Package 'ROpenFLUID'

September 5, 2018

Type Package

Title R Interface to OpenFLUID Platform Framework for Modelling and Simulation of Landscapes

Version 2.1.6-20180726

Date 2018-09-05

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Description Provides a collection of functions to load, parameterize, run and analyze OpenFLUID simulations within the GNU R environment.

URL http://www.openfluid-project.org

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Depends R (>= 2.6.2)

Suggests RUnit

LazyLoad yes

RoxygenNote 5.0.0

R topics documented:

OpenFLUID.addExtraObserversPaths

Adds paths to search for observers

Description

Adds paths to search for observers

Usage

```
OpenFLUID.addExtraObserversPaths(paths)
```

Arguments

paths	the colon separated paths to add

See Also

OpenFLUID.getObserversPaths

OpenFLUID.getExtraObserversPaths

OpenFLUID.resetExtraObserversPaths

Examples

```
## Not run:
OpenFLUID.addExtraObserversPaths("/first/path")
OpenFLUID.addExtraObserversPaths("/second/path:/third/path") ## on unix system
OpenFLUID.addExtraObserversPaths("/second/path;/third/path") ## on windows system
OpenFLUID.addExtraObserversPaths(c("/fourth/path","/fifth/path"))

## End(Not run)
```

OpenFLUID.addExtraSimulatorsPaths

Adds paths to search for simulators

Description

Adds paths to search for simulators

Usage

```
OpenFLUID.addExtraSimulatorsPaths(paths)
```

Arguments

paths	the colon separated paths to add

See Also

OpenFLUID.getSimulatorsPaths

OpenFLUID.getExtraSimulatorsPaths

OpenFLUID.resetExtraSimulatorsPaths

Examples

```
## Not run:
OpenFLUID.addExtraSimulatorsPaths("/first/path")
OpenFLUID.addExtraSimulatorsPaths("/second/path:/third/path") ## on unix system
OpenFLUID.addExtraSimulatorsPaths("/second/path;/third/path") ## on windows system
OpenFLUID.addExtraSimulatorsPaths(c("/fourth/path","/fifth/path"))

## End(Not run)
```

OpenFLUID.addVariablesExportAsCSV

Adds export of simulation variables as CSV files for a given units class

---

Description

Adds export of simulation variables as CSV files for a given units class

Usage

```
OpenFLUID.addVariablesExportAsCSV(ofblob, unitclass, unitid = NULL,
  varname = "*", precision = 0)
```

Arguments

ofblob	the simulation definition blob
unitclass	the units class to add for simulation variables export
unitid	the unit ID (optional)
varname	the name of the variable(s) (optional)
precision	the number of digits of the variables (optional)

See Also

OpenFLUID.loadResult

Examples

```
## Not run:
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU")
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU",1,"var1",precision=14)
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU",2,"var1;var2")
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU",2,c("var1","var2"))
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU",c(3,5),c("var1","var2"))
OpenFLUID.addVariablesExportAsCSV(ofsim,"TU",1,"*")

## End(Not run)
```

OpenFLUID.createAttribute

Creates an attribute for all spatial units of a class, initialized with a default value

---

Description

Creates an attribute for all spatial units of a class, initialized with a default value

Usage

```
OpenFLUID.createAttribute(ofblob, unitclass, attrname, attrval)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
attrname	the attribute name
attrval	the default attribute value for alla units

See Also

OpenFLUID.getAttribute

OpenFLUID.setAttribute

OpenFLUID.removeAttribute

Examples

```
## Not run:
OpenFLUID.createAttribute(ofsim,"SU","area",1.0)
OpenFLUID.createAttribute(ofsim,"SU","code","NONE")

## End(Not run)
```

`OpenFLUID.getAttribute`

Returns an attribute value for a given spatial unit

Description

Returns an attribute value for a given spatial unit

Usage

```
OpenFLUID.getAttribute(ofblob, unitclass, unitid, attrname)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the unit class
`unitid`	the unit ID
`attrname`	the name of the attribute

Value

the attribute value

See Also

`OpenFLUID.createAttribute`

`OpenFLUID.setAttribute`

`OpenFLUID.removeAttribute`

Examples

```
## Not run:
val = OpenFLUID.getAttribute(ofsim,"SU",18,"length")

## End(Not run)
```

`OpenFLUID.getAttributes` *Returns attributes values for given spatial units and attributes names*

