Package: ethiodate (via r-universe)

May 21, 2026

Type Package

Title Working with Ethiopian Dates

Version 0.3.1

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Description A robust and efficient solution for working with Ethiopian dates. It can seamlessly convert to and from Gregorian dates. It is designed to be compatible with the 'tidyverse' data workflow, including plotting with 'ggplot2'. It ensures lightning-fast computations by integrating high-performance 'C++' code through 'Rcpp' package.

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Encoding UTF-8

LazyData true

RoxygenNote 7.3.3

Depends R (>= 3.5.0)

LinkingTo Rcpp

Imports cli, Rcpp, stringr, vctrs

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

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Roxygen list(markdown = TRUE)

URL https://guturago.github.io/ethiodate/, https://github.com/guturago/ethiodate

BugReports https://github.com/guturago/ethiodate/issues

VignetteBuilder knitr

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Contents

`cpieth` *Monthly FAO Food Price Index 2001-2023*

Description

A subset of data from the FAO Food Price Index for Ethiopia.

Usage

```
cpieth
```

Format

`cpieth`**:**

A data frame with 270 rows and 2 columns:

date Date (GC)

cpi Consumer price index

Source

https://data360.worldbank.org/en/indicator/FAO_CP_23014?country=ETH

`eth_date` *Create an Ethiopian Date Object*

Description

Convert an object to an Ethiopian date.

Usage

```
eth_date(x, ...)

## Default S3 method:
eth_date(x, ...)

## S3 method for class 'numeric'
eth_date(x, origin, ...)

## S3 method for class 'character'
eth_date(x, format = "%Y-%m-%d", lang = c("lat", "amh", "en"), ...)

## S3 method for class 'Date'
eth_date(x, ...)

## S3 method for class 'POSIXct'
eth_date(x, ...)

## S3 method for class 'POSIXt'
eth_date(x, ...)

## S3 method for class 'factor'
eth_date(x, ...)
```

Arguments

x	a numeric, character, Date, POSIXct or POSIXt vector.
...	further arguments to be passed to specific methods (see above).
origin	a ethdate, Date object, or something that can be coerced by `eth_date(origin, ...)`. Default: the Unix epoch of "1970-01-01" GC ("1962-04-23" EC).
format	format argument for character method to parse the date.
lang	a language in which month names are written, if included in x. Use "lat" for Amharic month names written in Latin alphabets, "amh" for month names written in Amharic alphabets, and "en" for English month names.

Details

`eth_date()` internally stores the number of days as double since the Unix epoch of "1970-01-01" GC ("1962-04-23" EC). Days before "1962-04-23" EC are represented as negative numbers. This makes it easy to convert from and to base `Date` objects.

The conversion of numeric vectors assumes that the vector represents a number of days since the origin ("1962-04-23" EC if origin is NULL). For the date objects, it extracts underlying numeric values and convert it to an `ethiodate` object. To convert from POSIXct or POSIXt, it coerces these objects to base Date objects and then applies the conversion.

To parse a character vector, a valid format must be supplied. The default is "%Y-%m-%d". Please see the details section of `strptime`. Factors can also be coerced to `ethdate` after being internally converted to character.

Value

a vector of an 'ethdate' object corresponding to x.

Author(s)

Gutama Girja Urago

See Also

`eth_make_date()` `eth_parse_date()`

Examples

```
eth_date(Sys.Date())
eth_date(Sys.time())

x <- 7
eth_date(x)
eth_date(x, origin = Sys.Date())
eth_date(x, origin = eth_today())
eth_date(x, origin = "2017-01-01")
eth_date(x, origin = "01-01-2017", format = "%d-%m-%Y")

s <- c("01/01/2013", "06/13/2011")
eth_date(s, format = "%d/%m/%Y")
```

---

eth_make_date *Make Ethiopian Date*

Description

Make Ethiopian date from year, month and day components.

Usage

```
eth_make_date(year, month, day)
```

Arguments

year	an integer vector of Ethiopian year.
month	an integer vector of Ethiopian month.
day	an integer vector of Ethiopian day.

Details

This function makes an Ethiopian date object from three integer vectors of an equal length. It validates the date and returns NA for invalid dates. It accounts for leap years.

Value

a vector of an 'ethdate' object.

Author(s)

Gutama Girja Urago

See Also

eth_date() eth_parse_date()

Examples

```
eth_make_date(2017, 01, 15)
```

---

eth_parse_date *Parse Ethiopian Date*

Description

Parse Ethiopian date from character vector that has a non-digit separator.

