Package 'geoidep'

September 22, 2024

Type Package

Title Download Geographic Data on Various Topics Provided and Managed
by the Spatial Data Infrastructure of Peru

Version 0.3.0

Description
Provides R users with easy access to official cartographic data from Peru across a range of topics, including society, transport, environment, agriculture, climate, and more.
It also includes data from regional government entities and technical-scientific institutions, all managed by Peru's Spatial Data Infrastructure.
For more information, please visit: <https://www.geoidep.gob.pe/catalogos-de-metadatos>.

License Apache License (>= 2)

URL https://geografo.pe/geoidep/

BugReports https://github.com/ambarja/geoidep/issues

Imports httr, sf, archive, tidyr, cli, jsonlite, dplyr

RoxygenNote 7.3.2

Encoding UTF-8

Suggests knitr, rmarkdown, ggplot2, leaflet, leaflet.extras, testthat
(>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

Date/Publication 2024-09-22 21:00:07 UTC

Contents

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get_data_sources   *List providers, description, year and link*

Description

This function allows you to list the list of available providers of the geoidep package.

Usage

```
get_data_sources(query = NULL)
```

Arguments

query   A string. Default is NULL. List of available providers. For more details, use the
                   'get_providers' function.

Value

A tibble object.

Examples

```
library(geoidep)
get_data_sources()
```

---

get_departaments   *Download INEI departmental boundaries*

Description

This function allows you to download the latest version of the **geometry** and **ubigeos** corresponding to the **official political division** of the departament boundaries of Peru. For more information, you can visit the following page <https://ide.inei.gob.pe/>

Usage

```
get_departaments(dsn = NULL, show_progress = TRUE, quiet = TRUE)
```

Arguments

dsn	Character. Output filename. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf or tibble object.

Examples

```
library(geoidep)
dep <- get_departaments(show_progress = FALSE)
head(dep)
```

---

get_districts   *Download INEI district boundaries*

Description

This function allows you to download the latest version of the **geometry** and **ubigeos** corresponding to the **official political division** of the district boundaries of Peru. For more information, you can visit the following page <https://ide.inei.gob.pe/>

Usage

```
get_districts(dsn = NULL, show_progress = TRUE, quiet = TRUE)
```

Arguments

dsn	Character. Output filename with the ***.gpkg** format. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf object.

Examples

```
library(geoidep)
dist <- get_districts(show_progress = FALSE)
head(dist)
```

---

get_early_warning	*Download information on the latest deforestation alerts detected by Geobosque*

Description

This function allows you to download deforestation alert information detected by Geobosque for any polygon located in Peru. For more details, please visit the following website: https://geobosques.minam.gob.pe

Usage

```
get_early_warning(region, sf = TRUE, show_progress = TRUE)
```

Arguments

region	A string Specifies the unique geographical code of interest.
sf	Logical. Indicates whether to return the data as an 'sf' object.
show_progress	Logical. If TRUE, shows a progress bar during download.

Value

A tibble or sf object, depending on the value of 'sf'.

Examples

```
library(geoidep)
amazonas <- get_departaments(show_progress = FALSE) |> subset(NOMBDEP == "AMAZONAS")
warning_point <- get_early_warning(region = amazonas, sf = TRUE, show_progress = FALSE)
head(warning_point)
```

---

get_forest_fire_data   *Download available forest fire data from Serfor's Satellite Monitoring Unit*

Description

This function allows you to download the latest version of forest fire data available from the Satellite Monitoring Unit of the National Forestry and Wildlife Service of Peru. For more information, please visit the following website: <https://sniffs.serfor.gob.pe/monitoreo/sami/index.html>

Usage

```
get_forest_fire_data(dsn = NULL, show_progress = TRUE, quiet = FALSE)
```

Arguments

dsn	Character. Output filename with the **spatial format**. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf object.

Examples

```
library(geoidep)
library(sf)
fire_forest <- get_forest_fire_data(show_progress = FALSE)
head(fire_forest)
```

---

get_forest_loss_data   *Download the forest and loss information from Geobosque*

Description

This function allows you to download the **ubigeos** corresponding to the official political division of the district, province or region boundaries of Peru with **forest and loss information**. For more information, you can visit the following website: <https://geobosques.minam.gob.pe>

Usage

```
get_forest_loss_data(layer = NULL, ubigeo = NULL, show_progress = TRUE)
```

Arguments

`layer`	A string.Specifies one of the following available layers; stock_bosque_perdida_distrito, stock_bosque_perdida_provincia, stock_bosque_perdida_departamento.
`ubigeo`	A string Specifies the unique geographical code of interest.
`show_progress`	Logical. Indicates whether to display the progress bar.

