

Supporting Information for

The prediction of the Tibetan Plateau thermal condition with machine learning and SHapley Additive exPlanation

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Figures S1 to S3

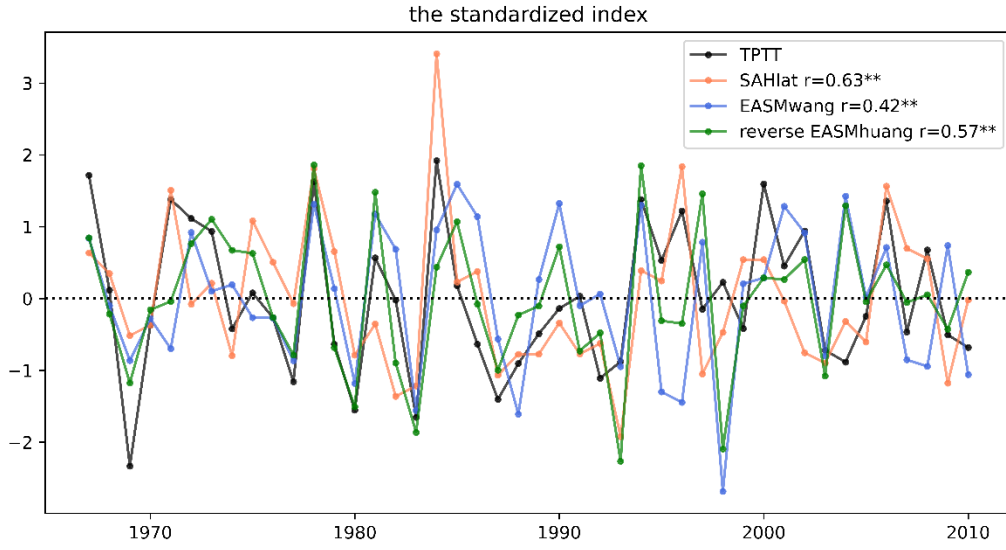


Figure. S1. The TPTT, the meridional location index of the SAH and two East Asian summer monsoon (EASM) index; The EASMwang is defined by Wang and Fan [1] and the EASMhuang is obtained in [2,3]; r is the distance correlation between TPTT and other index sequences; Two asterisks indicate the 99% Monte Carlo test.

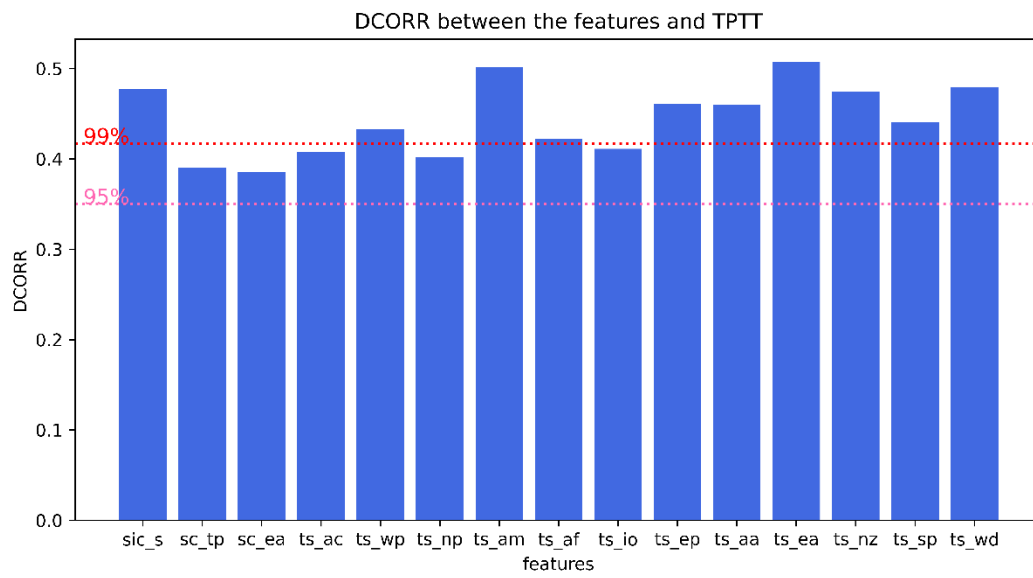


Figure. S2. The DCORRs between the 15 features and the TPTT index from 1967 to 2010; the two dot lines indicate the 99% and 95% significance test.

