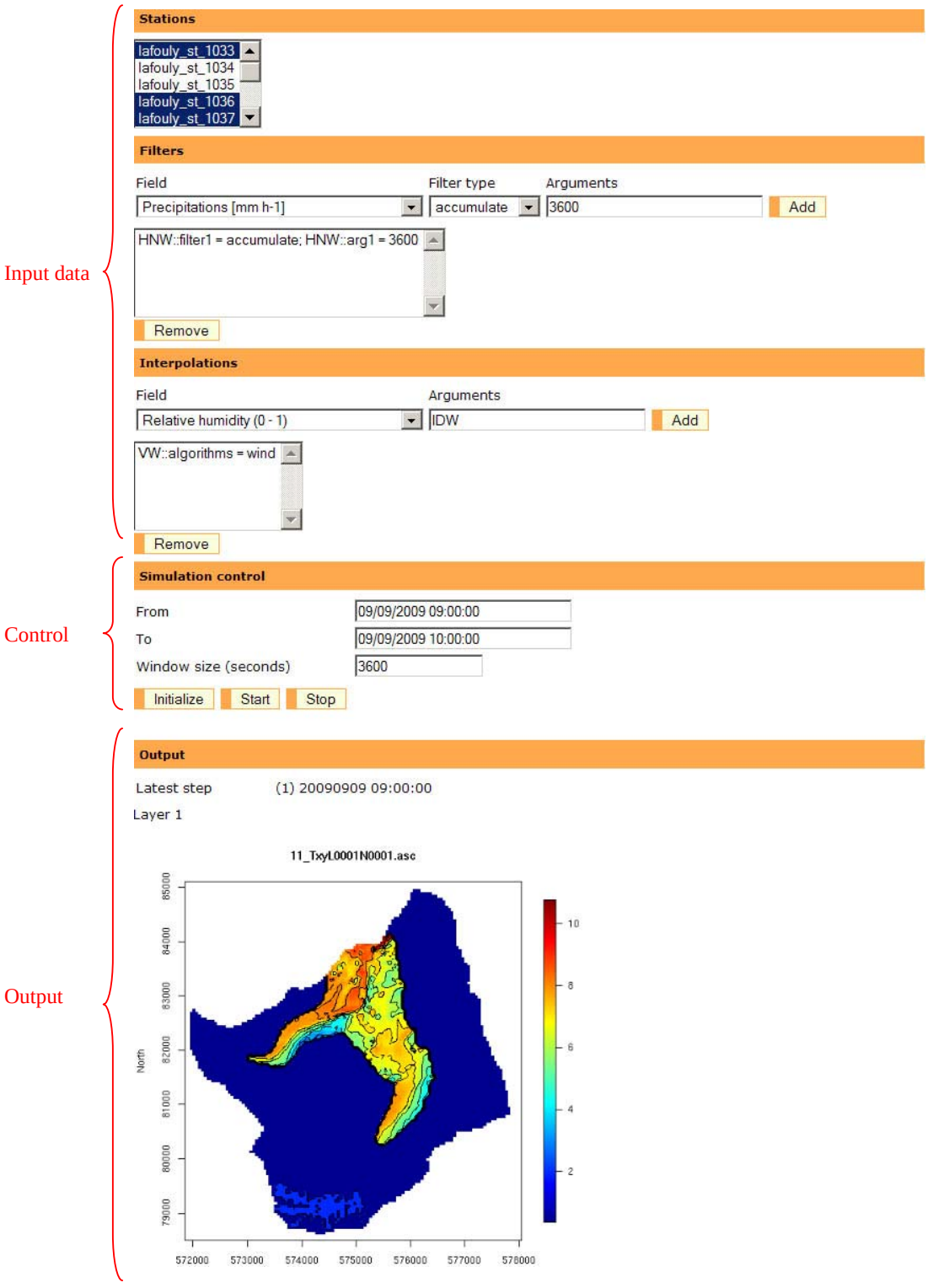
GSN Simulation Interface for GeoTop

Presentation

The interface is composed of three sections: input data, simulation control and output. Each section is described hereafter.



1. Input data

Input data is composed of three parts: stations, filters and interpolations.

1.1. Selecting stations

You need to select the meteo stations that will be used for the simulation. Stations are selected in a combo box with the control key for multiple selections.

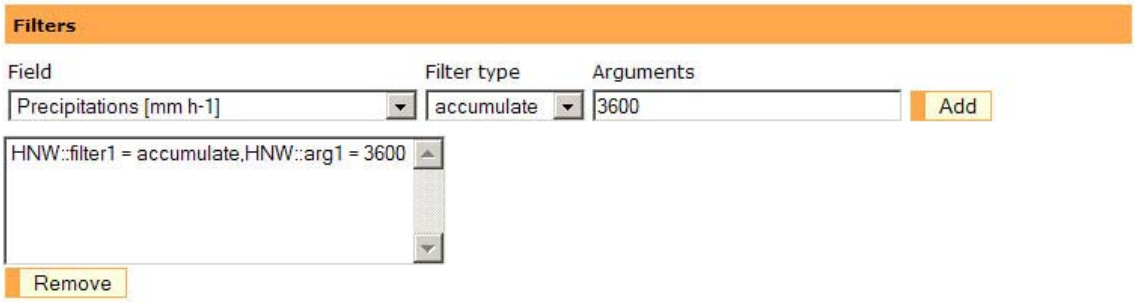
1.2. Adding filters

User needs to set filters for the meteo data. Measures can be accumulated, averaged, and cleaned before being sent to the simulation model.

