

SUPPLEMENTARY MATERIAL

The Hillslope Length Impact on SWAT Streamflow Prediction in Large Basins

A. Malagò^{1*}, O. Vigiak¹, F. Bouraoui¹, L. Pagliero², and M. Franchini³

¹*European Commission Joint Research Centre (JRC), Directorate-Sustainable Resources, via Enrico Fermi 2749, Ispra 21027, Italy*

²*Department of Civil Engineering, Hydraulic Section, Katholieke Universiteit Leuven, Kasteelpark Arenberg 40, Leuven B-3001, Belgium*

³*Engineering Department, University of Ferrara, via Saragat 1, Ferrara 44100, Italy*

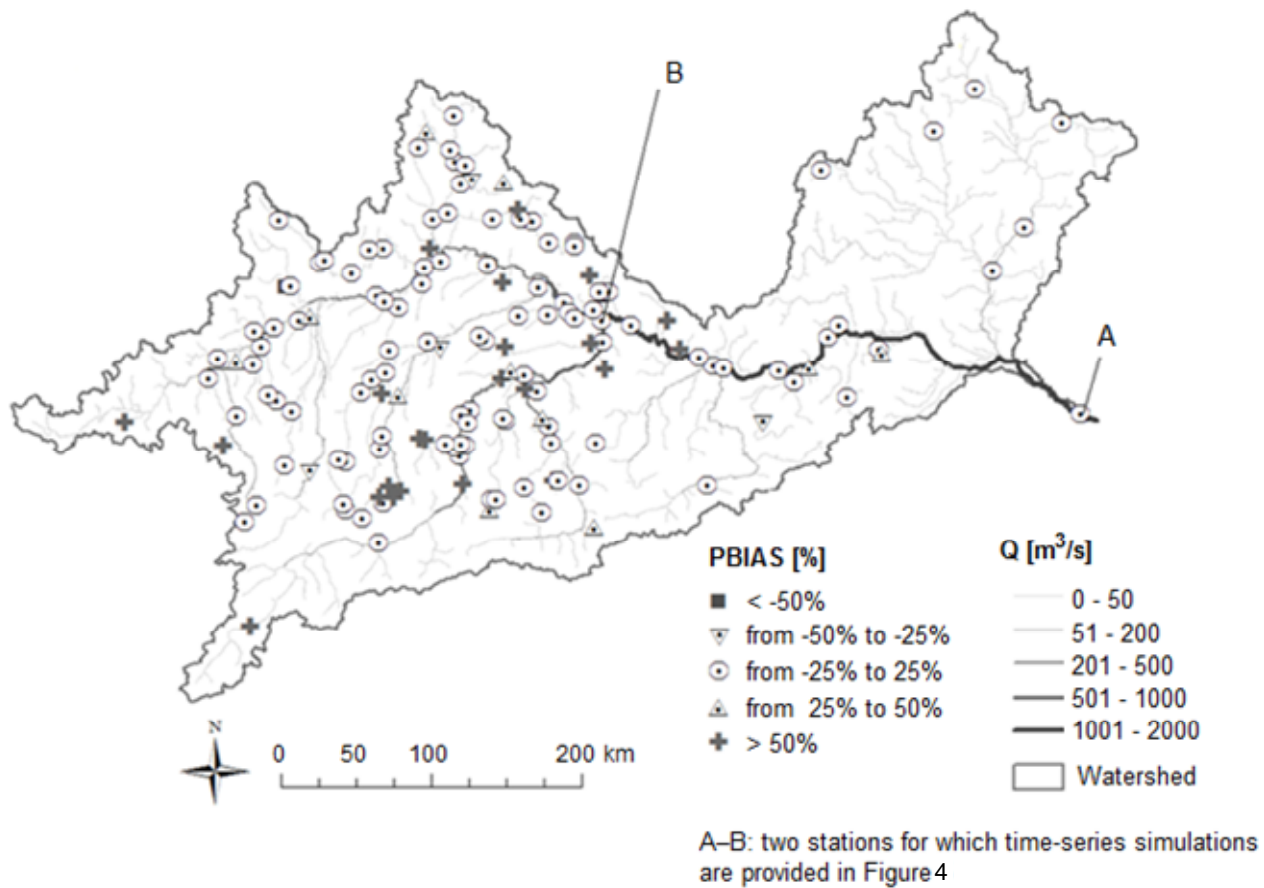


Figure S1. Percent bias (PBIAS, %) of monthly streamflow of configuration 25L2 at the 150 gauging stations (1995-2009) and long-term monthly average of simulated streamflow (Q, m³/s).

