Package: PSPclean (via r-universe)

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Type Package

Title Sources and standardizes permanent sample plot data

Version 0.1.5.9002

Depends R (>= 4.2)

Description Converts all data into two keyed tables. One is for tree measurements, and the other is for plot data. Some arguments exist for handling disturbance agents.

Encoding UTF-8

Language en-CA

LazyData true

License GPL-3

Imports bit64, data.table, LandR (>= 1.1.1.9001), reproducible (>= 2.0.3), sf, sp, raster

Suggests googledrive, testthat

Remotes PredictiveEcology/LandR@development

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.1

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

RemoteUrl https://github.com/ianmseddy/PSPclean

RemoteRef development

RemoteSha 4c322b984c7646a9734668058173055594e71c9d

Contents

`dataPurification_ABPSP` *standardize and treat the Alberta PSP data*

Description

standardize and treat the Alberta PSP data

Usage

```
dataPurification_ABPSP(
  treeMeasure,
  plotMeasure,
  tree,
  plot,
  codesToExclude = 3,
  excludeAllObs = TRUE,
  areaDiffThresh = 0.95
)
```

Arguments

`treeMeasure`	the tree measurement csv
`plotMeasure`	the plot_measurement csv
`tree`	the tree csv
`plot`	the plot csv
`codesToExclude`	damage agent codes used to filter tree data - see GOA PSP Manual. Measurements with these codes will be removed
`excludeAllObs`	if removing observations of individual trees due to damage codes,

areaDiffThresh the threshold of plot size discrepancy to allow below which plots will be given a new ID column. Expressed as `min(PlotSize)/max(PlotSize)` remove all prior and future observations if `TRUE`.

Value

a list of plot and tree data.tables

`dataPurification_BCPSP` *standardize and treat the BC PSP data*

Description

standardize and treat the BC PSP data

Usage

```
dataPurification_BCPSP(
  treeDataRaw,
  plotHeaderDataRaw,
  damageAgentCodes,
  codesToExclude = "IBM",
  excludeAllObs = TRUE
)
```

Arguments

`treeDataRaw`	the tree measurement csv
`plotHeaderDataRaw`	the plot header csv
`damageAgentCodes`	vector of damage agent codes
`codesToExclude`	damage agents to exclude from measurements
`excludeAllObs`	if removing observations of individual trees due to damage codes, remove all prior and future observations if `TRUE`.

Value

a list of plot and tree data.tables

`dataPurification_NBPSP`

standardize and treat the New Brunswick PSP data

Description

standardize and treat the New Brunswick PSP data

Usage

```
dataPurification_NBPSP(NB_PSP_Data, sppEquiv = LandR::sppEquivalencies_CA)
```

Arguments

`NB_PSP_Data`	list of data tables resulting from `prepInputsNBPSP`
`sppEquiv`	species equivalencies table with column `Latin-full`

Value

a list of standardized plot and tree data.tables

`dataPurification_NFIPSP`

standardize and treat the NFI PSP data

Description

standardize and treat the NFI PSP data

Usage

```
dataPurification_NFIPSP(NFIdata, codesToExclude = "IB", excludeAllObs = TRUE)
```

Arguments

`NFIdata`	list of NFI tree, plot, and location data
`codesToExclude`	damage agents to exclude from measurements
`excludeAllObs`	if removing observations of individual trees due to damage codes, remove all prior and future observations if `TRUE`.

Value

a list of plot and tree data.tables

dataPurification_ONPSP

standardize and treat the Ontario PSP data

Description

standardize and treat the Ontario PSP data

Usage

```
dataPurification_ONPSP(ONPSPlist, sppEquiv = LandR::sppEquivalencies_CA)
```

Arguments

ONPSPlist	list of relevant plots
sppEquiv	table of species names - see LandR::sppEquiv- must have column 'latin' and 'PSP'

Value

a list of plot and tree data.tables

dataPurification_QCPSP

standardize and treat the QUEBEC PSP data

Description

standardize and treat the QUEBEC PSP data

Usage

```
dataPurification_QCPSP(
  QuebecPSP,
  codesToExclude = NULL,
  excludeAllObs = TRUE,
  sppEquiv = LandR::sppEquivalencies_CA
)
```

Arguments

QuebecPSP	list of PSP data.tables obtained via prepInputsQCPSP
codesToExclude	TODO: eventually add codes for pest disturbance if applicable
excludeAllObs	assuming codesToExclude is not NULL, exclude these obs or prior ones too
sppEquiv	table of species names - see LandR::sppEquiv

Value

a list of standardized plot and tree data.tables

`dataPurification_SKPSP` *standardize and treat the Saskatchewan PSP data*

Description

standardize and treat the Saskatchewan PSP data

Usage

```
dataPurification_SKPSP(
  SADataRaw,
  plotHeaderRaw,
  measureHeaderRaw,
  treeDataRaw,
  codesToExclude = NULL,
  excludeAllObs = TRUE
)
```

Arguments

`SADataRaw`	the tree measurement csv
`plotHeaderRaw`	the plot header data
`measureHeaderRaw`	the measurement header raw
`treeDataRaw`	tree data
`codesToExclude`	damage agent codes used to filter tree data. Natural or Undetermined = 1, Disease = 2, Insect = 3, Human 4, Wind = 5, Snow = 6, Other Trees = 7, Hail or Ice Storm = 8. Measurements with these codes will be removed
`excludeAllObs`	if removing observations of individual trees due to damage codes, remove all prior and future observations if `TRUE`.

