Package ‘fpp2’

January 19, 2026

Version 2.5.1

Title Data for ``Forecasting: Principles and Practice" (2nd Edition)

Description All data sets required for the examples and exercises
in the book ``Forecasting: principles and practice" (2nd ed, 2018)
by Rob J Hyndman and George Athanasopoulos <https://otexts.com/fpp2/>.
All packages required to run the examples are also loaded.

Depends R (>= 2.10)

Imports cli (>= 1.0.0), crayon (>= 1.3.4), expsmooth, fma, forecast
(>= 8.3), ggplot2, magrittr (>= 1.5), purrr (>= 0.2.4),
rstudioapi (>= 0.7)

Suggests GGally,gridExtra,Mcomp,seasonal,vars

URL https://pkg.robjhyndman.com/fpp2/,
https://github.com/robjhyndman/fpp2, https://otexts.com/fpp2/

BugReports https://github.com/robjhyndman/fpp2/issues

Encoding UTF-8

License GPL-3

LazyData yes

LazyLoad yes

RoxygenNote 7.3.3

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-01-19 08:20:14 UTC

Contents

a10 *Monthly anti-diabetic drug subsidy in Australia from 1991 to 2008.*

Description

Monthly government expenditure (millions of dollars) as part of the Pharmaceutical Benefit Scheme for products falling under ATC code A10 as recorded by the Australian Health Insurance Commission. July 1991 - June 2008.

Format

Monthly time series of class `ts`.

Source

Medicare Australia

Examples

```
autoplot(a10)
ggseasonplot(a10)
```

arrivals *International Arrivals to Australia*

Description

Quarterly international arrivals (in thousands) to Australia from Japan, New Zealand, UK and the US. 1981Q1 - 2012Q3.

Format

Quarterly time series of class `ts`.

Source

Tourism Research Australia.

Examples

```
autoplot(arrivals)
```

ausair *Air Transport Passengers Australia*

Description

Total annual air passengers (in millions) including domestic and international aircraft passengers of air carriers registered in Australia. 1970-2016.

Format

Annual time series of class `ts`.

Source

World Bank.

Examples

```
autoplot(ausair)
```

ausbeer *Quarterly Australian Beer production*

Description

Total quarterly beer production in Australia (in megalitres) from 1956:Q1 to 2010:Q2.

Format

Quarterly time series of class `ts`.

Source

Australian Bureau of Statistics. Cat. 8301.0.55.001.

Examples

```
data(ausbeer)
ggseasonplot(ausbeer)
```

auscafe *Monthly expenditure on eating out in Australia*

Description

The total monthly expenditure on cafes, restaurants and takeaway food services in Australia ($billion). April 1982 - September 2017.

Format

Monthly time series of class `ts`.

Source

Australian Bureau of Statistics. Catalogue No. 8501.0

Examples

```
autoplot(auscafe)
```

austa *International visitors to Australia*

Description

Total international visitors to Australia (in millions). 1980-2015.

Format

Annual time series of class `ts`.

Source

International Visitor Survey, Tourism Research Australia.

Examples

```
autoplot(austa)
```

austourists *International Tourists to Australia: Total visitor nights.*

Description

Quarterly visitor nights (in millions) spent by international tourists to Australia. 1999-2015.

Format

Quarterly time series of class `ts`.

Source

Tourism Research Australia.

Examples

```
autoplot(austourists)
```

calls *Call volume for a large North American bank*

Description

Five-minute call volume handled on weekdays between 7:00am and 9:05pm, beginning 3 March 2003 for 164 days.

Format

Time series object of class `msts`.

Source

Rob Hyndman

Examples

```
autoplot(calls, xlab = "Weeks")
```

debitcards *Retail debit card usage in Iceland.*

Description

Monthly retail debit card usage in Iceland (million ISK). January 2000 - August 2013.

Format

Monthly time series of class `ts`.

Source

Statistics Iceland.

Examples

```
autoplot(debitcards)
```

departures *Total monthly departures from Australia*

Description

Overseas departures from Australia: permanent departures, long-term (more than one year) residents departing, long-term (more than one year) visitors departing, short-term (less than one year) residents departing and short-term (less than one year) visitors departing. January 1976 - November 2016.

Format

Multiple monthly time series of class `mts` containing the following series:

permanent	permanent departures from Australia.
reslong	long-term resident departures from Australia.
vislong	long-term visitor departures from Australia.
resshort	short-term resident departures from Australia.
visshort	short-term visitor departures from Australia.

Source

Australian Bureau of Statistics. Catalogue No 3401.02.

Examples

```
autoplot(departures, facets = TRUE)
```

`elecdemand` *Half-hourly and daily electricity demand for Victoria, Australia, in 2014*

Description

`elecdemand` is a half-hourly time series matrix with three columns:

Demand:	Total electricity demand in GW for Victoria, Australia, every half-hour during 2014.
WorkDay:	taking value 1 on work days, and 0 otherwise.
Temperature:	half-hourly temperatures for Melbourne (BOM site 086071).

