

Statistics Ensemble Transformations

Description

A statisticsEnsemble transformation will compute the configured statistic function. Input is an ensemble with multiple time series. Output is one time series. Per time step the ensemble values for that time step are used to get a statistic output value.

This can be used for example to calculate the average of an ensemble of time series.

Functions

The available statistic functions are:

- count
- kurtosis
- max
- mean
- median
- [memberIndexOfMax](#)
- min
- percentileExceedence
- percentileNonExceedence
- quartile
- rootMeanSquareError
- rsquared
- skewness
- standardDeviation
- sum
- variance
- [eventProbability](#)

Configuration example

```

<?xml version="1.0" encoding="UTF-8"?>
<transformationModule version="1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.wldelft.nl/fews" xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/transformationModule.xsd">
  <!--input variable-->
  <variable>
    <variableId>input</variableId>
    <timeSeriesSet>
      <moduleInstanceId>Ensembles_Forecast</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>P</parameterId>
      <locationSetId>Catchments</locationSetId>
      <timeSeriesType>external forecasting</timeSeriesType>
      <timeStep unit="hour"/>
      <relativeViewPeriod unit="hour" start="-240" startOverrutable="false" end="360"
endOverrutable="true"/>
      <readWriteMode>add originals</readWriteMode>
      <ensembleId>ens</ensembleId>
    </timeSeriesSet>
  </variable>
  <!--output variable-->
  <variable>
    <variableId>output</variableId>
    <timeSeriesSet>
      <moduleInstanceId>Ensembles_Forecast_Post</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>P</parameterId>
      <qualifierId>median</qualifierId>
      <locationSetId>Catchments</locationSetId>
      <timeSeriesType>simulated forecasting</timeSeriesType>
      <timeStep unit="hour"/>
      <relativeViewPeriod unit="hour" start="-240" startOverrutable="false" end="360"
endOverrutable="true"/>
      <readWriteMode>add originals</readWriteMode>
    </timeSeriesSet>
  </variable>
  <transformation id="statistics ensemble median">
    <statisticsEnsemble>
      <median>
        <inputVariable>
          <variableId>input</variableId>
        </inputVariable>
        <outputVariable>
          <variableId>output</variableId>
        </outputVariable>
      </median>
    </statisticsEnsemble>
  </transformation>
</transformationModule>

```