Description

Returns attributes values for given spatial units and attributes names

Usage

```
OpenFLUID.getAttributes(ofblob, unitclass, unitids, attrnames,
  unitidsAsRownames = TRUE)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the unit class
`unitids`	the vector of unit IDs
`attrnames`	the vector of names of the attributes
`unitidsAsRownames`	if TRUE rename row as unitids if FALSE add a column of unitids

Value

a data.frame (unitids x attrnames) of the attribute values

See Also

`OpenFLUID.setAttributes`

Examples

```
## Not run:
valdf = OpenFLUID.getAttributes(ofsim,"SU",c(18,23),c("length","width"))

## End(Not run)
```

OpenFLUID.getAttributesNames
Returns all the attributes of an unit class

Description

Returns all the attributes of an unit class

Usage

```
OpenFLUID.getAttributesNames(ofblob, unitclass)
```

Arguments

ofblob	the simulation definition blob
unitclass	the class unit

Value

a vector of attributes names

See Also

OpenFLUID.getModelGlobalParamNames

OpenFLUID.getGeneratorParamNames

OpenFLUID.getSimulatorParamNames

OpenFLUID.getObserverParamNames

Examples

```
## Not run:
varnames = OpenFLUID.getAttributesNames(ofsim,unitclass)

## End(Not run)
```

`OpenFLUID.getDefaultDeltaT`
Returns the simulation time step

Description

Returns the simulation time step

Usage

```
OpenFLUID.getDefaultDeltaT(ofblob)
```

Arguments

`ofblob`	the simulation definition blob

Value

the time step value in seconds

See Also

`OpenFLUID.setDefaultDeltaT`

Examples

```
## Not run:
deltat = OpenFLUID.getDefaultDeltaT(ofsim)

## End(Not run)
```

`OpenFLUID.getExtraObserversPaths`
Returns the added paths to search for observers

Description

Returns the added paths to search for observers

Usage

```
OpenFLUID.getExtraObserversPaths()
```

Value

a vector of paths

See Also

OpenFLUID.addExtraObserversPaths

OpenFLUID.getObserversPaths

OpenFLUID.resetExtraObserversPaths

Examples

```
## Not run:
paths = OpenFLUID.getExtraObserversPaths()

## End(Not run)
```

OpenFLUID.getExtraSimulatorsPaths

Returns the added paths to search for simulators

Description

Returns the added paths to search for simulators

Usage

```
OpenFLUID.getExtraSimulatorsPaths()
```

Value

a vector of paths

See Also

OpenFLUID.addExtraSimulatorsPaths

OpenFLUID.getSimulatorsPaths

OpenFLUID.resetExtraSimulatorsPaths

Examples

```
## Not run:
paths = OpenFLUID.getExtraSimulatorsPaths()

## End(Not run)
```

OpenFLUID.getGeneratorParam

Returns a generator parameter value

Description

Returns a generator parameter value

Usage

```
OpenFLUID.getGeneratorParam(ofblob, unitclass, varname, paramname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramname	the name of the parameter

Value

the parameter value

See Also

OpenFLUID.setGeneratorParam

Examples

```
## Not run:
val = OpenFLUID.getGeneratorParam(ofsim,"SU","var.flux","fixedvalue")

## End(Not run)
```

OpenFLUID.getGeneratorParamNames

Returns all the parameters of a generator

Description

Returns all the parameters of a generator

Usage

```
OpenFLUID.getGeneratorParamNames(ofblob, unitclass, varname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the name of the variable generated
varname	the name of the variable generated

Value

a vector of parameters names

See Also

OpenFLUID.getModelGlobalParamNames

OpenFLUID.getSimulatorParamNames

OpenFLUID.getObserverParamNames

Examples

```
## Not run:
varnames = OpenFLUID.getGeneratorParamNames(ofsim,"SU","var1")

## End(Not run)
```

OpenFLUID.getGeneratorParams

Returns generator parameter values

Description

Returns generator parameter values

Usage

```
OpenFLUID.getGeneratorParams(ofblob, unitclass, varname, paramnames)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramnames	the names of the parameters

Value

the parameter values

See Also

`OpenFLUID.getModelGlobalParams`

`OpenFLUID.getObserverParams`

`OpenFLUID.getSimulatorParams`

Examples

```
## Not run:
val = OpenFLUID.getGeneratorParams(ofsim,"SU","var.flux",c("min","max"))

## End(Not run)
```