Value

a list of plot and tree data.tables

dataPurification_SKTSP_Mistik *standardize and treat the Saskatchewan Mistik TSP data*

Description

standardize and treat the Saskatchewan Mistik TSP data

Usage

```
dataPurification_SKTSP_Mistik(compiledPlotData, compiledTreeData)
```

Arguments

compiledPlotData	the plot header data
compiledTreeData	the tree data

Value

a list of plot and tree data.tables

geoCleanPSP *convert plot location data to long/lat and output in a sf object*

Description

convert plot location data to long/lat and output in a sf object

Usage

```
geoCleanPSP(Locations)
```

Arguments

Locations	the compiled plot data

Value

an sf object with `OrigPlotID1` column

getPSP *return a merged PSP object from a vector of data sources*

Description

return a merged PSP object from a vector of data sources

Usage

```
getPSP(
  PSPdataTypes,
  destinationPath,
  forGMCS = FALSE,
  sppEquiv = LandR::sppEquivalencies_CA
)
```

Arguments

PSPdataTypes	character vector of PSP data sources - e.g. c("BC", "SK)" Use "all" to get all available sources, and "dummy" for freely availble data
destinationPath	destination folder for downloaded objects
forGMCS	if TRUE, will pre-filter plots with insect mortality to avoid attributing insect mortality with climate
sppEquiv	species equivalencies table.

Value

a list of standardized plot and tree data.tables

prepInputsAlbertaPSP *source the Alberta PSP data*

Description

source the Alberta PSP data

Usage

```
prepInputsAlbertaPSP(dPath)
```

Arguments

dPath	passed to prepInputs destinationPath

Value

a list of Alberta PSP data.tables

`prepInputsBCPSP` *Source the BC PSP data*

Description

Source the BC PSP data

Usage

```
prepInputsBCPSP(dPath)
```

Arguments

`dPath`	passed to `destinationPath` in `prepInputs()`

Value

a list of BC PSP objects

`prepInputsNBPSP` *retrieve the New Brunswick PSP raw data*

Description

retrieve the New Brunswick PSP raw data

Usage

```
prepInputsNBPSP(dPath)
```

Arguments

`dPath`	data directory for raw data

Value

a list of plot, tree, measurement, and location data.tables after exporting mdb to csv txt

prepInputsNFIPSP *source the NFI PSP data*

Description

source the NFI PSP data

Usage

```
prepInputsNFIPSP(dPath)
```

Arguments

dPath	passed to prepInputs destinationPath

Value

a list of NFI PSP data.tables

prepInputsOntarioPSP *retrieve preprocessed Ontario PSP and PGP data*

Description

retrieve preprocessed Ontario PSP and PGP data

Usage

```
prepInputsOntarioPSP(dPath, ...)
```

Arguments

dPath	the Access database for PSP and PGP plots
...	additional args passed to prepInputs

Value

a list of plot and tree data.tables

prepInputsQCPSP *retrieve the Quebec PSP raw data*

Description

retrieve the Quebec PSP raw data

Usage

```
prepInputsQCPSP(dPath)
```

Arguments

dPath	data directory for raw data

Value

a list of plot, tree, measurement, and location data.tables after exporting mdb to csv txt

prepInputsSaskatchwanPSP *source the Saskatchewan PSP data*

Description

source the Saskatchewan PSP data

Usage

```
prepInputsSaskatchwanPSP(dPath)
```

Arguments

dPath	passed to prepInputs destinationPath

Value

a list of Saskatchewan PSP data.tables

prepInputsSaskatchwanTSP *source the Saskatchewan PSP data*

Description

source the Saskatchewan PSP data

Usage

```
prepInputsSaskatchwanTSP(dPath)
```

Arguments

dPath	passed to prepInputs destinationPath

Value

a list of Saskatchewan PSP data.tables

prepPSP_climateNA *standardize and treat the BC PSP data*

Description

standardize and treat the BC PSP data

Usage

```
prepPSP_climateNA(dPath, filename2, PSPplot, PSPgis)
```

Arguments

dPath	directory to download elevation data
filename2	the full filename of the output file
PSPplot	the standardized PSP plot attribute data
PSPgis	the standardized plot location sf object

Value

a text file

`standardizeSpeciesNames` *standardize the species names in a given PSP measurement data.table*

Description

standardize the species names in a given PSP measurement data.table

Usage

```
standardizeSpeciesNames(speciesTable, forestInventorySource)
```

Arguments

`speciesTable`	the tree measurement csv
`forestInventorySource`	one of MBTSP, ABPSP, BCPSP, SKPSP, NWTTSP, NFIPSP.

Value

the species table with standardized species names

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