Command Reference: TS Alias = WeightTraces()

Create a time series by weighting data from time series ensemble traces
Version 08.15.00, 2008-04-24,

The `WeightTraces()` command creates a new time series as a weighted sum of time series ensemble traces, for example as produced by a `CreateEnsemble()` command. If any trace contains missing data for a point, the resulting time series value will also be missing. Note that this approach may not be appropriate for some analyses – the user should evaluate the implications of whether the weighted result appropriately reflects the (in)dependence of input data.

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

TS_weightTraces

WeightTraces() Command Editor

The command syntax is as follows:

```
TS Alias = WeightTraces(Parameter=Value,…)
```
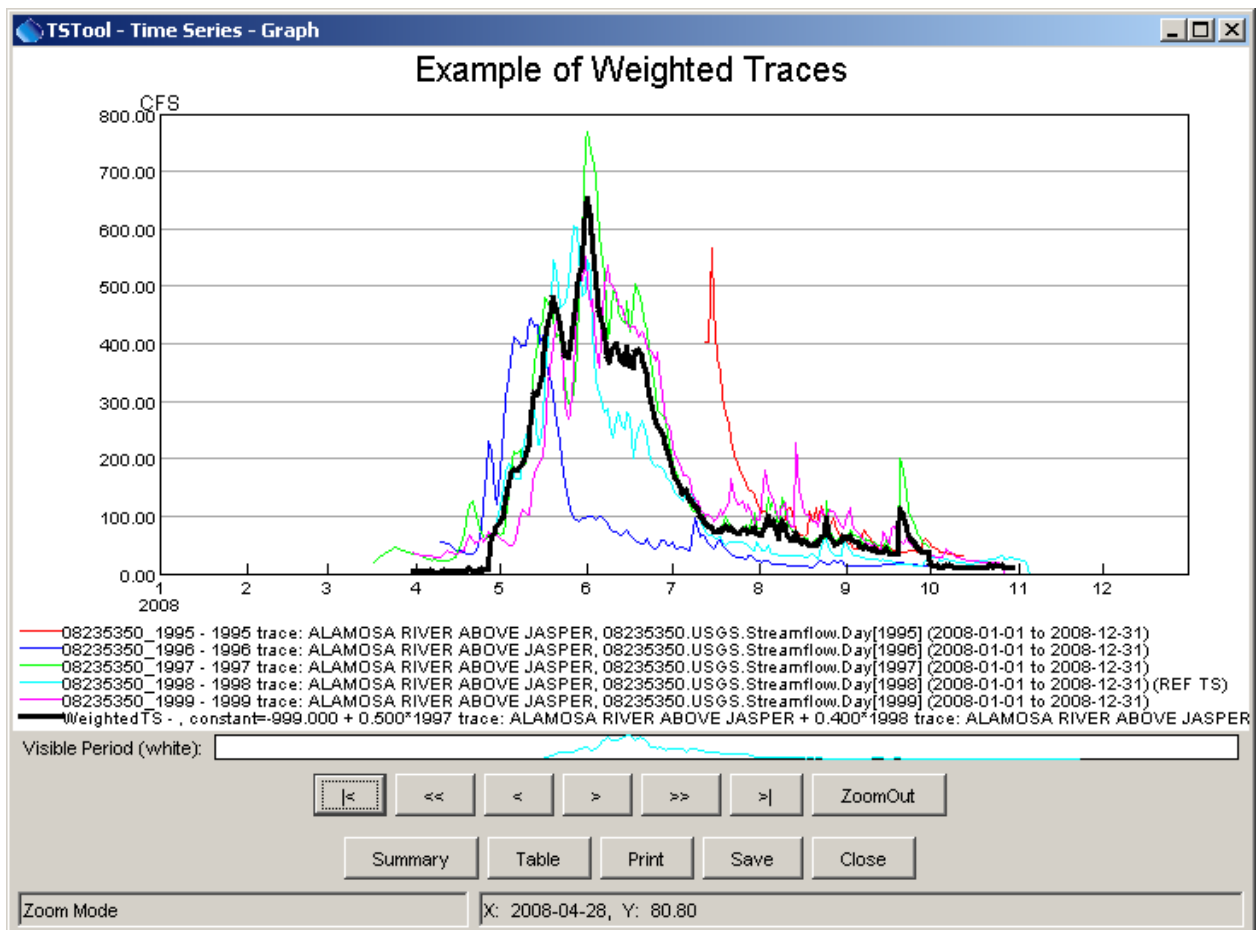
Command Parameters

Parameter	Description	Default
Alias	The alias of the new time series.	None – must be specified.
EnsembleID	The ensemble identifier indicating time series to be processed (e.g., from a `CreateEnemble()` command). Time series matching the years specified by the `Weights` parameter will be processed.	None – must be specified.
SpecifyWeightsHow	Weights are currently only applied as `AbsoluteWeights` (in the future an option may be added to normalized weights to `1.0` accounting for missing data in the traces).	Must be `AbsoluteWeights`.
Weights	Specify pairs of trace year and weights (0-1.0), used to create the new time series. Trace years must be manually entered because at the time that the command is edited, time series have not yet been queried. The weights do not need to add to 1. Example data are: `1995,.5,1998,.3,2005,.2`	None – must be specified.
NewTSID	The time series identifier for the new time series that is created. This typically uses the same information as the original time series, with an added scenario.	None – must be specified.

A sample commands file is as follows (longer commands that wrap are shown indented):

```
# Create annual traces from a time series shifted to the current year
# The original time series is read from HydroBase
#
# (1995-1998) ALAMOSA RIVER ABOVE JASPER, CO  USGS  Streamflow  Day
08235350.USGS.Streamflow.Day~HydroBase
CreateEnsemble(TSID="08235350.USGS.Streamflow.Day",TraceLength=1Year,
  EnsembleID="Ensemble_Jasper",
  EnsembleName="ALAMOSA RIVER ABOVE JASPER, CO",
  ReferenceDate="2008-01-01",ShiftDataHow=ShiftToReference)
TS WeightedTS = WeightTraces(EnsembleID="Ensemble_Jasper",
  SpecifyWeightsHow="AbsoluteWeights",
  Weights="1997,.5,1998,.4,1999,.1",
  NewTSID="08235350.USGS.Streamflow.Day.weighted")
WriteDateValue(OutputFile="Results/WeightTraces_out.dv")
```

UserManualExamples/TestCases/CommandReference/WeightTraces/WeightTraces.TSTool

The results from the commands are shown in the following graph:

WeighTraces_Graph

Results of the WeightTraces() Command

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