

Package: libcbmr (via r-universe)

September 19, 2026

Title Interface to the Carbon Budget Model Library Based on CBM-CFS3

Version 0.0.1.9000

Description Provides wrappers for working with 'libcbm_py' in R.

URL <https://libcbmr.predictiveecology.org/>,
<https://github.com/PredictiveEcology/libcbmr>

Depends R (>= 4.0)

Imports reticulate, box

Suggests covr, knitr, plyr, rmarkdown, testthat

Language en-CA

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Encoding UTF-8

Roxygen list(markdown = TRUE)

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VignetteBuilder knitr

Config/reticulate list(packages = list(list(package = ``libcbm")))

Config/pak/sysreqs libpng-dev python3

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

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RemoteUrl <https://github.com/PredictiveEcology/libcbmr>

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cbm_exn_get_default_parameters

Get the default parameters bundled with libcbm for running the cbm_exn package

Description

Get the default parameters bundled with libcbm for running the cbm_exn package

Usage

cbm_exn_get_default_parameters()

cbm_exn_get_spinup_op_sequence

get the default spinup op sequence names

Description

get the default spinup op sequence names

Usage

cbm_exn_get_spinup_op_sequence()

Value

list of strings - list of the names of the default spinup ops

cbm_exn_get_step_disturbance_ops_sequence
get the default step op sequence names for disturbances

Description

get the default step op sequence names for disturbances

Usage

cbm_exn_get_step_disturbance_ops_sequence()

Value

list of strings - list of the names of the default disturbance step ops

cbm_exn_get_step_ops_sequence
get the default step op sequence names

Description

get the default step op sequence names

Usage

cbm_exn_get_step_ops_sequence()

Value

list of strings - list of the names of the default step ops

cbm_exn_spinup	<i>Run the cbm_exn spinup routine which initializes C pools and state for simulations</i>
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Description

Run the cbm_exn spinup routine which initializes C pools and state for simulations

Usage

```
cbm_exn_spinup(
    spinup_input,
    spinup_ops,
    spinup_op_list,
    parameters,
    spinup_debug_output_dir = NULL
)
```

Arguments

spinup_input	a dictionary of spinup_parameters, spinup_increments
spinup_ops	the formatted matrix operations to apply
spinup_op_list	list of operation names to apply in spinup stepping (references spinup ops)
parameters	named list of default parameters for model initialization
spinup_debug_output_dir	optional path which defaults to NULL. If specified, the path is used to write debugging CSV files with full model state and variable details about spinup timesteps.

Value

cbm_vars - a collection of simulation state and variables for time-stepping with subsequent cbm processes

cbm_exn_spinup_ops	<i>Get the default spinup ops</i>
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Description

Get the default spinup ops

Usage

```
cbm_exn_spinup_ops(spinup_input, parameters)
```

cbm_exn_step	<i>Run all C dynamics for one timestep</i>
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Description

Run all C dynamics for one timestep

Usage

```
cbm_exn_step(
  cbm_vars,
  operations,
  disturbance_op_sequence,
  step_op_sequence,
  parameters
)
```

Arguments

cbm_vars	named list of dataframes containing the simulation state and variables for the timestep
operations	list of formatted matrix operations to apply to the pools.
disturbance_op_sequence	list of named disturbance operations to apply to the pools referencing the values in the specified operations
step_op_sequence	list of named annual process operations to apply to the pools referencing the values in the specified operations
parameters	named list of default parameter for model initialization

cbm_exn_step_ops	<i>Get the default matrix operations for cbm_exn stepping as a list of matrices</i>
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Description

Get the default matrix operations for cbm_exn stepping as a list of matrices

Usage

```
cbm_exn_step_ops(cbm_vars, parameters)
```

Arguments

<code>cbm_vars</code>	named list of dataframes containing the simulation state and variables for computing the default operations
<code>parameters</code>	named list of default parameters. For default value see the <code>cbm_exn_get_default_parameters</code> function.

Value

list - list of structured matrix operations

`get_cbm_defaults_path` *get_cbm_defaults_path*

Description

Get path of the CBM defaults SQLite database. This will be the path to the packaged default database or a path set with the option `libcbmr.cbm_defaults_path`.

Usage

`get_cbm_defaults_path()`

`get_cbm_exn_parameters_dir`
get_cbm_exn_parameters_dir

Description

Get path of the parameters directory for `libcbm.cbm_exn.cbm_exn_model`. This will be the path to the packaged default parameters or a path set with the option `libcbmr.cbm_exn_parameters_dir`.

Usage

`get_cbm_exn_parameters_dir()`

install_libcbm	<i>Install libcbm python package</i>
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Description

Install libcbm python package

Usage

```
install_libcbm(method = "auto", conda = "auto", envname = NULL)
```

Arguments

method	Installation method. By default, "auto" automatically finds a method that will work in the local environment. Change the default to force a specific installation method. Note that the "virtualenv" method is not available on Windows.
conda	The path to a conda executable. Use "auto" to allow reticulate to automatically find an appropriate conda binary. See Finding Conda and conda_binary() for more details.
envname	The name, or full path, of the environment in which Python packages are to be installed. When NULL (the default), the active environment as set by the RETICULATE_PYTHON_ENV variable will be used; if that is unset, then the r-reticulate environment will be used.

libcbm_cbm_exn_model	<i>cbm_exn_model</i>
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Description

DESCRIPTION NEEDED

Usage

```
libcbm_cbm_exn_model()
```

libcbm_cbm_variables	<i>cbm_variables</i>
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Description

DESCRIPTION NEEDED

Usage

```
libcbm_cbm_variables()
```

libcbm_libcbm_resources
<i>libcbm_resources</i>

Description

DESCRIPTION NEEDED

Usage

libcbm_libcbm_resources()

libcbm_model_variables
<i>model_variables</i>

Description

DESCRIPTION NEEDED

Usage

libcbm_model_variables()

libcbm_output_processor
<i>output_processor</i>

Description

DESCRIPTION NEEDED

Usage

libcbm_output_processor()

py_use_env	<i>Use conda or virtual environment</i>
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Description

Will try to guess whether to use use_condaenv() or use_virtualenv.

Usage

```
py_use_env(envname = NULL)
```

Arguments

envname	Either the name of, or the path to, a Python virtual or conda environment.
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