Package: prioritizrdata (via r-universe)

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Type Package

Version 0.3.3

Title Conservation Planning Datasets

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

Imports utils, terra (>= 1.6-53), sf (>= 1.0-12), tibble (>= 2.0.0)

Suggests testthat, roxygen2, knitr

Depends R (>= 4.1.0)

License GPL-3

Encoding UTF-8

Language en-US

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

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

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Contents

`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.

Details

This package contains the following datasets:

tas_data Conservation planning dataset for Tasmania, Australia.

salt_data Conservation planning dataset for Salt Spring Island, Canada.

wa_data Conservation planning dataset for Washington, United States.

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See Also

Useful links:

- https://prioritizr.github.io/prioritizrdata/
- https://github.com/prioritizr/prioritizrdata
- Report bugs at https://github.com/prioritizr/prioritizrdata/issues

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`prioritizrdata-deprecated` *Deprecation notice*

Description

The functions listed here are deprecated. This means that they once existed in earlier versions of the of the **prioritizrdata** package, but they have since been removed entirely, replaced by other functions, or renamed as other functions in newer versions. To help make it easier to transition to new versions of the **prioritizrdata** package, we have listed alternatives for deprecated the functions (where applicable). If a function is described as being renamed, then this means that only the name of the function has changed (i.e., the inputs, outputs, and underlying code remain the same).

Usage

```
get_wa_features()
```

Details

The following functions have been deprecated:

`get_wa_features()` renamed as the `get_wa_species()` function.

`salt_data` *Salt Spring Island data*

Description

Conservation planning dataset for Salt Spring Island, Canada. It was obtained as part of an online *Marxan*-based planning tool created for the Coastal Douglas-fir Conservation Partnership (CDFCP; Schuster *et al.* 2017).

Usage

```
get_salt_pu()

get_salt_features()

get_salt_con()
```

Format

salt_pu `terra::rast()` object.

salt_features `terra::rast()` object.

salt_con `terra::rast()` object.

Details

The following functions are provided to import data:

`get_salt_pu()` Import planning unit data. The planning units are a single layer `terra::rast()` object. Cell values denote the monetary cost of acquiring different areas (e.g., a value of 1 = $100,000 CAD; BC Land Assessment 2015).

`get_salt_features()` Import biodiversity feature data. The feature data are a multi-layer `terra::rast()` object object. It contains the spatial distribution of four key ecological communities. Each layer represents a different community type. These classes are (i) old forest, (ii) savanna, (iii) wetland, and (iv) shrub. For each layer, values indicate the composite probability of encountering the suite of bird species most commonly associated with that community type.

`get_salt_con()` Import connectivity data. The connectivity data are a single-layer `terra::rast()` object. It contains the inverse probability of occurrence of human commensal species. Based on the assumption that human modified areas impede connectivity for native fauna, cells with higher values have higher connectivity.

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 https://peter-arcese-lab.sites.olt.ubc.ca/files/2016/09/CDFCP_tutorial_2017_05.pdf (Date Accessed 2017/10/09).

Examples

```
# load packages
library(terra)
library(sf)

# import data
salt_pu <- get_salt_pu()
salt_features <- get_salt_features()

# preview planning units
print(salt_pu)
plot(salt_pu)

# preview features
print(salt_features)
plot(salt_features)

# preview connectivity data
salt_con <- get_salt_con()
print(salt_con)
plot(salt_con)
```

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tas_data *Tasmania data*

Description

Conservation planning dataset for Tasmania, Australia.

Usage

```
get_tas_pu()

get_tas_features()
```

Format

tas_pu `sf::st_sf()` object.

tas_features `terra::rast()` object

Details

The following functions are provided to import data:

`get_tas_pu` Import planning unit data. The planing units are a `sf::st_sf()` simple features object. Each row corresponds to a different planning unit, and columns contain information about the planning units. It has columns that contain: (`"id"`) unique identifiers and (`"cost"`) unimproved land values for the planning units. 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. These data obtained from the "Introduction to *Marxan*" course and were originally generated as part of a larger spatial prioritization Resources (Klein *et al.* 2007).

`get_tas_features` Import biodiversity feature data. The feature data are a multi-layer `terra::rast()` object. classes. Each layer corresponds to a different vegetation class and contains binary cell values that indicate the presence or absence of the vegetation class. These data were obtained from the Australian Government's National Vegetation Information System (Australian Government Department of Climate Change, Energy, the Environment and Water 2020).

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.

Australian Government Department of Climate Change, Energy, the Environment and Water (2020). National Vegetation Information System. Version 6.0. Available at https://digital.atlas.gov.au/maps/national-vegetation-information-system-nvis-version-6-0-extant-vegetation.

Examples

```
# load packages
library(terra)
library(sf)

# load data
tas_pu <- get_tas_pu()
tas_features <- get_tas_features()

# preview planning units
print(tas_pu)
plot(tas_pu)

# plot features
print(tas_features)
plot(tas_features)
```

wa_data *Washington data*

Description

Conservation planning dataset for Washington, The United States of America.

Usage

```
get_wa_pu()

get_wa_locked_in()

get_wa_locked_out()

get_wa_species()

get_wa_attr()

get_wa_carbon()
```

Format

get_wa_pu `terra::rast()` object.

get_wa_locked_in `terra::rast()` object.

get_wa_locked_out `terra::rast()` object.

get_wa_carbon `terra::rast()` object.

get_wa_species `terra::rast()` object.

get_wa_attr `tibble::tibble()` object.