Near Optimal Parameter sets

[1] snow process, [2] surface runoff, [3] lateral flow, and [4] baseflow

"abs value/factor": absolute value for adimensional parameter

"rate value": increment/decrement for which the absolute value is increased (positive rate) or decreased (negative rate)

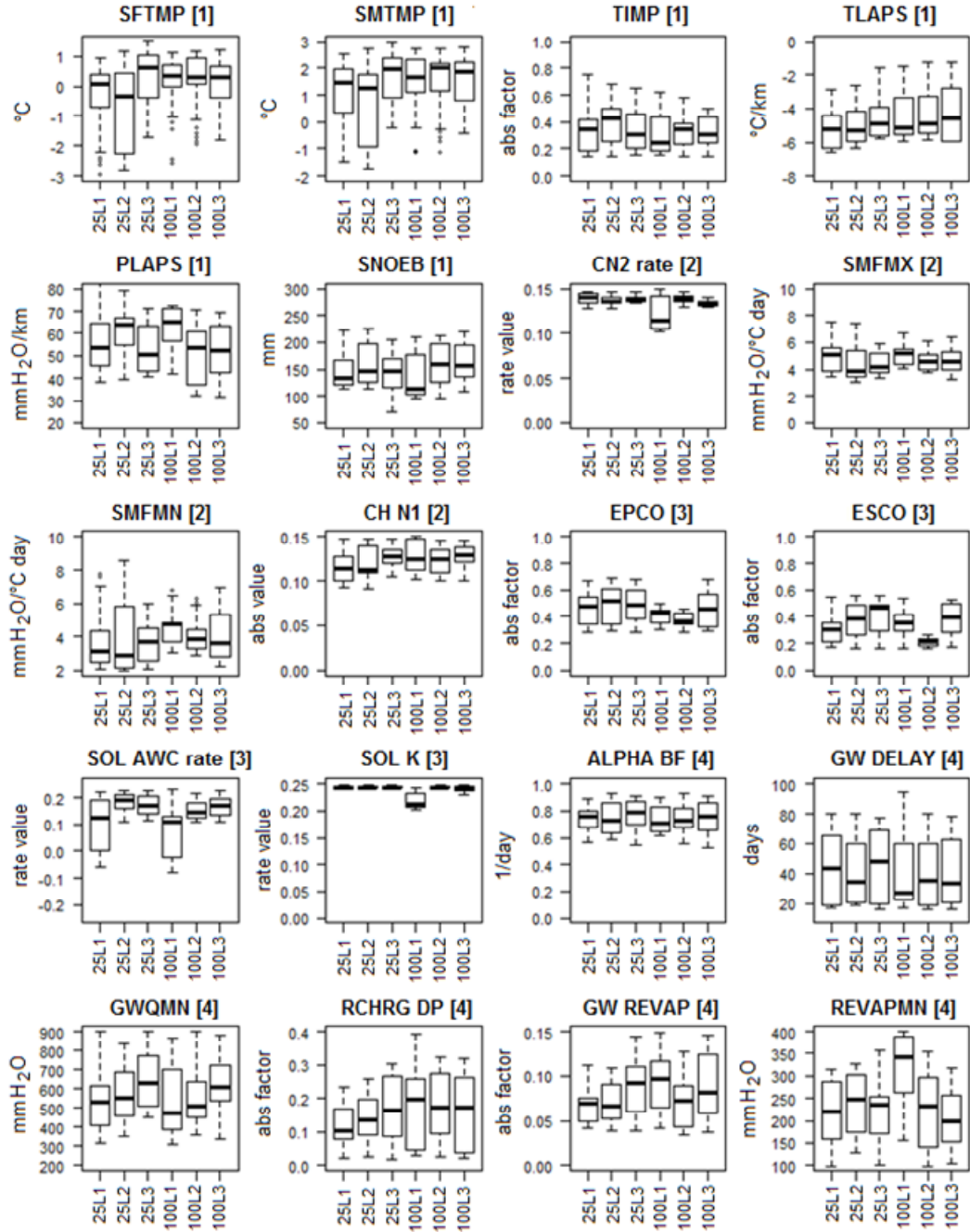


Figure S2. Box-and-whisker plots of behavioural Near Optimal Parameter sets from “donors” subbasins.

