Package 'MexicoDataAPI'

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Type Package

Title Access Mexican Data via APIs and Curated Datasets

Version 0.2.0

Maintainer Renzo Caceres Rossi <arenzocaceresrossi@gmail.com>

Description Provides functions to access data from public RESTful APIs including 'REST Countries API', 'World Bank API', and 'Nager.Date API', covering Mexico's economic indicators, population statistics, literacy rates, international geopolitical information and official public holidays. The package also includes curated datasets related to Mexico such as air quality monitoring stations, pollution zones, income surveys, postal abbreviations, election studies, forest productivity and demographic data by state. It supports research and analysis focused on Mexico by integrating reliable global APIs with structured national datasets drawn from open and academic sources.
For more information on the APIs, see:
'REST Countries API' <https://restcountries.com/>,
'World Bank API' <https://datahelpdesk.worldbank.org/knowledgebase/articles/889392>,
and 'Nager.Date API' <https://date.nager.at/Api>.

License GPL-3

URL https://github.com/lightbluetitan/mexicodataapi, https://lightbluetitan.github.io/mexicodataapi/

BugReports https://github.com/lightbluetitan/mexicodataapi/issues

Encoding UTF-8

Depends R (>= 4.1.0)

Imports utils, httr, jsonlite, dplyr, scales, tibble

Suggests ggplot2, testthat (>= 3.0.0), knitr, rmarkdown

RoxygenNote 7.3.2

Config/testthat/edition 3

VignetteBuilder knitr

NeedsCompilation no

Author Renzo Caceres Rossi [aut, cre] (ORCID:
<https://orcid.org/0009-0005-0744-854X>)

Repository CRAN

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Contents

`chiapas_dry_forests_df`

Productivity in Chiapas Dry Forests

Description

This dataset, chiapas_dry_forests_df, is a data frame containing data on species richness and vegetation productivity (measured via NDVI) in the dry forests of Chiapas, Mexico. It includes 96 observations and 2 variables. These indicators are often used in ecological and environmental analyses to assess biodiversity and landscape productivity.

Usage

```
data(chiapas_dry_forests_df)
```

Format

A data frame with 96 observations and 2 variables:

richness Species richness (integer)

ndvi Normalized Difference Vegetation Index (NDVI), a measure of vegetation productivity (numeric)

Details

The dataset name has been kept as 'chiapas_dry_forests_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the ADER package version 1.5

---

get_country_info_mx *Get Country Information for Mexico*

Description

Retrieves comprehensive country information for Mexico from the REST Countries API. This function fetches data including official and common names, geographical information, capital, area, population, and languages.

Usage

```
get_country_info_mx()
```

Details

This function makes a request to the REST Countries API v3.1 endpoint specifically for Mexico using full text search. It handles API errors gracefully and returns NULL if the request fails or no data is found.

Value

A tibble with one row containing Mexico's country information:

name_common Common name of the country

name_official Official name of the country

region Geographic region

subregion Geographic subregion

capital Capital city(ies)

area Total area in square kilometers

population Total population

languages Languages spoken (comma-separated)

Examples

```
# Get Mexico information
mx_info <- get_country_info_mx()
print(mx_info)
```

`get_mexico_cpi` *Get Mexico's Consumer Price Index (2010 = 100) from World Bank*

Description

Retrieves Mexico's Consumer Price Index (CPI) using 2010 as the base year, for the years 2010 to 2022 from the World Bank Open Data API. The indicator used is 'FP.CPI.TOTL'.

Usage

```
get_mexico_cpi()
```

Details

The function sends a GET request to the World Bank API. If the API request fails or returns an error status code, the function returns 'NULL' with an informative message.

Value

A tibble with four columns:

indicator Indicator name (e.g., "Consumer price index (2010 = 100)")

country Country name ("Mexico")

year Year of the data (integer)

value Consumer Price Index value (numeric)

Note

Requires internet connection. Data is retrieved in real time from the World Bank API.

