Package: SpatGRID (via r-universe)

October 9, 2024

Type Package

Title Spatial Grid Generation from Longitude and Latitude List

Version 0.1.0

Depends R(>= 2.10)

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

Description The developed function is designed for the generation of
spatial grids based on user-specified longitude and latitude
coordinates. The function first validates the input longitude
and latitude values, ensuring they fall within the appropriate
geographic ranges. It then creates a polygon from the
coordinates and determines the appropriate Universal Transverse
Mercator zone based on the provided hemisphere and longitude
values. Subsequently, transforming the input Shapefile to the
Universal Transverse Mercator projection when necessary.
Finally, a spatial grid is generated with the specified
interval and saved as a Shapefile. For method details see,
Brus,D.J.(2022).<DOI:10.1201/9781003258940>. The function takes
into account crucial parameters such as the hemisphere (north
or south), desired grid interval, and the output Shapefile
path. The developed function is an efficient tool, simplifying
the process of empty spatial grid generation for applications
such as, geo-statistical analysis, digital soil mapping product
generation, etc. Whether for environmental studies, urban
planning, or any other geo-spatial analysis, this package
caters to the diverse needs of users working with spatial data,
enhancing the accessibility and ease of spatial data processing
and visualization.

License GPL (>= 2.0)

Encoding UTF-8

Imports raster,sp,sf,qpdf

RoxygenNote 7.2.3

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

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Contents

SpatialGridR   *Create a Spatial Grid from the list of longitude and latitude*

Description

Create a Spatial Grid from the list of longitude and latitude

Usage

```
SpatialGridR(lon_list, lat_list, hemisphere, interval, outputShape)
```

Arguments

lon_list	A list of longitudes
lat_list	A list of latitudes
hemisphere	Either 'north' or 'south'
interval	Desired interval for the grid in meter
outputShape	Path to the output shapefile

Value

A spatial grid shapefile

References

1. Brus,D.J.(2022). Spatial Sampling with R (1st ed.).Chapman and Hall/CRC.<DOI:10.1201/9781003258940>
2. Hijmans, R. J. (2022). raster: Geographic Data Analysis and Modeling. R package version 3.5-
13.

Examples

```
## Not run:
library(SpatGRID)
lon_list<-c(78,78,79,79,78)
lat_list<-c(20,21,21,20,20)
hemisphere <- 'north'
outputShape <- 'C:\\path\\to\\your\\data\\grid.shp'
interval <- 1000
Spatial_GRID <- SpatialGridR(lon_list, lat_list, hemisphere, interval, outputShape)

## End(Not run)
```

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