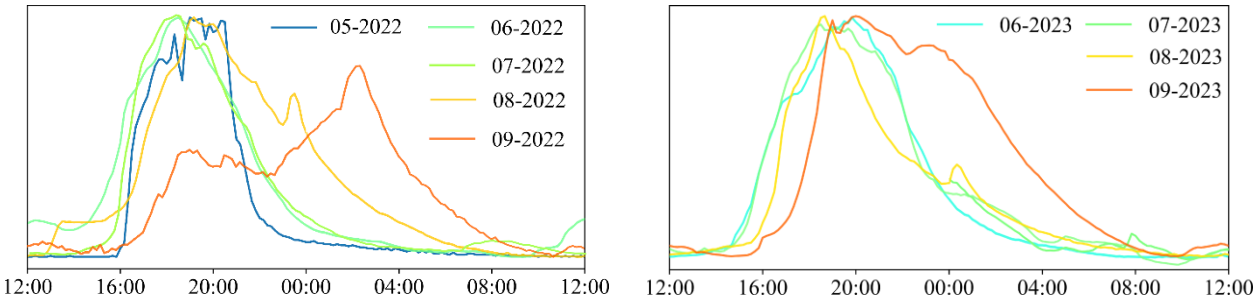
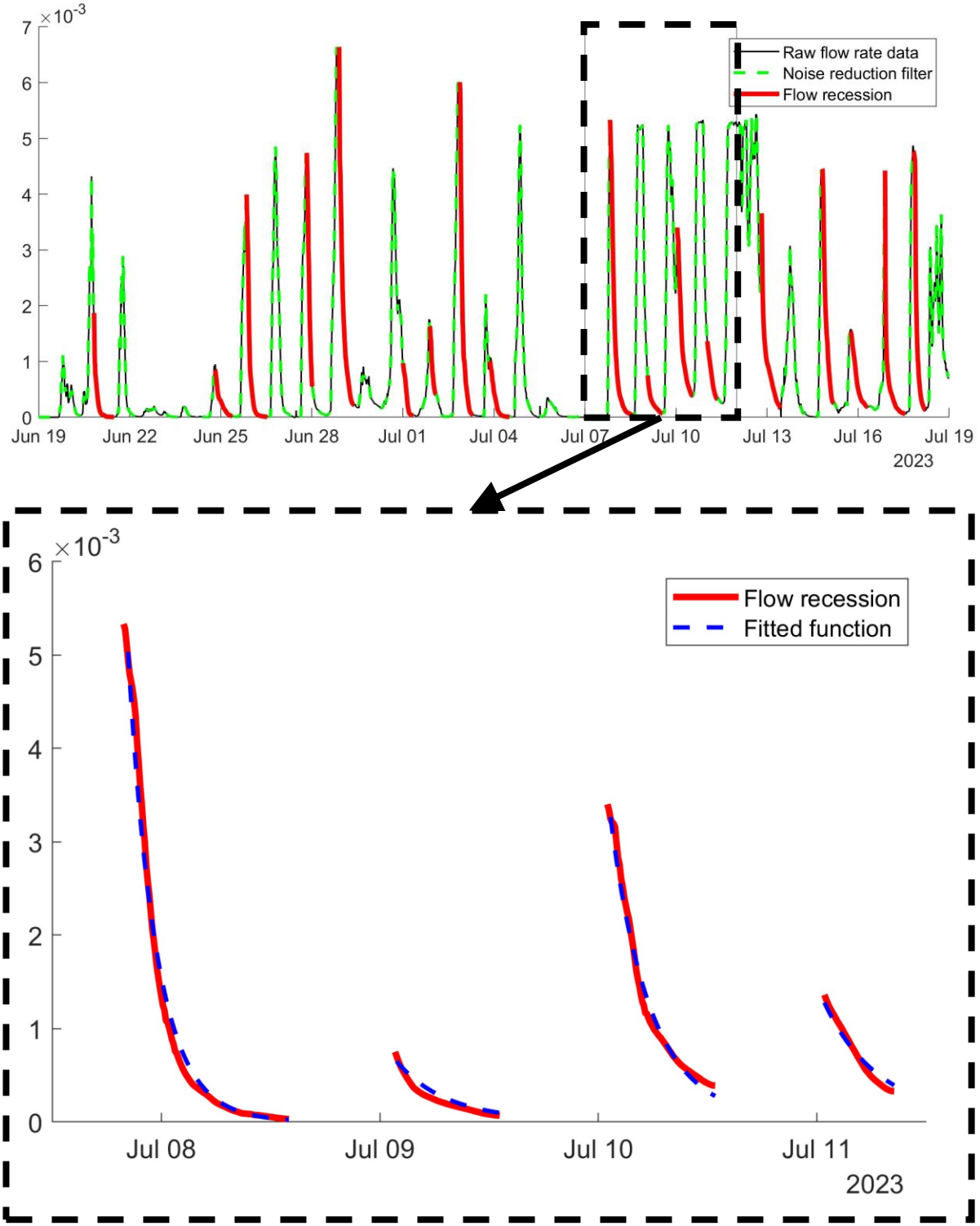
Figure S1