OpenFLUID.getGeneratorsVarNames

Returns all the variables names generated by a generator

Description

Returns all the variables names generated by a generator

Usage

```
OpenFLUID.getGeneratorsVarNames(ofblob, unitclass)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the units class

Value

a vector of variables names

See Also

`OpenFLUID.getSimulatorsIDs`

`OpenFLUID.getObserversIDs`

Examples

```
## Not run:
varnames = OpenFLUID.getGeneratorsVarNames(ofsim,"SU")

## End(Not run)
```

`OpenFLUID.getModelGlobalParam`

Returns a model global parameter value

Description

Returns a model global parameter value

Usage

```
OpenFLUID.getModelGlobalParam(ofblob, paramname)
```

Arguments

`ofblob`	the simulation definition blob
`paramname`	the name of the parameter

Value

the parameter value

See Also

`OpenFLUID.setModelGlobalParam`

`OpenFLUID.removeModelGlobalParam`

Examples

```
## Not run:
val = OpenFLUID.getModelGlobalParam(ofsim,"gvalue")

## End(Not run)
```

`OpenFLUID.getModelGlobalParamNames`

Returns all the global parameters

Description

Returns all the global parameters

Usage

```
OpenFLUID.getModelGlobalParamNames(ofblob)
```

Arguments

ofblob	the simulation definition blob

Value

a vector of parameters names

See Also

OpenFLUID.getGeneratorParamNames

OpenFLUID.getSimulatorParamNames

OpenFLUID.getObserverParamNames

Examples

```
## Not run:
varnames = OpenFLUID.getModelGlobalParamNames(ofsim)

## End(Not run)
```

OpenFLUID.getModelGlobalParams

Returns model global parameters values

Description

Returns model global parameters values

Usage

```
OpenFLUID.getModelGlobalParams(ofblob, paramnames)
```

Arguments

ofblob	the simulation definition blob
paramnames	names of the parameters

Value

the parameter values

See Also

OpenFLUID.getGeneratorParams

OpenFLUID.getObserverParams

OpenFLUID.getSimulatorParams

Examples

```
## Not run:
vals = OpenFLUID.getModelGlobalParams(ofsim,c("gvalueA","gvalueB"))

## End(Not run)
```

`OpenFLUID.getObserverParam`

Returns an observer parameter value

Description

Returns an observer parameter value

Usage

```
OpenFLUID.getObserverParam(ofblob, obsid, paramname)
```

Arguments

`ofblob`	the simulation definition blob
`obsid`	the observer ID
`paramname`	the name of the parameter

Value

the parameter value

See Also

`OpenFLUID.setObserverParam`

`OpenFLUID.removeObserverParam`

Examples

```
## Not run:
val = OpenFLUID.getObserverParam(ofsim,"my.observer","value")

## End(Not run)
```

`OpenFLUID.getObserverParamNames`

Returns all the parameters of an observer

Description

Returns all the parameters of an observer

Usage

```
OpenFLUID.getObserverParamNames(ofblob, obsid)
```

Arguments

`ofblob`	the simulation definition blob
`obsid`	the observer ID

Value

a vector of parameters names

See Also

`OpenFLUID.getModelGlobalParamNames`

`OpenFLUID.getGeneratorParamNames`

`OpenFLUID.getSimulatorParamNames`

Examples

```
## Not run:
varnames = OpenFLUID.getObserverParamNames(ofsim,obsid)

## End(Not run)
```

`OpenFLUID.getObserverParams`

Returns observer parameter values

Description

Returns observer parameter values

Usage

```
OpenFLUID.getObserverParams(ofblob, obsid, paramnames)
```

Arguments

ofblob	the simulation definition blob
obsid	the observer ID
paramnames	names of the parameters

Value

the parameter values

See Also

OpenFLUID.getModelGlobalParams

OpenFLUID.getGeneratorParams

OpenFLUID.getSimulatorParams

Examples

```
## Not run:
vals = OpenFLUID.getObserverParams(ofsim,"my.observer",c("valueA","valueB"))

## End(Not run)
```

OpenFLUID.getObserversIDs

Returns all the observers IDs called for the monitoring

Description

Returns all the observers IDs called for the monitoring

Usage

```
OpenFLUID.getObserversIDs(ofblob)
```

Arguments

ofblob	the simulation definition blob

Value

a vector of observers IDs

See Also

OpenFLUID.getGeneratorsVarNames

OpenFLUID.getSimulatorsIDs

Examples