See Also

`GET`, `fromJSON`, `as_tibble`

Examples

```
if (interactive()) {
  get_mexico_cpi()
}
```

`get_mexico_gdp` *Get Mexico's GDP (Current US$) from World Bank*

Description

Retrieves Mexico's Gross Domestic Product (GDP) in current US dollars for the years 2010 to 2022 using the World Bank Open Data API. The indicator used is 'NY.GDP.MKTP.CD'.

Usage

```
get_mexico_gdp()
```

Details

The function sends a GET request to the World Bank API. If the API request fails or returns an error status code, the function returns 'NULL' with an informative message.

Value

A tibble with the following columns:

indicator Indicator name (e.g., "GDP (current US$)")

country Country name ("Mexico")

year Year of the data (integer)

value GDP value in numeric form

value_label Formatted GDP value (e.g., "1,466,464,899,304")

Note

Requires internet connection. The data is retrieved in real time from the World Bank API.

See Also

GET, fromJSON, as_tibble, comma

Examples

```
if (interactive()) {
  get_mexico_gdp()
}
```

`get_mexico_holidays` *Get Official Public Holidays in Mexico for a Given Year*

Description

Retrieves the list of official public holidays in Mexico for a specific year using the Nager.Date public holidays API. This function returns a tibble containing the date of the holiday, the name in the local language (Spanish), and the English name. It is useful for academic, planning, and data analysis purposes. The information is retrieved directly from the Nager.Date API and reflects the current status of holidays for the requested year. The field names returned are consistent with the API structure.

Usage

```
get_mexico_holidays(year)
```

Arguments

`year`	An integer indicating the year (e.g., 2024 or 2025).

Value

A tibble with the following columns:

- `date`: Date of the holiday (class `Date`)
- `local_name`: Holiday name in the local language (Spanish)
- `name`: Holiday name in English

Source

Data obtained from the Nager.Date API: https://date.nager.at/

Examples

```
get_mexico_holidays(2024)
get_mexico_holidays(2025)
```

`get_mexico_life_expectancy` *Get Mexico's Life Expectancy from World Bank*

Description

Retrieves Mexico's life expectancy at birth (in years) for the years 2010 to 2022 using the World Bank Open Data API. The indicator used is 'SP.DYN.LE00.IN'.

Usage

```
get_mexico_life_expectancy()
```

Details

The function sends a GET request to the World Bank API. If the API request fails or returns an error status code, the function returns 'NULL' with a message.

Value

A tibble with the following columns:

indicator Indicator name (e.g., "Life expectancy at birth, total (years)")

country Country name ("Mexico")

year Year of the data (integer)

value Life expectancy in years (numeric)

Note

Requires internet connection. Data is retrieved in real time from the World Bank API.

See Also

GET, fromJSON, as_tibble

Examples

```
if (interactive()) {
  get_mexico_life_expectancy()
}
```

`get_mexico_literacy_rate` *Get Mexico's Literacy Rate (Age 15+) from World Bank*

Description

This function retrieves Mexico's literacy rate for adults aged 15 and above, expressed as a percentage, for the years 2010 to 2022 using the World Bank Open Data API. The indicator used is `SE.ADT.LITR.ZS`.

Usage

```
get_mexico_literacy_rate()
```

Value

A tibble with the following columns:

- `indicator`: Indicator name (e.g., "Literacy rate, adult total (
- `country`: Country name ("Mexico").
- `year`: Year of the data.
- `value`: Literacy rate (numeric percentage).

Note

Some years may return missing values (‘NA‘) due to lack of official data reported to the World Bank. Requires internet connection. The function pulls data in real time from the World Bank API.

See Also

`GET`, `fromJSON`, `as_tibble`

Examples

```
## Not run:
get_mexico_literacy_rate()

## End(Not run)
```

`get_mexico_population` *Get Mexico's Population (Total) from World Bank*

Description

Retrieves Mexico's total population for the years 2010 to 2022 using the World Bank Open Data API. The indicator used is 'SP.POP.TOTL'.

