Package: addNlcdData (via r-universe)

October 25, 2024

Title Add National Landcover Database Variables to Your Data

Version 0.0.5

Description Add National Landcover Database (NLCD) Variables to your data by downloading only chunks of NLCD data from the internet needed for your aread of interest. NLCD variables include imperviousness, greenness, and impervious descriptor (road type) and are based on a 30 m x 30 m grid. NLCD variables can be added for point data (lat/lon), polygon data (as an sf object), or point data with a specified buffer radius.

License GPL-3

Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 6.1.1

Imports magrittr, dplyr (>= 1.0.0), tidyr (>= 1.0.0), sf (>= 0.8-1), raster (>= 3.3-13), glue (>= 1.4.2), purrr (>= 0.3.4), fst (>= 0.9.2), tibble (>= 3.0.3), tidyselect (>= 1.1.0), utils, stats, exactextractr (>= 0.5.1), s3 (>= 0.3.1)

Remotes geomarker-io/s3

Suggests fs, testthat (>= 3.0.0)

Config/testthat/edition 3

Repository https://geomarker-io.r-universe.dev

RemoteUrl https://github.com/geomarker-io/addNlcdData

RemoteRef HEAD

RemoteSha 55de2eaa4c2d84d992c8f5c089e4aa8cd737d039

Contents

`download_nlcd_chunks` *download all chunks needed for nlcd multiple cell numbers ahead of time*

Description

download all chunks needed for nlcd multiple cell numbers ahead of time

Usage

```
download_nlcd_chunks(nlcd_cell_numbers)
```

Arguments

`nlcd_cell_numbers`
: vector of nlcd cell numbers

Value

downloaded fst files in nlcd_fst folder in working directory

Examples

```
if (FALSE) {
nlcd_cell_numbers <- c(7814606790, 7814606790, 7756256174)

download_nlcd_chunks(nlcd_cell_numbers)
}
```

`get_nlcd_cell_numbers_points` *get NLCD cell numbers for given lat and lon*

Description

get NLCD cell numbers for given lat and lon

Usage

```
get_nlcd_cell_numbers_points(point_data)
```

Arguments

point_data	data.frame with columns 'lat' and 'lon'

Value

a data.frame identical to the input data.frame but with appended NLCD cell numbers

Examples

```
if (FALSE) {
point_data <- data.frame(
  id = c('1a', '2b', '3c'),
  lat = c(39.19674, 39.19674, 39.28765),
  lon = c(-84.582601, -84.582601, -84.510173)
)

get_nlcd_cell_numbers_points(point_data)
}
```

---

get_nlcd_data *get NLCD data for NLCD cells*

Description

get NLCD data for NLCD cells

Usage

```
get_nlcd_data(raw_data, product = c("nlcd", "impervious",
  "imperviousdescriptor"), year = c(2001, 2006, 2011, 2016))
```

Arguments

raw_data	data.frame with column 'nlcd_cell'
product	a character string of desired nlcd variables; a subset of c("nlcd", "impervious", "imperviousdescriptor")
year	a numeric vector of desired nlcd years; a subset of c(2001, 2006, 2011, 2016)

Value

a data.frame identical to the input data.frame but with appended NLCD values (and in long format)

Examples

```
if (FALSE) {
d <- data.frame(
  id = c('1a', '2b', '3c'),
  nlcd_cell = c(7814606790, 7814606790, 7756256174)
)

get_nlcd_data(d, product = c("nlcd", "impervious"), year = c(2011, 2016))
}
```

`get_nlcd_data_point_buffer`

get NLCD data for specified buffer radius around point data

Description

get NLCD data for specified buffer radius around point data

Usage

```
get_nlcd_data_point_buffer(point_data, buffer_m)
```

Arguments

`point_data`	data.frame with columns 'lat' and 'lon'
`buffer_m`	desired buffer radius in meters

Value

a data.frame identical to the input data.frame but with appended percentage NLCD values (and in long format) all available products and years will be returned.

Examples

```
if (FALSE) {
point_data <- data.frame(
  id = c('1a', '2b', '3c'),
  lat = c(39.19674, 39.19674, 39.28765),
  lon = c(-84.582601, -84.582601, -84.510173)
)

get_nlcd_data_polygons(point_data, buffer_m = 400)
}
```

`get_nlcd_data_polygons` *get NLCD data for polygons*

Description

get NLCD data for polygons

Usage

```
get_nlcd_data_polygons(polygon_data)
```

Arguments

`polygon_data`	an sf data.frame containing polygons for which data from nlcd cells will be averaged

Value

a data.frame identical to the input data.frame but with appended percentage NLCD values (and in long format) all available products and years will be returned.

Index