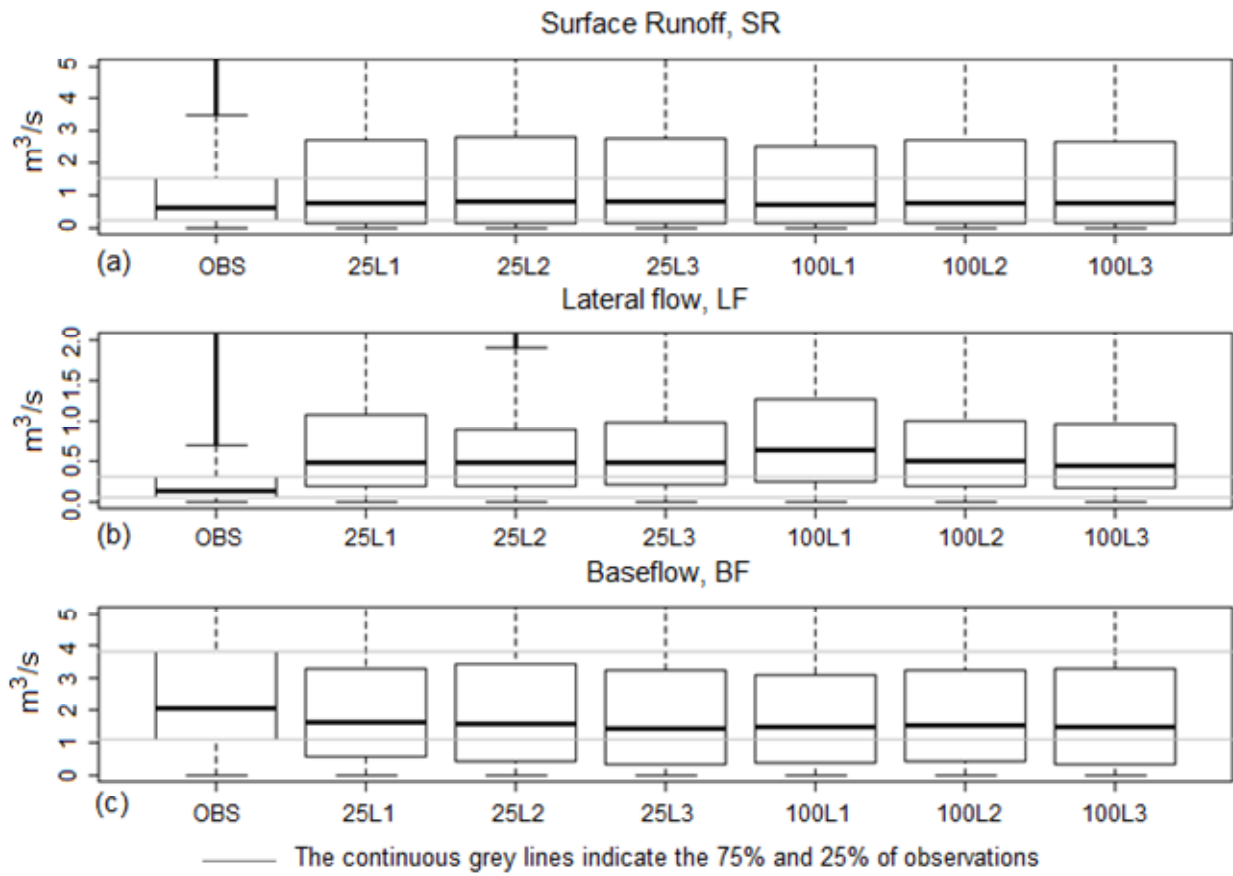


Figure S3. Box-and-whisker plots of simulated and observed streamflow components for calibrated monitoring points (#98; period 1995-2006).

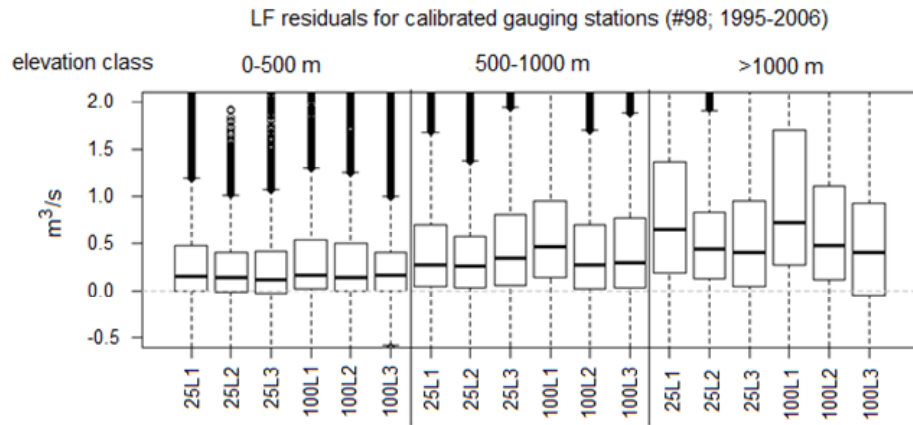


Figure S4. Box-and-whisker plots of residuals between simulated and observed lateral flow (LF) for calibrated monitoring points (#98; period 1995-2006) with respect to three classes of elevations: 0-500 m (#28 monitoring points), 500-1000 m (#48) and >1000 m (#22).