Details

Available layers are:

- **stock_bosque_perdida_distrito:** Returns data on forest stock, forest loss, rank loss for a given district.

- **stock_bosque_perdida_provincia:** Returns data on forest stock, forest loss, rank loss for a given province.

- **stock_bosque_perdida_departamento:** Returns data on forest stock, forest loss, rank loss for a given region.

Value

A tibble object.

Examples

```
library(geoidep)
geobosque <- get_forest_loss_data(
    layer = "stock_bosque_perdida_distrito",
    ubigeo = "010101",
    show_progress = FALSE)
head(geobosque)
```

---

get_hotspots_data	*Download available hot spot data from Serfor's Satellite Monitoring Unit*

Description

This function allows you to download the latest version of forest fire data available from the Satellite Monitoring Unit of the National Forestry and Wildlife Service of Peru. For more information, please visit the following website: https://sniffs.serfor.gob.pe/monitoreo/sami/index.html

Usage

```
get_hotspots_data(dsn = NULL, show_progress = TRUE, quiet = FALSE)
```

Arguments

dsn	Character. Output filename with the **spatial format**. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf object.

Examples

```
library(geoidep)
library(sf)
hot_spots <- get_hotspots_data(show_progress = FALSE)
head(hot_spots)
```

---

get_midagri_data   *Download Geographic Information from MIDAGRI*

Description

This function allows you to download the latest version of MIDAGRI geographic data. For more information you can visit the following page <https://siea.midagri.gob.pe/>.

Usage

```
get_midagri_data(layer = NULL, dsn = NULL, show_progress = TRUE, quiet = TRUE)
```

Arguments

layer	A string. Specifies the layer to download. Available layers are detailed in the 'Details' section.
dsn	Character. The output filename in **.shp or .gpkg** format. If not provided, a temporary file will be created.
show_progress	Logical. If TRUE, displays a progress bar during the download.
quiet	Logical. If TRUE, suppresses informational messages.

Details

Available layers are:

- **vegetation_cover:** Polygons representing agricultural areas of Peru, produced from high-resolution satellite images (RapidEye and Sentinel-2).

- **agriculture_sector:** Polygons representing the new national register of agricultural statistical sectors for the year 2024.
- **oil_palm_areas:** Polygons representing areas cultivated with oil palm in Peru for the period 2016 to 2020.
- **experimental_stations:** Points representing agricultural experimental stations in Peru.

Value

An 'sf' object containing the downloaded geographic data.

Examples

```
library(geoidep)
library(sf)
# Disable the use of S2 geometry for accurate spatial operations
sf_use_s2(use_s2 = FALSE)

# Retrieve the polygon for Coronel Portillo province
coronel_portillo <- get_provinces(show_progress = FALSE) |>
  subset(NOMBPROV == "CORONEL PORTILLO") |>
  st_transform(crs = 32718)

# Download and extract the oil palm layer for Coronel Portillo
oil_palm <- get_midagri_data(
  layer = "oil_palm_areas",
  show_progress = FALSE
) |>
  st_intersection(coronel_portillo)

# Visualize the oil palm layer
plot(st_geometry(oil_palm))
```

---

get_providers   *List resources and count layers of IDEP*

Description

Summary of providers

Usage

```
get_providers(query = NULL)
```

Arguments

query   Character. Default is NULL.

Value

An sf or tibble object.

Examples

```
library(geoidep)
get_providers()
```

---

get_provinces   *Download INEI province boundaries*

Description

This function allows you to download the latest version of the **geometry** and **ubigeos** corresponding to the **official political division** of the province boundaries of Peru. For more information, you can visit the following page <https://ide.inei.gob.pe/>

Usage

```
get_provinces(dsn = NULL, show_progress = TRUE, quiet = TRUE)
```

Arguments

dsn	Character. Output filename. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf or tibble object.

Examples

```
library(geoidep)
prov <- get_provinces(show_progress = FALSE)
head(prov)
```

---

get_sernanp_data   *Download the available data from Sernanp*

Description

This function allows you to download the latest version of data available on the sernanp geoviewer. For more information, you can visit the following web page: https://geo.sernanp.gob.pe/visorsernanp/

Usage

```
get_sernanp_data(layer = NULL, dsn = NULL, show_progress = TRUE, quiet = FALSE)
```

Arguments

layer	Select only one from the list of available layers, for more information please use 'get_data_sources(provider = "sernanp")'. Defaults to NULL.
dsn	Character. Output filename with the **spatial format**. If missing, a temporary file is created.
show_progress	Logical. Suppress bar progress.
quiet	Logical. Suppress info message.

Value

An sf object.

Examples

```
library(geoidep)
library(sf)
anp <- get_sernanp_data(layer = "zonificacion_anp" , show_progress = FALSE)
plot(st_geometry(anp))
```

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