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**Supplementary Information for**  
**Mega-reservoir regulation: A comparative study on downstream responses of the**  
**Yangtze and Yellow rivers**

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**Supplementary Table and Figure Captions**

**Table S1.** Water-Sediment Regulation Scheme for the Xiaolangdi Reservoir, Yellow River, from 2002 to 2018

**Fig. S1.** Drainage map showing (a) geographical positions of major hydrological gauging stations in the Yangtze River Basin and the TGD; and (b) water system of the middle and lower reaches.

**Fig. S2.** Monthly distribution of reservoir sedimentation from 2003 to 2018 in the (a) TGR and (b) XLDR. Red arrows in (b) indicate months during which the WSRS was operated.

**Fig. S3** Maximum (a) and minimum (b) monthly discharge volume time series at Yichang, Hankou and Datong stations along the Yangtze River; and maximum (c) and minimum (b) monthly discharge volume time series at Huayuankou and Lijin stations along the Yellow River.

**Table S1. Water-Sediment Regulation Scheme for the Xiaolangdi Reservoir, Yellow River, from 2002 to 2018.**

No.	Year	Start date	End date	Days	Max. Q (m <sup>3</sup> /s) <sup>a</sup>	Max. SSC (kg/m <sup>3</sup> ) <sup>b</sup>
1	2002	4-Jul	15-Jul	12	2790	31.6
2	2003	6-Sep	18-Sep	13	2140	125.8
3	2004	19-Jun	13-Jul	25	2680	11.5
4	2005	16-Jun	1-Jul	16	3570	6.1
5	2006	9-Jun	29-Jun	21	3840	13.5
6	2007 <sup>c</sup>	19-Jun	3-Jul	15	3910	55.1
7		29-Jul	7-Aug	10	2930	65.4
8	2008	19-Jun	3-Jul	15	4200	70.5
9	2009	19-Jun	3-Jul	15	3950	7.2
10		19-Jun	7-Jul	19	3930	102.5
11	2010 <sup>d</sup>	24-Jul	3-Aug	11	2140	37.5
12		12-Aug	21-Aug	10	2650	33.3
13	2011	19-Jun	7-Jul	19	4070	80.4
14	2012	19-Jun	12-Jul	24	4380	164.7
15	2013	19-Jun	9-Jul	21	4040	60.4
16	2014	29-Jun	9-Jul	11	3700	49.8
17	2015 <sup>e</sup>	29-Jun	12-Jul	14	3210	0.0
	2016-2017 <sup>f</sup>	/	/	/	/	/
18	2018	3-Jul	29-Jul	27	3630	289.3

Note: <sup>a</sup> Maximum water flow out of the XLDR

<sup>b</sup> Maximum suspended sediment concentration out of the XLDR

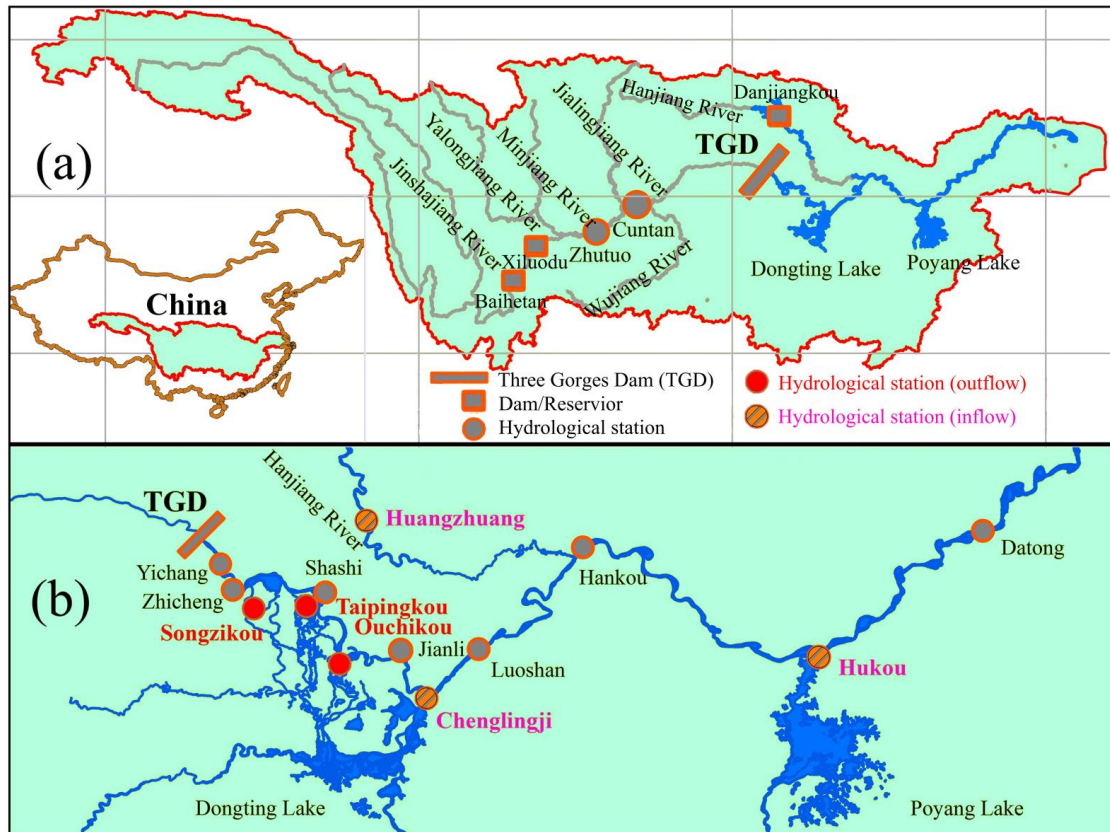
<sup>c</sup> There were two WSRS events in 2007

