Package: geocn (via r-universe)

September 9, 2024

Title Loads Spatial Data Sets of China

Version 0.1.0

Description Providing various commonly used spatial data related to Chinese regions in the R programming environment.

License GPL-3

Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

URL https://stscl.github.io/geocn/, https://github.com/stscl/geocn

BugReports https://github.com/stscl/geocn/issues

Depends R (>= 4.1.0)

Imports purrr, rmapshaper, sf, terra, tibble

Suggests cowplot, ggfx, ggplot2, ggspatial, knitr, rmarkdown, tmap

LazyData true

VignetteBuilder knitr

Repository https://stscl.r-universe.dev

RemoteUrl https://github.com/stscl/geocn

RemoteRef HEAD

RemoteSha 4f50d41b47207f4398225af1e0332e6df14b13d6

Contents

`list_geocn` *List all data sets available in the geocn package*

Description

Returns a tibble with all datasets available in the geocn package.

Usage

```
list_geocn()
```

Value

A tibble

Examples

```
list_geocn()
```

load_cn_alberproj — *Loading the commonly used Albers Lambert projection in China region.*

Description

Loading the commonly used Albers Lambert projection in China region.

Usage

```
load_cn_alberproj(output = "sf")
```

Arguments

output	(optional) Output format, must be sf or terra. Default is sf.

Value

An Available Projection CRS.

Examples

```
load_cn_alberproj()
```

load_cn_border — *Loading China's Land Border Line and the 10-dash line of the South China Sea*

Description

Loading China's Land Border Line and the 10-dash line of the South China Sea

Usage

```
load_cn_border()
```

Value

An sf object

Examples

```
cn_border = load_cn_border()
cn_border
```

load_cn_city *Loading Chinese City-Level Administrative Division Polygon Data*

Description

Loading Chinese City-Level Administrative Division Polygon Data

Usage

```
load_cn_city(simplify = TRUE, keep = 0.05, keep_shape = TRUE, ...)
```

Arguments

simplify	(optional) Whether to simplify loading sf objects (default TRUE)
keep	(optional) Proportion of points to retain (0-1; default 0.05)
keep_shape	(optional) Prevent small polygon features from disappearing at high simplification (default TRUE)
...	(optional) Other arguments passed to `rmapshaper::ms_simplify()`

Value

Whether to simplify loading sf objects

Examples

```
library(sf)
city = load_cn_city()
city
```

load_cn_coastline *Loading Coastline of China*

Description

Loading Coastline of China

Usage

```
load_cn_coastline()
```

Value

An sf object

Examples

```
cn_coastline = load_cn_coastline()
cn_coastline
```

---

load_cn_county *Loading Chinese County-Level Administrative Division Polygon Data*

Description

Loading Chinese County-Level Administrative Division Polygon Data

Usage

```
load_cn_county(simplify = TRUE, keep = 0.05, keep_shape = TRUE, ...)
```

Arguments

simplify	(optional) Whether to simplify loading sf objects (default TRUE)
keep	(optional) Proportion of points to retain (0-1; default 0.05)
keep_shape	(optional) Prevent small polygon features from disappearing at high simplification (default TRUE)
...	(optional) Other arguments passed to rmapshaper::ms_simplify()

Value

Whether to simplify loading sf objects

Examples

```
library(sf)
county = load_cn_county()
county
```

load_cn_landborder *Loading China's Land Border*

Description

Loading China's Land Border

Usage

```
load_cn_landborder()
```

Value

An sf object

Examples

```
cn_landborder = load_cn_landborder()
cn_landborder
```

load_cn_landcoast *Loading China's Land Border and Coastline*

Description

Loading China's Land Border and Coastline

Usage

```
load_cn_landcoast()
```

Value

An sf object

Examples

```
cn_landcoast = load_cn_landcoast()
cn_landcoast
```

load_cn_province *Loading Chinese Province-Level Administrative Divisional Polygon Data*

Description

Loading Chinese Province-Level Administrative Divisional Polygon Data

Usage

```
load_cn_province(simplify = TRUE, keep = 0.05, keep_shape = TRUE, ...)
```

