Package: piamValidation (via r-universe)

August 29, 2024

Type Package

Title Validation Tools for PIK-PIAM

Version 0.3.5

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Description The piamValidation package provides validation tools for the Potsdam Integrated Assessment Modelling environment.

License LGPL-3

URL https://github.com/pik-piam/piamValidation

Imports devtools, dplyr (>= 1.1.1), ggplot2, ggthemes, htmltools, knitr, piamInterfaces, piamutils, plotly, quitte (>= 0.3123.0), readxl, tibble, tidyr

Suggests testthat, remind2, rmarkdown

Encoding UTF-8

RoxygenNote 7.3.2

Depends R (>= 2.10)

VignetteBuilder knitr

Repository https://pik-piam.r-universe.dev

RemoteUrl https://github.com/pik-piam/piamValidation

RemoteRef HEAD

RemoteSha ba8c399ca487204e09696dded1b0d2d558ff3815

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`piamValidation-package` *Validation Tools for PIK-PIAM*

Description

The piamValidation package provides validation tools for the Potsdam Integrated Assessment Modelling environment.

Author(s)

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See Also

Useful links:

- https://github.com/pik-piam/piamValidation

`appendTooltips` *construct tooltips for interactive plots*

Description

construct tooltips for interactive plots

Usage

```
appendTooltips(df)
```

Arguments

`df`	data.frame as returned from ‘validateScenarios()‘

checkUnits *Check variable consistency*

Description

Test whether unit of on row of config and data for this variable match.

Usage

```
checkUnits(data, cfgRow)
```

Arguments

data	scenario or reference data for one variable
cfgRow	one row of a config file containing the same variable as the data object

combineData *Combine scenario and reference data with thresholds*

Description

for one row of cfg: filter and merge relevant scenario data with cfg results in one df that contains scenario data, reference data and thresholds

Usage

```
combineData(scenData, cfgRow, histData = NULL)
```

Arguments

scenData	scenario data
cfgRow	one row of a config file
histData	reference data

validateScenarios *performs the validation checks from a config on a scenario data set*

Description

performs the validation checks from a config on a scenario data set

Usage

```
validateScenarios(dataPath, config, outputFile = NULL)
```

Arguments

dataPath	one or multiple path(s) to scenario data in .mif or .csv format, in case of historic comparison, also path to reference data
config	select config from inst/config or give a full path to a config file on your computer
outputFile	give name of output file in case results should be exported; include file extension

validationHeatmap *takes the output of "validateScenarios()" and plots heatmaps per variable*

Description

takes the output of "validateScenarios()" and plots heatmaps per variable

takes the output of "validateScenarios()" and plots heatmaps per variable

Usage

```
validationHeatmap(
  df,
  var,
  met,
  historical = TRUE,
  interactive = TRUE,
  x_plot = "region",
  y_plot = "period",
  x_facet = "model",
  y_facet = "scenario"
)

validationHeatmap(
  df,
  var,
  met,
```

```
  historical = TRUE,
  interactive = TRUE,
  x_plot = "region",
  y_plot = "period",
  x_facet = "model",
  y_facet = "scenario"
)
```

Arguments

df	data.frame as returned by "validateScenarios()" and "appendTooltips()"
var	variable to be plotted
met	choose metric from "relative", "difference", "absolute" or "growthrate"
historical	should this be a plot comparing to historical data
interactive	return plots as interactive plotly plots by default
x_plot	choose dimension to display on x-axis of plot, default: region
y_plot	choose dimension to display on y-axis of plot, default: period
x_facet	choose dimension to display on x-dim of facets, default: model
y_facet	choose dimension to display on x-dim of facets, default: scenario

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validationPass *returns information on whether scenarios passed critical validation checks*

Description

returns information on whether scenarios passed critical validation checks

Usage

```
validationPass(data, yellowFail = FALSE)
```

Arguments

data	data.frame as returned from "validateScenarios()"
yellowFail	if set to TRUE a yellow check result of a critical variable will lead to the scenario not passing as validated

`validationReport` *perform validateScenarios and create an .html report using .Rmd templates*

Description

perform validateScenarios and create an .html report using .Rmd templates

Usage

```
validationReport(dataPath, config, report = "default", outputDir = "output")
```

Arguments

`dataPath`	one or multiple path(s) to scenario data in .mif or .csv format
`config`	name a config from inst/config ("validationConfig_<name>.csv") or give a full path to a separate configuration file
`report`	name a .Rmd from inst/markdown ("validationReport_<name>.Rmd") to be rendered or give a full path to a separate .Rmd file
`outputDir`	choose a directory to save validation reports to

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