<sup>d</sup> There were three WSRS events in 2010

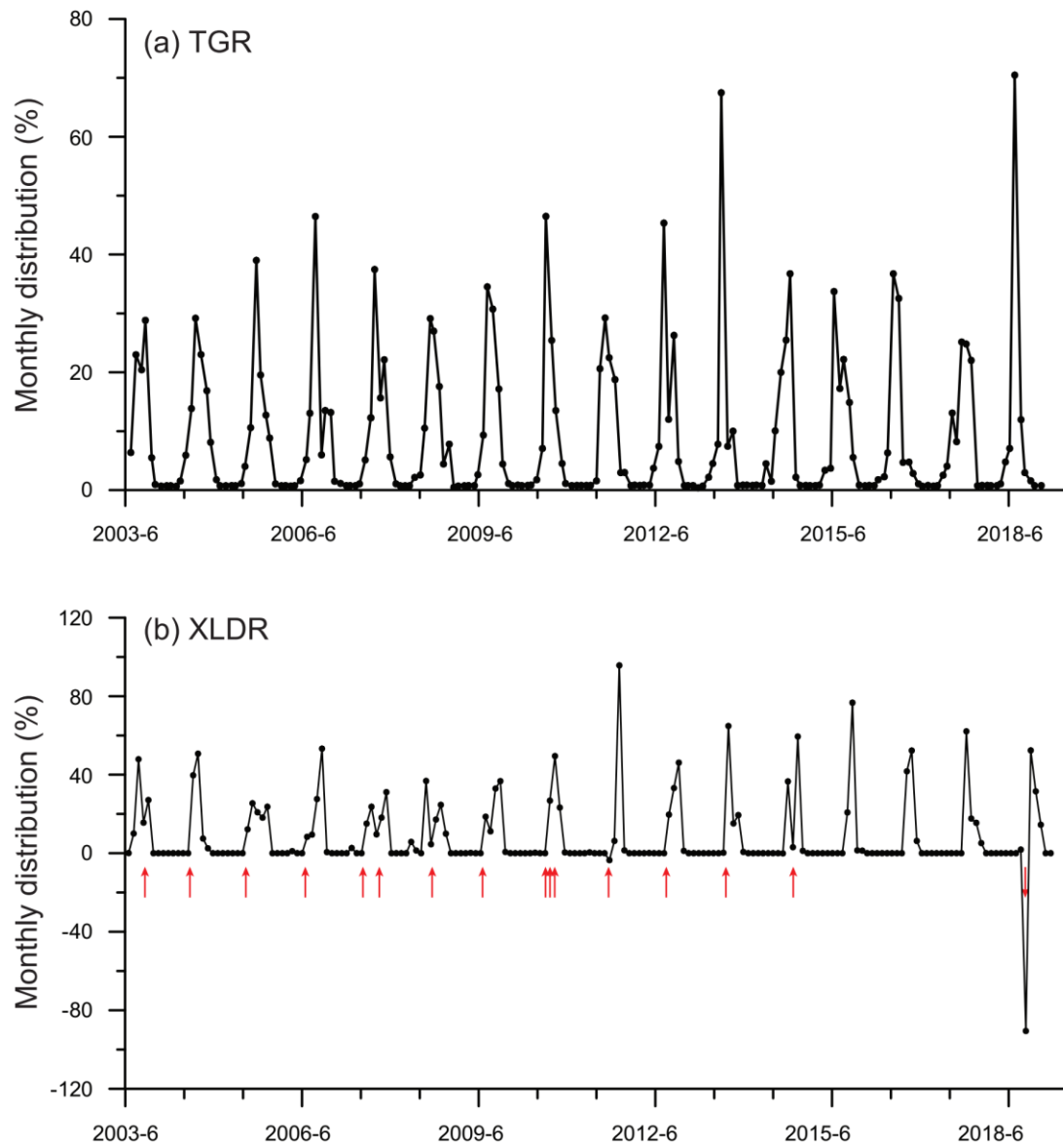
<sup>e</sup> The WSRS was unsuccessfully in 2015 with no sediment discharging out of the XLDR

<sup>f</sup> The WSRS was not operated in 2016 and 2017

**Fig. S1.** Drainage map showing (a) geographical positions of major hydrological gauging stations in the Yangtze River Basin and the TGD; and (b) water system of the middle and lower reaches.



**Fig. S2.** Monthly distribution of reservoir sedimentation from 2003 to 2018 in the (a) TGR and (b) XLDR. Red arrows in (b) indicate months during which the WSRS was operated.



**Fig. S3** Maximum (a) and minimum (b) monthly discharge volume time series at Yichang, Hankou and Datong stations along the Yangtze River; and maximum (c) and minimum (d) monthly discharge volume time series at Huayuankou and Lijin stations along the Yellow River.

