Package 'prioritizrdata'

October 14, 2022

Type Package

Version 0.2.4

Title Conservation Planning Datasets

Description Conservation planning datasets for learning how to use the 'prioritizr' package <https://CRAN.R-project.org/package=prioritizr>.

Suggests testthat, roxygen2, knitr, rgeos, rgdal

Depends R(>= 3.5.0), raster, sp

License GPL-3

Encoding UTF-8

LazyData true

Language en-US

URL https://prioritizr.github.io/prioritizrdata/, https://github.com/prioritizr/prioritizrdata

BugReports https://github.com/prioritizr/prioritizrdata/issues

RoxygenNote 7.1.1

Collate 'package.R' 'salt_data.R' 'tas_data.R'

NeedsCompilation no

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Repository CRAN

Date/Publication 2020-08-05 09:50:02 UTC

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`prioritizrdata` *prioritizrdata: Conservation Planning Datasets*

Description

The **prioritizrdata** package is a supplemental package that contains example datasets for conservation planning. It is intended to be used alongside the **prioritizr** package—a package for building and solving systematic conservation prioritization problems using integer linear programming (ILP) techniques—and provides little functionality itself.

Details

This package contains the following datasets:

tas_data This dataset was obtained from the "Introduction to *Marxan*" course and was originally part of a larger spatial prioritization performed under contract to Australia's Department of Environment and Water Resources. This dataset contains vector-based planning unit data and data for the spatial distribution of 62 vegetation classes in Tasmania, Australia. Refer to the Tasmania vignette in the **prioritizr** package for a worked example with this dataset.

salt_data This dataset is from an online *Marxan*-based planning tool created for the Coastal Douglas-fir Conservation Partnership (CDFCP). It contains raster-based planning unit data and the data for the spatial distributions of five key ecological communities in the area. Refer to the Salt Spring Island vignette in the **prioritizr** package for a worked example with this dataset.

`salt_data` *Salt Spring Island data*

Description

This data was obtained as part of an online *Marxan*-based planning tool created for the Coastal Douglas-fir Conservation Partnership (CDFCP; Schuster *et al.* 2017). For a worked example with this dataset, refer to the Salt Spring vignette in the **prioritizr** package.

Usage

```
data(salt_features)

data(salt_pu)
```

Format

salt_features RasterStack object.

salt_pu RasterLayer object.

Details

The dataset contains the following items:

`salt_pu` Planning unit data. A single band RasterLayer object where each one hectare pixel describes the monetary cost of acquiring the area (i.e. a pixel value of 1 = $100,000 CAD; BC Land Assessment 2015).

`salt_features` Biodiversity feature data. A multi-band RasterStack object object containing the the probability of occurrence for five key ecological communities found on Salt Spring island. Each layer represents a different community type. These classes are old forest (1), savanna (2), wetland (3), shrub (4), and a layer representing the inverse probability of occurrence of human commensal species (5). For a given layer, the values indicate the composite probability of encountering the suite of bird species most commonly associated with that community type.

References

BC Assessment (2015) Property Information Services. Available at https://www.bcassessment.ca (Date Accessed 2016/06/13).

Morrell N, Schuster R, Crombie M, and Arcese P (2017) *A Prioritization Tool for the Conservation of Coastal Douglas-fir Forest and Savannah Habitats of the Georgia Basin.* The Nature Trust of British Colombia, Coastal Douglas Fir Conservation Partnership, and the Department of Forest and Conservation Sciences, University of British Colombia. Available at http://peter-arcese-lab.sites.olt.ubc.ca/files/2016/09/CDFCP_tutorial_2017_05.pdf (Date Accessed 2017/10/09).

Examples

```
# load data
data(salt_pu, salt_features)

# preview data
print(salt_pu)
print(salt_features)

# plot data
plot(salt_pu)
plot(salt_features)
```

tas_data *Tasmania data*

Description

This dataset was obtained from the "Introduction to *Marxan*" course and was originally part of a larger spatial prioritization performed under contract to Australia's Department of Environment and Water Resources (Klein *et al.* 2007). For a worked example with this dataset, refer to the Tasmania vignette in the **prioritizr** package.

Usage

```
data(tas_features)

data(tas_pu)
```

Format

tas_features `RasterStack` object

tas_pu `sp::SpatialPolygonsDataFrame()` object.

Details

The dataset contains the following items:

`tas_pu` Planning unit data. The attribute table has three columns containing unique identifiers (`"id"`), unimproved land values (`"cost"`), and their existing level of protection (`"status"`). Units with 50% or more of their area contained in protected areas are associated with a status of 2, otherwise they are associated with a value of 0. It also contains columns (`"locked_in"` and `"locked_out"`) with `logical` values (i.e. `TRUE` or `FALSE` values) for locking in and locking out planning units.

`tas_features` The distribution of 62 vegetation classes in Tasmania, Australia. Each layer in the stack represents a different vegetation class. For a given layer, cells indicate the presence (value of 1) or absence (value of 0) of the vegetation class in an area.

References

Klein C, Carwardine J, Wilson K, Watts M, and Possingham H (2007) *Spatial Prioritization Approaches for the Conservation of Biodiversity in Australia: Considering Conservation Costs, Ecological & Evolutionary Processes, and Large-Intact Areas.* Report to the Department of Environment; Water Resources.

Examples

```
# load data
data(tas_pu, tas_features)

# preview data
print(tas_pu)
print(tas_features)

# plot data
plot(tas_pu)
plot(tas_features)
```

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