Usage

```
get_mexico_population()
```

Details

The function sends a GET request to the World Bank API. If the request fails or returns an error code, it will return 'NULL' with an informative message.

Value

A tibble with the following columns:

indicator Indicator name (e.g., "Population, total")

country Country name ("Mexico")

year Year of the data (integer)

value Population as numeric value

value_label Formatted population value (e.g., "126,705,138")

Note

Requires internet connection. Data is retrieved in real time from the World Bank API.

See Also

GET, fromJSON, as_tibble, comma

Examples

```
if (interactive()) {
  get_mexico_population()
}
```

`get_mexico_unemployment` *Get Mexico's Unemployment Rate from World Bank*

Description

Retrieves Mexico's total unemployment rate as a percentage of the total labor force from 2010 to 2022 using the World Bank Open Data API.

Usage

```
get_mexico_unemployment()
```

Details

The function sends a GET request to the World Bank API. If the request fails or returns a status other than 200, the function returns `NULL` with an informative message.

Value

A tibble with four columns: 'indicator' (name of the indicator), 'country' (country name), 'year' (year of observation), and 'value' (unemployment rate as a numeric percentage).

Note

This function requires an internet connection.

See Also

GET, fromJSON, as_tibble

Examples

```
## Not run:
get_mexico_unemployment()

## End(Not run)
```

MexicoDataAPI *MexicoDataAPI: Access Mexican Data via APIs and Curated Datasets*

Description

This package provides functions to access data from the 'World Bank API','REST Countries API' and 'Nager.Date API', covering Mexico's economic indicators, population statistics, literacy rates, international geopolitical information and official public holidays. The package also includes curated datasets related to Mexico such as air quality monitoring stations, pollution zones, income surveys, postal abbreviations, election studies and more.

Details

MexicoDataAPI: Access Mexican Data via APIs and Curated Datasets

Access Mexican Data via APIs and Curated Datasets.

Author(s)

Maintainer: Renzo Caceres Rossi <arenzocaceresrossi@gmail.com>

See Also

Useful links:

- https://github.com/lightbluetitan/mexicodataapi

mexico_abb_chr *Postal Abbreviations for Mexico*

Description

This dataset, mexico_abb_chr, is a character vector containing the official two- or three-letter postal abbreviations for the 32 federal entities of Mexico. These abbreviations are commonly used in maps, postal services, and statistical reports.

Usage

```
data(mexico_abb_chr)
```

Format

A character vector with 32 elements:

mexico_abb_chr Character vector of 32 postal abbreviations (e.g., "AGU", "BCN", "DIF")

Details

The dataset name has been kept as mexico_abb_chr to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix chr indicates that the dataset is a character vector. The original content has not been modified in any way.

Source

Data taken from the minimap package version 0.1.0

---

mexico_elections_df *2012 Mexico Elections Panel Study*

Description

This dataset, mexico_elections_df, is a data frame containing a subset of the 2012 Mexico Elections Panel Study. The dataset includes 1004 observations and 25 variables, covering demographics, political preferences, and attitudes toward electoral processes. It provides valuable insights into voter behavior and perceptions during the 2012 federal elections in Mexico.

Usage

```
data(mexico_elections_df)
```

Format

A data frame with 1004 observations and 25 variables:

mex.t Wave number (integer)

mex.male Gender: 1 = Male, 0 = Female (integer)

mex.age Age of respondent (numeric)

mex.education Level of education (integer)

mex.y.all Year variable (integer)

mex.vote Vote intention or behavior (integer)

mex.age2 Age squared (numeric)

mex.interest Interest in politics (integer)

mex.married Marital status (integer)

mex.pidpanw2 Partisan ID: PAN (integer)

mex.pidprdw2 Partisan ID: PRD (integer)

