

Package ‘weed’

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Title Wrangler for Emergency Events Database

Version 1.1.1

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Description Makes research involving EMDAT and related datasets easier. These Datasets are manually filled and have several formatting and compatibility issues. Weed aims to resolve these with its functions.

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Encoding UTF-8

RoxygenNote 7.1.1

Imports readxl, dplyr, magrittr, tidytext, stringr, tibble, geonames, countrycode, purrr, tidyr, forcats, ggplot2, rgeos, sf, here

URL <https://github.com/rammkripa/weed>

BugReports <https://github.com/rammkripa/weed/issues>

NeedsCompilation no

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 geocode

GeoCodes text locations using the GeoNames API

Description

Uses the `location_word` and `Country` columns of the data frame to make queries to the geonames API and geocode the locations in the dataset.

Note:

1. The Geonames API (for free accounts) limits you to 1000 queries an hour
2. You need a geonames username to make queries. You can learn more about that [here](#)

Usage

```
geocode(., n_results = 1, unwrap = FALSE, geonames_username)
```

Arguments

<code>.</code>	a data frame which has been locationized (see <code>weed::split_locations</code>)
<code>n_results</code>	number of lat/longs to get
<code>unwrap</code>	if true, returns <code>lat1</code> , <code>lat2</code> , <code>lng1</code> , <code>lng2</code> etc. as different columns, otherwise one <code>lat</code> column and 1 <code>lng</code> column
<code>geonames_username</code>	Username for geonames API. More about getting one is in the note above.

Value

the same data frame with a `lat` column/columns and `lng` column/columns

Examples

```
df <- tibble::tribble(
  ~value, ~location_word, ~Country,
  "mumbai region, district of seattle, sichuan province", "mumbai", "India",
  "mumbai region, district of seattle, sichuan province", "seattle", "USA"
)
geocode(df, n_results = 1, unwrap = TRUE, geonames_username = "rammkripa")
```

geocode_batches	<i>Geocode in batches</i>
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Description

Geocode in batches

Usage

```
geocode_batches(
  .,
  batch_size = 990,
  wait_time = 4800,
  n_results = 1,
  unwrap = FALSE,
  geonames_username
)
```

Arguments

.	data frame
batch_size	size of each batch to geocode
wait_time	in seconds between batches Note: default batch_size and wait_time were set to accomplish the geocoding task optimally within the constraints of geonames free access
n_results	same as geocode
unwrap	as in geocode
geonames_username	as in geocode

Value

df geocoded

Examples

```
df <- tibble::tribble(
  ~value, ~location_word, ~Country,
  "mumbai region, district of seattle, sichuan province", "mumbai", "India",
  "mumbai region, district of seattle, sichuan province", "seattle", "USA",
  "mumbai region, district of seattle, sichuan province", "sichuan", "China, People's Republic"
)

geocode_batches(df, batch_size = 2, wait_time = 0.4, geonames_username = "rammkripa")
```

located_in_box	<i>Locations In the Box</i>
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Description

Creates a new column (in_box) that tells whether the lat/long is in a certain box or not.

Usage

```
located_in_box(
  .,
  lat_column = "lat",
  lng_column = "lng",
  top_left_lat,
  top_left_lng,
  bottom_right_lat,
  bottom_right_lng
)
```

Arguments

.	Data Frame that has been locationized. see <code>weed::split_locations</code>
lat_column	Name of column containing Latitude data
lng_column	Name of column containing Longitude data
top_left_lat	Latitude at top left corner of box
top_left_lng	Longitude at top left corner of box
bottom_right_lat	Latitude at bottom right corner of box
bottom_right_lng	Longitude at bottom right corner of box

Value

A dataframe that contains the latlong box data

Examples

```
d <- tibble::tribble(
  ~value, ~location_word, ~Country, ~lat, ~lng,
  "city of new york", "new york", "USA", 40.71427, -74.00597,
  "kerala, chennai municipality, and san francisco", "kerala", "India", 10.41667, 76.5,
  "kerala, chennai municipality, and san francisco", "chennai", "India", 13.08784, 80.27847)
located_in_box(d, lat_column = "lat",
  lng_column = "lng",
  top_left_lat = 45,
  bottom_right_lat = 12,
  top_left_lng = -80,
  bottom_right_lng = 90)
```

located_in_shapefile *Locations In the Shapefile*

Description

Creates a new column (in_shape) that tells whether the lat/long is in a certain shapefile.

Usage

```
located_in_shapefile(
  .,
  lat_column = "lat",
  lng_column = "lng",
  shapefile = NA,
  shapefile_name = NA
)
```

Arguments

.	Data Frame that has been locationized. see <code>weed::split_locations</code>
lat_column	Name of column containing Latitude data
lng_column	Name of column containing Longitude data
shapefile	The shapefile itself (either shapefile or shapefile_name must be provided)
shapefile_name	FileName/Path to shapefile (either shapefile or shapefile_name must be provided)

Value

Data Frame with the shapefile data as well as the previous data

Examples

```
## Not run:
d <- tibble::tribble(
  ~value, ~location_word, ~Country, ~lat, ~lng,
  "city of new york", "new york", "USA", 40.71427, -74.00597,
  "kerala, chennai municipality, and san francisco", "kerala", "India", 10.41667, 76.5,
  "kerala, chennai municipality, and san francisco", "chennai", "India", 13.08784, 80.2847)
located_in_shapefile(d,
  lat_column = "lat",
  lng_column = "lng",
  shapefile_name = "~/dummy_name")

## End(Not run)
```

nest_locations	<i>Nest Location Data into a column of Tibbles</i>
----------------	--

Description

Nest Location Data into a column of Tibbles

Usage

```
nest_locations(
  .,
  key_column = "Dis No",
  columns_to_nest = c("location_word", "lat", "lng"),
  keep_nested_cols = FALSE
)
```

Arguments

. Locationized data frame (see `weed::split_locations`)

key_column Column name for Column that uniquely IDs each observation

columns_to_nest Column names for Columns to nest inside the mini-dataframes

keep_nested_cols Boolean to Keep the nested columns externally or not.

