

Package ‘weed’

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Title Wrangler for Emergency Events Database

Version 1.0.6

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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

LazyData true

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,
  "city of new york", "new york", "USA",
  "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(df, n_results = 1, unwrap = TRUE, 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>
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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 <code>weed::split_locations</code>)
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>
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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

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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