Package 'airnow'

October 31, 2022

Title Retrieve 'AirNow' Air Quality Observations and Forecasts

Version 0.1.0

Description Retrieve air quality data via the 'AirNow'
<https://www.airnow.gov/> API.

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URL <https://github.com/briandconnelly/airnow>

BugReports <https://github.com/briandconnelly/airnow/issues>

Depends R (>= 4.1.0)

Imports cli, glue, httr2, jsonlite, lifecycle, rlang (>= 1.0.0),
tibble

Suggests covr, lintr, testthat (>= 3.0.0), withr

Config/testthat/edition 3

Encoding UTF-8

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NeedsCompilation no

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Repository CRAN

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R topics documented:

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aqi_color   *Label AQI Values*

Description

aqi_color() returns the color that corresponds with the given AQI value.

aqi_descriptor() converts the given AQI value(s) into a descriptive string.

Usage

```
aqi_color(aqi)

aqi_descriptor(aqi)
```

Arguments

aqi   An AQI value. AQI is an integer between 0 and 500, inclusive.

Value

aqi_color() returns an RGB hex string

aqi_descriptor() returns a string

Examples

```
aqi_color(35)
aqi_descriptor(35)
```

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get_airnow_area   *Get air quality data for a given region*

Description

get_airnow_area() retrieves the most recent air quality readings from sites in a specified region.

Usage

```
get_airnow_area(
  box,
  parameters = "pm25",
  start_time = NULL,
  end_time = NULL,
  monitor_type = "both",
  data_type = c("aqi", "concentrations", "both"),
  verbose = FALSE,
```

```
    raw_concentrations = FALSE,
    clean_names = TRUE,
    api_key = get_airnow_token()
)
```

Arguments

box	Four-element numeric vector specifying a bounding box for the region of interest. Format is (minX, minY, maxX, maxY), where X and Y are longitude and latitude, respectively.
parameters	Parameter(s) to return data for. Choices are PM_2.5 (pm25: default), ozone, PM_10 (pm10), CO (co), NO2 (no2), and SO2 (so2).
start_time	Optional. The date and time (UTC) at the start of the time period requested. If specified, end_time must also be given. If not specified, the most recent past hour is used.
end_time	Optional. The date and time (UTC) at the end of the time period requested. If specified, start_time must also be given. If not specified, the following hour is used.
monitor_type	Type of monitor to be returned, either "permanent", "mobile", or "both" (default).
data_type	Type of data to be returned, either "aqi" (default), "concentrations", or "both".
verbose	Logical value indicating whether or not to include additional site information including Site Name, Agency Name, AQS ID, and Full AQS ID (default: FALSE)
raw_concentrations	
	Logical value indicating whether or not raw hourly concentration data should be included (default: FALSE)
clean_names	Whether or not column names should be cleaned (default: TRUE)
api_key	AirNow API key

Value

A data frame with current air quality conditions

Examples

```
## Not run:
# Get air quality data around Washington state
get_airnow_area(box = c(-125.394211, 45.295897, -116.736984, 49.172497))

## End(Not run)
```

---

get_airnow_conditions   *Get current air quality conditions*

Description

get_airnow_conditions() retrieves the most recent air quality readings for the given location. Locations can be specified either by ZIP code (zip), or by latitude/longitude. If no data exist for the specified location, an optional search radius for other sites can be specified using distance.

Usage

```
get_airnow_conditions(
  zip = NULL,
  latitude = NULL,
  longitude = NULL,
  distance = NULL,
  clean_names = TRUE,
  api_key = get_airnow_token()
)
```

Arguments

zip	ZIP code, a 5-digit numeric string (e.g., "90210")
latitude	Latitude in decimal degrees
longitude	Longitude in decimal degrees
distance	Optional. If no reporting area is associated with the given zip code, current observations from a nearby reporting area within this distance (in miles) will be returned, if available.
clean_names	Whether or not column names should be cleaned (default: TRUE)
api_key	AirNow API key

Value

A data frame with current air quality conditions

Examples

```
## Not run:
get_airnow_conditions(zip = "90210")

## End(Not run)
```

`get_airnow_forecast`   *Get air quality forecast*

Description

`get_airnow_forecast()` retrieves forecasted air quality conditions for the given location. Locations can be specified either by ZIP code (`zip`), or by `latitude`/`longitude`. If no data exist for the specified location, an optional search radius for other sites can be specified using `distance`.

Usage

```
get_airnow_forecast(
  zip = NULL,
  latitude = NULL,
  longitude = NULL,
  distance = NULL,
  date = NULL,
  clean_names = TRUE,
  api_key = get_airnow_token()
)
```

Arguments

`zip`	ZIP code, a 5-digit numeric string (e.g., `"90210"`)
`latitude`	Latitude in decimal degrees
`longitude`	Longitude in decimal degrees
`distance`	Optional. If no reporting area is associated with the given `zip` code, current observations from a nearby reporting area within this distance (in miles) will be returned, if available.
`date`	Optional date of forecast. If this is not specified, the current forecast is returned.
`clean_names`	Whether or not column names should be cleaned (default: `TRUE`)
`api_key`	AirNow API key

Value

A data frame with current air quality conditions

Examples

```
## Not run:
get_airnow_forecast(zip = "90210")

## End(Not run)
```

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get_airnow_token   *Manage AirNow API Tokens*

Description

get_airnow_token() returns the configured AirNow API token or errors if it is not set.

set_airnow_token() sets the AirNow API token to the given value for the current session. To use this permanently, save it as AIRNOW_API_KEY in your ~/.Renviron file.

Usage

```
get_airnow_token(ask = is_interactive())

set_airnow_token(token = NULL, ask = is_interactive())
```

Arguments

ask   Whether or not to ask for the key if none is provided. Note that this only works
                for interactive sessions.

token   Token to use

Value

get_airnow_token() returns a string containing the current user or group key or an empty string if not set. If the user is not set but ask is TRUE, the user will be prompted for a key.

Examples

```
## Not run:
get_airnow_token()

## End(Not run)
## Not run:
set_airnow_token(token = "4d36e978-e325-11cec1-08002be10318")

## End(Not run)
```

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