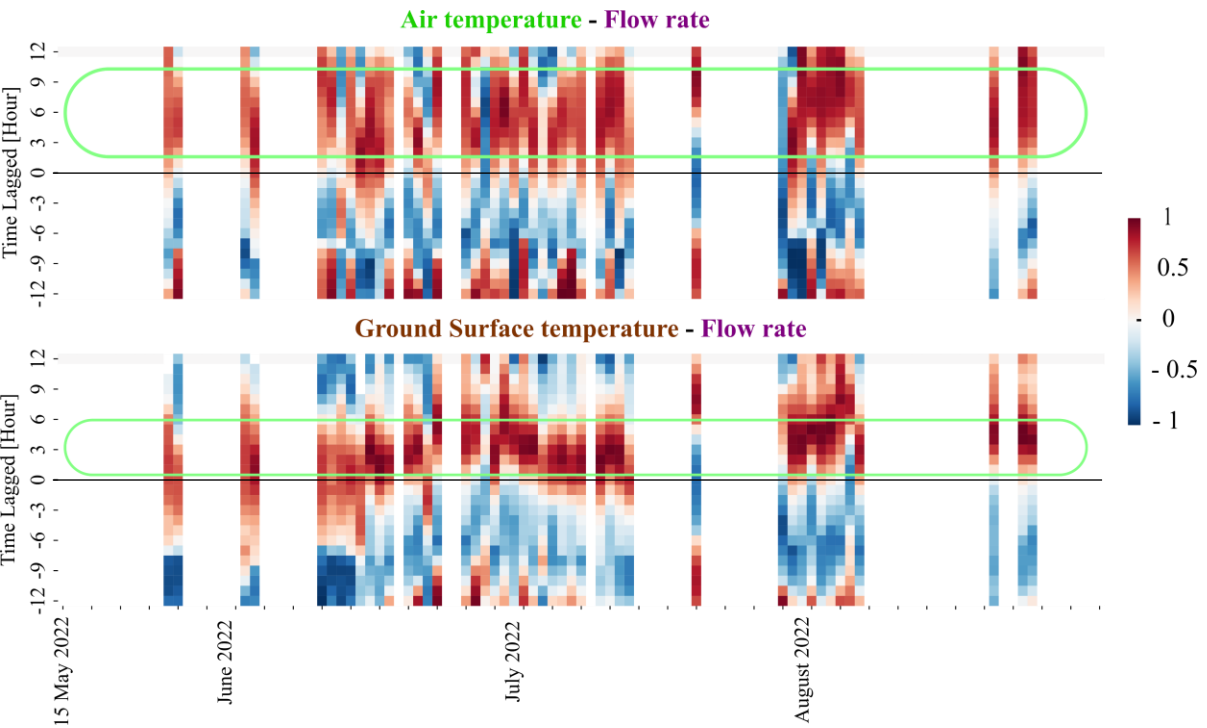
Hourly average of flow rate signal per month (2022 in left and 2023 in right). Averages have been calculated during different flowing period. (05-2022: 26th-29th of May 2022; 06-2022: 10th-23th of June 2022; 07-2022: 1st-15th of July 2022; 08-2022: 28th of July-8th of August 2022; 09-2022: 1st-15th of Sept. 2022; 06-2023: 23rd-30th of June 2023; 07-2023: 8th-15th of July 2023; 08-2023: 10th-20th of August 2023; 3rd-15th of Sept. 2023)

