Command Reference: TableToTimeSeries()

Create time series from a table

Version 10.13.00, 2012-11-26

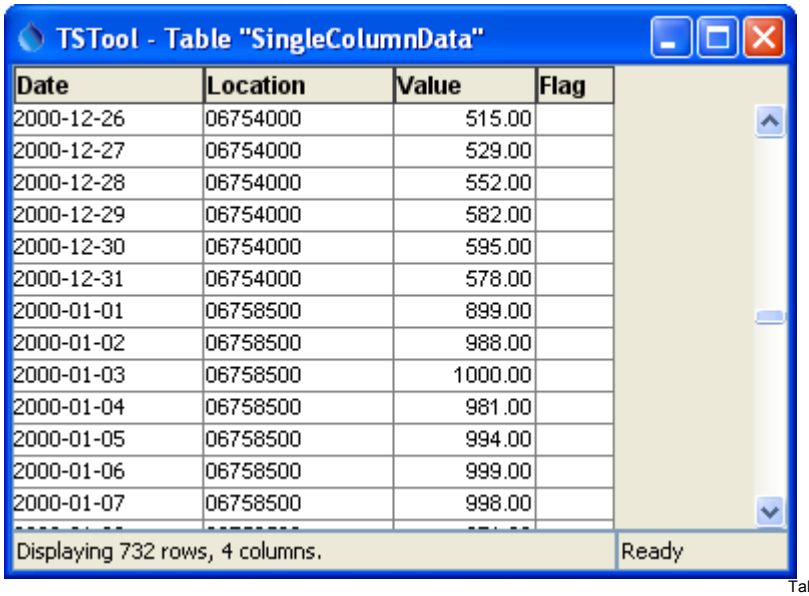
The `TableToTimeSeries()` command creates time series from a table, which may have been read using one of the following commands (or others):

- `ReadTableFromDataStore()` – for example, define an ODBC DSN connection to a database and query time series using an SQL statement.
- `ReadDelimitedFile()` – for example, read time series from a comma-separated-value (CSV) file.
- A yet to be implemented command is envisioned to read a table from an HTML table.

TSTool internally represents tables as a collection of columns, where a column contains values of a consistent data type (e.g., integer, string, double). A time series table therefore requires at a minimum a date/time column, at least one data value column, and optionally one or more columns for data flags. Data represented in one of two table designs are handled by this command:

- Data for multiple locations/series stored in a single column (common in databases) – specify the `LocationColumn` command parameter.
- Data for multiple locations/series stored in multiple columns (common in spreadsheets and CSV files) – do not specify the `LocationColumn` command parameter but instead specify the `ValueColumn` and optionally `LocationID` parameters.

An example of single-column data with flags is shown in the following figure (note that a column is used for the location identifier and that the location is different for the topmost and bottommost records).

