

1 **Supplemental information for**

2 **Increasing heat stress across Southeast Asia driven by compound**

3 **warming and moistening**

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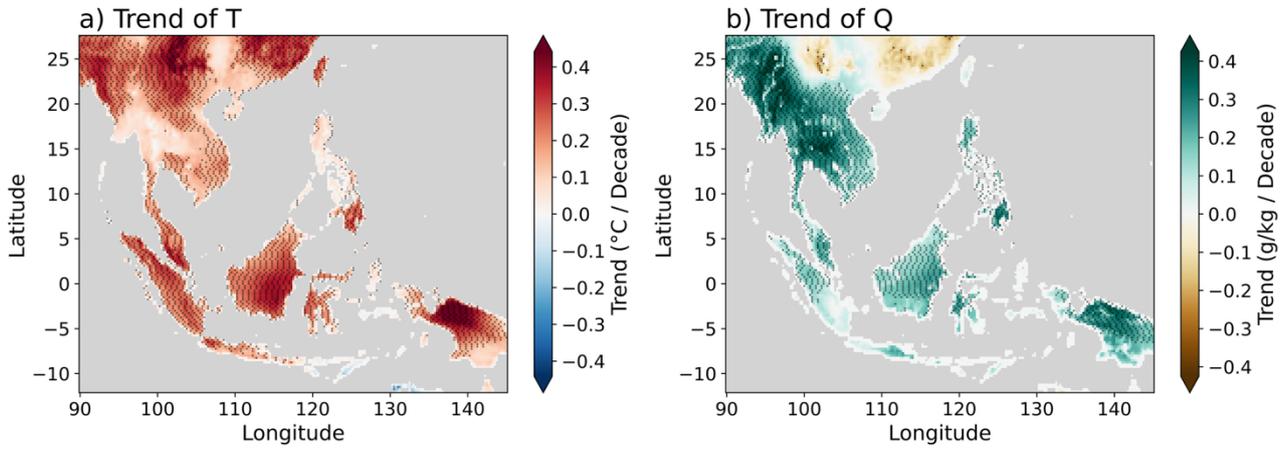
8 Vietnam Academy of Science and Technology (VAST), Hanoi, Vietnam

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10 **Contents of this file**

