Supplementary Material for

**Observed Zonal Variations of the Relationship Between ITCZ Position and SST Contrast**

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This file contains two supplementary tables which show the strength of the interannual relationship between ITCZ position and interhemispheric SST contrast for the seasonal cycle (S1) and annual mean (S2).

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|  |  |  |  |  |  |  |
| **Global** | 0.98 | 0.01 | 2.95 | 0.2 | -1.09 | 0.53 |
| **Indian** | 0.83 | 0.06 | 3.86 | 0.41 | -8.96 | 0.95 |
| **Pacific** | 0.95 | 0.03 | 3.27 | 0.35 | 2.45 | 0.59 |
| **Atlantic** | 0.94 | 0.02 | 1.75 | 0.18 | 2.78 | 0.38 |
| **W. Pacific** | 0.9 | 0.04 | 2.71 | 0.39 | 4.86 | 0.93 |
| **C. Pacific** | 0.83 | 0.08 | 3.91 | 1.1 | -0.72 | 1.11 |
| **E. Pacific** | 0.9 | 0.05 | 2.71 | 0.77 | 4.07 | 1.28 |

Table S1. 21-year mean and standard deviation of regression outputs for the seasonal relationship between PC and ΔSST in each region. , and are the mean R-value, regression slope and regression intercept, respectively; is the standard deviation of each output. quantifies the interannual variability of the sensitivity of the ITCZ position to the SST contrast. Higher values, such as that of the Central Pacific, indicate greater year-to-year variability.

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|  | **R** | **m** | **b** |
| **Global** | 0.67 | 3.97 | -2.1 |
| **Indian** | 0.07\* | 0.53\* | -1.48\* |
| **Pacific** | 0.72 | 4.49 | 2.68 |
| **Atlantic** | 0.61 | 1.05 | 3.31 |
| **W. Pacific** | 0.46 | 3.74 | 5.83 |
| **C. Pacific** | 0.52 | 5.16 | -0.05 |
| **E. Pacific** | 0.68 | 2.54 | 4.14 |

Table S2. Linear regression of annual-mean PC and ΔSST over 21 years in each region. Correlation coefficients are lower than over the seasonal cycle, owing to small differences in ΔSST. Regression slopes differ from the seasonal relationship. Starred values are not statistically significant, as in the Indian basin; all other values are significant.