Package ‘smartmap’

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Type          Package
Title         Smartly Create Maps from R Objects
Version       0.1.1
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Description    Preview spatial data as 'leaflet' maps with minimal effort. smartmap is optimized for interactive use and distinguishes itself from similar packages because it does not need real spatial ('sp' or 'sf') objects as input; instead, it tries to automatically coerce everything that looks like spatial data to sf objects or leaflet maps. It - for example - supports direct mapping of: a vector containing a single coordinate pair, a two column matrix, a data.frame with longitude and latitude columns, or the path or URL to a (possibly compressed) 'shapefile'.
License        MIT + file LICENSE
Imports        leaflet, magrittr, sf, utils
Suggests       covr, testthat
Depends        R (>= 3.6.0)
Encoding       UTF-8
LazyData       true
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as_coord_matrix

Description

A coord_matrix is a matrix with two columns named "lon" and "lat" to represent spatial point data. They are used as an intermediary when converting some R objects to sf::sf() objects.

as_coord_matrix() can smartly convert a range of R objects to coord_matrix. If you are a package developer and want to add support for smartmap to your package without having to depend on the heavy sf package, it is enough to provide an as_coord_matrix() method.

Usage

as_coord_matrix(x, ...)

## Default S3 method:
as_coord_matrix(x, ...)

## S3 method for class 'numeric'
as_coord_matrix(x, ...)

## S3 method for class 'sf'
as_coord_matrix(x, ...)

## S3 method for class 'sfc_POINT'
as_coord_matrix(x, ...)

## S3 method for class 'matrix'
as_coord_matrix(x, ..., loncol = guess_loncol(x), latcol = guess_latcol(x))

## S3 method for class 'data.frame'
as_coord_matrix(x, ..., loncol = guess_loncol(x), latcol = guess_latcol(x))

Arguments

x any of the following:

- a matrix: Either a matrix with named longitude and latitude columns or an unnamed two column matrix containing longitude and latitude (in that order)
- a data.frame with named longitude and latitude columns
- an sf::sfc_POINT object
- a named or unnamed numeric vector of length 2 containing a single longitude-latitude coordinate pair
- a character scalar path or URL to a shapefile or zipped shapefile
... passed on to methods

loncol, latcol character scalars. Names of the columns of x containing longitude and latitude. The default trying guessing the columns.

Value

as_coord_matrix() returns a coord_matrix object: A numeric matrix with the columns "lon" and "lat" (in that order)

See Also

https://stackoverflow.com/questions/7309121/preferred-order-of-writing-latitude-longitude-tuples

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smap

View spatial objects as interactive leaflet maps

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Description

Can be used to preview spatial R objects

Usage

smap(
  x,
  ..., 
  tools = TRUE,
  provider = getOption("smap.providers", "OpenStreetMap")
)

## S3 method for class 'leaflet'
smap(
  x,
  ..., 
  tools = TRUE,
  provider = getOption("smap.providers", "OpenStreetMap")
)

## S3 method for class 'sf'
smap(
  x,
  ..., 
  tools = TRUE,
  provider = getOption("smap.providers", "OpenStreetMap")
)

## Default S3 method:
smap(
Arguments

- **x**: any input supported by `smart_as_sf()` or a `leaflet` map
  - a matrix: Either a matrix with named longitude and latitude columns or an unnamed two column matrix containing longitude and latitude (in that order)
  - a data.frame with named longitude and latitude columns
  - an `sf::sfc_POINT` object
  - a named or unnamed numeric vector of length 2 containing a single longitude-latitude coordinate pair
  - a character scalar path or URL to a shapefile or zipped shapefile
  - a `leaflet` map

- **tools**: logical scalar. If TRUE show additional tools on the resulting map (such as a ruler and the ability to switch between several background tiles)
smart_as_sf

- **provider**: character vector. Name of one or several valid providers for `leaflet::addProviderTiles()`. If `tools == TRUE` you will be able to switch interactively between all supplied providers on the returned leaflet map, if `tools == FALSE` only the first provider will be used.
- **labels**: an optional character vector of popup labels

**Value**

A leaflet::leaflet object

**Examples**

```r
wp <- matrix(
  c(16.419684, 48.186065,
    16.373894, 48.207853,
    16.285887, 48.083053),
  byrow = TRUE,
  ncol = 2
)

smap(wp)
smap(c(16.419684, 48.186065))
```

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**smart_as_sf**

*Smartly convert an object to a simple features data frame*

**Description**

Converts R objects to sf::sf objects, but supports a wider range of input data than sf::st_as_sf.

**Usage**

```r
smart_as_sf(x, ...)

## Default S3 method:
smart_as_sf(x, ...)

## S3 method for class 'data.frame'
smart_as_sf(x, ...)

## S3 method for class 'character'
smart_as_sf(x, ...)
```
Arguments

x any of the following:

• a matrix: Either a matrix with named longitude and latitude columns or an unnamed two column matrix containing longitude and latitude (in that order)
• a data.frame with named longitude and latitude columns
• an sf::sfc_POINT object
• a named or unnamed numeric vector of length 2 containing a single longitude-latitude coordinate pair
• a character scalar path or URL to a shapefile or zipped shapefile

Value

an sf::sf data.frame

Note

smart_as_sf.default() looks if an sf::st_as_sf(), sf::st_as_sfc() or as_coord_matrix() method exists for x (in that order). If you are a package developer and want to support smartmap for a custom S3 class in your package, it is enough to provide one of these methods.

Examples

smart_as_sf(data.frame(lat = c(1, 2, 3), longitude = c(3, 4, 5)))
smart_as_sf(c(1, 2))
**st_as_sfc**

**See Also**

sf::st_as_sf()

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**st_as_sfc**

*Convert coordinate matrices to sfc objects*

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**Description**

Convert coordinate matrices to sfc objects

**Usage**

```r
## S3 method for class 'coord_matrix'
st_as_sfc(x, ...)
```

**Arguments**

- `x` a `coord_matrix`
- `...` ignored

**Value**

an `sf::sfcc()` object of subclass `sfc_POINT`

**See Also**

sf::st_as_sfc()
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