Package 'nasadata'

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Type Package

Title Interface to various NASA API's

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Description Provides functions to access NASA's Earth Imagery and Assets API and the Earth Observatory Natural Event Tracker (EONET) webservice.

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LazyData TRUE

RoxygenNote 5.0.1

R topics documented:

`earth_asset` *Call Asset API*

Description

Calls NASA's Earth Imagery Assets API and returns data.frame with information on time and location of images between two dates.

Usage

```
earth_asset(key, lon, lat, start_date, end_date = Sys.Date())
```

Arguments

key	Key for API authentication.
lon	Longitud of coordinate position.
lat	Latitud of coordinate position.
start_date	Start date to search for image. In YYYY-MM-DD format.
end_date	End date to search for image. In YYYY-MM-DD format. Defaults to current system date.

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earth_event *Calls EONET webservice*

Description

Calls NASA's Earth Observatory Natural Event Tracker (EONET) webservice and returns a data.frame with individual event or events.

Usage

```
earth_event(status = "all", sources = "all", category_id = "all",
  limit = 10, days = 20, LimitType = "limit", TrySimplify = TRUE)
```

Arguments

status	Accepts 1 or 0 (open or closed). Defaults to "all", which includes both.
sources	Accepts character id strings from EONET sources (see eonet_sources)
category_id	Accepts number id strings from EONET category tree (se eonet_categories)
limit	Limit of events to download. If LimitType = "days" this is not considered. Defaults to 10.
days	Limit of days (less than today) to download events from. If LimitType = "limit" this is not considered. Defaults to 20.
LimitType	Type of limit to consider: "limit" (count of events), "days" (days less than today) or "all" (both limits).
TrySimplify	If TRUE tries to coerce category and event data.frames into one (successful if there is one category per event).

earth_image *Fetches image from Earth Imagery API*

Description

Calls NASA's Earth Imagery API and returns list with identification information and image.

Usage

```
earth_image(key, lon, lat, date, cloud_score = TRUE, plot = FALSE,
  meta_only = FALSE)
```

Arguments

key	Key for API authentication.
lon	Longitud of coordinate position.
lat	Latitud of coordinate position.
date	In YYYY-MM-DD format. The API wil return the image that is closest to this date.
cloud_score	Gives a score of percentage of cloud cover, via algorithm (see official documentation). Defaults to TRUE.
plot	If TRUE will plot the image via generic plot function.

eonet_categories *Calls EONET category webservice*

Description

Calls NASA's EONET Webservice and returns all categories available.

Usage

```
eonet_categories()
```

Details

Returns data.frame with 5 columns @field id Unique id (can be used to filter `earth_event`) @field title Title of category @field link Direct json link (the result is equal to filtering all `earth_event` with category) @field description Description of category @field layers Layers of category (see oficial documentation)

Examples

```
## Not run:
categories <- eonet_categories()

## End(Not run)
```

eonet_sources *Calls EONET sources webservice*

Description

Calls NASA's EONET Webservice and returns all sources available.

Usage

```
eonet_sources()
```

Details

Returns data.frame with 4 columns @field id Unique id (can be used to filter `earth_event`) @field title Title of source @field source Official source URL @field link Direct json link (the result is equal to filtering all `earth_event` with source)

Examples

```
## Not run:
sources <- eonet_sources()

## End(Not run)
```

plot_earth_image *Plots the image to device*

Description

To avoid S4 Classes and methods, this small wrapper simply plots an image from NASA. If the purpose is to this interactively on one image, set the parameter plot = TRUE in `earth_image`

Usage

```
plot_earth_image(image_png)
```

Arguments

`image_png`	image downloaded using earth_image.

See Also

earth_image

`trace_sat` *Trace a satellite route*

Description

Calls NASA's Earth Imagery Assets API and returns data.frame with information on time and location between two dates to "trace" a satellites path.

Usage

```
trace_sat(key, lon1, lon2, lat1, lat2, date1, date2, cloud_score = TRUE,
  plot = FALSE, meta_only = FALSE)
```

Arguments

`key`	Key for API authentication.

Index