Package: CoastlineFD (via r-universe)

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Title Calculation of the Fractal Dimension of a Coastline

Version 1.1.2

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URL https://github.com/redworld123/CoastlineFD

BugReports https://github.com/redworld123/CoastlineFD/issues

Description Calculating the fractal dimension of a coastline using the boxes and dividers methods.

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Encoding UTF-8

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.1

Imports sf, tidyr, utils, fields, readxl, writexl, ggplot2, progress, sfheaders

Config/pak/sysreqs libgdal-dev gdal-bin libgeos-dev libicu-dev libssl-dev libproj-dev libsqlite3-dev libudunits2-dev zlib1g-dev

Repository https://redworld123.r-universe.dev

RemoteUrl https://github.com/redworld123/coastlinefd

RemoteRef HEAD

RemoteSha 83aca1e2070720f5a758db2379ba748caf7c8618

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BoxesFD *BoxesFD*

Description

Calculation of the fractal dimension of a coastline using the boxes methods

Usage

```
BoxesFD(BinputPath, netPath, outputPath, year, r, pearsonValue, writeF, showF)
```

Arguments

BinputPath	All origin coastline files path
netPath	All fishnet files path
outputPath	All results will be exported here
year	R vector object, which represent your study time
r	R vector object, which represent your study scale
pearsonValue	The Pearson coefficient of your input data
writeF	Exporting Function's result
showF	Drawing Function's result

Value

An .xlsx file containing the results of the coastline fractal dimension

Examples

```
BinputPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[1]
netPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[3]
outputPath = paste0(system.file('extdata', package = 'CoastlineFD'), "/FD1985_1986.xlsx")

BoxesFD(
  BinputPath,
  netPath,
  outputPath,
  c(1985:1986),
  c(300, 600, 900, 1000, 1050, 1100),
  0.00,
  FALSE,
  TRUE
)
```

DividersFD *DividersFD*

Description

Calculation of the fractal dimension of a coastline using the dividers methods

Usage

```
DividersFD(DinputPath, outputPath, year, r, pearsonValue, writeF, showF)
```

Arguments

DinputPath	All density coastline files path
outputPath	All results will be exported here
year	R vector object, which represent your study time
r	R vector object, which represent your study scale
pearsonValue	The Pearson coefficient of your input data
writeF	Exporting Function's result
showF	Drawing Function's result

Value

An .xlsx file containing the results of the coastline fractal dimension

Examples

```
DinputPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[2]
outputPath = paste0(system.file('extdata', package = 'CoastlineFD'), "/FD1985_1986.xlsx")

DividersFD(
  DinputPath,
  outputPath,
  c(1985:1986),
  c(300, 600, 900, 1000, 1050, 1100),
  0.00,
  FALSE,
  TRUE
)
```

FD *FD*

Description

Calculation of the fractal dimension of a coastline using both methods

Usage

```
FD(DinputPath, BinputPath, netPath, outputPath, year, r, pearsonValue, writeF, showF)
```

Arguments

DinputPath	All density coastline files path
BinputPath	All origin coastline files path
netPath	All fishnet files path
outputPath	All results will be exported here
year	R vector object, which represent your study time
r	R vector object, which represent your study scale
pearsonValue	The Pearson coefficient of your input data
writeF	Exporting Function's result
showF	Drawing Function's result

Value

An .xlsx file containing the results of the coastline fractal dimension

Examples

```
DinputPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[2]
BinputPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[1]
netPath = list.files(system.file('extdata', package = 'CoastlineFD'),full.names = TRUE)[3]
outputPath = paste0(system.file('extdata', package = 'CoastlineFD'), "/FD1985_1986.xlsx")

FD(
  DinputPath,
  BinputPath,
  netPath,
  outputPath,
  c(1985:1986),
  c(300, 600, 900, 1000, 1050, 1100),
  0.00,
  FALSE,
  TRUE
)
```

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