Fig. S1: Difference (i.e., “anomaly” defined as CM_CTL−CM_NoCRE) of climatological-mean net shortwave radiative flux (W m\(^{-2}\); positive values for downward flux) in (a) DJF, (b) MAM, (c) JJA, and (d) SON. (e)-(h), (i)-(l) and (m)-(p) Same as in (a)-(d), respectively, but for net longwave radiative flux (W m\(^{-2}\); positive values for downward flux), surface sensible heat flux (W m\(^{-2}\); positive values for downward flux) and surface latent heat flux (W m\(^{-2}\); positive values for downward flux), respectively. Stippling indicates the 99% confidence for the difference. The uneven coloring convection for all the panels is indicated at the bottom.
Fig. S2: Difference (i.e., “anomaly” defined as CM_CTL–CM_NoCRE) of upper-ocean Ekman transport (m² s⁻¹; arrows with reference at the bottom) in (a) DJF, (b) MAM, (c) JJA, and (d) SON.
Fig. S3: Dependence of grid-mean monthly precipitation (mm day\(^{-1}\), ordinate) on underlying SST (°C, abscissa) in the entire tropics (20°S-20°N) simulated in CM_CTL (blue line) and CM_NoCRE (red line) experiments. The SST threshold for convection derived as the maximum SST for which the mean precipitation rate falls below 3 mm day\(^{-1}\) (grey dashed line) is added in the legend of each experiment. Black line indicates the dependence derived from monthly TRMM precipitation (Huffman et al. 2007) and OISST (Reynolds et al. 2007) in the 1998-2014 period. Reproduced from the online supplemental material of Miyamoto et al. (2021).
Fig. S4: Climatological distribution of SST (°C) in OISST (Reynolds et al. 2007) from December 1981 through November 2017. The coloring convention is indicated at the bottom of (d). (e)-(h) Same as in (a)-(d), respectively, but for CM_CTL. (i)-(l) Same as in (a)-(d), respectively, but for the model bias defined as CM_CTL−OISST.
References