Details

The following functions are provided to import data:

`get_wa_pu()` Import planning unit data. The planning units are a single layer `terra::rast()` object. Cell values denote land acquisition costs. These data were originally obtained from Nolte (2020 a,b).

`get_wa_locked_in()` Import locked in data. The locked in data are a single layer `terra::rast()` object. Cell values denote binary values indicating if each cell is predominantly covered by protected areas (excluding those with no mandate for biodiversity protection). These data were originally obtained from USGS (2022)

`get_wa_locked_in()` Import locked out data. The locked out data are a single layer `terra::rast()` object. Cell values denote binary values indicating if each cell is predominantly covered by urban areas. These data were originally obtained from the Commission for Environmental Cooperation (2020)

`get_wa_carbon()` Import vulnerable carbon data. The carbon data a single layer `terra::rast()` object. Cell values denote continuous values representing the amount of carbon sequestered that is vulnerable to be released through typical land-use conversion. These data were originally obtained from the Noon *et al.* (2021, 2022)

`get_wa_species()` Import species distribution data. The feature data are a multi-layer `terra::rast()` object. It contains the spatial distribution of 258 bird species. To account for migratory patterns, data are provided for the breeding and non-breeding distributions of species (indicated by `"breeding"` and `"non-breeding"` in the layer names). If a species is lacking such information, then the species is denoted with its full distribution (as indicated `"full"` in the layer names). These data were originally obtained from the eBird Status and Trends dataset (Fink *et al.* 2020). To ensure backwards compatibility with previous versions of the package, `get_wa_features()` can also be used to access these data.

`get_wa_attr()` Import attribute data about the species. The feature attribute data are a data frame (`tibble::tibble()`) object. It contains taxonomic information for each feature (i.e., layer in `get_wa_species()`) as well as estimates of public interest (derived from Mittermeier *et al.* 2021) and extinction risk (based on the methodology of Davis *et al.* 2018 and and threat status classification data from IUCN 2025). Since Mittermeier *et al.* (2021) did not contain public interest scores for all features, scores were interpolated for features missing scores based on average public interest score of features that belong to the same taxonomic family. This object has the following columns:

feature Name of the feature (i.e., per `get_wa_species()`).

binomial Taxonomic species and genus name of the feature.

family Taxonomic family name of the feature.

order Taxonomic order of the feature.

extinction_prob Probability of extinction.

interest_score Public interest score.

References

Commission for Environmental Cooperation. (2020). *2015 Land Cover of North America at 30 Meters*. North American Land Change Monitoring System, 2nd Edition, https://www.cec.org:443/north-american-environmental-atlas/land-cover-30m-2015-landsat-and-rapideye/.

Davis M, Faurby S, and Svenning J-C (2018) Mammal diversity will take millions of years to recover from the current biodiversity crisis. *Proceedings of the National Academy of Sciences*, 115: 11262–11267.

Fink D, Auer T, Johnston A, Ruiz-Gutierrez V, Hochachka WM and Kelling S (2020) Modeling avian full annual cycle distribution and population trends with citizen science data. *Ecological Applications*, 30: e02056.

IUCN (2025) The IUCN Red List of Threatened Species. Version 2025-2. https://www.iucnredlist.org. Accessed on 13 May 2026.

Mittermeier JC, Roll U, Matthews TJ, Correia R, and Grenyer R (2021) Birds that are more commonly encountered in the wild attract higher public interest online. *Conservation Science and Practice*, 3: e340.

Nolte C (2020a) *Data for: High-resolution land value maps reveal underestimation of conservation costs in the United States*. Dryad, Dataset, doi:10.5061/dryad.np5hqbzq9.

Nolte C (2020b) High-resolution land value maps reveal underestimation of conservation costs in the United States. *Proceedings of the National Academy of Sciences*, 117: 29577–29583.

Noon ML, Goldstein A, Ledezma JC, Roehrdanz PR, Cook-Patton SC, Spawn-Lee SA, Wright TM, Gonzalez-Roglich M, Hole DG, Rockström J, and Turner WR (2022) Mapping the irrecoverable carbon in Earth's ecosystems. *Nature Sustainability*, 5: 37–46.

Noon ML, Goldstein A, Ledezma JC, Roehrdanz PR, Cook-Patton SC, Spawn-Lee SA, Wright TM, Gonzalez-Roglich M, Hole DG, Rockström J, and Turner WR (2021) Mapping the irrecoverable carbon in Earth's ecosystems (2.0) [Data set]. Zenodo. doi:10.5281/zenodo.4091029.

U.S. Geological Survey (USGS) Gap Analysis Project (GAP) (2022) Protected Areas Database of the United States (PAD-US) 3.0: U.S. Geological Survey data release, doi:10.5066/P9Q9LQ4B.

Examples

```
# load packages
library(terra)

# import data
wa_pu <- get_wa_pu()
wa_species <- get_wa_species()
wa_attr <- get_wa_attr()
wa_locked_in <- get_wa_locked_in()
wa_locked_out <- get_wa_locked_out()
wa_carbon <- get_wa_carbon()

# preview planning units
print(wa_pu)
plot(wa_pu)

# preview locked in
print(wa_locked_in)
plot(wa_locked_in)

# preview locked out
print(wa_locked_out)
plot(wa_locked_out)

# preview species
print(wa_species)
plot(wa_species)

# preview attributes of species
print(wa_attr)
```

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