Available filters are[1]:

- **rate:** calculates the derivative at the current point and reject the point if the derivative is above a given threshold.
- **min_max:** filter all values outside of the interval [min, max], soft operation supported
- **min:** filter out all values less than the given parameter, soft operation supported
- **max:** filter out all values greater than the given parameter, soft operation supported
- **resample:** resamples (if necessary) the data so that if a required time stamp is between two data points, an interpolated value will be returned (instead of nodata).
- **accumulate:** accumulates the data on a given interval (Seconds).
- **median_avg:** computes median average over a given window
- **mean_avg:** computes mean average over a given window
- **wind_avg:** vector average over a given window

The user can select the field (e.g. precipitation), the filter to apply (accumulation) and an argument (window size).



1.3. Adding interpolations

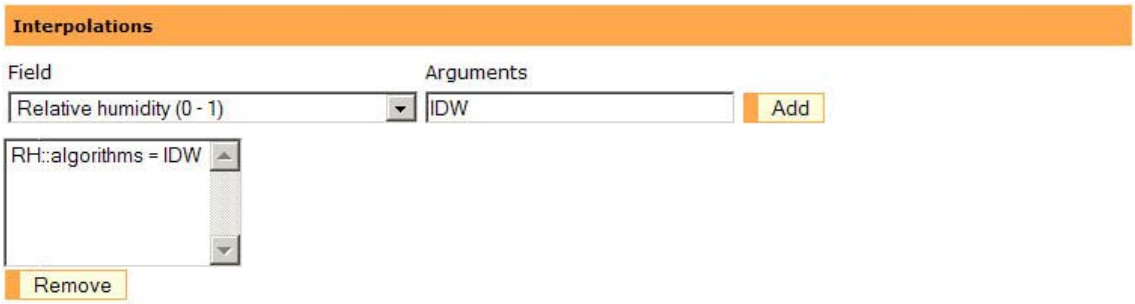
This deals with spatial interpolations. Available interpolation algorithms are:

- ConstAlgorithm
- ConstLapseRateAlgorithm

[1] http://www.geotop.org/cgi-bin/moin.cgi/Running_GEOtop_using_MeteoIO_library

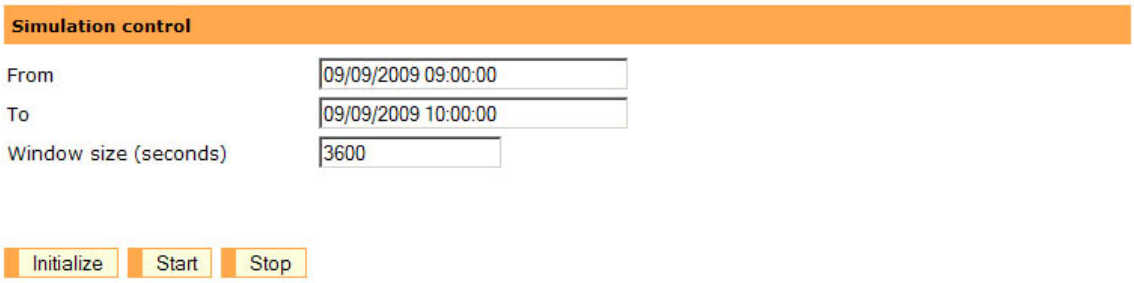
- SimpleWindInterpolationAlgorithm
- StandardPressureAlgorithm
- IDWAlgorithm
- IDWLapseAlgorithm
- RHAlgorithm

For more details refer to MeteoIO documentation.



2. Simulation control

User specifies the start time, end time and window size (in seconds) for the simulation. The initialize button sets the parameters of the simulations according to what the user has selected. The start and stop buttons control simulation running.



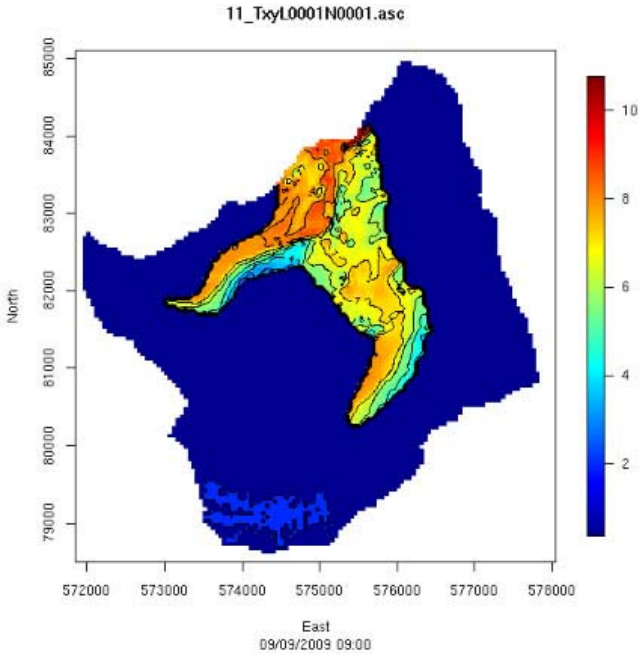
3. Output

The results of the simulation are shown as maps in the output section for the different layers.

Output

Latest step (1) 20090909 09:00:00

Layer 1



Layer 2