mex.pidpriw2 Partisan ID: PRI (integer)

mex.votecard Possession of voting card (integer)

mex.urban Urban residence indicator (integer)

mex.cleanelections Perception of clean elections (integer)

mex.metro Lives in metropolitan area (integer)

mex.centralregion Lives in central region (integer)

mex.northregion Lives in northern region (integer)

mex.wealth Wealth index (numeric)

mex.epnapprove Approval of electoral authority (integer)

mex.havepropoganda Received political propaganda (integer)

mex.concurrent Concurrent elections indicator (integer)

mex.cleanelectionsmiss Missing response for clean elections question (integer)

mex.loyal Party loyalty (integer)

mex.direct Direct benefit from party/government (integer)

Details

The dataset name has been kept as 'mexico_elections_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the Mexico-DataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the list package version 9.2.6

---

mexico_states_df *Mexican States Demographics (2020)*

Description

This dataset, mexico_states_df, is a data frame containing population estimates and demographic indicators for all 32 Mexican states in the year 2020. It includes total population, gender-specific counts, and the number of people who self-identify as Afro-Mexican or speak an indigenous language.

Usage

```
data(mexico_states_df)
```

Format

A data frame with 32 observations and 11 variables:

region Geographic region of the state (character)

state_name State name (character)

state_name_official Official state name (character)

state_abbr State abbreviation (character)

state_abbr_official Official state abbreviation (character)

year Year of the data (numeric)

pop Total population (integer)

pop_male Male population (integer)

pop_female Female population (integer)

afromexican Number of people who identify as Afro-Mexican (integer)

indigenous_language Number of people who speak an indigenous language (integer)

Details

The dataset name has been kept as 'mexico_states_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the MexBrewer package version 0.0.2

`mex_income_2008_tbl_df`

Mexican Income Data (2008)

Description

This dataset, mex_income_2008_tbl_df, is a tibble containing household-level income data and associated demographic characteristics from the 2008 ENIGH (Household Income and Expenditure Survey) in Mexico. The dataset includes 5,000 observations and 8 variables, covering household number, income, household composition, education, domicile size, and age categories.

Usage

```
data(mex_income_2008_tbl_df)
```

Format

A tibble with 5,000 observations and 8 variables:

hh_number Household ID (character)

factor Expansion factor (integer)

income Household income (numeric)

hh_structure Household structure (factor with 5 levels)

education Education level of household members (factor with 11 levels)

domicile_size Size of domicile (factor with 4 levels)

age Age of household head (integer)

age_cat Categorical age group (factor with 7 levels)

Details

The dataset name has been kept as 'mex_income_2008_tbl_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'tbl_df' indicates that the dataset is a tibble data frame. The original content has not been modified in any way.

Source

Data taken from the dineq package version 0.1.0

---

mex_income_2016_tbl_df

Mexican Income Data (2016)

Description

This dataset, mex_income_2016_tbl_df, is a tibble containing household-level income data and associated demographic characteristics from the 2016 ENIGH (Household Income and Expenditure Survey) in Mexico. The dataset includes 5,000 observations and 8 variables, covering household number, income, household composition, education, domicile size, and age categories.

Usage

```
data(mex_income_2016_tbl_df)
```

Format

A tibble with 5,000 observations and 8 variables:

hh_number Household ID (character)

factor Expansion factor (integer)

income Household income (numeric)

hh_structure Household structure (factor with 5 levels)

education Education level of household members (factor with 11 levels)

domicile_size Size of domicile (factor with 4 levels)

age Age of household head (integer)

age_cat Categorical age group (factor with 7 levels)

Details

The dataset name has been kept as 'mex_income_2016_tbl_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'tbl_df' indicates that the dataset is a tibble data frame. The original content has not been modified in any way.