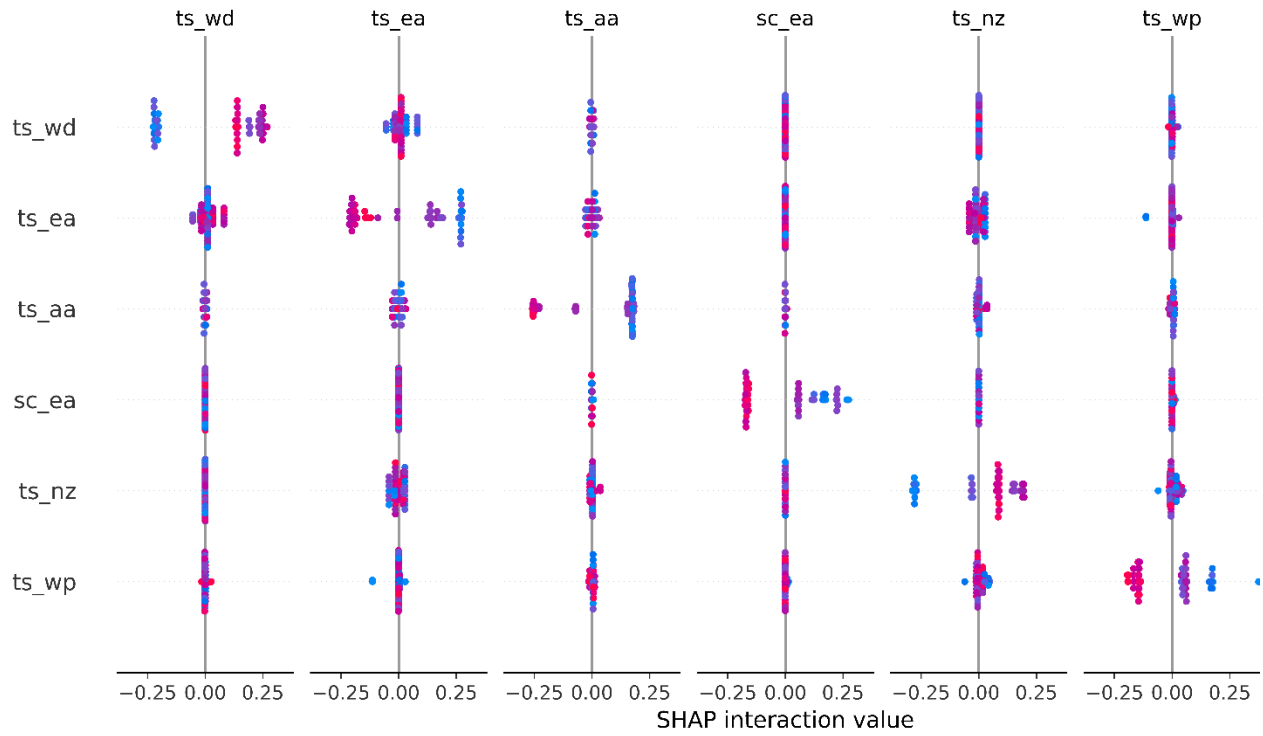


Figure. S3. The interaction summary plot of the most important six features. The main effects are given on the diagonals and the interaction effects are shown on the off-diagonals.

Reference:

1. Wang, B.; Fan, Z. Choice of South Asian Summer Monsoon Indices. *Bull. Amer. Meteorol. Soc.* **1999**, *80*, 629-638.
2. Gang, H.; Guijie, Z. The East Asian summer monsoon index (1851-2021). **2019**.
3. Zhao, G.; Huang, G.; Wu, R.; Tao, W.; Gong, H.; Qu, X.; Hu, K. A New Upper-Level Circulation Index for the East Asian Summer Monsoon Variability. *J. Clim.* **2015**, *28*, 9977-9996.