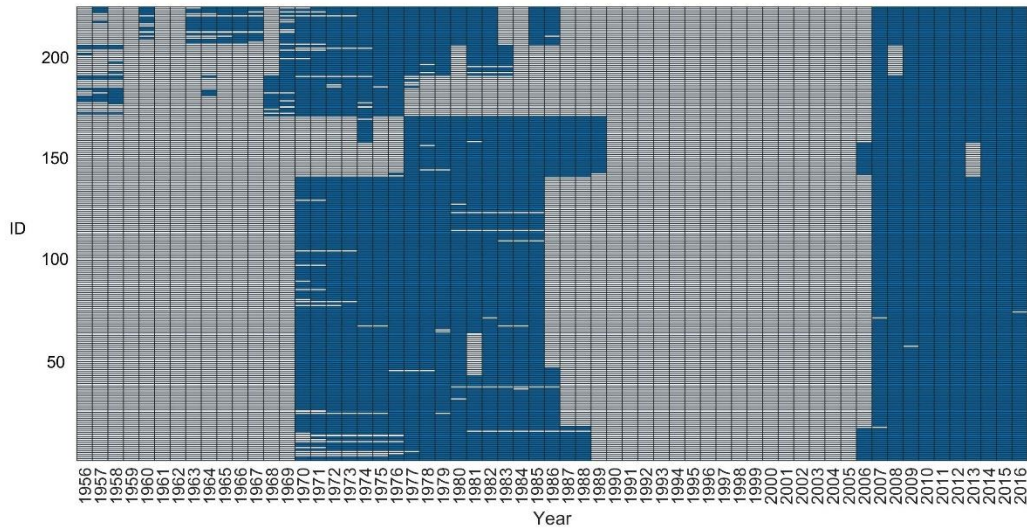

Supplementary

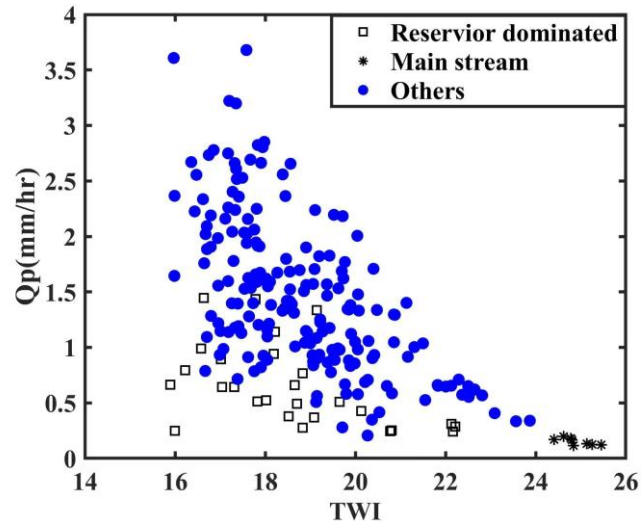
Table S1: Estimated concentration time for 10 sites with largest drainage area: the ones on main stream (MS) and the ones at the outlets of major tributaries (TR).

Site Name	Concentration Time (hr)	Drainage Area (km ²)
TR-Hukou	17.9	161,979
TR-Chenglingji	18.8	261,986
MS-Zhutuo	32.7	668,661
MS-Cuntan	32.8	827,799
MS-Wanxian	37.6	948,524
MS-Yichang	41.5	982,948
MS-Jianli	45.2	1,014,690
MS-Luoshan	46.3	1,276,676
MS-Hankou	51.0	1,432,008
MS-Datong	54.3	1,657,604



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Figure S1: The data availability of each station, each column indicates each year while each row is corresponding to each station, blue grid indicates there is record of this year.



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15 **Figure S2:** Scatterplot between the topographic wetness index (TWI) and area weighted
16 annual maximum discharge (Q_p).

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