

1 **Supporting Information**

2
3
4 *Ocean Science*

5 **Impacts of Three Gorges Dam's operation on spatial-temporal**
6 **patterns of tide-river dynamics in the Yangtze River estuary, China**

7 Huayang Cai^{1,2}, Xianyi Zhang¹, Leicheng Guo², Min Zhang^{3,*}, Feng Liu¹, Qingshu
8 Yang¹

9
10 *1. Institute of Estuarine and Coastal Research, School of Marine Engineering and*
11 *Technology, Sun Yat-sen University, Guangzhou, China*

12 *2. State Key Laboratory of Estuarine and Coastal Research, East China Normal*
13 *University, Shanghai, China*

14 *3. Shanghai Normal University, School of Environmental and Geographical Sciences,*
15 *Shanghai, China*

16 **Corresponding author:** Min Zhang

17 **Corresponding author's E-mail:** zhangmin@shnu.edu.cn

18
19
20 Table S1. Comparison of multi-year monthly averaged tidal range H between the
21 pre-TGD and the post-TGD periods

Month	TSG		JY		ZJ		NJ		MAS		WH	
	Pre-TGD	Post-TGD	Pre-TGD	Post-TGD	Pre-TGD	Post-TGD	Pre-TGD	Post-TGD	Pre-TGD	Post-TGD	Pre-TGD	Post-TGD
1	1.86	1.94	1.67	1.77	1.31	1.17	0.78	0.84	0.66	0.68	0.45	0.47
2	1.86	1.94	1.67	1.77	1.30	1.16	0.77	0.83	0.63	0.67	0.43	0.47
3	1.92	1.95	1.71	1.75	1.23	1.06	0.67	0.69	0.51	0.53	0.32	0.35
4	1.94	1.96	1.71	1.75	1.09	1.00	0.52	0.62	0.37	0.45	0.21	0.29
5	1.94	1.95	1.69	1.73	0.94	0.84	0.40	0.48	0.28	0.34	0.15	0.21
6	1.91	1.92	1.64	1.68	0.80	0.71	0.32	0.38	0.23	0.26	0.12	0.16
7	1.90	1.90	1.62	1.64	0.63	0.63	0.26	0.32	0.18	0.22	0.09	0.13
8	1.98	2.02	1.71	1.75	0.71	0.72	0.29	0.38	0.19	0.27	0.10	0.16
9	2.01	2.08	1.73	1.81	0.73	0.81	0.31	0.46	0.20	0.33	0.10	0.20
10	1.95	2.10	1.68	1.85	0.79	0.97	0.32	0.60	0.23	0.44	0.12	0.29
11	1.93	2.09	1.67	1.84	1.02	1.09	0.47	0.72	0.34	0.55	0.18	0.37
12	1.83	2.03	1.63	1.82	1.17	1.16	0.64	0.82	0.47	0.63	0.29	0.44

26 Table S2. Comparison of multi-year monthly averaged residual water level \bar{Z}
 27 between the pre-TGD and the post-TGD periods

Mo nth	TSG		JY		ZJ		NJ		MAS		WH	
	Pre-T GD	Post- TGD	Pre-T GD	Post- TGD	Pre-T GD	Post- TGD	Pre-T GD	Post- TGD	Pre-T GD	Post- TGD	Pre-T GD	Post- TGD
1	0.37	0.57	0.49	0.63	0.94	1.24	1.20	1.47	1.49	1.78	1.74	2.07
2	0.40	0.65	0.52	0.71	1.01	1.35	1.30	1.60	1.62	1.94	1.89	2.25
3	0.63	0.77	0.83	0.93	1.52	1.78	2.02	2.19	2.47	2.62	2.92	3.09
4	0.87	0.89	1.17	1.08	2.19	2.04	2.99	2.54	3.63	3.04	4.32	3.58
5	1.03	1.16	1.39	1.42	2.65	2.73	3.66	3.50	4.43	4.17	5.29	4.91
6	1.26	1.38	1.67	1.73	3.21	3.39	4.46	4.44	5.35	5.29	6.33	6.16
7	1.56	1.56	2.09	2.01	4.17	4.02	5.75	5.24	6.84	6.19	7.99	7.15
8	1.60	1.62	2.10	2.01	4.09	3.87	5.61	4.98	6.68	5.86	7.78	6.76
9	1.55	1.53	2.04	1.87	3.96	3.50	5.44	4.47	6.48	5.27	7.56	6.09
10	1.36	1.22	1.80	1.45	3.48	2.64	4.81	3.28	5.76	3.86	6.74	4.47
11	0.96	0.90	1.27	1.05	2.38	1.92	3.25	2.32	3.91	2.76	4.62	3.21
12	0.56	0.64	0.75	0.73	1.44	1.41	1.93	1.67	2.36	2.02	2.81	2.34

28

29