Title  Data from Japan Meteorological Agency
Version  0.5.2
Description  Includes climate data from Japan Meteorological Agency ('JMA') <https://www.jma.go.jp/jma/indexe.html>.
Can download climate data from 'JMA'.
License  MIT + file LICENSE
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URL  https://github.com/matutosi/clidatajp
      https://github.com/matutosi/clidatajp/tree/develop (devel)
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        tibble, tidyr, utils
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choose_with_menu

choose_with_menu(df, filter_cols, extract = NULL)

Description
Choose data with menu.

Usage
choose_with_menu(df, filter_cols, extract = NULL)

as_numeric_without_warnings

Wrapper function to convert into numeric without warnings

Description
Wrapper function to convert into numeric without warnings

Usage
as_numeric_without_warnings(x)

Arguments
x A string.

Value
A numeric or NA.
**clean_station**

Clean up station information

**Description**

Helper function for download_climate().

**Usage**

```r
clean_station(station)
```

**Arguments**

station A String of station information.

**Value**

A tibble including station information.
climate_jp

Examples

```r
data(station_links)
station_links %>%
  head(1) %>%
  `$`(`station`) %>%
  stringi::stri_unescape_unicode() %>%
clean_station()
```

climate_jp  Climate data in Japan

Description

Climate data downloaded from Japan Meteorological Agency web pages. URLs of each station are listed in `data(station_links)`. [https://www.data.jma.go.jp/gmd/cpd/monitor/hrmlist/](https://www.data.jma.go.jp/gmd/cpd/monitor/hrmlist/)

Usage

```r
climate_jp
```

```r
japan_climate
```

Format

A data frame with 3768 (157 stations * 12 months * 2 periods) rows and 14 variable:

- **no**  Station no
- **month**  Month
- **period**  Period of observations
- **temperature**  Mean temperature
- **precipitation**  Mean precipitation
- **snowfall**  Mean snowfall
- **insolation**  Mean insolation
- **station**  Station name. To avoid duplication, including country name after station name. Can split by "\_\_". Escaped by stringi::stri_escape_unicode().
- **country**  Country name. Escaped by stringi::stri_escape_unicode().
- **latitude**  Latitude. (degree)
- **NS**  North or South.
- **longitude**  Longitude. (degree)
- **WE**  West or East.
- **altitude**  Altitude (m)

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 3768 rows and 14 columns.
climate_world

Examples

```r
library(magrittr)
library(stringi)
library(dplyr)
data(japan_climate)
japan_climate %>%
dplyr::mutate_all(stringi::stri_unescape_unicode)
```

climate_world  Climate data in the world

Description

Climate data downloaded from Japan Meteorological Agency web pages. URLs of each station are listed in data(station_links). https://www.data.jma.go.jp/gmd/cpd/monitor/nrmlist/

Usage

```r
climate_world
world_climate
```

Format

A data frame with 41328 (3444 stations * 12 months) rows and 12 variable:

- **no**  Station no
- **continent**  Continent. Escaped by stringi::stri_escape_unicode().
- **country**  Country name. Escaped by stringi::stri_escape_unicode().
- **station**  Station name. To avoid duplication, including country name after station name. Can split by ".". Escaped by stringi::stri_escape_unicode().
- **month**  Month
- **temperature**  Mean temperature
- **precipitation**  Mean precipitation
- **latitude**  Latitude. (degree)
- **NS**  North or South.
- **longitude**  Longitude. (degree)
- **WE**  West or East.
- **altitude**  Altitude (m)

An object of class tbl_df (inherits from tbl, data.frame) with 41328 rows and 12 columns.
download_climate

Examples

library(magrittr)
library(stringi)
library(dplyr)
data(world_climate)
world_climate %>%
dplyr::mutate_all(stringi::stri_unescape_unicode)

download_climate

Download climate data of the world

Description

For polite scraping, 5 sec interval is set in download_climate(), it takes over 5 hours to get climate data of all stations. Please use existing links by "data(climate_world)", if you do not need to renew climate data. You can see web page as below. https://www.data.jma.go.jp/gmd/cpd/monitor/nrmlist/

Usage

download_climate(url)

Arguments

url

A String to specify target html.

Value

A tibble including climate and station information, or NULL when failed.

Examples

# If you want all climate data, remove head().
# The codes take > 5 sec because of poliste scraping.

library(magrittr)
library(stringi)
library(dplyr)
data(station_links)
station_links <-
station_links %>%
dplyr::mutate_all(stringi::stri_unescape_unicode) %>%
head(3) %>%
{
  continent <- `$`("continent")
  no <- `$`("no")
} %>%
`$`("url")

climate <- list()
for(i in seq_along(station_links)){
  print(stringr::str_c(i, " / ", length(station_links)))
  climate[[i]] <- download_climate(station_links[i])
}
# run only when download_climate() succeeded
if(sum(is.null(climate[[1]]),
    is.null(climate[[2]]),
    is.null(climate[[3]])) == 0){
  month_per_year <- 12
  climate_world <-
  dplyr::bind_rows(climate) %>%
  dplyr::bind_cols(
    tibble::tibble(continent = rep(continent, month_per_year))) %>%
  dplyr::bind_cols(
    tibble::tibble(no = rep(no, month_per_year))) %>%
  dplyr::relocate(no, continent, country, station)
  climate_world
}

---

**download_links**  
*Download links for areas, countries and stations*

**Description**

For polite scraping, 5 sec interval is set in download_links(), it takes about 15 minutes to get all station links. Please use existing links by "data(station_links)", if you do not need to renew links. You can see web page as below. https://www.data.jma.go.jp/gmd/cpd/monitor/nrmlist/

**Usage**

```r
download_area_links(
  url = "https://www.data.jma.go.jp/gmd/cpd/monitor/nrmlist/"
)
download_links(url)
```

**Arguments**

- `url` A String to specify target html.

