Supplementary Information for

Unraveling tropical Indian Ocean influences on El Niño-driven Northwest Pacific anomalous anticyclone projections under global warming

Wenping Jiang*[1,2,3,] Ping Huang[4,5], Jin-Yi Yu[3], Xiangzhou Song[1,2], Mengyan Chen[6], Gang Huang[4,7]

[1]Key Laboratory of Marine Hazards Forecasting, Ministry of Natural Resources (MNR), Hohai University, Nanjing, China.

[2]College of Oceanography, Hohai University, Nanjing 210098, China

[3]Department of Earth System Science, University of California, Irvine, CA, USA.

[4]National Key Laboratory of Earth System Numerical Modeling and Application, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing 100029, China.

[5]Center for Monsoon System Research, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China.

[6]State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy of Sciences, Guangzhou, China.

[7]University of Chinese Academy of Sciences, Beijing 100049, China.

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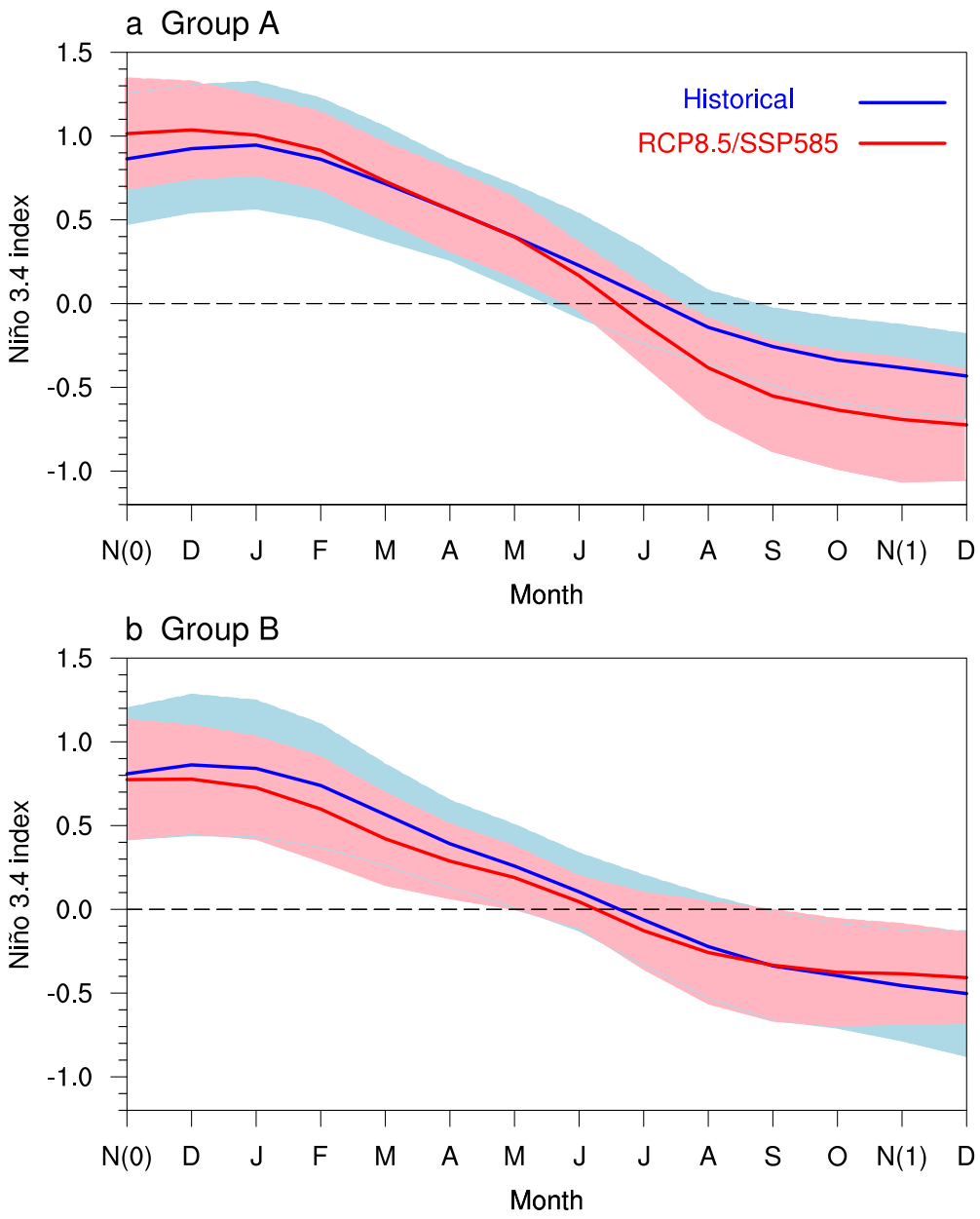
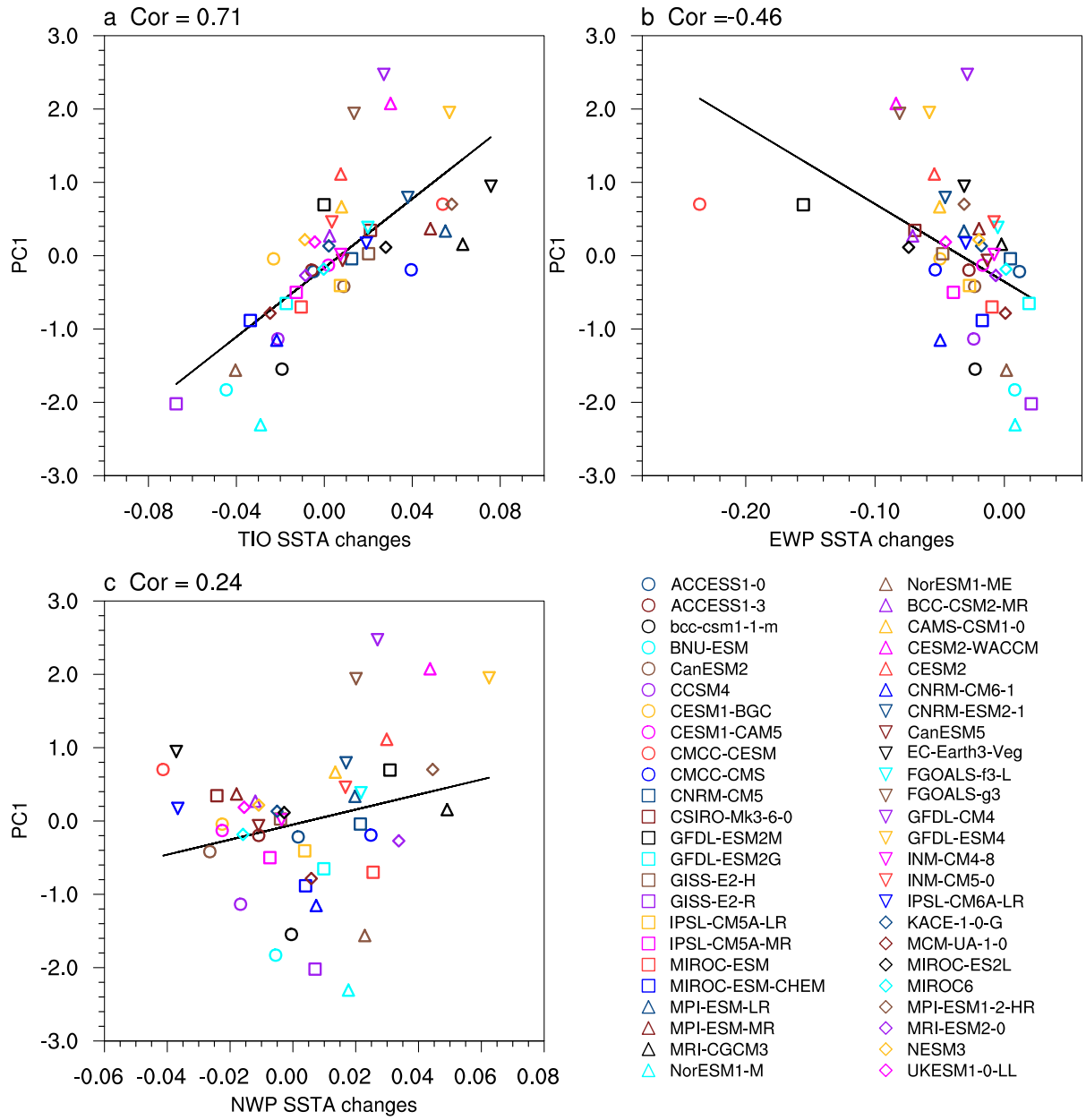
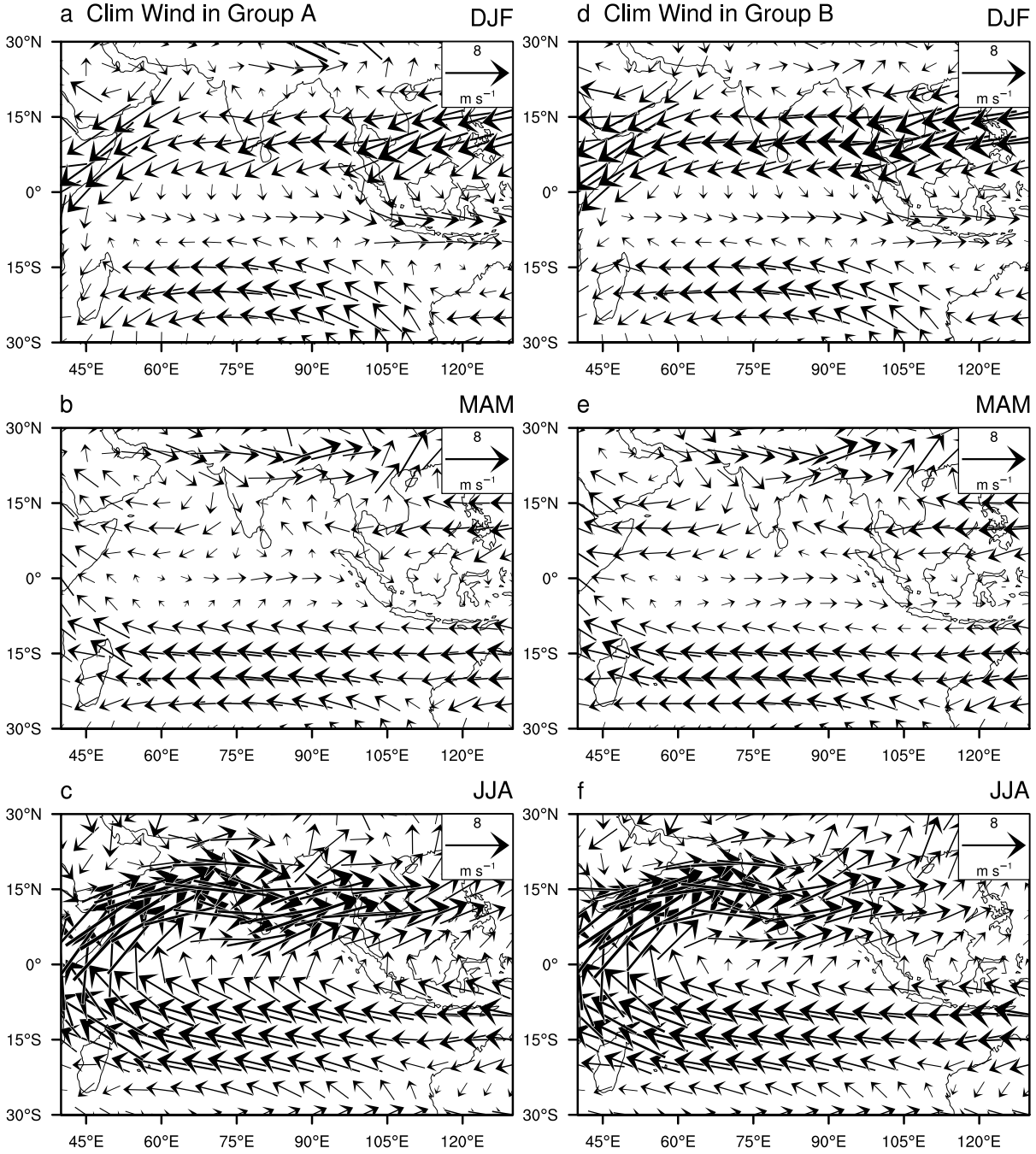


Supplementary Figure 1 El Niño evolution respresented by Niño3.4 index. Years with the D(0)JF(1) Niño3.4 index that exceed 0.5 standard deviation are selected for each model. **a** Group A; **b** Group B. The blue (red) lines represent the historical (RCP8.5/SSP585) experiments. The solid lines and the shadings show the mean and 1 standard deviation of models spread in each group.



Supplementary Figure 2 Same as Fig. 4, but for ENSO-related variability with the influence of ENSO amplitude taken into account.



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30 **Supplementary Figure 3** Future climatological wind fields over the Indian Ocean from winter

31 (DJF) to summer (JJA) in two groups.