Source

Data taken from the dineq package version 0.1.0

`pollution_stations_df` *Pollution Measuring Stations in Mexico City*

Description

This dataset, pollution_stations_df, is a data frame containing information about pollution measuring stations located in Mexico City. Each record corresponds to a station, including geographic coordinates and elevation. The station with code SS1 was manually added due to its absence in the original dataset; its location was identified through the Audit of Ambient Air Monitoring Stations for the Sistema de Monitoreo Atmosférico de la Ciudad de México.

Usage

```
data(pollution_stations_df)
```

Format

A data frame with 70 observations and 7 variables:

station_code Station identifier code (character)

station_name Name of the pollution station (character)

lon Longitude (numeric)

lat Latitude (numeric)

altitude Elevation above sea level in meters (integer)

comment Comments or notes (character)

station_id Numerical ID used for internal reference (numeric)

Details

The dataset name has been kept as 'pollution_stations_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the aire.zmvm package version 1.0.0

`pollution_zones_df` *Pollution Zones in Mexico City*

Description

This dataset, pollution_zones_df, is a data frame containing the municipios (counties) that compose the five geographic zones into which Mexico City was divided for the purpose of disseminating information about the IMECA (Índice Metropolitano de la Calidad del Aire).

Usage

```
data(pollution_zones_df)
```

Format

A data frame with 36 observations and 6 variables:

region Geographic region (character)

state_code State code (character)

state_abbr State abbreviation (character)

municipio_code Municipality code (character)

municipio_name Municipality name (character)

zone Air quality zone designation (character)

Details

The dataset name has been kept as pollution_zones_df to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the aire.zmvm package version 1.0.0

`stations_sinaica_df` *Air Quality Measuring Stations in Mexico (SINAICA)*

Description

This dataset, stations_sinaica_df, is a data frame containing information about air quality monitoring stations that report to the National Air Quality Information System (SINAICA) in Mexico. The dataset includes 365 observations and 26 variables, providing metadata on station identifiers, geolocation, network affiliations, operational status, and other attributes such as video links and validation dates.

Usage

```
data(stations_sinaica_df)
```

Format

A data frame with 365 observations and 26 variables:

station_id Station identifier (integer)

station_name Name of the station (character)

station_code Code of the station (character)

network_id Identifier of the network (integer)

network_name Name of the network (character)

network_code Code of the network (character)

street Street address (character)

ext External number (character)

interior Interior number (character)

colonia Colonia (neighborhood) name (character)

zip Postal code (character)

state_code State code (integer)

municipio_code Municipality code (integer)

year_started Year the station began operation (integer)

altitude Altitude of the station in meters (integer)

address Full address of the station (character)

date_validated Validation date (character)

date_validated2 Second validation date (character)

passed_validation Indicates if the station passed validation (integer)

video Video URL or link (character)

lat Latitude (numeric)

lon Longitude (numeric)

date_started Date the station started operation (character)

timezone Timezone of the station (character)

street_view Street view URL or link (character)

video_interior Interior video URL or link (character)

Details

The dataset name has been kept as 'stations_sinaica_df' to avoid confusion with other datasets in the R ecosystem. This naming convention helps distinguish this dataset as part of the MexicoDataAPI package and assists users in identifying its specific characteristics. The suffix 'df' indicates that the dataset is a data frame. The original content has not been modified in any way.

Source

Data taken from the rsinaica package version 1.1.0

`view_datasets_MexicoDataAPI`
View Available Datasets in MexicoDataAPI

Description

This function lists all datasets available in the 'MexicoDataAPI' package. If the 'MexicoDataAPI' package is not loaded, it stops and shows an error message. If no datasets are available, it returns a message and an empty vector.

Usage

```
view_datasets_MexicoDataAPI()
```

Value

A character vector with the names of the available datasets. If no datasets are found, it returns an empty character vector.

Examples

```
if (requireNamespace("MexicoDataAPI", quietly = TRUE)) {
  library(MexicoDataAPI)
  view_datasets_MexicoDataAPI()
}
```

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