

Package: PEcAn.LINKAGES (via r-universe)

March 14, 2025

Type Package

Title PEcAn Package for Integration of the LINKAGES Model

Version 1.7.3.9000

Description This module provides functions to link the (LINKAGES) to PEcAn.

Imports PEcAn.data.land, PEcAn.DB, PEcAn.logger, PEcAn.remote, PEcAn.utils, lubridate (>= 1.6.0), ncdf4 (>= 1.15), utils

Suggests testthat (>= 1.0.2), linkages

Remotes github::araiho/linkages_package

SystemRequirements LINKAGES

OS_type unix

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LazyLoad yes

LazyData FALSE

Encoding UTF-8

RoxygenNote 7.3.2

Config/pak/sysreqs cmake libgdal-dev gdal-bin libgeos-dev libglpk-dev
make jags libicu-dev libpng-dev libxml2-dev libnetcdf-dev
libssl-dev libproj-dev libsqlite3-dev libudunits2-dev
libx11-dev xz-utils

Repository <https://pecanproject.r-universe.dev>

RemoteUrl <https://github.com/PecanProject/pecan>

RemoteRef HEAD

RemoteSha 97e61070b67901b2fa9aa727c73fdaf98a69a70c

RemoteSubdir models/linkages

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met2model.LINKAGES	<i>Write LINKAGES met files</i>
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Description

Converts a met CF file to a model specific met file. The input files are called <in.path>/<in.prefix>.YYYY.cf

Usage

```
met2model.LINKAGES(
  in.path,
  in.prefix,
  outfolder,
  start_date,
  end_date,
  overwrite = FALSE,
  verbose = FALSE,
  ...
)
```

Arguments

in.path	path on disk where CF file lives
in.prefix	prefix for each file
outfolder	location where model specific output is written
start_date, end_date	when to start and end conversion. Only year portion is used
overwrite	Force replacement of an existing output file?
verbose	ignored
...	Additional arguments, currently ignored

Value

OK if everything was succesful.

Author(s)

Ann Raiho, Betsy Cowdery

model2netcdf.LINKAGES *Convert LINKAGES's output into netCDF format*

Description

Convert MODEL output into the NACP Intercomparison format (ALMA using netCDF)

Usage

```
model2netcdf.LINKAGES(  
  outdir,  
  sitelat,  
  sitelon,  
  start_date = NULL,  
  end_date = NULL,  
  pft_names = NULL  
)
```

Arguments

outdir	Location of model output
sitelat	Latitude of the site
sitelon	Longitude of the site
start_date	Start time of the simulation
end_date	End time of the simulation
pft_names	names of PFTs to use in output labels

Author(s)

Ann Raiho, Betsy Cowdery

`read_restart.LINKAGES` *Read Restart for LINKAGES*

Description

Read Restart for LINKAGES

Usage

```
read_restart.LINKAGES(
  outdir,
  runid,
  stop.time,
  settings,
  var.names = NULL,
  params = NULL
)
```

Arguments

<code>outdir</code>	output directory
<code>runid</code>	run ID
<code>stop.time</code>	year that is being read
<code>settings</code>	PEcAn settings object
<code>var.names</code>	var.names to be extracted
<code>params</code>	passed on to return value

Value

X.vec vector of forecasts

Author(s)

Ann Raiho <araiho@end.edu>

`split_inputs.LINKAGES` *split_inputs.LINKAGES*

Description

Splits climate met for LINKAGES

Usage

```
split_inputs.LINKAGES(settings, start.time, stop.time, inputs)
```

Arguments

settings	ignored
start.time, stop.time	
	ignored
inputs	returned

Details

Stub implementation – currently returns ‘inputs’ and ignores all other arguments

Value

files split up climate files

Author(s)

Ann Raiho

write.config.LINKAGES *Writes a LINKAGES config file.*

Description

Requires a pft xml object, a list of trait values for a single model run, and the name of the file to create

Usage

```
write.config.LINKAGES(  
  defaults = NULL,  
  trait.values,  
  settings,  
  run.id,  
  restart = NULL,  
  spinup = FALSE,  
  inputs = NULL,  
  IC = NULL  
)
```

Arguments

defaults	list of defaults to process
trait.values	vector of samples for a given trait
settings	list of settings from pecan settings file
run.id	id of run

restart	logical: Write a restart file? If NULL (default), treated as FALSE
spinup	logical: perform spinup using 'spinup.LINKAGES()'? If NULL (default), treated as FALSE
inputs	inputs section of a PEcAn settings object. Currently only used for climate file (inputs\$met\$path), which is taken from 'settings\$input\$met\$path' if 'inputs' is NULL.
IC	TODO currently ignored

Value

configuration file for LINKAGES for given run

Author(s)

Ann Raiho, Betsy Cowdery

`write_restart.LINKAGES`

write_restart.LINKAGES

Description

Write restart files for LINKAGES

Usage

```
write_restart.LINKAGES(
  outdir,
  runid,
  start.time,
  stop.time,
  settings,
  new.state,
  RENAME = TRUE,
  new.params,
  inputs
)
```

Arguments

outdir	output directory
runid	run ID
start.time, stop.time	year that is being read
settings	PEcAn settings object
new.state	analysis vector

RENAME	flag to either rename output file or not
new.params	updated parameter values to write.
inputs	passed on to 'write.config.LINKAGES()'

Value

NONE

Author(s)

Ann Raiho <araiho@nd.edu>

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