
Command Reference:

NewStatisticMonthTimeSeries()

Create a new month interval time series containing a statistic determined from each month of the input time series

Version 10.28.00, 2014-04-07

This command is under development.

The `NewStatisticMonthTimeSeries()` command creates a new month interval time series, where each monthly value in the resulting time series contains a statistic determined from the data sample from the corresponding month in the original time series. For example, if the original time series has a daily time step, then the sample that is analyzed will contain 28-31 values (depending on leap year and month). Other commands (e.g., `ChangeInterval()`) can produce a similar result for a limited number of statistics, for example converting a monthly time series to an annual total or mean. See also the `NewStatisticTimeSeries()`, `NewStatisticTimeSeriesFromEnsemble()`, `CalculateTimeSeriesStatistic()`, `NewStatisticYearTS()`, and `CheckTimeSeries()` commands.

For hourly and finer interval, values are considered to be in a month when the month in the date/time matches the month of interested. This may lead to some issues if the last value in a month is actually recorded at hour 0 or later of the following month. **Handling other than daily data is not yet implemented.**

The following dialog is used to edit the command and illustrates the syntax for the command.

Edit NewStatisticMonthTimeSeries() Command

This command is under development. Currently only daily input time series are supported.

Create a time series where each value is a statistic calculated from a month of data from the input time series. The output time series has an interval of Month. It is recommended that new time series identifier (TSID) information be specified for the output time series to avoid confusing the output with the original.

Time series to analyze (TSID):

Alias to assign: => Required - use %L for location, etc.

New time series ID: Recommended - to avoid confusion with TSID from original time series.

Statistic: Required - statistic to calculate.

Test value: Optional - test value (required for comparison statistics).

Test values (by month): Optional - test values by month (Jan,Feb,...).

Allow missing count: Optional - number of missing values allowed in analysis interval (default=allow missing).

Minimum sample size: Optional - minimum required sample size (default=determined by statistic).

Analysis start: Optional - analysis start date/time (default=full time series period).

Analysis end: Optional - analysis end date/time (default=full time series period).

Command:

NewStatisticMonthTimeSeries

NewStatisticMonthTimeSeries() Command Editor

The command syntax is as follows:

```
NewStatisticMonthTimeSeries (Parameter=value,...)
```

Command Parameters

Parameter	Description	Default
TSID	The time series identifier (or alias) of the time series to analyze. In the future this command will support processing multiple time series.	None – must be specified.
Alias	The alias to assign to the output time series, as a literal string or using the special formatting characters listed by the command editor (which will use properties of the input time series). The alias is a short identifier used by other commands to locate time series for processing, as an alternative to the time series identifier (TSID).	None – must be specified.
NewTSID	The time series identifier to be assigned to the new time series, which is useful to avoid confusion with the original time series.	Use the same identifier as the original time series, with an interval of Month and a scenario matching the statistic.
Statistic	See the Available Statistics table below.	None – must be specified.
TestValue	A test value used when analyzing the statistic.	This parameter is required for some statistics and not used for others. See the statistics table below.
MonthTest Values	Twelve monthly test values separated by commas, with January's value first.	Single test value will be used.
AllowMissing Count	The number of missing values allowed in the source interval(s) in order to produce a result.	Allow any number of missing values.
Minimum SampleSize	The minimum sample size in order to compute the statistic.	No minimum, although the statistic may have requirements.
AnalysisStart	The starting date/time for the analysis using calendar dates (e.g., 2001-01), with month precision. This will limit the data being analyzed and defines the output period.	Analyze the full period, extending the period to include full months.
AnalysisEnd	The starting date/time for the analysis using calendar dates (e.g., 2001-01), with month precision. This will limit the data being analyzed and defines the output period.	Analyze the full period, extending the period to include full months.

Available Statistics

The following statistics are computed from a sample determined from each of data from the input time series.

Statistic	Description	Limitations
DayOfCentroid	The day of the month (1-31) that is the centroid of the values, computed as $\text{sum}(\text{DayOfMonth} * \text{value}) / \text{sum}(\text{values})$.	Input time series must be daily or smaller interval.
DayOfFirstGE	Day of the month (1-31) for the first data value $\geq \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfFirstGT	Similar to DayOfFirstGE, for values $> \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfFirstLE	Similar to DayOfFirstGE, for values $\leq \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfFirstLT	Similar to DayOfFirstGE, for values $< \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfLastGE	Day of the month (1-31) for the last data value $\geq \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfLastGT	Similar to DayOfLastGE, for values $> \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfLastLE	Similar to DayOfLastGE, for values $\leq \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfLastLT	Similar to DayOfLastGE, for values $< \text{TestValue}$.	Input time series must be daily or smaller interval.
DayOfMax	Day of the month (1-31) for the first maximum value in the time series.	Input time series must be daily or smaller interval.
DayOfMin	Day of the month (1-31) for the first minimum value in the time series.	Input time series must be daily or smaller interval.
GECount	Count of values in a month $\geq \text{TestValue}$.	
GEPercent	Percent of values in a month $\geq \text{TestValue}$, based on the total number of points in the month.	
GTCount	Count of values in a month $> \text{TestValue}$.	
GTPercent	Percent of values in a month $> \text{TestValue}$, based on the total number of points in the month.	
LECount	Count of values in a month $\leq \text{TestValue}$.	

Statistic	Description	Limitations
LEPercent	Percent of values in a month \leq TestValue, based on the total number of points in the month.	
LTCount	Count of values in a month $<$ TestValue.	
LTPercent	Percent of values in a month $<$ TestValue, based on the total number of points in the month.	
Max	Maximum value in a month.	
Mean	Mean of values in a month.	
Min	Minimum value in a month.	
MissingCount	Number of missing values in a month.	
MissingPercent	Percent of missing values in a month.	
NonMissingCount	Number of non-missing values in a month.	
NonMissingPercent	Percent of non-missing values in a month.	
Total	Total of values in a month.	