whether to draw dot markers on disputed-territory shapes.
disputed_dot_fill Fill color for disputed-territory dot markers.
disputed_dot_color Outline color for disputed-territory dot markers.
disputed_dot_size Size for disputed-territory dot markers.
disputed_dot_stroke Stroke width for disputed-territory dot markers.
inset_boxes Whether to draw boxes around transported Okinawa and Ogasawara insets.
inset_box_color Outline color for inset boxes.
inset_box_linewidth Line width for inset boxes.
data_dir Optional directory containing jpmap_boundaries_YYYY.gpkg.
xlim, ylim Optional longitude and latitude limits for the plot frame.
x_breaks, y_breaks Optional longitude and latitude axis breaks.
x_labels, y_labels Optional longitude and latitude axis labels.
fill Boundary fill color when values is not supplied.
color Boundary line color.
linewidth Boundary line width.
... Additional arguments passed to `ggplot2::geom_sf()`.

Value

A `ggplot2` plot.

Examples

```

if (nrow(available_jpmap_data()) > 0) {
  plot_jpmap("prefecture")
  plot_jpmap("prefecture", ogasawara = FALSE)
  plot_jpmap("prefecture", territorial_disputes = FALSE)
  plot_jpmap(
    "prefecture",
    ogasawara = FALSE,
    xlim = c(122, 149),
    ylim = c(28.5, 47),
    x_breaks = seq(125, 145, 5),
    y_breaks = seq(30, 45, 5)
  )
}

```

```
)  
plot_jpmap("prefecture", inset_boxes = FALSE)  
plot_jpmap("municipality", include = "Okinawa")  
}
```

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