`elecdaily` is a daily time series matrix with three columns:

Demand:	Total electricity demand in GW for Victoria, Australia, every day during 2014.
WorkDay:	taking value 1 on work days, and 0 otherwise.
Temperature:	maximum daily temperatures for Melbourne (BOM site 086071).

Format

Multiple time series of class `mts`.

Details

This data is for operational demand, which is the demand met by local scheduled generating units, semi-scheduled generating units, and non-scheduled intermittent generating units of aggregate capacity larger than 30 MW, and by generation imports to the region. The operational demand excludes the demand met by non-scheduled non-intermittent generating units, non-scheduled intermittent generating units of aggregate capacity smaller than 30 MW, exempt generation (e.g. rooftop solar, gas tri-generation, very small wind farms, etc), and demand of local scheduled loads. It also excludes some very large industrial users (such as mines or smelters).

Source

Australian Energy Market Operator, and the Australian Bureau of Meteorology.

Examples

```
summary(elecdemand)
summary(elecdaily)
```

elecequip *Electrical equipment manufactured in the Euro area.*

Description

Monthly manufacture of electrical equipment: computer, electronic and optical products. January 1996 - March 2012. Data adjusted by working days; Euro area (17 countries). Industry new orders index. 2005=100.

Format

Time series object of class `ts`.

Source

Eurostat.

Examples

```
autoplot(elecequip)
```

elecsales *Electricity sales to residential customers in South Australia.*

Description

Annual electricity sales for South Australia in GWh from 1989 to 2008. Electricity used for hot water has been excluded.

Format

Time series object of class `ts`.

Source

Australian Energy Market Operator.

Examples

```
autoplot(elecsales)
```

euretail *Quarterly retail trade: Euro area.*

Description

Quarterly retail trade index in the Euro area (17 countries), 1996-2011, covering wholesale and retail trade, and repair of motor vehicles and motorcycles. (Index: 2005 = 100).

Format

Quarterly time series of class `ts`.

Source

Eurostat.

Examples

```
autoplot(euretail)
```

fpp2_conflicts *Conflicts between fpp2 packages and other packages*

Description

This function lists all the conflicts between packages in the fpp2 collection and other packages that you have loaded.

Usage

```
fpp2_conflicts()
```

Details

Some conflicts are deliberately ignored: `intersect`, `union`, `setequal`, and `setdiff` from dplyr; and `intersect`, `union`, `setdiff`, and `as.difftime` from lubridate. These functions make the base equivalents generic, so shouldn't negatively affect any existing code.

Value

A list object of class `fpp2_conflicts`.

Examples

```
fpp2_conflicts()
```

fpp2_packages *List all packages loaded by fpp2*

Description

List all packages loaded by fpp2

Usage

```
fpp2_packages(include_self = FALSE)
```

Arguments

include_self	Include fpp2 in the list?

Value

A character vector of package names.

Examples

```
fpp2_packages()
```

gasoline *US finished motor gasoline product supplied.*

Description

Weekly data beginning 2 February 1991, ending 20 January 2017. Units are "million barrels per day".

Format

Time series object of class `ts`.

Source

US Energy Information Administration.

Examples

```
autoplot(gasoline, xlab = "Year")
```

goog *Daily closing stock prices of Google Inc*

Description

Closing stock prices of GOOG from the NASDAQ exchange, for 1000 consecutive trading days between 25 February 2013 and 13 February 2017. Adjusted for splits. `goog200` contains the first 200 observations from `goog`.

Format

Daily time series of class `ts`.

Source

https://finance.yahoo.com/quote/GOOG/history/

Examples

```
autoplot(goog)
```

guinearice *Rice production (Guinea)*

Description

Total annual rice production (million metric tons) for Guinea. 1970-2011.

Format

Annual time series of class `ts`.

Source

World Bank.

Examples

```
autoplot(guinearice)
```

h02 *Monthly corticosteroid drug subsidy in Australia from 1991 to 2008.*

Description

Monthly government expenditure (millions of dollars) as part of the Pharmaceutical Benefit Scheme for products falling under ATC code H02 as recorded by the Australian Health Insurance Commission. July 1991 - June 2008.

Format

Monthly time series of class `ts`.

Source

Medicare Australia

Examples

```
autoplot(h02)
ggseasonplot(h02)
```

hyndsight *Daily pageviews for the Hyndsight blog. 30 April 2014 to 29 April 2015.*

Description

Hyndsight is Rob Hyndman's personal blog at https://robjhyndman.com/hyndsight/. This series contains the daily pageviews for one year, beginning 30 April 2014. The frequency is set to 7, to allow the weekly pattern to be modelled.

Format

Time series object of class `ts`.

Source

Rob Hyndman

Examples

```
autoplot(hyndsight, xlab = "Weeks")
```

insurance *Insurance quotations and advertising expenditure.*

Description

Monthly quotations and monthly television advertising expenditure for a US insurance company. January 2002 to April 2005.

Format

Monthly time series of class `ts`.

Source

Kindly provided by Dave Reilly, Automatic Forecasting Systems.

Examples

```
autoplot(insurance)
```

livestock *Livestock (sheep) in Asia, 1961-2007.*

Description

Annual sheep livestock numbers in Asia (in million head).