Value

Data Frame with A column of data frames

Examples

```
d <- tibble::tribble(
  ~value, ~location_word, ~Country, ~lat, ~lng,
  "city of new york", "new york", "USA", c(40.71427, 40.6501), c(-74.00597, -73.94958),
  "kerala", "kerala", "India", c(10.41667, 8.4855), c(76.5, 76.94924),
  "chennai municipality", "chennai", "India", c(13.08784, 12.98833), c(80.27847, 80.16578),
  "san francisco", "san francisco", "USA", c(37.77493, 37.33939), c(-122.41942, -121.89496))
nest_locations(d, key_column = "value")
```

 percent_located_disasters

Percent of Disasters Successfully Geocoded

Description

Tells us how successful the geocoding is.

How many of the disasters in this data frame have non NA coordinates?

Usage

```
percent_located_disasters(
  .,
  how = "any",
  lat_column = "lat",
  lng_column = "lng",
  plot_result = TRUE
)
```

Arguments

.	Data Frame that has been locationized. see <code>weed::split_locations</code>
how	takes in a function, "any", or "all" to determine how to count the disaster as being geocoded if any, at least one location must be coded, if all, all locations must have lat/lng if a function, it must take in a logical vector and return a single logical
lat_column	Name of column containing Latitude data
lng_column	Name of column containing Longitude data
plot_result	Determines output type (Plot or Summarized Data Frame)

Value

The percent and number of Locations that have been geocoded (see `plot_result` for type of output)

Examples

```
d <- tibble::tribble(
  ~`Dis No`, ~value, ~location_word, ~Country, ~lat, ~lng,
  1, "city of new york", "new york", "USA", 40.71427, -74.00597,
  2, "kerala, chennai municipality, and san francisco", "kerala", "India", 10.41667, 76.5,
  2, "kerala, chennai municipality, and san francisco", "chennai", "India", 13.08784, 80.27847)
percent_located_disasters(d,
  how = "any",
  lat_column = "lat",
  lng_column = "lng",
  plot_result = FALSE)
```

percent_located_locations

Percent of Locations Successfully Geocoded

Description

Tells us how successful the geocoding is.

How many of the locations in this data frame have non NA coordinates?

Usage

```
percent_located_locations(
  .,
  lat_column = "lat",
  lng_column = "lng",
  plot_result = TRUE
)
```

Arguments

.	Data Frame that has been locationized. see <code>weed::split_locations</code>
lat_column	Name of column containing Latitude data
lng_column	Name of column containing Longitude data
plot_result	Determines output type (Plot or Summarized Data Frame)

Value

The percent and number of Locations that have been geocoded (see `plot_result` for type of output)

Examples

```
d <- tibble::tribble(
  ~value, ~location_word, ~Country, ~lat, ~lng,
  "city of new york", "new york", "USA", 40.71427, -74.00597,
  "kerala, chennai municipality, and san francisco", "kerala", "India", 10.41667, 76.5,
  "kerala, chennai municipality, and san francisco", "chennai", "India", 13.08784, 80.27847)
percent_located_locations(d,
  lat_column = "lat",
  lng_column = "lng",
  plot_result = FALSE)
```

read_emdat	<i>Reads Excel Files obtained from EM-DAT Database</i>
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Description

Reads Excel files downloaded from the EMDAT Database linked [here](#)

Usage

```
read_emdat(path_to_file, file_data = TRUE)
```

Arguments

path_to_file A String, the Path to the file downloaded.
file_data A Boolean, Do you want information about the file and how it was created?

Value

Returns a list containing one or two tibbles, one for the Disaster Data, and one for File Metadata.

Examples

```
## Not run:
read_emdat(path_to_file = "~/dummy", file_data = TRUE)

## End(Not run)
```

split_locations	<i>Splits string of manually entered locations into one row for each location</i>
-----------------	---

Description

Changes the unit of analysis from a disaster, to a disaster-location. This is useful as preprocessing before geocoding each disaster-location pair.

Can be used in piped operations, making it tidy!

Usage

```
split_locations(
  ``,
  column_name = "locations",
  dummy_words = c("cities", "states", "provinces", "districts", "municipalities",
    "regions", "villages", "city", "state", "province", "district", "municipality",
    "region", "township", "village", "near", "department"),
  joiner_regex = ",|\\(|\\||;|\\|+|( and )|( of )"
)
```

Arguments

<code>.</code>	data frame of disaster data
<code>column_name</code>	name of the column containing the locations
<code>dummy_words</code>	a vector of words that we don't want in our final output.
<code>joiner_regex</code>	a regex that tells us how to split the locations

Value

same data frame with the `location_word` column added as well as a column called `uncertain_location_specificity` where the same location could be referred to in varying levels of specificity

Examples

```
locs <- c("city of new york", "kerala, chennai municipality, and san francisco",  
"mumbai region, district of seattle, sichuan province")  
d <- tibble::as_tibble(locs)  
split_locations(d, column_name = "value")
```

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