Package 'APfun'

September 24, 2020

Type Package

Title Geo-Processing Helper Functions

Version 0.1.6

Date 2020-09-24

Author Andrew Plowright

Maintainer Andrew Plowright <andrew.plowright@alumni.ubc.ca>

Description Helper tools for facilitating basic geo-processing tasks, such as reading/writing Shapefiles, merging polygons or generating terrain contours.

Depends R (>= 3.4.0)

License GPL (>= 3)

LazyData TRUE

RoxygenNote 7.1.1

Suggests testthat

Imports sp, raster, rgdal, methods, maptools, withr

NeedsCompilation no

Repository CRAN

Date/Publication 2020-09-24 20:30:12 UTC

R topics documented:

`APcontours` *AP Contours*

Description

Creates contours with rounded values

Usage

```
APcontours(inRaster, interval, max.contour.segments = NULL)
```

Arguments

`inRaster`	RasterLayer. A digital surface or digital elevation model
`interval`	numeric. Interval for contour intervals
`max.contour.segments`	numeric. Maximum number of segments for a single contour line. If set to 'NULL', default value will be 25,000.

`APopen` *AP Folder Open*

Description

Open a folder in Windows Explorer

Usage

```
APopen(x)
```

Arguments

`x`	character. File path. If path leads to a directory, it will open that directory. If it directs to a file, it will open that file's directory

APpolygonize *AP Polygonize*

Description

This function uses the *gdal_polygonize.py* GDAL utility. Its implementation was adapted from the solution developed by John Baumgartner and Francisco Rodriguez-Sanchez.

Usage

```
APpolygonize(
  inRaster,
  readToMemory = TRUE,
  outFile = NULL,
  OSGeoPath = "C:/OSGeo4W64",
  connectivity = 4
)
```

Arguments

inRaster	a RasterLayer or a path to a raster file
readToMemory	logical. Read output polygons into memory as a SpatialPolygonsDataFrame
outFile	character. Optional path for saving output as an Esri Shapefile.
OSGeoPath	character. Path to the OSGeo4W installation directory
connectivity	numeric. Can be either set to 4 (rook's case) or 8 (queen's case)

Details

This function needs OSGeo4W to be installed. The OSGeo4W installation path, set to 'C:/OSGeo4W64' by default, will then be used to find the *gdal_polygonize.bat* file.

Value

SpatialPolygonsDataFrame

See Also

- GDAL: https://gdal.org/
- OSGeo4W download page: https://trac.osgeo.org/osgeo4w/
- John Baumgartner's blog post on *gdal_polygonize*: https://johnbaumgartner.wordpress.com/2012/07/26/getting-rasters-into-shape-from-r/

APpolyMerge *Merge polygons*

Description

Take a List of SpatialPolygonsDataFrame objects and merge them. This function automates the process of assigning new polygon IDs, which is usually the issue that prevents merging.

Usage

```
APpolyMerge(polyList, newID = FALSE)
```

Arguments

polyList	List. a List of SpatialPolygonsDataFrame objects
newID	logical. If TRUE, the polygon IDs in polyList will be replaced to prevent duplicate IDs.

Value

A merged SpatialPolygonsDataFrame

APprecise *AP Precision*

Description

Prints input value with a set number digits.

Usage

```
APprecise(x, digits = 16)
```

Arguments

x	numeric. Input value value
digits	numeric. Number of digits to display

APrasterFiles *AP Get Raster Files*

Description

Get list of auxiliary raster files

Usage

```
APrasterFiles(filePath)
```

Arguments

filePath	character. Path to file

Examples

```
## Not run:
APSHPfiles("C:/Geodata/myfile.shp")

## End(Not run)
```

AProunder *AP Rounder*

Description

Provides extra options for rounding numbers, such as rounding a value to uneven intervals and setting those intervals to 'snap' or pass through a defined origin value. Can also be used on Extent objects from the raster package.

Usage

```
AProunder(value, interval, direction = "closest", snap = 0)
```

Arguments

value	numeric or Extent object. Input value
interval	numeric. The interval to which the input value should be rounded
direction	character. The rounding direction. Can be 'closest', 'up' or 'down' for numeric value arguments or 'closest', 'in' or 'out' for Extent objects.
snap	numeric. An origin value through which the interval with pass through. Default is 0.

Value

Rounded number or Extent object

APSHPdel *AP Delete Shapefile*

Description

Delete a Shapefile and all associated files

Usage

```
APSHPdel(filePath)
```

Arguments

filePath	character. Path to file

Examples

```
## Not run:
APSHPdel("C:/Geodata/myfile.shp")

## End(Not run)
```

APSHPfiles *AP Get Shapefile files*

Description

Get all files associated to a shapefile

Usage

```
APSHPfiles(filePath)
```

Arguments

filePath	character. Path to file

Examples

```
## Not run:
APSHPfiles("C:/Geodata/myfile.shp")

## End(Not run)
```

APSHPread *AP Read Shapefile*

Description

Read a Shapefile from a path

Usage

```
APSHPread(filePath, warnings = FALSE)
```

Arguments

filePath	character. Path to file
warnings	logical. If FALSE, then warnings will be suppressed

Value

SpatialPolygonsDataFrame

Examples

```
## Not run:
inPoly <- APSHPread("C:/Geodata/myfile.shp")

## End(Not run)
```

APSHPsave *AP Save to SHP*

Description

Save a Spatial type object to disk as a Shapefile.

Usage

```
APSHPsave(object, outfile, overwrite = FALSE)
```

Arguments

object	a Spatial object
outfile	path for file to be saved
overwrite	logical. Allow function to overwrite existing file. If set to 'prompt', it will ask user whether or to overwrite

Examples

```
## Not run:
APSHPsave(inPoly, outfile = "C:/Geodata/myfile.shp")

## End(Not run)
```

`APtimer` *AP Timer*

Description

Basic timer.

Usage

```
APtimer(marker = NULL, hush = FALSE)
```

Arguments

`marker`	Optional object of class `'POSIXct'`.
`hush`	logical. If set to TRUE, this will silence printing to console.

Value

If `marker=NULL`, then `APtimer` returns an object of class `'POSIXct'`. When this same object is used as an input later on, then `APtimer` will print the time elapsed since it was evaluated.

`rasterExtensions` *Raster Extensions*

Description

A list object, for which each element corresponds to a type of raster file. The elements are character vectors of the extensions of the various metadata files that can be associated with that type of raster.

Usage

```
rasterExtensions
```

Format

list

SHPextensions *Shapefile extensions*

Description

A vector of extensions for the various file types associated with Esri Shapefiles.

Usage

```
SHPextensions
```

Format

Character vector

Source

https://en.wikipedia.org/wiki/Shapefile

Index