Package 'buffeRs'

February 16, 2021

Title Buffer Generation for Spatial Models

Version 0.21

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Description
Generates non-circular simple feature geometries e.g. for the use as buffers in model-building.

URL https://github.com/tlhenvironment/buffeRs

Imports sf

Suggests openair

License GPL (>= 2)

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

NeedsCompilation no

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Depends R (>= 3.5.0)

Repository CRAN

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R topics documented:

buffer_circle *A circule function*

Description

Creates a circular buffer. Wrapper around sf::st_buffer()

Usage

```
buffer_circle(point, radius, ...)
```

Arguments

point	Cente point of the buffer, must equal to true in: `sf::st_is(point,"POINT")`
radius	Radius of the buffer (numeric)
...	Further arguments to give to `sf::st_buffer()`

Value

An object of class `sfc_POLYGON`

Examples

```
example_point = sf::st_point(c(1,2))
example_point = sf::st_sfc(example_point)
example_point = sf::st_sf(example_point)

buffer_circle(example_point, 200) -> circular_buffer
plot(circular_buffer)
```

buffer_semicircle *A Semicircle Function*

Description

Creates a semicircular polygon, wrapper around `buffer_wedge(point,radius,degree,degree_width = 45)`

Usage

```
buffer_semicircle(point, radius, degree)
```

Arguments

point	Centre point of the buffer, must equal to true in: sf::st_is(point,"POINT")
radius	Radius of the buffer (numeric)
degree	The angle at which the wedge is centred (clockwise). Must be between 0 and 360 (numeric)

Value

An object of class sfc_POLYGON

Examples

```
example_point = sf::st_point(c(1,2))
example_point = sf::st_sfc(example_point)
example_point = sf::st_sf(example_point)

buffer_semicircle(example_point, 200, 90) -> semicircular_buffer
plot(semicircular_buffer)
```

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buffer_wedge *A wedge Function*

Description

Creates a wedge polygon

Usage

```
buffer_wedge(point, radius, degree, degree_width)
```

Arguments

point	Centre point of the buffer, must equal to true in: sf::st_is(point,"POINT")
radius	Radius of the buffer (numeric)
degree	The angle at which the wedge is centred (clockwise). Must be between 0 and 360 (numeric)
degree_width	Width of the wedge. Must be between 0 and 360 (numeric)

Value

An object of class sfc_POLYGON

Examples

```
example_point = sf::st_point(c(1,2))
example_point = sf::st_sfc(example_point)
example_point = sf::st_sf(example_point)
buffer_wedge(example_point, 200, 90, 45) -> wedge_shaped_buffer
plot(wedge_shaped_buffer)
```

buffer_windrose *A wind-rose shaped buffer function*

Description

buffer_windrose creates a wind-rose based buffer shape.

Usage

```
buffer_windrose(point, wind_frequency_df, radius = 100, width_factor = 2)
```

Arguments

point	Centre point of the buffer, must equal to true in: sf::st_is(point,"POINT")
wind_frequency_df	A wind frequency table, in the format provided by "openair::windRose(wind_sample)$data"
radius	radius of the buffer (numeric). The radius of the largest sub-wedge of the wind-rose shaped buffer
width_factor	Scaling factor of the width of sub-wedges (numeric). Smaller number (<1) emphasize less-dominant wind-directions, (>1) emphasize dominant wind-directions.

Value

An object of class sfc_POLYGON

Examples

```
example_point = sf::st_point(c(1,2))
example_point = sf::st_sfc(example_point)
example_point = sf::st_sf(example_point)

openair::windRose(wind_sample) -> wind_sample_wind_rose
wind_sample_wind_rose$data -> wind_frequency_df

buffer_windrose(example_point, wind_frequency_df, 100, 0.5) -> windrose_shaped_buffer
plot(windrose_shaped_buffer)
```

wind_sample *Wind Data of Hong Kong's King's Park meteorological station for 2010 in hourly resolution*

Description

Wind Data of Hong Kong's King's Park meteorological station for 2010 in hourly resolution

Usage

```
wind_sample
```

Format

Dataframe with 8549 rows and 3 variables:

Time datetime

ws wind speed in m/s

wd dominating wind directions

Source

https://www.hko.gov.hk/en/wxinfo/aws/kpinfo.htm

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