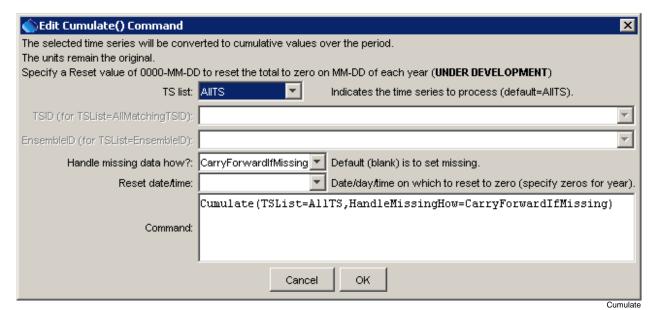
## Command Reference: Cumulate()

## Convert time series data values to cumulative values

Version 08.15.00, 2008-05-04

The Cumulate () command converts a time series into cumulative values, which is useful for comparing the cumulative trends of related time series (e.g., nearby gages or precipitation gages) and can serve as a substitute for the double-mass graph, which has difficulty handling missing data. It is also useful to check the mass balance when routing time series (the cumulative values before and after routine will track closely). The following dialog is used to edit the command and illustrates the syntax of the command.



**Cumulate() Command Editor** 

The command syntax is as follows:

Cumulate (Parameter=Value,...)

## **Command Parameters**

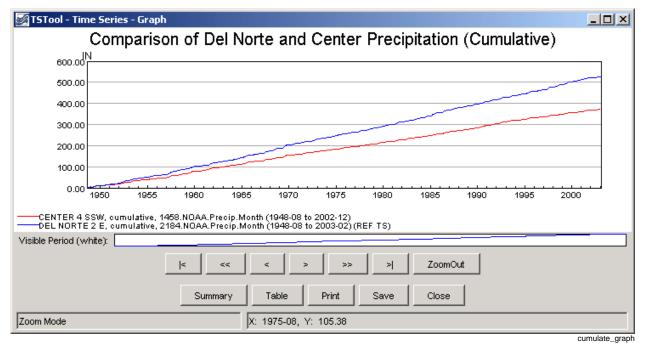
Parameter	Description	Default
TSList	Indicates the list of time series to be processed, one of:	AllTS
	AllMatchingTSID – all time series that match the TSID	
	(single TSID or TSID with wildcards) will be modified.	
	• AllTS – all time series before the command.	
	• EnsembleID – all time series in the ensemble will be modified.	
	• LastMatchingTSID – the last time series that matches the	
	TSID (single TSID or TSID with wildcards) will be modified.	
	SelectedTS – the time series are those selected with the	
	SelectTimeSeries() command.	
TSID	The time series identifier or alias for the time series to be modified,	TSID or
	using the * wildcard character to match multiple time series.	EnsembleID
		must be
		specified.

Parameter	Description	Default
EnsembleID	The ensemble to be modified, if processing an ensemble.	TSID or EnsembleID must be specified.
Handle Missing How	<ul> <li>Indicate how to handle missing data, one of:</li> <li>CarryForwardIfMissing –carry forward the last non-missing value</li> <li>SetMissingIfMissing – set the result to missing if the original value is missing.</li> <li>The only difference in output is that the period of missing data will either be blank or a horizontal line in graphs.</li> </ul>	SetMissing IfMissing
Reset	A MM-DD date, day (1-31), or month (1-12) indicating when to reset the cumulative value to zero, before beginning to cumulate again.  The features of this parameter are under development.	Do not reset.

A sample command file to cumulate times from the State of Colorado's HydroBase is as follows:

```
# 1458 - CENTER 4 SSW
1458.NOAA.Precip.Month~HydroBase
# 2184 - DEL NORTE 2 E
2184.NOAA.Precip.Month~HydroBase
Cumulate(TSList=AllTS, HandleMissingHow=CarryForwardIfMissing)
```

The following graph illustrates cumulative data for two precipitation gages in the same region, where missing data results in carrying forward the last known value.



**Example Graph Showing Results of cumulate() Command**