

GenerationTidalConstituents Transformation

GenerationTidalConstituents

Coefficient set or coefficient set functions

constituent: One or more harmonic tidal constituents. These are used to generate the output time series. The contributions of the individual constituents will be added to create the final result.

name: Name of a harmonic tidal constituent. This can be a standard designation of one of the tidal constituents from the list. [Click here](#) for a list of the available tidal constituents.

amplitude: Amplitude (in m) for this constituent.

phase: Phase (in degrees) for this constituent.

When using coefficient set functions (available since build 30246), the value elements can contain tags between "@" signs (e.g. "@NUMBER@") that refer to location attributes that are defined in the locationSets configuration file. The tags are replaced by actual values. These values can be different for different locations and time periods. See [22 Locations and attributes defined in CSV files, Shape-DBF files or external tables](#) for more information.

Output

outputVariable: Output variable in which the generated time series will be written.

Description

Uses one or more input harmonic tidal constituents to generate an output time series. This transformation is the same as the old ruleBasedTransformation "harmonicTimeseries" in the old transformations module. This new version can use location attributes.

Configuration examples

Configuration example:

```
<transformation id="GenerationTidalConstituentsTest">
  <generation>
    <tidalConstituents>
      <coefficientSet>
        <constituent name="M2" amplitude="2.5" phase="1080"/>
        <constituent name="S1" amplitude="-1.001" phase="-45.001"/>
      </coefficientSet>
      <outputVariable>
        <variableId>output</variableId>
      </outputVariable>
    </tidalConstituents>
  </generation>
</transformation>
```

The example below uses coefficientSetFunctions (available since build 30246, i.e. since stable build 2011.01). Here the coefficients are defined in coefficientSetFunctions, where NAME, AMP and PHASE refer to location number attributes that are defined in the locationSets configuration file. This can be used if the constituents are different for different locations. In this case only specify one constituent to link the name, amplitude and phase to the corresponding columns in the locationAttributes file:

```
<transformation id="GenerationTidalConstituentsWithLocationAttributesTest">
  <generation>
    <tidalConstituents>
      <coefficientSetFunctions>
        <constituent name="@NAME@" amplitude="@AMP@" phase="@PHASE@" />
      </coefficientSetFunctions>
      <outputVariable>
        <variableId>output</variableId>
      </outputVariable>
    </tidalConstituents>
  </generation>
</transformation>
```

When using coefficientSetFunctions, the location attributes file can contain multiple rows with constituents per location, e.g.:

ID	NAME	AMP	PHASE
location1	M2	2.5	0
location1	S1	-1.001	-45.001
location2	M2	3.5	0
location2	S1	1	10
location2	SA	2	15