R documentation

of ‘`monthly2daily.Rd`’

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`monthly2daily` *Disaggregate Daily Means by Month-of-the-year into Daily Time-series*

Description

Wrapper around na.approx/na.spline which disaggregates monthly to daily values by linear interpolation or cubic spline interpolation, respectively.

Usage

```
monthly2daily(from, to, values, FUN = zoo::na.spline, ...)
```

Arguments

`from`	Beginning of the interpolated time series, as Date object
`to`	End of the interpolated time series, as Date object
`values`	Vector of daily mean values for each month (length=12)
`FUN`	interpolation function to use, must be either na.approx (linear) or na.spline (spline)
`...`	further arguments passed to approx/spline via na.approx/na.spline

Details

The values for interpolation are mean daily data grouped by month (i.e. 12 values corresponding to the calendar month, as produced by hydroTSM::monthlyfunction with FUN=mean).

Monthly input data is fixed to the middle of each month for the interpolation, and values at the left and right margins are interpolated by extending the monthly datapoints accordingly.

Value

A daily timeseries (zoo) interpolated from daily mean values for each month of the year

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Examples

```
m2d <- monthly2daily(as.Date("2000-01-01"),as.Date("2001-12-31"),values=c(0:6,5:1),FUN=zoo::na.approx)
tail(m2d)
## Not run:
# using na.approx directly for comparison
m <- zooreg(rep(c(0:6,5:1),2),as.yearmon("2000-01-01"),freq = 12)
sq <- seq(as.Date(start(m)), as.Date(end(m), frac = 1), by = "day")
zd <- na.approx(m, x = as.Date, xout = sq)

# plot both results
# na.approx is missing values at the right margin, and sets the monthly value
# at the first day of the month
plot(m2d,col="green")
lines(zd,col="red")
legend('topright', c("na.approx","monthly2daily"), col = 2:3, lty = 1)

## End(Not run)
```

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