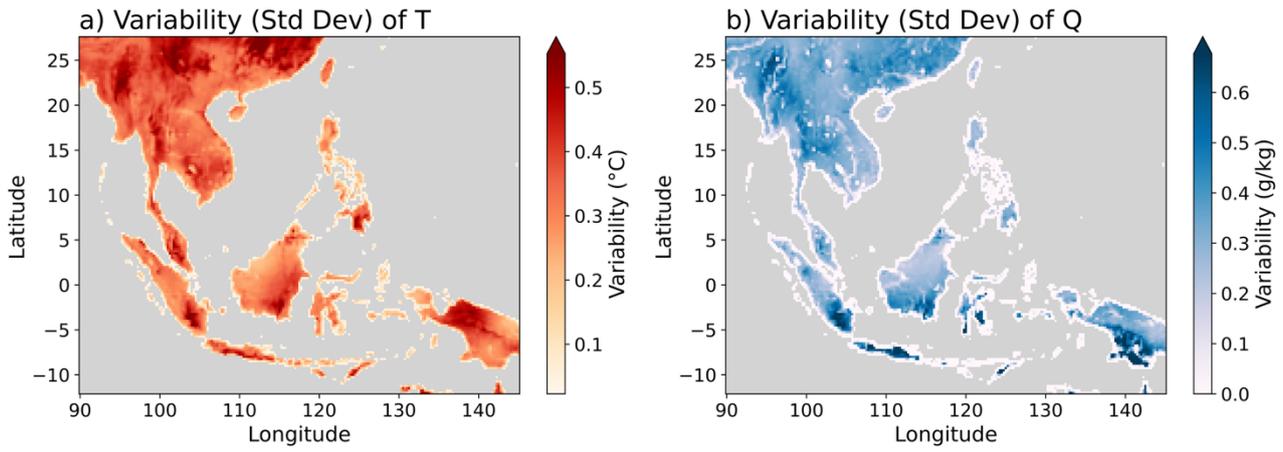
11 Supplementary Figures S1 to S5

12 **Supplemental Figs. S1–S5**



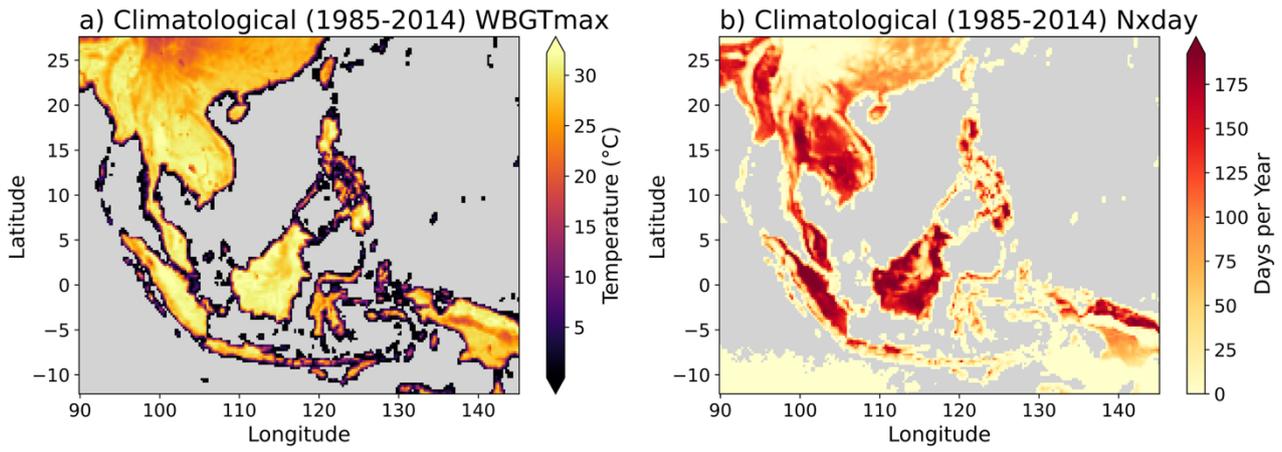
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14 **Figure S1:** Spatial distribution of historical long-term trends in warm-season (April–October) temperature
15 and humidity over Southeast Asia during 1985–2014. Linear trend in (a) temperature (T ; $^{\circ}\text{C} \text{ decade}^{-1}$) and b)
16 specific humidity (q ; $\text{g/kg} \text{ decade}^{-1}$); and stippling denotes statistical significance at $p < 0.05$.



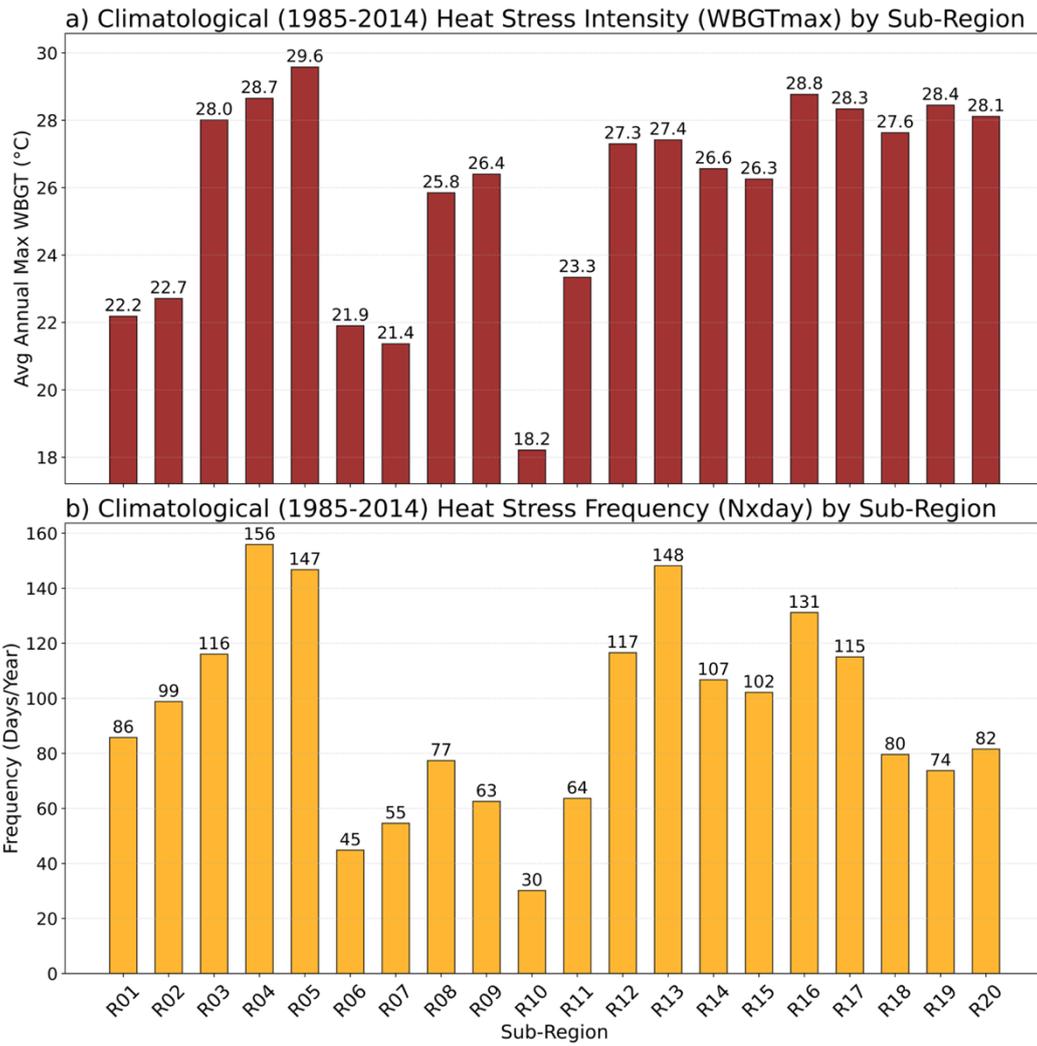
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18 **Figure S2:** Spatial distribution of historical variability in warm-season (April–October) temperature and
19 humidity over Southeast Asia during 1985–2014. Interannual variability, quantified by its standard deviation,
20 in (a) temperature (T ; °C) and (b) specific humidity (q ; g/kg).