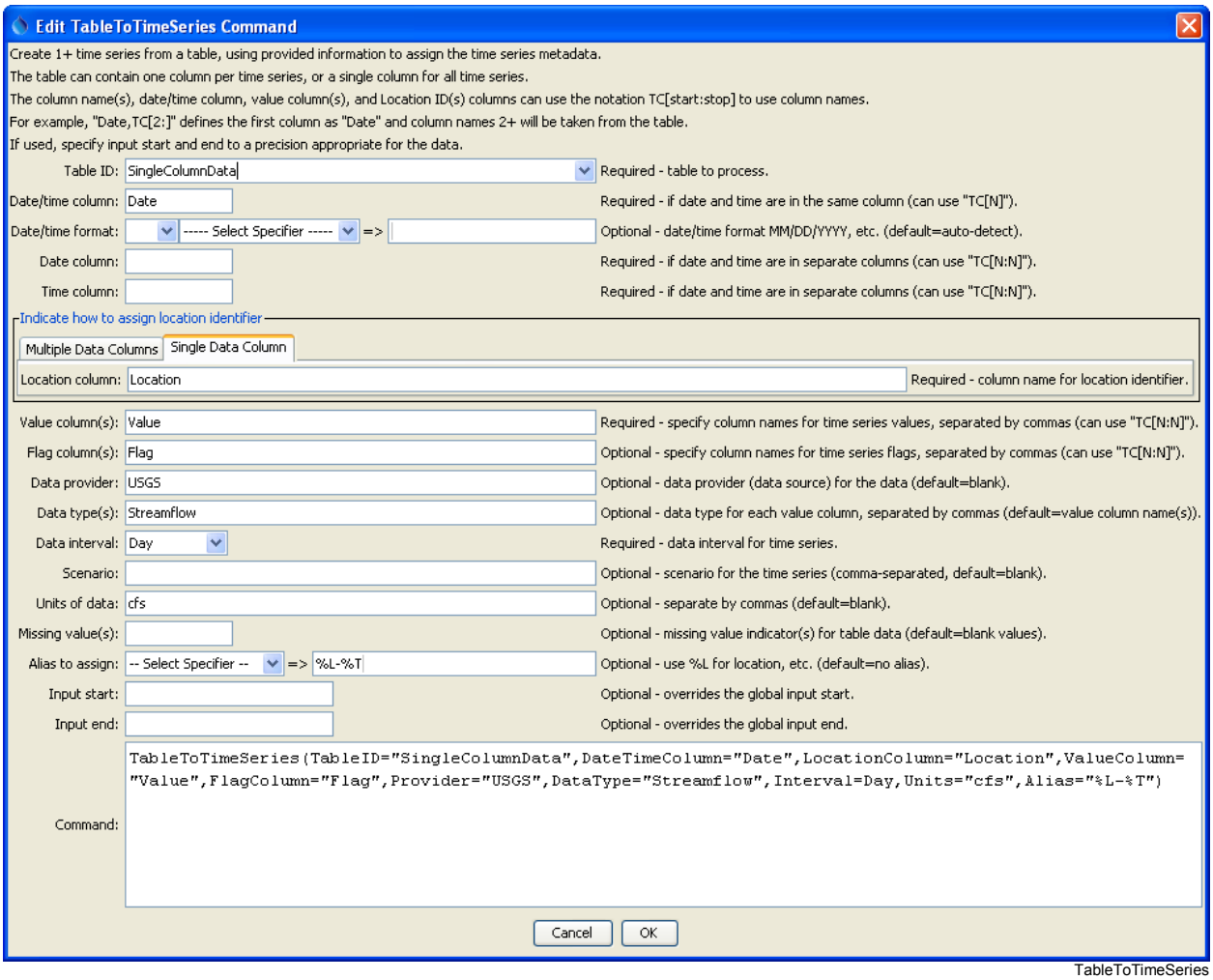


Date	Location	Value	Flag
2000-12-26	06754000	515.00	
2000-12-27	06754000	529.00	
2000-12-28	06754000	552.00	
2000-12-29	06754000	582.00	
2000-12-30	06754000	595.00	
2000-12-31	06754000	578.00	
2000-01-01	06758500	899.00	
2000-01-02	06758500	988.00	
2000-01-03	06758500	1000.00	
2000-01-04	06758500	981.00	
2000-01-05	06758500	994.00	
2000-01-06	06758500	999.00	
2000-01-07	06758500	998.00	

TableToTimeSeries_Single_Data

Table with Data in a Single Column

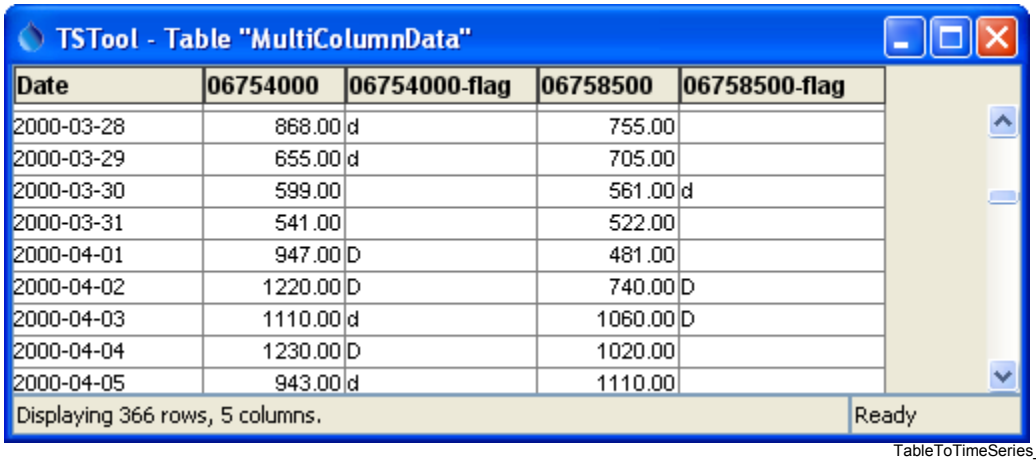
The following dialog is used to edit the command and illustrates the syntax for the command when processing single-column data from the above table.