```
## Not run:
varnames = OpenFLUID.getObserversIDs(ofsim)

## End(Not run)
```

`OpenFLUID.getObserversPaths`
Returns the paths to search for observers

Description

Returns the paths to search for observers

Usage

```
OpenFLUID.getObserversPaths()
```

Value

a vector of paths

See Also

`OpenFLUID.addExtraObserversPaths`

`OpenFLUID.getExtraObserversPaths`

`OpenFLUID.resetExtraObserversPaths`

Examples

```
## Not run:
paths = OpenFLUID.getObserversPaths()

## End(Not run)
```

`OpenFLUID.getPeriodBeginDate`

Returns the simulation period begin date

Description

Returns the simulation period begin date

Usage

```
OpenFLUID.getPeriodBeginDate(ofblob)
```

Arguments

`ofblob`	the simulation definition blob

Value

the begin date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

`OpenFLUID.setPeriodBeginDate`

`OpenFLUID.getPeriodEndDate`

`OpenFLUID.setPeriodEndDate`

Examples

```
## Not run:
bdate = OpenFLUID.getPeriodBeginDate(ofsim)

## End(Not run)
```

`OpenFLUID.getPeriodEndDate`

Returns the simulation period end date

Description

Returns the simulation period end date

Usage

```
OpenFLUID.getPeriodEndDate(ofblob)
```

Arguments

ofblob	the simulation definition blob

Value

the end date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

OpenFLUID.setPeriodEndDate

OpenFLUID.getPeriodBeginDate

OpenFLUID.setPeriodBeginDate

Examples

```
## Not run:
edate = OpenFLUID.getPeriodEndDate(ofsim)

## End(Not run)
```

OpenFLUID.getSimulatorParam

Returns a simulator parameter value

Description

Returns a simulator parameter value

Usage

```
OpenFLUID.getSimulatorParam(ofblob, simid, paramname)
```

Arguments

ofblob	the simulation definition blob
simid	the simulator ID
paramname	the name of the parameter

Value

the parameter value

See Also

OpenFLUID.setSimulatorParam

OpenFLUID.removeSimulatorParam

Examples

```
## Not run:
val = OpenFLUID.getSimulatorParam(ofsim,"my.simulator","coeff")

## End(Not run)
```

`OpenFLUID.getSimulatorParamNames`
Returns all the parameters of a simulator

Description

Returns all the parameters of a simulator

Usage

```
OpenFLUID.getSimulatorParamNames(ofblob, simid)
```

Arguments

`ofblob`	the simulation definition blob
`simid`	the simulator ID

Value

a vector of parameters names

See Also

`OpenFLUID.getModelGlobalParamNames`

`OpenFLUID.getGeneratorParamNames`

`OpenFLUID.getObserverParamNames`

Examples

```
## Not run:
varnames = OpenFLUID.getSimulatorParamNames(ofsim,simid)

## End(Not run)
```

`OpenFLUID.getSimulatorParams`

Returns simulator parameter values

Description

Returns simulator parameter values

Usage

```
OpenFLUID.getSimulatorParams(ofblob, simid, paramnames)
```

Arguments

`ofblob`	the simulation definition blob
`simid`	the simulator ID
`paramnames`	names of the parameters

Value

the parameter values

See Also

`OpenFLUID.getObserverParams`

`OpenFLUID.getSimulatorParams`

Examples

```
## Not run:
vals = OpenFLUID.getSimulatorParams(ofsim,"my.simulator",c("coeff","coeff"))

## End(Not run)
```

`OpenFLUID.getSimulatorsIDs`

Returns all the simulators IDs called by the model

Description

Returns all the simulators IDs called by the model

Usage

```
OpenFLUID.getSimulatorsIDs(ofblob)
```

Arguments

ofblob	the simulation definition blob

Value

a vector of simulators IDs

See Also

OpenFLUID.getGeneratorsVarNames

OpenFLUID.getObserversIDs

Examples

```
## Not run:
varnames = OpenFLUID.getSimulatorsIDs(ofsim)

## End(Not run)
```

OpenFLUID.getSimulatorsPaths

Returns the paths to search for simulators

Description

Returns the paths to search for simulators

Usage

```
OpenFLUID.getSimulatorsPaths()
```

Value

a vector of paths

See Also

OpenFLUID.addExtraSimulatorsPaths

OpenFLUID.getExtraSimulatorsPaths

OpenFLUID.resetExtraSimulatorsPaths

Examples

