Online Supplemental Material

Relationship over southern China between the summer rainfall induced by tropical cyclones and that by monsoon

CHEN Jie-Peng\textsuperscript{a,b}, WEN Zhi-Ping\textsuperscript{b} and WANG Xin\textsuperscript{a}

\textsuperscript{a}State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou, China; \textsuperscript{b}Center for Monsoon and Environment Research/School of Atmospheric Sciences, Sun Yat-Sen University, Guangzhou, China

This file includes:
Supplementary Figures S1, S2, and S3
Figure S1. The 1958–2002 climatological means of $P_{SM}$ and $P_{TC}$ over the Chinese mainland in summer (units: mm/month).

Figure S2. Anomalous patterns of vertically integrated atmospheric heating from SLP to 300 hPa (color shading; units: W m$^{-2}$) regressed on the normalized IND PC1 of $P_{TC}$ and $P_{SM}$ over SC in (a) May and (b) summer. Regression patterns significant at the 90% confidence level are indicated by dots.
Figure S3. Difference in the 1993–2002 mean and 1983–1992 mean of (a) 500-hPa $p$-vertical velocity (units: $100^{-2}$ Pa s$^{-1}$), and (b, c) velocity potential (contours) and corresponding divergent winds (vectors) at (b) 850 hPa and (c) 200 hPa in the preceding winter. (d–f) As in (a–c) except in spring. Dots in (a, d) and shading in (b, c) and (e, f) denote the differences in vertical velocity and divergent winds significant at the 90% confidence level, according to the Student’s $t$-test. Contour intervals are $0.1 \times 10^6$ s$^{-1}$ at 850 hPa in (b, e) and $0.3 \times 10^6$ s$^{-1}$ at 200 hPa in (c, f). The winds and vertical velocity datasets are derived from ERA-40.