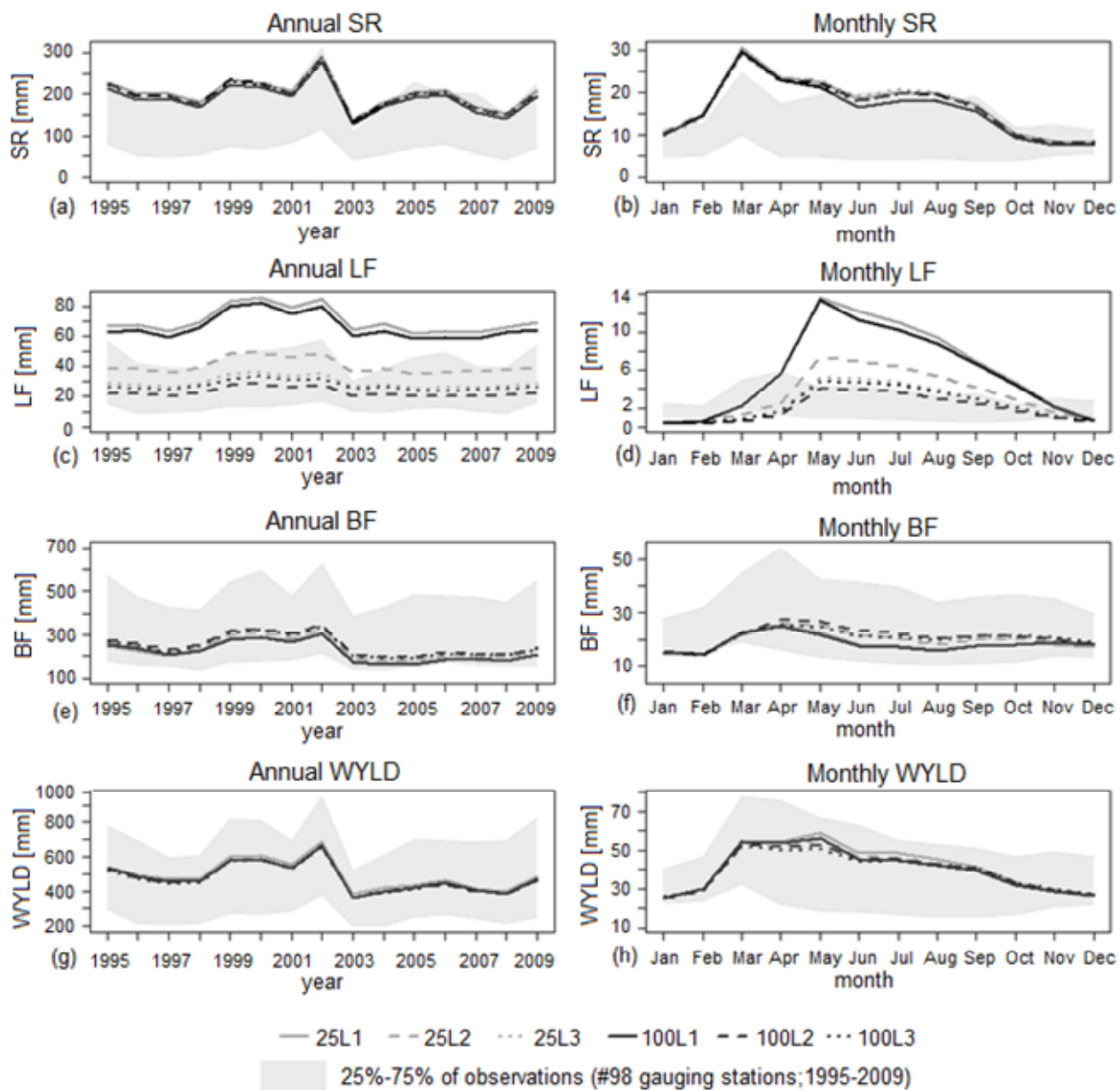


Figure S5. Long-term mean annual (a, c, e, g) and monthly (b, d, f, h) surface runoff (SR), lateral flow (LF), baseflow (BF) and water yield (WYLD, all in mm) generated in all HRUs in the six DEML configurations for the period 1995-2009.