Arguments

simplify	(optional) Whether to simplify loading sf objects (default TRUE)
keep	(optional) Proportion of points to retain (0-1; default 0.05)
keep_shape	(optional) Prevent small polygon features from disappearing at high simplification (default TRUE)
...	(optional) Other arguments passed to rmapshaper::ms_simplify()

Value

Whether to simplify loading sf objects

Examples

```
library(sf)
province = load_cn_province()
province
```

load_cn_tenline *Loading the 10-dash line of the South China Sea*

Description

Loading the 10-dash line of the South China Sea

Usage

```
load_cn_tenline()
```

Value

An sf object

Examples

```
cn_tenline = load_cn_tenline()
cn_tenline
```

`load_loess_plateau` *Loading the Boundary Polygon Data of Loess Plateau*

Description

Loading the Boundary Polygon Data of Loess Plateau

Usage

```
load_loess_plateau()
```

Value

An sf object

Examples

```
load_loess_plateau()
```

`load_tibetan_plateau` *Loading the Boundary Polygon Data of Tibetan Plateau*

Description

Loading the Boundary Polygon Data of Tibetan Plateau

Usage

```
load_tibetan_plateau()
```

Value

An sf object

Examples

```
load_tibetan_plateau()
```

load_weihe_basin *Loading the Boundary Polygon Data of Weihe River Basin*

Description

Loading the Boundary Polygon Data of Weihe River Basin

Usage

```
load_weihe_basin()
```

Value

An sf object

Examples

```
load_weihe_basin()
```

load_world_coastline *Loading Global Coastlines*

Description

Loading Global Coastlines

Usage

```
load_world_coastline()
```

Value

An sf object

Examples

```
load_world_coastline()
```

load_world_continent *Loading Global Continents*

Description

Loading Global Continents

Usage

```
load_world_continent()
```

Value

An sf object

Examples

```
load_world_continent()
```

load_world_country *Load Global Country Boundaries*

Description

Load Global Country Boundaries

Usage

```
load_world_country(center = "west")
```

Arguments

center	(optional) Center must be `west` or `east`. Default is `west`.

Details

When the `center` parameter is set to `west`, the map center is the Atlantic Ocean; and when `center` is `east`, the map center is the Pacific Ocean.

Value

An sf object

Examples

```
load_world_country()
```

load_world_lake *Loading Global Lakes*

Description

Loading Global Lakes

Usage

```
load_world_lake()
```

Value

An sf object

Examples

```
load_world_lake()
```

load_world_ocean *Loading Global Oceans*

Description

Loading Global Oceans

Usage

```
load_world_ocean()
```

Value

An sf object

Examples

```
load_world_ocean()
```

load_world_river *Loading Global Rivers*

Description

Loading Global Rivers

Usage

```
load_world_river()
```

Value

An sf object

Examples

```
load_world_river()
```

load_yangtze_basin *Loading the Boundary Polygon Data of Yangtze River Basin*

Description

Loading the Boundary Polygon Data of Yangtze River Basin

Usage

```
load_yangtze_basin()
```

Value

An sf object

Examples

```
load_yangtze_basin()
```

load_yellow_river_basin *Loading the Boundary Polygon Data of Yellow River Basin*

Description

Loading the Boundary Polygon Data of Yellow River Basin

Usage

```
load_yellow_river_basin()
```

Value

An sf object

Examples

```
load_yellow_river_basin()
```

st_transform_cn *Coordinate Conversion Between GCJ02,BD09 and WGS84*

Description

Coordinate Conversion Between GCJ02,BD09 and WGS84

Usage

```
st_transform_cn(lon, lat, from = "gcj", to = "wgs")
```

Arguments

lon	Longitude vector.
lat	Latitude vector.
from	(optional) Source CRS. Default is gcj.
to	(optional) Target CRS. Default is wgs.

Details

wgs stands for WGS84 coordinate system, gcj stands for GCJ02 coordinate system, and bd stands for BD09 coordinate system.

Value

A coordinate tibble in the target CRS.

Examples

```
lon = c(126.626510,126.625261,126.626378,126.626541,126.626721,126.627732,126.626510)
lat = c(45.731596,45.729834,45.729435,45.729676,45.729604,45.730915,45.731596)
st_transform_cn(lon,lat)
```

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