TableToTimeSeries

TableToTimeSeries() Command Editor For Table with Data in a Single Column

An example of multi-column data with flags is shown in the following figure, where each time series has its own data and flag columns:

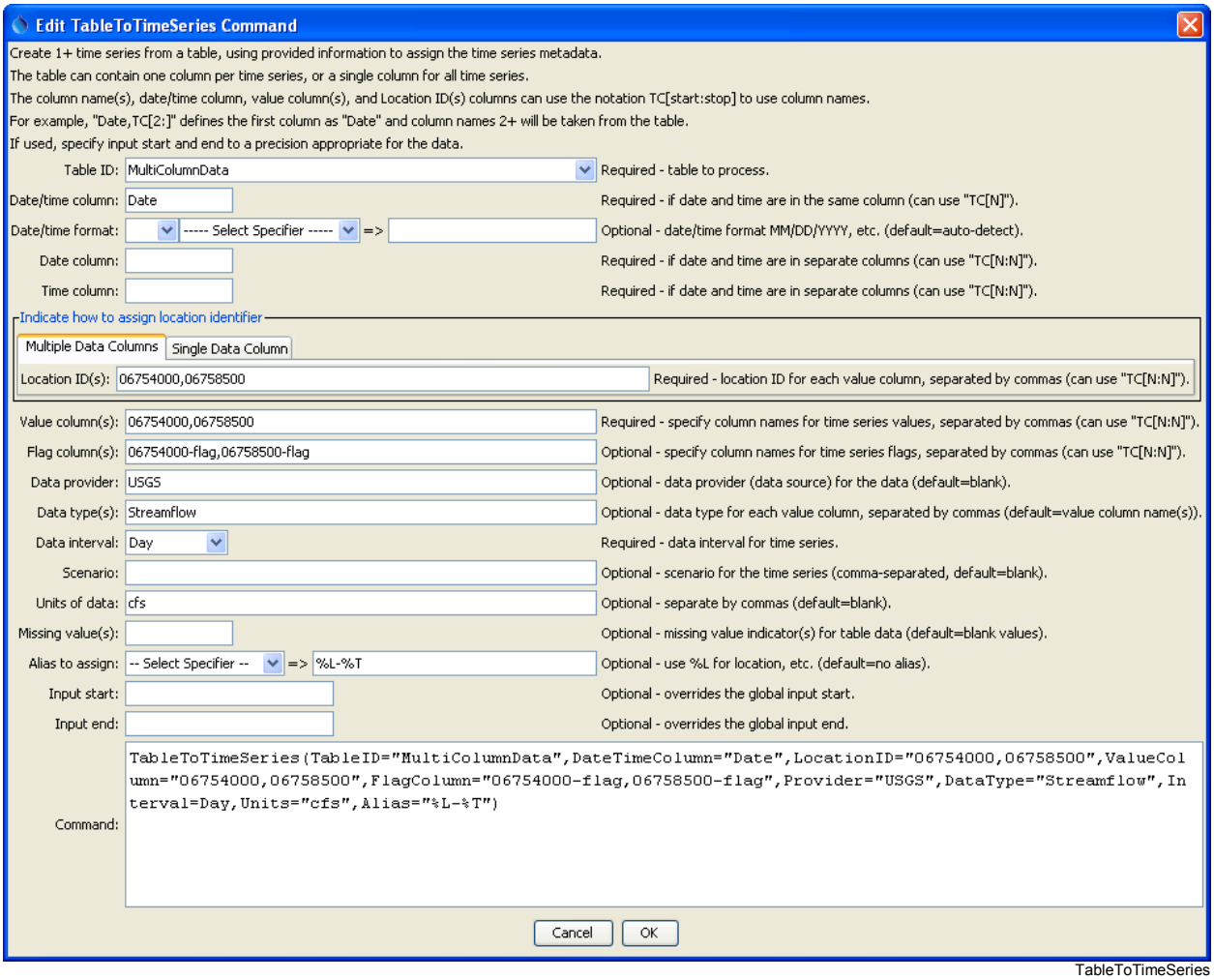


Date	06754000	06754000-flag	06758500	06758500-flag
2000-03-28	868.00	d	755.00	
2000-03-29	655.00	d	705.00	
2000-03-30	599.00		561.00	d
2000-03-31	541.00		522.00	
2000-04-01	947.00	D	481.00	
2000-04-02	1220.00	D	740.00	D
2000-04-03	1110.00	d	1060.00	D
2000-04-04	1230.00	D	1020.00	
2000-04-05	943.00	d	1110.00	