Usage

```
eth_parse_date(x, format = "%Y-%m-%d", lang = c("lat", "amh", "en"))
```

Arguments

x	a character vector.
format	a format in in which x is composed. See strptime.
lang	a language in which month names are written, if included in x. Use "lat" for Amharic month names written in Latin alphabets, "amh" for month names written in Amharic alphabets, and "en" for English month names.

Details

x must include a non-digit separator and exactly three components of the date (year, month, and day).

Value

a vector of an'ethdate' object.

Author(s)

Gutama Girja Urago

See Also

`eth_date()` `eth_make_date()`

Examples

```
eth_parse_date("2017-01-01")
s <- c("01/01/2013", "06/13/2011")
eth_parse_date(s, format = "%d/%m/%Y")
```

---

eth_show *See Month or Day Names*

Description

Small functions that displays texts.

Usage

```
eth_show(x = c("%B", "%b", "%A", "%a"), lang = c("lat", "amh", "en"))

eth_today(...)

eth_now(...)
```

Arguments

x	what you want to see.
lang	language of the text.
...	arguments that passes to `format()`

Details

`eth_show()` displays the underlying month and weekday names that is used by `eth_parse_date()`.

Value

Except for `eth_date()`, which returns an `ethdate` object, other functions return a character vector.

Author(s)

Gutama Girja Urago

Examples

```
eth_show()
eth_show("%A", "amh")
eth_today()
eth_now()
```

`eth_year` *Ethiopian Date Components*

Description

Small functions that helps to extract parts of Ethiopian date objects.

Usage

```
eth_year(x)

eth_month(x)

eth_monthname(x, lang = c("lat", "amh", "en"), abbreviate = FALSE)

eth_day(x)

eth_weekday(x, lang = c("lat", "amh", "en"), abbreviate = FALSE)

eth_quarter(x)
```

Arguments

`x`	a vector of an Ethiopian date object
`lang`	a language. 'lat' for Amharic written in Latin alphabets, 'amh' for Amharic, and 'en' for English
`abbreviate`	Do you want to get an abbreviated month or weekday names?

Value

a vector

Author(s)

Gutama Girja Urago

Examples

```
today <- eth_date(Sys.Date())
eth_year(today)
eth_month(today)
eth_monthname(today)
eth_day(today)
eth_weekday(today)
```

---

ethdate-ggplot *Plotting Ethiopian Date*

Description

Helper functions to plot an ethdate object using ggplot2.

Usage

```
scale_x_ethdate(breaks = eth_breaks(), labels = eth_labels(), ...)

scale_y_ethdate(breaks = eth_breaks(), labels = eth_labels(), ...)

eth_breaks(n = 5, pretty = TRUE)

eth_labels(format = "%b %d, %Y", lang = "lat")
```

Arguments

breaks	A numeric vector of positions or eth_breaks() function.
labels	A character vector giving labels (must be same length as breaks) or eth_labels() function.
...	further arguments to be passed to ggplot2::scale_x_continuous() or ggplot2::scale_y_continuou
n	A number of breaks.
pretty	Logical; if TRUE, use pretty() for rounded breaks.
format	A format for the ethdate.
lang	A language for the month or weekday names if involved. Use "lat" for Latin alphabets "amh" for Amharic alphabets, and "en" for English names.

Details

eth_labels() and eth_breaks() are designed to be used only in the scale_(x|y)_ethdate functions.

Value

Maps ethdate objects on ggplot2 layers.

Author(s)

Gutama Girja Urago

Examples

```
library(ggplot2)

cpieth[["ethdt"]] <- eth_date(cpieth$date)

ggplot(cpieth, aes(ethdt, cpi)) +
  geom_line() +
  scale_x_ethdate(breaks = eth_breaks(6),
                  labels = eth_labels("%Y"),
                  name = "Year (EC)") +
  theme_bw()
```

---

format.ethdate *Utils*

Description

Small helper functions.

Usage

```
## S3 method for class 'ethdate'
format(x, format = "%Y-%m-%d", lang = c("lat", "amh", "en"), ...)

is_eth_date(x)

is_eth_leap(x)

## S3 method for class 'ethdate'
as.Date(x, ...)

## S3 method for class 'ethdate'
as.double(x, ...)

## S3 method for class 'ethdate'
as.integer(x, ...)

## S3 method for class 'ethdate'
as.character(x, ...)
```

Arguments

x	an ethdate or numeric vector.
format	a format for character date.
lang	a language.
...	further arguments to be passed to specific methods.

Value

`is_eth_leap()` returns a boolean vector, `as.Date()` returns a Date object, `as.numeric()` returns number of date since 1970-01-01 GC (1962-04-23 EC), and `as.character()` returns formatted character date.

Examples

```
is_eth_leap(2011)
```

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