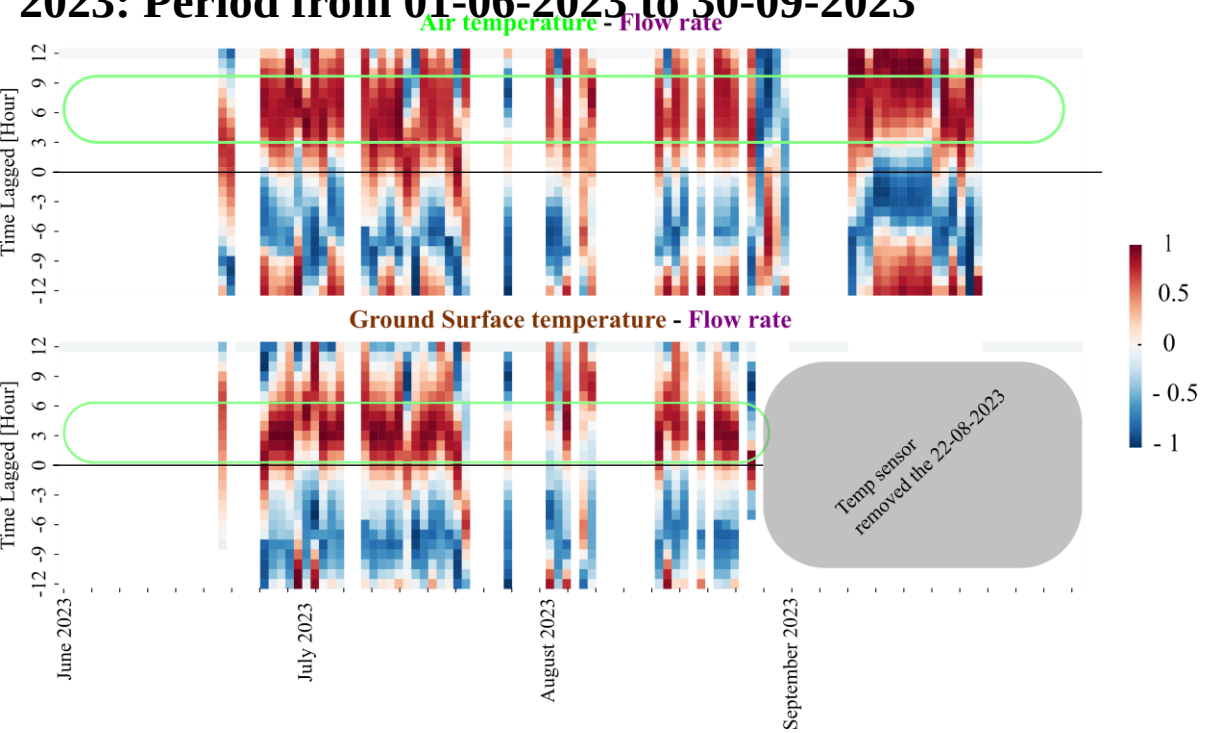
Figure S2



Recession fit example. The upper plot shows the observed flow data (solid black line) in box 1 between 19 January 2023 to 19 Jul 2023. The dashed green line is the flow data after noise reduction filter, and the red line is the automatic extraction of the recession limb of the hydrograph. The lower panel shows the fitted recession curves according to Equation 3 in dashed blue.
line is Only recession curves that fitted with an R^2 above 0.85 are plotted and used in the analysis.

Figure S3





Results of moving-window cross-correlation analysis of water flow with air temperatures (AT) (2022 top and 2023 top) and ground surface temperatures (GST) (2022 bottom and 2023 bottom) . The horizontal axis represents the days, and the vertical axis represents the size of the lag time, in hours, between the flow rate time series with AT (upper plot) and GST (lower plot). The color bar represents the value of the Pearson correlation coefficient (PCC) (1: high correlation, 0: no correlation, -1: reverse correlation). The green frame marks the range of lag times that show high PCC.