

Song, J., P. J. Klotzbach, and Y. Duan, 2021: Recent weakening of the interannual relationship between ENSO Modoki and boreal summer tropical cyclone frequency over the western North Pacific. *J. Meteor. Soc. Japan*, **99**, 1071–1088.

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**Plain Language Summary:** Early studies reported that there was a significant relationship between the summertime ENSO Modoki and the simultaneous tropical cyclone (TC) frequency over the western North Pacific. However, this study shows that the impact of ENSO Modoki on WNP TC formation has experienced decadal changes during the past few decades. The correlation between the ENSO Modoki index and WNP TC frequency is weak during 1975–1989, becomes strong and significant during 1990–2004, and becomes weak again during 2005–2019. This change results from the different ENSO Modoki sea surface temperature patterns among the aforementioned three sub-periods. The typical tripolar feature is only observed in 1990–2004, whereas it is not obvious in other two sub-periods.

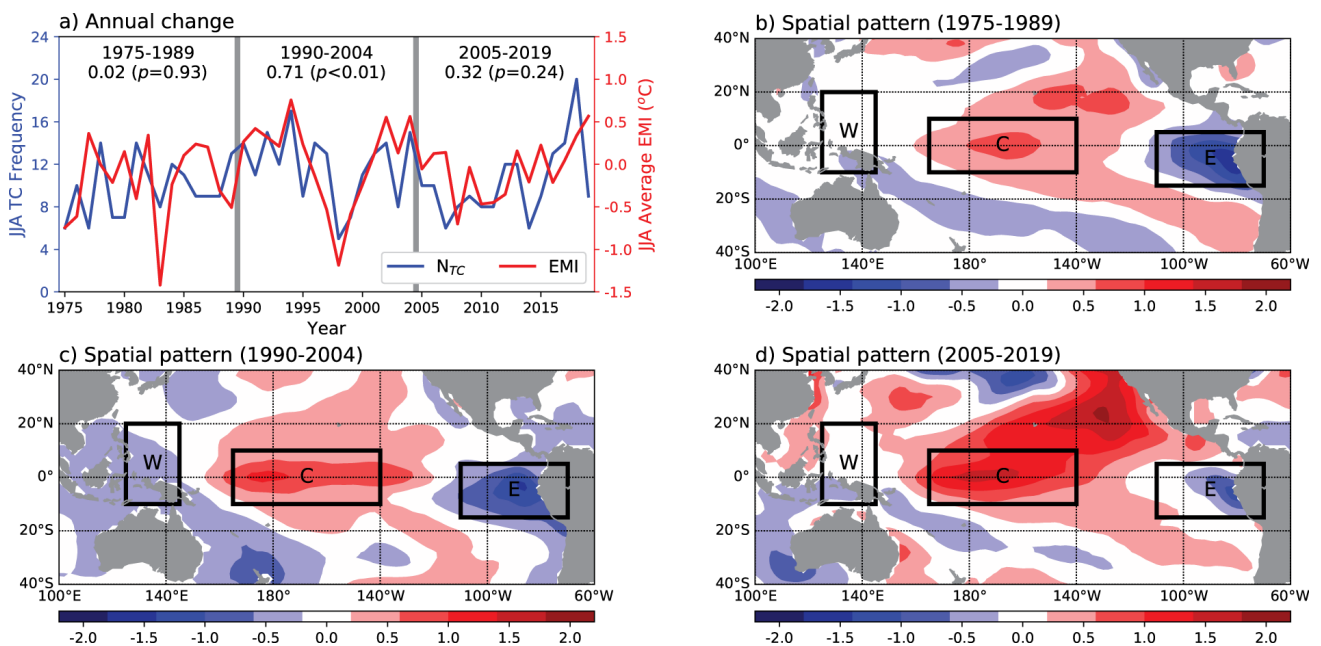


Figure 1. (a) Annual variation of summertime WNP TC frequency and simultaneous ENSO Modoki index during 1975–2019. Correlation coefficients between the two time series and their corresponding significance levels are given in the panel for each of the three 15-yr sub-periods. (b–d) Regression of sea surface temperature anomaly ( $^{\circ}\text{C}$ ) on the ENSO Modoki index during the boreal summer during (b) 1975–1989, (c) 1990–2004 and (d) 2005–2019.

- The relationship between ENSO Modoki and WNP TC frequency exhibits a decadal change in the past decades.
- The typical tripolar feature of sea surface temperature anomalies modulated by ENSO Modoki is only observed in 1990–2004, whereas a coupling pattern of ENSO Modoki and Pacific Meridional Mode is represented in 1975–1989 and 2005–2019.