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Supporting Information for

**Change in Tropical cyclone Efficiency Under Different ENSO Conditions in
the Western North Pacific Ocean**

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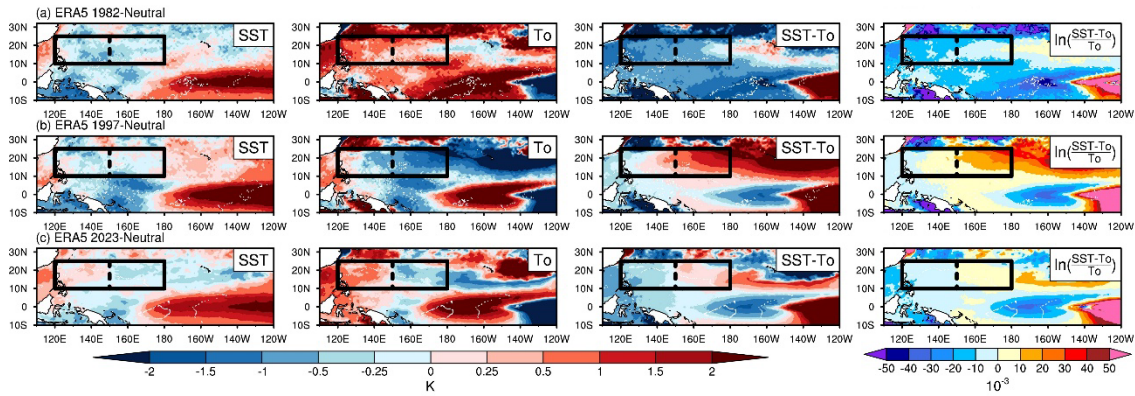


Figure S1. Spatial distribution of SST, T_o , $SST-T_o$, and efficiency $\ln\left(\frac{SST-T_o}{T_o}\right)$ terms for (a) 1982, (b) 1997, and (c) 2023 EP El Niño minus neutral ENSO from ERA5. The black boxes indicate the MDR. The 150°E longitude denoted by the dashed line divides the MDR box into two areas. The spatial resolution of ERA5 is 0.25°.

Table S1. ENSO year classification

Types	Years
El Niño	1982, 1986, 1987, 1991, 1994, 1997, 2002, 2004, 2006, 2009, 2015, 2018, 2023
La Niña	1983, 1988, 1995, 1998, 1999, 2000, 2007, 2010, 2011, 2016, 2017, 2020, 2021, 2022
Neutral	1979, 1980, 1981, 1984, 1985, 1989, 1990, 1992, 1993, 1996, 2001, 2003, 2005, 2008, 2012, 2013, 2014, 2019, 2024
EP El Niño	1982, 1997, 2023
CP El Niño	1986, 1991, 1994, 2002, 2004, 2009, 2018
Mix El Niño	1987, 2006, 2015