Format

Annual time series of class `ts`.

Source

United Nations.

Examples

```
autoplot(livestock)
```

marathon *Boston marathon winning times since 1897*

Description

Winning times (in minutes) for the Boston Marathon Men's Open Division. 1897-2016.

Format

Annual time series of class `ts`.

Source

Boston Athletic Association. https://www.baa.org/races/boston-marathon/results/champions/

Examples

```
autoplot(marathon)
```

maxtemp *Maximum annual temperatures at Moorabbin Airport, Melbourne*

Description

Maximum annual temperatures (degrees Celsius) for Moorabbin Airport, Melbourne. 1971-2016.

Format

Annual time series of class `ts`.

Source

Australian Bureau of Meteorology.

Examples

```
autoplot(maxtemp)
```

melsyd *Total weekly air passenger numbers on Ansett airline flights between Melbourne and Sydney, 1987–1992.*

Description

Air traffic numbers are in thousands, and divided into first class, business class and economy class. There was a major pilots' industrial dispute during the data period resulting in some weeks with zero traffic. There was also at least two changes in the definitions of passenger classes.

Format

Multiple time series of class `mts`.

Source

Ansett Airlines (which no longer exists).

Examples

```
autoplot(melsyd, facets = TRUE)
```

mens400 *Winning times in Olympic men's 400m track final. 1896-2016.*

Description

Times in seconds for the gold-medal winner of the men's 400m track final at each Olympics since 1896. Missing values occur in 1916, 1940 and 1944 due to the World Wars.

Format

time series of class `ts` with frequency 1/4.

Examples

```
autoplot(mens400)
```

oil *Annual oil production in Saudi Arabia*

Description

Annual oil production (millions of tonnes), Saudi Arabia, 1965-2013.

Format

Annual time series of class `ts`.

Source

BP.

Examples

```
autoplot(oil)
```

prison *prison*

Description

prison

Format

Quarterly time series of prisoner numbers in Australia from 2005 to 2016, split by sex, state and legal status. `prisonLF` is a long-form version of the data of class `data.frame`, while `prison` is in wide form and of class `mts`.

Examples

```
autoplot(prison)
head(prisonLF)
```

qauselec *Quarterly Australian Electricity production*

Description

Total quarterly electricity production in Australia (in billion kWh) from 1956:Q1 to 2010:Q2.

Format

Quarterly time series of class `ts`.

Source

Australian Bureau of Statistics. Cat. 8301.0.55.001.

Examples

```
autoplot(qauselec)
```

qcement *Quarterly Australian Portland Cement production*

Description

Total quarterly production of Portland cement in Australia (in millions of tonnes) from 1956:Q1 to 2014:Q1.

Format

Quarterly time series of class `ts`.

Source

Australian Bureau of Statistics. Cat. 8301.0.55.001.

Examples

```
autoplot(qcement)
```

qgas *Quarterly Australian Gas Production*

Description

Total quarterly gas production in Australia (in petajoules) from 1956:Q1 to 2010:Q2.

Format

Quarterly time series of class `ts`.

Source

Australian Bureau of Statistics. Cat. 8301.0.55.001.

Examples

```
autoplot(qgas)
```

sunspotarea *Annual average sunspot area (1875-2015)*

Description

Annual averages of the daily sunspot areas (in units of millionths of a hemisphere) for the full sun. Sunspots are magnetic regions that appear as dark spots on the surface of the sun. The Royal Greenwich Observatory compiled daily sunspot observations from May 1874 to 1976. Later data are from the US Air Force and the US National Oceanic and Atmospheric Administration. The data have been calibrated to be consistent across the whole history of observations.

Format

Annual time series of class `ts`.

Source

NASA

Examples

```
autoplot(sunspotarea)
```

uschange — *Growth rates of personal consumption and personal income in the USA.*

Description

Percentage changes in quarterly personal consumption expenditure, personal disposable income, production, savings and the unemployment rate for the US, 1960 to 2016.

Format

Time series object of class `ts`.

Source

Federal Reserve Bank of St Louis.

Examples

```
autoplot(uschange, facet = TRUE)
```

usmelec — *Electricity monthly total net generation. January 1973 - June 2013.*

Description

Electricity net generation measured in billions of kilowatt hours (kWh).

Format

Time series object of class `ts`.

Source

US Energy Information Administration.

Examples

```
autoplot(usmelec)
```

visnights *Quarterly visitor nights for various regions of Australia.*

Description

Total quarterly visitor nights (in millions) from 1998-2016 for twenty regions of Australia within six states. The states are: New South Wales, Queensland, South Australia, Victoria, Western Australia, and Other.

Format

Time series object of class `mts`.

Source

Tourism Research Australia.

Examples

```
autoplot(visnights)
```

wmurders *Annual female murder rate (per 100,000 standard population) in the USA. 1950-2004.*

Description

Total Murdered women, per 100 000 standard population.

Format

Annual time series of class `ts`.

Source

Gapminder Foundation.

Examples

```
autoplot(wmurders)
```

Index