Package 'lpjutil'

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Type Package

Title Data manipulation tools for LPJmL.

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Description input/output data manipulation tools for LPJmL.

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R topics documented:

`deg2area` *convert degree of latitue [deg] to area [Ha]*

Description

convert degree of latitue [deg] to area [Ha]

Usage

```
deg2area(lat, res = 0.5)
```

Arguments

`lat`	latitue
`res`	resolution

Value

area in Ha

`lpjoutput2ncdf` *convert any lpjoutput to ncdf*

Description

convert any lpjoutput to ncdf

Usage

```
lpjoutput2ncdf(lpjoutput)
```

Arguments

`lpjoutput:`	list

`map.build` *Convert vector data to raster*

Description

Convert vector data to raster

Usage

```
map.build(raw_)
```

Arguments

`raw_`	vector

Value

2-D array [NR, NC]

new.var.ncdf *create an empty ncdf file with single variable.*

Description

create an empty ncdf file with single variable.

Usage

```
new.var.ncdf(ncfile, lpjgrid_path, var_name, units, time_start, time_interval,
  time_dim, longname = var_name, missval = 1e+32)
```

Arguments

lpjgrid:	the path of LPJ grid
var_name:	variable name
time_start:	start year for yearly output, start month for monthly output. e.g. "1900" and "1900-01-01"
time_interval:	"years" or "months" or "days"
time_dim:	length of time dimention, e.g. months * years
lonname:	the description of the variable

Value

list(cout, vardef): cout is the new ncdf file, and vardef \ is the definition of the all variables defined

read.input.grid *Read input grid (clm), return global values lon, lat, EAST, SOUTH, WEST, NORTH, RES, NC, int_lon, ind_lat ...*

Description

Read input grid (clm), return global values lon, lat, EAST, SOUTH, WEST, NORTH, RES, NC, int_lon, ind_lat ...

Usage

```
read.input.grid(path.in)
```

Arguments

path.in	file location of grid.bin

Value

lon vector longitiute

lat vector latitide

`read.input.header` *Read header of LPJ inputs in clm. The current header layout is 43 bytes, with name, version, order, firstyear, nyears, firstcell, ncells, scalar. Return data in data.frame.*

Description

Read header of LPJ inputs in clm. The current header layout is 43 bytes, with name, version, order, firstyear, nyears, firstcell, ncells, scalar. Return data in data.frame.

Usage

```
read.input.header(filename)
```

Arguments

`filename`	this input file name, with full path

Value

data.frame header

Examples

```
header <- read.input.header("cru_temp.clm")
```

`read.input.yearband` *Read one year and one band of LPJ clm data, and return a vector of the select year and band.*

Description

Read one year and one band of LPJ clm data, and return a vector of the select year and band.

Usage

```
read.input.yearband(filename, year, band, data.size)
```

Arguments

`filename`	input file path
`year`	absolute value of select year, e.g. 1900
`band`	band
`data.size`	data size of input data, generally equal to 2.

Value

vector of npix

Examples

```
read.input.yearband("temp.clm", 1983, 1, 2)
```

`read.output.yearband` *read data of a selected band and year of LPJ binary output.*

Description

read data of a selected band and year of LPJ binary output.

Usage

```
read.output.yearband(filename, year, band, start_year, ncells, nyears, nbands,
  data.size = 4)
```

Arguments

`filename`	output file name
`year`	select year
`band`	select band
`start_year`	start year of the LPJ output
`ncells`	ncells of the LPJ output
`nyears`	nyears of the LPJ output
`nbands`	nbands of the LPJ output
`data.size`	data size, which in general equal to 4.

Value

data in vector with ncells elements

Examples

```
read.output.yearband("mnpp.bin", year=1982, band=2, nyears=1900, ncells=67420, nyears=120, nbands=12)
```

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