```
## Not run:
paths = OpenFLUID.getSimulatorsPaths()

## End(Not run)
```

`OpenFLUID.getUnitsClasses`
Returns the existing units classes

Description

Returns the existing units classes

Usage

```
OpenFLUID.getUnitsClasses(ofblob)
```

Arguments

`ofblob`	the simulation definition blob

Value

a vector of units classes

See Also

`OpenFLUID.getUnitsIDs`

Examples

```
## Not run:
cls = OpenFLUID.getUnitsClasses(ofsim)

## End(Not run)
```

`OpenFLUID.getUnitsIDs`
Returns the existing units IDs for a given units class

Description

Returns the existing units IDs for a given units class

Usage

```
OpenFLUID.getUnitsIDs(ofblob, unitclass)
```

Arguments

ofblob	the simulation definition blob
unitclass	the units class

Value

a vector of units IDs

See Also

OpenFLUID.getUnitsClasses

Examples

```
## Not run:
ids = OpenFLUID.getUnitsIDs(ofsim,"SU")

## End(Not run)
```

OpenFLUID.getVersion

Returns the OpenFLUID version

Description

Returns the OpenFLUID version

Usage

```
OpenFLUID.getVersion()
```

Value

the OpenFLUID version number

Examples

```
## Not run:
v = OpenFLUID.getVersion()

## End(Not run)
```

`OpenFLUID.loadResult`
Loads results as a dataframe, giving dataset informations

Description

Loads results as a dataframe, giving dataset informations

Usage

```
OpenFLUID.loadResult(ofblob, unitclass, unitid, varname)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the unit class
`unitid`	the unit ID
`varname`	the variable name

Value

a dataframe containing the simulation results

See Also

`OpenFLUID.loadResultFile`

Examples

```
## Not run:
resSU18 = OpenFLUID.loadResult(ofsim,"SU",18,"runoff")
resRS1 = OpenFLUID.loadResult(ofsim,"RS",1,"waterlevel")

## End(Not run)
```

OpenFLUID.loadResultFile

Loads results as a dataframe, giving output file name

Description

Loads results as a dataframe, giving output file name

Usage

```
OpenFLUID.loadResultFile(filepath)
```

Arguments

filepath	the full path of file to load

Value

a dataframe containing the simulation results

See Also

OpenFLUID.loadResult

Examples

```
## Not run:
resSU18 = OpenFLUID.loadResultFile("/path/to/output/SU18_full.out")
resRS1 = OpenFLUID.loadResultFile("/path/to/output/RS1_waterlevel.out")

## End(Not run)
```

OpenFLUID.openDataset

Opens a dataset and returns a simulation definition blob

Description

Opens a dataset and returns a simulation definition blob

Usage

```
OpenFLUID.openDataset(path)
```

Arguments

`path`	the full path of the dataset to open

Value

a simulation definition blob

See Also

`OpenFLUID.openProject`

`OpenFLUID.runSimulation`

Examples

```
## Not run:
ofsim = OpenFLUID.openDataset("/path/to/dataset")

## End(Not run)
```

`OpenFLUID.openProject` *Opens a project and returns a simulation definition blob*

Description

Opens a project and returns a simulation definition blob

Usage

```
OpenFLUID.openProject(path)
```

Arguments

`path`	the full project to open

Value

a simulation definition blob

See Also

`OpenFLUID.openDataset`

`OpenFLUID.runProject`

Examples

```
## Not run:
ofsim = OpenFLUID.openProject("/path/to/project")

## End(Not run)
```

OpenFLUID.printSimulationInfo

Prints informations to screen about simulation definition blob

---

Description

Prints informations to screen about simulation definition blob

Usage

```
OpenFLUID.printSimulationInfo(ofblob)
```

Arguments

ofblob	the simulation definition blob

Examples

```
## Not run:
OpenFLUID.printSimulationInfo(ofsim)

## End(Not run)
```

OpenFLUID.removeAttribute

Removes an attribute value for a given spatial unit

Description

Removes an attribute value for a given spatial unit

Usage

```
OpenFLUID.removeAttribute(ofblob, unitclass, attrname)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
attrname	the name of the attribute

See Also

`OpenFLUID.createAttribute`

`OpenFLUID.getAttribute`

`OpenFLUID.setAttribute`

Examples

```
## Not run:
OpenFLUID.removeAttribute(ofsim,"SU","length")