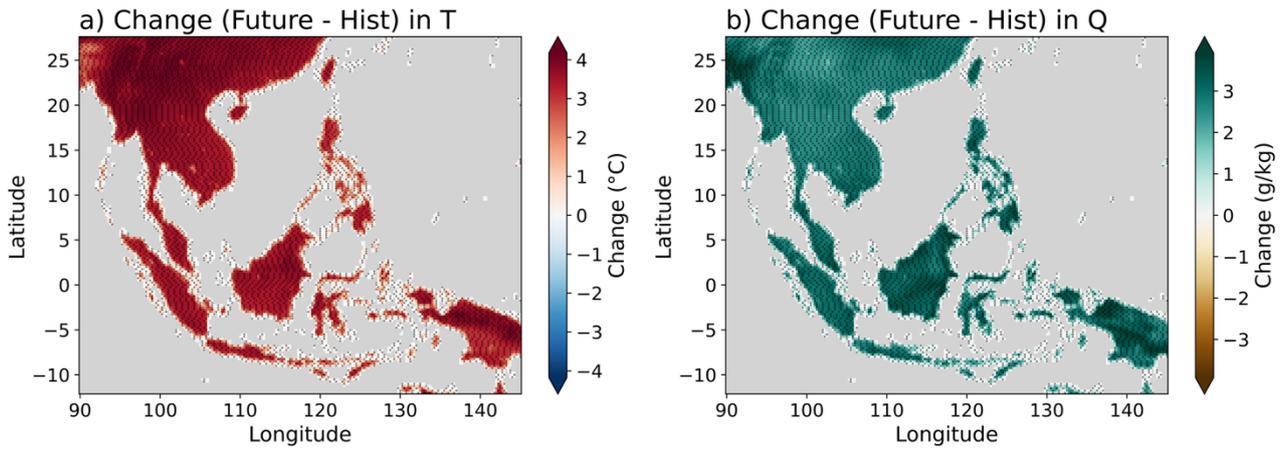
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22 **Figure S3:** Spatial distributions of the climatological (a) daily maximum wet-bulb globe temperature
 23 (*WBGTmax*; °C) and (b) the annual number of extreme heat-stress days (*Nxday*; days year⁻¹) during the warm
 24 season (April–October) across Southeast Asia for the historical period 1985–2014.



25

26 **Figure S4:** Area-averaged climatological (a) daily maximum wet-bulb globe temperature ($WBGT_{max}$; °C)
 27 and (b) annual number of extreme heat-stress days (N_{xday} ; days year⁻¹) for 20 sub-regions (R01–R20) across
 28 Southeast Asia during the warm season (April–October) over the historical period 1985–2014.



29

30 **Figure S5.** Spatial patterns of projected changes in warm-season (April–October) temperature and humidity
 31 over Southeast Asia between the historical (1985–2014) and the future (2071–2100) periods under the SSP5-
 32 8.5 scenario. The total change (future minus historical) in a) temperature (T; °C) and b) specific humidity (q;
 33 g/kg); and stippling denotes statistical significance at $p < 0.05$.