

# InterpolationSpatialSum

## Transformation - InterpolationSpatial sum

schema:	<a href="#">transformationModule.xsd</a>
keywords:	transformation, spatial interpolation, sum

### Description and usage

This transformation function is used to calculate the sum of an input time series (grid or scalar) within the area of a polygon of the output time series.

This transformation can handle three types of input:

- scalar
- regular grid
- irregular grid

When the input is a scalar time series the sum for a certain polygon in the output will be calculated by finding the points in the input time series which are within the area of the polygon and calculate sum of the input values of these points. When the input is a time series with a grid (regular or irregular) the transformation will determine which cells of the input time series have an overlap with the output polygon and the sum value of these cells will be calculated. If the input polygon is only partly within the output polygon the input value will only be accounted for the part which covers the output polygon.

The output time series can be a output time series with polygons or a irregular/regular grid. However it is expected to have a slow performance with large grids because this transformation is optimized for output time series based on polygons.

The configurator has the possibility to configure a minimum or a maximum value for the output of the transformation. If the output exceeds the minimum or maximum value configured the output will truncated to the minimum or maximum value configured.

### Input/Output time series

In this function one input time series and one output time series must be identified.

- **inputVariable**: A time series with input values. This can be a scalar time series or time series with a regular/irregular grid.
- **outputVariable**: A time series in which the output will be stored. The output time series can be a time series with polygons or with a regular grid.

### Configuration

A basic configuration of the function is described below. This describes the main elements and attributes required and provides an example configuration.

#### *inputVariable*

Required element defining the identifier of the input time series with input values. This Id must reference a valid input time series.

#### *outputVariable*

Required element defining the identifier of the output time series with output values. This Id must reference a valid output time series.

#### *minimumValue*

Optional element defining the minimum value of the output time series. If the output value is lower than the configured minimum value the output value will be equal to the configured minimum value.

#### *maximumValue*

Optional element defining the maximum value of the input time series. If the output value is higher than the configured maximum value the output value will be equal to the configured maximum value.

#### *Example*

```
<interpolationSpatial>
  <sum>
    <inputVariable>
      <variableId>input</variableId>
    </inputVariable>
    <minimumValue>0</minimumValue>
    <maximumValue>10000</maximumValue>
    <outputVariable>
      <variableId>ouput</variableId>
    </outputVariable>
  </sum>
</interpolationSpatial>
```

### Common issues

None reported.

Related items

[transformationModule.xsd](#)