## End(Not run)
```

OpenFLUID.removeModelGlobalParam

Removes a model global parameter value

Description

Removes a model global parameter value

Usage

```
OpenFLUID.removeModelGlobalParam(ofblob, paramname)
```

Arguments

`ofblob`	the simulation definition blob
`paramname`	the name of the parameter

See Also

`OpenFLUID.getModelGlobalParam`

`OpenFLUID.setModelGlobalParam`

Examples

```
## Not run:
OpenFLUID.removeModelGlobalParam(ofsim,"gvalue")

## End(Not run)
```

`OpenFLUID.removeObserverParam`
Removes a observer parameter

Description

Removes a observer parameter

Usage

```
OpenFLUID.removeObserverParam(ofblob, obsid, paramname)
```

Arguments

`ofblob`	the simulation definition blob
`obsid`	the simulation observer id
`paramname`	the name of the parameter

See Also

`OpenFLUID.getObserverParam`

`OpenFLUID.setObserverParam`

Examples

```
## Not run:
OpenFLUID.removeObserverParam(ofsim,"my.observer","value")

## End(Not run)
```

`OpenFLUID.removeSimulatorParam`
Removes a simulator parameter

Description

Removes a simulator parameter

Usage

```
OpenFLUID.removeSimulatorParam(ofblob, simid, paramname)
```

Arguments

ofblob	the simulation definition blob
simid	the simulation simulator id
paramname	the name of the parameter

See Also

OpenFLUID.getSimulatorParam

OpenFLUID.setSimulatorParam

Examples

```
## Not run:
OpenFLUID.removeSimulatorParam(ofsim,"my.simulator","coeff")

## End(Not run)
```

OpenFLUID.resetExtraObserversPaths

Resets list of added paths to search for observers

Description

Resets list of added paths to search for observers

Usage

```
OpenFLUID.resetExtraObserversPaths()
```

See Also

OpenFLUID.addExtraObserversPaths

OpenFLUID.getObserversPaths

OpenFLUID.getExtraObserversPaths

Examples

```
## Not run:
OpenFLUID.resetExtraObserversPaths()

## End(Not run)
```

`OpenFLUID.resetExtraSimulatorsPaths`
Resets list of added paths to search for simulators

Description

Resets list of added paths to search for simulators

Usage

```
OpenFLUID.resetExtraSimulatorsPaths()
```

See Also

`OpenFLUID.addExtraSimulatorsPaths`

`OpenFLUID.getSimulatorsPaths`

`OpenFLUID.getExtraSimulatorsPaths`

Examples

```
## Not run:
OpenFLUID.resetExtraSimulatorsPaths()

## End(Not run)
```

`OpenFLUID.runProject`
Runs a project and returns a simulation definition blob

Description

Runs a project and returns a simulation definition blob

Usage

```
OpenFLUID.runProject(path, verbose = FALSE)
```

Arguments

`path`	the full path of the dataset to open
`verbose`	enable/disable verbose mode

Value

a simulation definition blob

See Also

OpenFLUID.runSimulation

OpenFLUID.openProject

Examples

```
## Not run:
ofsim = OpenFLUID.runProject("/path/to/dataset")
ofsim = OpenFLUID.runProject("/path/to/dataset",verbose=TRUE)

## End(Not run)
```

OpenFLUID.runSimulation

Runs a simulation from a simulation definition blob

Description

Runs a simulation from a simulation definition blob

Usage

```
OpenFLUID.runSimulation(ofblob, verbose = FALSE)
```

Arguments

ofblob	the simulation definition blob
verbose	enable/disable verbose mode

See Also

OpenFLUID.runProject

OpenFLUID.openProject

OpenFLUID.openDataset

Examples

```
## Not run:
OpenFLUID.runSimulation(ofsim)
OpenFLUID.runSimulation(ofsim,verbose=TRUE)

## End(Not run)
```

`OpenFLUID.setAttribute`
Sets an attribute value for a given spatial unit

Description

Sets an attribute value for a given spatial unit

Usage

```
OpenFLUID.setAttribute(ofblob, unitclass, unitid, attrname, attrval)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the unit class
`unitid`	the unit ID
`attrname`	the name of the attribute
`attrval`	the value of the attribute

See Also

`OpenFLUID.createAttribute`

`OpenFLUID.getAttribute`

`OpenFLUID.removeAttribute`

Examples

```
## Not run:
OpenFLUID.setAttribute(ofsim,"SU",18,"length",12.3)
OpenFLUID.setAttribute(ofsim,"SU",18,"CODE","ABC")

## End(Not run)
```