**Value**

A string vector of url links, or NULL when failed.
Examples

# If you want links for all countries and all stations, remove head().
# The codes take over 5 sec because of poliste scraping.

library(magrittr)
library(stringi)
library(dplyr)
library(tibble)

area_links <- download_area_links()
station_links <- NULL
continent <- NULL

continents <- c("ア\u30d5\u30ea\u30ab",
"\u30a2\u30b8\u30a2",
"\u5357\u30a2\u30e1\u30ea\u30ab",
"\u5317\u4e2d\u30a2\u30e1\u30ea\u30ab",
"\u30aa\u30bb\u30a2\u30cb\u30a2",
"\u30e8\u30fc\u30ed\u30c3\u30d1"
)

area_links <- head(area_links, 1) # for test

for(i in seq_along(area_links)){
  print(stringr::str_c("area: ", i, " / ", length(area_links)))
  country_links <- download_links(area_links[i])
  country_links <- head(country_links, 1) # for test
  for(j in seq_along(country_links)){
    print(stringr::str_c(" country: ", j, " / ", length(country_links)))
    links <- download_links(country_links[j])
    station_links <- c(station_links, links)
    continent <- c(continent, rep(continents[i], length(links)))
  }
}

station_links <- tibble::tibble(url = station_links, continent = continent)
station_links

---

generously_fail

Graceful fail

Description

Graceful fail

Usage

gracefully_fail(remote_file)

Arguments

remote_file A string of remote file.
head_3

Value
An XML document when successed, or invisible NULL when failed.

References
https://gist.github.com/kvasilopoulos/47f24348ed75c6b6365312b17f4b914c

head_3 Wrapper function to head 3 items

Description
Wrapper function to head 3 items

Usage
head_3(x)

Arguments
x An object.

Value
An object like x with length 3.

sleep Wrapper function to sleep

Description
Wrapper function to sleep

Usage
sleep(sec = 5)

Arguments
sec A numeric to sleep (sec).

Value
No return value, called for side effects.
Description

Climate stations in Japan

Usage

station_jp

Format

A data frame with 3444 rows and 4 variable:

- **region**  Rejon. Escaped by stringi::stri_escape_unicode().
- **pref**  Prefecture. Escaped by stringi::stri_escape_unicode()
- **no**  Station no.
- **station**  Station name. To avoid duplication, including country name after station name. Can split by " ". Escaped by stringi::stri_escape_unicode().
- **altitude**  Altitude. (m)
- **latitude**  Latitude. (degree)
- **longitude**  Longitude. (degree)
- **NS**  North or South.
- **WE**  West or East.
- **yomi**  Pronunciation in Japanese. Escaped by stringi::stri_escape_unicode()
- **city**  City name. Escaped by stringi::stri_escape_unicode().

Examples

```r
library(magrittr)
library(stringi)
library(dplyr)
data(station_jp)
station_jp %>%
dplyr::mutate_all(stringi::stri_unescape_unicode)
```
## station_links

### Description

Station name and its URL

### Usage

`station_links`

### Format

A data frame with 3444 rows and 4 variable:

- **no**  Station no
- **station** Station information including no, month, temperature, precipitation, station, country, latitude, NS, longitude, WE, altitude. The information is NOT cleaned Row information downloaded from each URL. Escaped by `stringi::stri_escape_unicode()`.
- **url** URL of station.
- **continent** Continent. Escaped by `stringi::stri_escape_unicode()`.

### Examples

```r
library(magrittr)
library(stringi)
library(dplyr)
data(station_links)
station_links %>%
  dplyr::mutate_all(stringi::stri_unescape_unicode)
```

## station_world

### Description

Climate stations of the world

### Usage

`station_world`
Format

A data frame with 3444 rows and 9 variable:

no  Station no
station Station name. To avoid duplication, including country name after station name. Can split by ".". Escaped by stringi::stri_escape_unicode().
continent Continent. Escaped by stringi::stri_escape_unicode().
country Country name. Escaped by stringi::stri_escape_unicode().
alitude Altitude (m)
latitude Latitude (degree)
NS  North or South.
longitude Longitude (degree)
WE  West or East

Examples

library(magrittr)
library(stringi)
library(dplyr)
data(station_world)
station_world %>%
dplyr::mutate_all(stringi::stri_unescape_unicode)

---

wi  
*Calculate warm index and cold index*

Description

Calculate warm index and cold index

Usage

wi(x)

ci(x)

Arguments

x  A numeric vector

Value

A string vector of url links.
References

Kira, T. 1945. A new classification of climate in eastern Asia as the basis for agricultural geography, Hort. Inst. Kyoto Univ., Kyoto. (in Japanese) Warmth Index (WI) and Cold Index (CI) was proposed by Kira (1945), which is known closely related to the distribution of vegetation. Indices can are calculated by following equations. \( wi = \text{sum}(T_i - 5) \), where \( wi \) is Warm index, \( T_i \) (celsius) is mean temperature of each month in a year when \( T_i > 5 \). Indices can are calculated by following equations. \( wi = \text{-sum}(T_i - 5) \), where \( wi \) is Cold index, when \( T_i < 5 \).

Examples

```r
temp <- c(-7.8, -7.2, -2.4, 5.2, 11.7, 16.5, 20.5, 21.1, 15.6, 8.8, 2.0, -4.1)
wi(temp)
ci(temp)
wi <- sum(c(0, 0, 0, 0.2, 6.7, 11.5, 15.5, 16.1, 10.6, 3.8, 0, 0))
ci <- sum(c(12.8, 12.2, 7.4, 0, 0, 0, 0, 0, 0, 0, 3.0, 9.1))
```
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