TableToTimeSeries_Multiple_Data

Table with Multiple Data Columns

The following dialog is used to edit the command and illustrates the syntax for the command when processing multi-column data from the above table.



TableToTimeSeries

TableToTimeSeries() Command Editor For Table with Data in a Single Column

The command syntax is as follows:

```
TableToTimeSeries(Parameter=Value,…)
```

Command Parameters

Parameter	Description	Default
`TableID`	The identifier for the table to read.	None – must be specified.
`DateTime Column`	The column for date/time, when date and time are in one column. If the table was read in a way that the column type is "date/time", then the values are used directly. If the table was read in a way that the column type is "string", then the string is parsed using default logic or the `DateTimeFormat` parameter if specified.	Required if `DateColumn` is not specified.
`DateTime`	The format for date/time strings in the date/time column, if	Will automatically

Parameter	Description	Default
Format	strings are being parsed. If blank, common formats such as YYYY-MM-DD hh:mm and MM/DD/YYYY will automatically be detected. However, it may be necessary to specify the format to ensure proper parsing. This format will be used to parse date/times from the DateTimeColumn or the merged string from the DateColumn and TimeColumn (if specified). The format string will depend on the formatter type. Currently, only the "C" formatter is available, which uses C programming language specifiers. The resulting format includes the formatter and specifiers (e.g., C:%m%d%y).	be determined by examining date/time strings.
DateColumn	The name of column that includes the date, used when date and time are in separate columns.	Required if DateTimeColumn is not specified.
TimeColumn	The name of column that includes the time, used when date and time are in separate columns. The DateColumn and TimeColumn contents are merged with a joining colon character and are then treated as if DateTimeColumn had been specified.	A time column is required only when DateColumn is specified and the interval requires time.
LocationID	The location identifier(s) to assign to time series, separated by columns if more than one column is read from the table. Specify this parameter for multiple column data tables or specify the LocationColumn parameter for single column data tables. Column names can be specified as literal strings or as TC[start:stop] to match table column names, where start is 1+ and stop is blank to read all columns or a negative number to indicate the offset from the end column.	Value column names.
LocationColumn	The name of the column containing the location identifier, when reading a single-column data table. Specify this parameter for single column data tables or specify the LocationID parameter for multiple column data tables.	None – must be specified for single column data tables.
ValueColumn	The name(s) of column(s) containing data values. Separate column names with commas. The TC[start:stop] notation discussed for LocationID can be used.	None – must be specified.
FlagColumn	The name(s) of column(s) containing the data flag. Separate column names with commas. The TC[start:stop] notation discussed for LocationID can be used. If specified, the number of columns must match the ValueColumn parameter, although specifying blank column names is allowed.	Flags are not read.
Provider	The data provider identifier to assign to time series for each of the value columns (or specify one value to apply to all columns).	No provider will be assigned.

Parameter	Description	Default
`DataType`	The data type to assign to time series for each of the value columns (or specify one value to apply to all columns).	Use the value column names for the data types.
`Interval`	The interval for the time series. Only one interval is recognized for all the time series in the table. Interval choices are provided when editing the command. If it is possible that the date/times are not evenly spaced, then use the `Irregular` interval.	None – must be specified.
`Scenario`	The scenario to assign to time series for each of the value columns (or specify one value to apply to all columns).	No scenario will be assigned.
`Units`	The data units to assign to time series for each of the value columns (or specify one value to apply to all columns).	No units will be assigned.
`Missing`	Strings that indicate missing data in the table (e.g., "m").	Interpret empty column values as missing data.
`Alias`	The alias to assign to time series, as a literal string or using the special formatting characters listed by the command editor. The alias is a short identifier used by other commands to locate time series for processing.	No alias will be assigned.
`InputStart`	The date/time to start reading data.	All data or global input start.
`InputEnd`	The date/time to end reading data.	All data or global input end.

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