OpenFLUID.setAttributes

Sets attributes values for given spatial units and attributes names

Description

Sets attributes values for given spatial units and attributes names

Usage

```
OpenFLUID.setAttributes(ofblob, unitclass, attrvals)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class
attrvals	the data.frame of values (unit id x attribute name)

See Also

OpenFLUID.getAttributes

Examples

```
## Not run:
OpenFLUID.setAttributes(ofsim,"SU",data.frame("length"=c(1,2),"width"=c(3.2,7.8),"unitid"

## End(Not run)
```

OpenFLUID.setCurrentOutputDir

Sets the current output directory for simulations

Description

Sets the current output directory for simulations

Usage

```
OpenFLUID.setCurrentOutputDir(path)
```

Arguments

path	the output directory path

Examples

```
## Not run:
OpenFLUID.setCurrentOutputDir("/path/to/output")

## End(Not run)
```

`OpenFLUID.setDefaultDeltaT`
Sets the simulation time step

Description

Sets the simulation time step

Usage

```
OpenFLUID.setDefaultDeltaT(ofblob, deltat)
```

Arguments

`ofblob`	the simulation definition blob
`deltat`	the time step value in seconds

See Also

`OpenFLUID.getDefaultDeltaT`

Examples

```
## Not run:
OpenFLUID.setDefaultDeltaT(60)
OpenFLUID.setDefaultDeltaT(86400)

## End(Not run)
```

`OpenFLUID.setGeneratorParam`

Sets a generator parameter value

Description

Sets a generator parameter value

Usage

```
OpenFLUID.setGeneratorParam(ofblob, unitclass, varname, paramname, paramval)
```

Arguments

`ofblob`	the simulation definition blob
`unitclass`	the unit class to which the generator is applied
`varname`	the variable name to which the generator is applied
`paramname`	the name of the parameter
`paramval`	the value of the parameter

See Also

`OpenFLUID.getGeneratorParam`

Examples

```
## Not run:
OpenFLUID.setGeneratorParam(ofsim,"SU","var.flux","fixedvalue",12.3)

## End(Not run)
```

`OpenFLUID.setGeneratorParams`

Sets generator parameter values

Description

Sets generator parameter values

Usage

```
OpenFLUID.setGeneratorParams(ofblob, unitclass, varname, paramvals)
```

Arguments

ofblob	the simulation definition blob
unitclass	the unit class to which the generator is applied
varname	the variable name to which the generator is applied
paramvals	the value of the parameters in a data.frame which column names are parameters names

See Also

OpenFLUID.setModelGlobalParams

OpenFLUID.setObserverParams

OpenFLUID.setSimulatorParams

Examples

```
## Not run:
OpenFLUID.setGeneratorParams(ofsim,"SU","var.flux",data.frame("min"=0.0,"max"=1.0))

## End(Not run)
```

OpenFLUID.setModelGlobalParam

Sets a model global parameter value

Description

Sets a model global parameter value

Usage

```
OpenFLUID.setModelGlobalParam(ofblob, paramname, paramval)
```

Arguments

ofblob	the simulation definition blob
paramname	the name of the parameter
paramval	the value of the parameter

See Also

OpenFLUID.getModelGlobalParam

OpenFLUID.removeModelGlobalParam

Examples

```
## Not run:
OpenFLUID.setModelGlobalParam(ofsim,"gvalue",37.2)

## End(Not run)
```

`OpenFLUID.setModelGlobalParams`
Sets model global parameter values

Description

Sets model global parameter values

Usage

```
OpenFLUID.setModelGlobalParams(ofblob, paramvals)
```

Arguments

`ofblob`	the simulation definition blob
`paramvals`	the values of the parameters in a data.frame which column names are parameters names

See Also

`OpenFLUID.setModelGlobalParams`

`OpenFLUID.setSimulatorParams`

`OpenFLUID.setObserverParams`

Examples

```
## Not run:
OpenFLUID.setModelGlobalParams(ofsim,data.frame("gvalue1"=37.2,"gvalue2"=14.6))

## End(Not run)
```

`OpenFLUID.setObserverParam`

Sets an observer parameter value

Description

Sets an observer parameter value

Usage

```
OpenFLUID.setObserverParam(ofblob, obsid, paramname, paramval)
```

Arguments

`ofblob`	the simulation definition blob
`obsid`	the simulation observer id
`paramname`	the name of the parameter
`paramval`	the parameter value

See Also

`OpenFLUID.getObserverParam`

`OpenFLUID.removeObserverParam`

Examples

