

Package ‘rlandfire’

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Type Package

Title Interface to 'LANDFIRE Product Service' API

Version 1.0.0

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Description Provides access to a suite of geospatial data layers for wildfire management, fuel modeling, ecology, natural resource management, climate, conservation, etc., via the 'LANDFIRE' (<<https://www.landfire.gov/index.php>>) Product Service ('LFPS') API.

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Encoding UTF-8

URL <https://github.com/bcknr/rlandfire>

BugReports <https://github.com/bcknr/rlandfire/issues>

RoxygenNote 7.2.3

Imports httr, sf, utils

Suggests knitr, raster, rmarkdown, stars, terra, testthat (>= 3.0.0)

Config/testthat/edition 3

VignetteBuilder knitr

Depends R (>= 2.10)

NeedsCompilation no

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Repository CRAN

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getAOI	<i>Create extent vector for landfireAPI()</i>
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Description

getAOI creates an extent vector in WGS84 from spatial data

Usage

```
getAOI(data, extend = NULL, sf_order = FALSE)
```

Arguments

data	A SpatRaster, SpatVector, sf, stars, or RasterLayer (raster) object
extend	Optional. A numeric vector of 1, 2, or 4 elements to increase the extent by.
sf_order	If extend != NULL, logical indicating that the order of the extend vector follows <code>sf::st_bbox()</code> (xmin, ymin, xmax, ymax) when TRUE or <code>terra::extend()</code> (xmin, xmax, ymin, ymax) when FALSE. This is FALSE by default to ensure backwards compatibility with previous versions.

Value

Returns an extent vector ordered xmin, ymin, xmax, ymax with a lat/lon projection.

Examples

```
r <- terra::rast(nrows = 50, ncols = 50,
  xmin = -123.7835, xmax = -123.6352,
  ymin = 41.7534, ymax = 41.8042,
  crs = terra::crs("epsg:4326"),
  vals = rnorm(2500))
ext <- getAOI(r, c(10, 15))
```

getZone	<i>Find LANDFIRE map zone for use with landfireAPI()</i>
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Description

getZone returns the LANDFIRE Map Zone(s) a spatial object intersects or the zone number from the zone name. Currently, only map zones within CONUS are supported.

Usage

```
getZone(data)
```

Arguments

data An sf object or character string with the map zone name.

Value

Returns a numeric vector containing the map zone(s)

Examples

```
## Not run:
v <- sf::st_bbox(sf::st_as_sf(data.frame(x = c(-123.7835,-123.6352),
                                         y = c(41.7534,41.8042)),
                                         coords = c("x", "y"),
                                         crs = 4326)) |>

  sf::st_as_sf()
zone <- getZone(v)

## End(Not run)
```

landfireAPI

Call the LANDFIRE Product Service (LFPS) API

Description

landfireAPI downloads LANDFIRE data by calling the LFPS API

Usage

```
landfireAPI(
  products,
  aoi,
  projection = NULL,
  resolution = NULL,
  edit_rule = NULL,
  edit_mask = NULL,
  path = NULL,
  max_time = 10000,
  method = "curl",
  verbose = TRUE
)
```

Arguments

products Product names as character vector (see: [Products Table](#))

aoi Area of interest as character or numeric vector defined by latitude and longitude in decimal degrees in WGS84 and ordered xmin, ymin, xmax, ymax or a LANDFIRE map zone.

projection	Optional. A numeric value of the WKID for the output projection Default is a localized Albers projection.
resolution	Optional. A numeric value between 30-9999 specifying the resample resolution in meters. Default is 30m.
edit_rule	Optional. A list of character vectors ordered "operator class" "product", "operator", "value". Limited to fuel theme products only. (see: LFPS Guide)
edit_mask	Optional. Not currently functional
path	Path to .zip directory. Passed to <code>utils::download.file()</code> . If NULL, a temporary directory is created.
max_time	Maximum time, in seconds, to wait for job to be completed.
method	Passed to <code>utils::download.file()</code> . See <code>?download.file</code>
verbose	If FALSE suppress all status messages

Value

Returns a `landfire_api` object with named elements:

- request - list with elements query, date, url, job_id,dwl_url
- content - Informative messages passed from API
- response - Full response
- status - Final API status, one of "Failed", "Succeeded", or "Timed out"
- path - path to save directory

Examples

```
## Not run:
products <- c("ASP2020", "ELEV2020", "140CC")
aoi <- c("-123.7835", "41.7534", "-123.6352", "41.8042")
projection <- 6414
resolution <- 90
edit_rule <- list(c("condition", "ELEV2020", "lt", 500), c("change", "140CC", "st", 181))
save_file <- tempfile(fileext = ".zip")
resp <- landfireAPI(products, aoi, projection, resolution, edit_rule = edit_rule, path = save_file)

## End(Not run)
```

viewProducts

View LFPS products table

Description

`viewProducts()` opens the LFPS products table in your web browser

Usage

```
viewProducts()
```

viewProducts

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Value

NULL. Opens the LF products table in your default browser.

Examples

```
viewProducts()
```

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