```
## Not run:
OpenFLUID.setObserverParam(ofsim,"my.observer","value",3)

## End(Not run)
```

`OpenFLUID.setObserverParams`

Sets observer parameter values

Description

Sets observer parameter values

Usage

```
OpenFLUID.setObserverParams(ofblob, obsid, paramvals)
```

Arguments

ofblob	the simulation definition blob
obsid	the simulation observer id
paramvals	the values of the parameters in a data.frame which column names are parameters names

See Also

OpenFLUID.setModelGlobalParams

OpenFLUID.setGeneratorParams

OpenFLUID.setSimulatorParams

Examples

```
## Not run:
OpenFLUID.setObserverParams(ofsim,"my.observer",data.frame("valueA"=3,"valueB"=6.7))

## End(Not run)
```

OpenFLUID.setPeriodBeginDate

Sets the simulation period begin date

Description

Sets the simulation period begin date

Usage

```
OpenFLUID.setPeriodBeginDate(ofblob, begindate)
```

Arguments

ofblob	the simulation definition blob
begindate	the begin date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

OpenFLUID.getPeriodBeginDate

OpenFLUID.setPeriodEndDate

OpenFLUID.getPeriodEndDate

Examples

```
## Not run:
OpenFLUID.setPeriodBeginDate(ofsim,"1997-06-05 04:00:00")

## End(Not run)
```

`OpenFLUID.setPeriodEndDate`
Sets the simulation period end date

Description

Sets the simulation period end date

Usage

```
OpenFLUID.setPeriodEndDate(ofblob, enddate)
```

Arguments

`ofblob`	the simulation definition blob
`enddate`	the end date as an ISO datetime string (%Y-%m-%d %H:%M:%S)

See Also

`OpenFLUID.getPeriodEndDate`

`OpenFLUID.setPeriodBeginDate`

`OpenFLUID.getPeriodBeginDate`

Examples

```
## Not run:
OpenFLUID.setPeriodEndDate(ofsim,"1997-06-05 16:07:17")

## End(Not run)
```

`OpenFLUID.setSimulatorParam`

Sets a simulator parameter value

Description

Sets a simulator parameter value

Usage

```
OpenFLUID.setSimulatorParam(ofblob, simid, paramname, paramval)
```

Arguments

`ofblob`	the simulation definition blob
`simid`	the simulation simulator id
`paramname`	the name of the parameter
`paramval`	the parameter value

See Also

`OpenFLUID.getSimulatorParam`

`OpenFLUID.removeSimulatorParam`

Examples

```
## Not run:
OpenFLUID.setSimulatorParam(ofsim,"my.simulator","coeff",3)

## End(Not run)
```

`OpenFLUID.setSimulatorParams`

Sets a simulator parameter values

Description

Sets a simulator parameter values

Usage

```
OpenFLUID.setSimulatorParams(ofblob, simid, paramvals)
```

Arguments

ofblob	the simulation definition blob
simid	the simulation simulator id
paramvals	the values of the parameters in a data.frame which column names are parameters names

See Also

OpenFLUID.setModelGlobalParams

OpenFLUID.setGeneratorParams

OpenFLUID.setObserverParams

Examples

```
## Not run:
OpenFLUID.setSimulatorParams(ofsim,"my.simulator",data.frame("coeffA"=3,"coeffB"=3.3))

## End(Not run)
```

ROpenFLUID *R Interface to OpenFLUID Platform Framework for Modelling and Simulation of Landscapes*

Description

Provides a collection of functions to load, parameterize, run and analyze OpenFLUID simulations within the GNU R environment.

Details

Package:	ROpenFLUID
Type:	Package
Version:	
Date:	
License:	GPLv3
LazyLoad:	yes

Author(s)

Jean-Christophe Fabre <fabrejc@supagro.inra.fr>

Examples

```
## Not run:
# load OpenFLUID library
library("ROpenFLUID")

# add optional paths to search for simulators
OpenFLUID.addExtraSimulatorsPaths("/path/to/simulators")

# open an input dataset
ofsim = OpenFLUID.openDataset("/path/to/dataset")

# set the output dir
OpenFLUID.setCurrentOutputDir("/path/to/output")

# run the simulation
OpenFLUID.runSimulation(ofsim)

## End(Not run)
```