

# Supporting Information: Precipitation over a wide range of climates simulated with comprehensive GCMs

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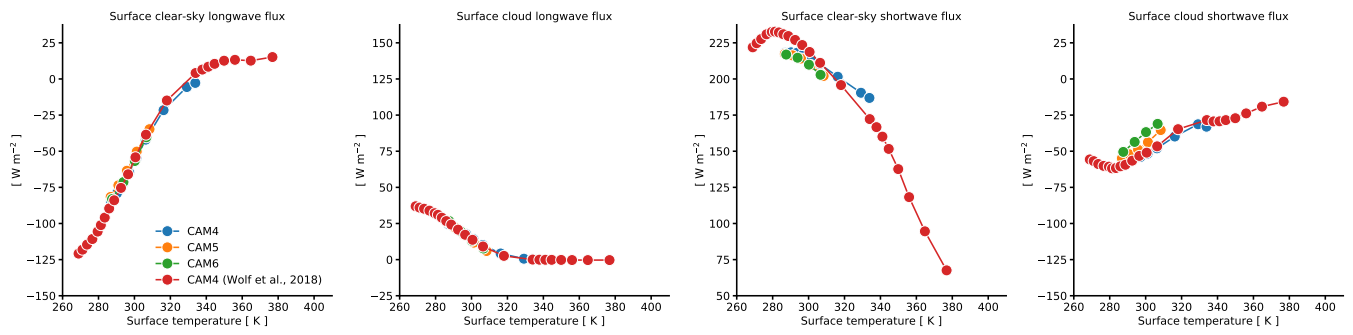
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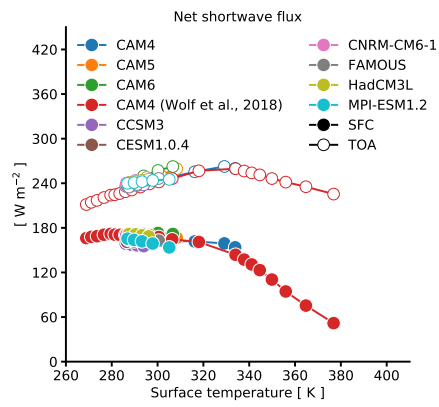
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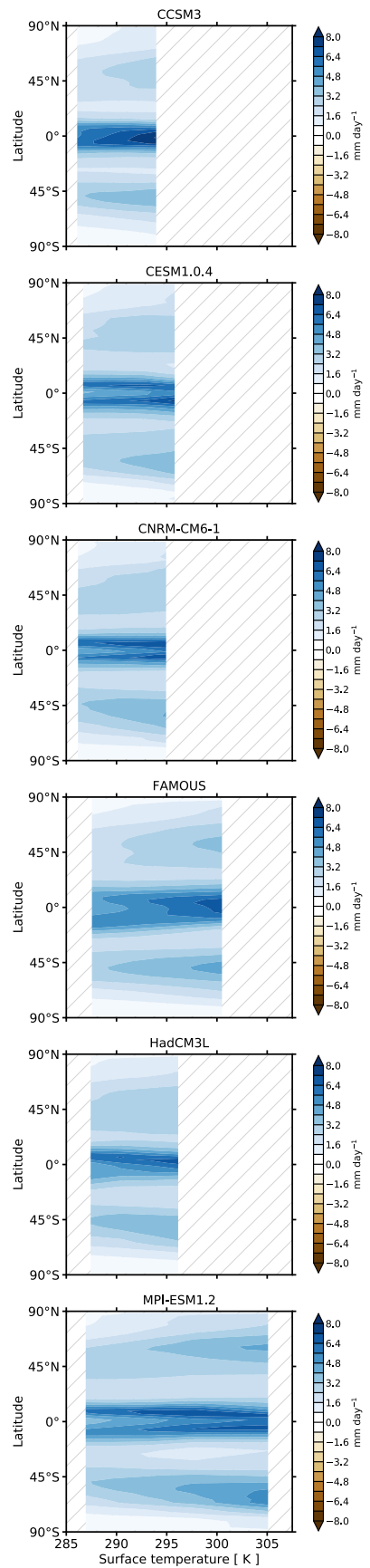
1. Supplemental Figure 1
2. Supplemental Figure 2
3. Supplemental Figure 3
4. Supplemental Figure 4



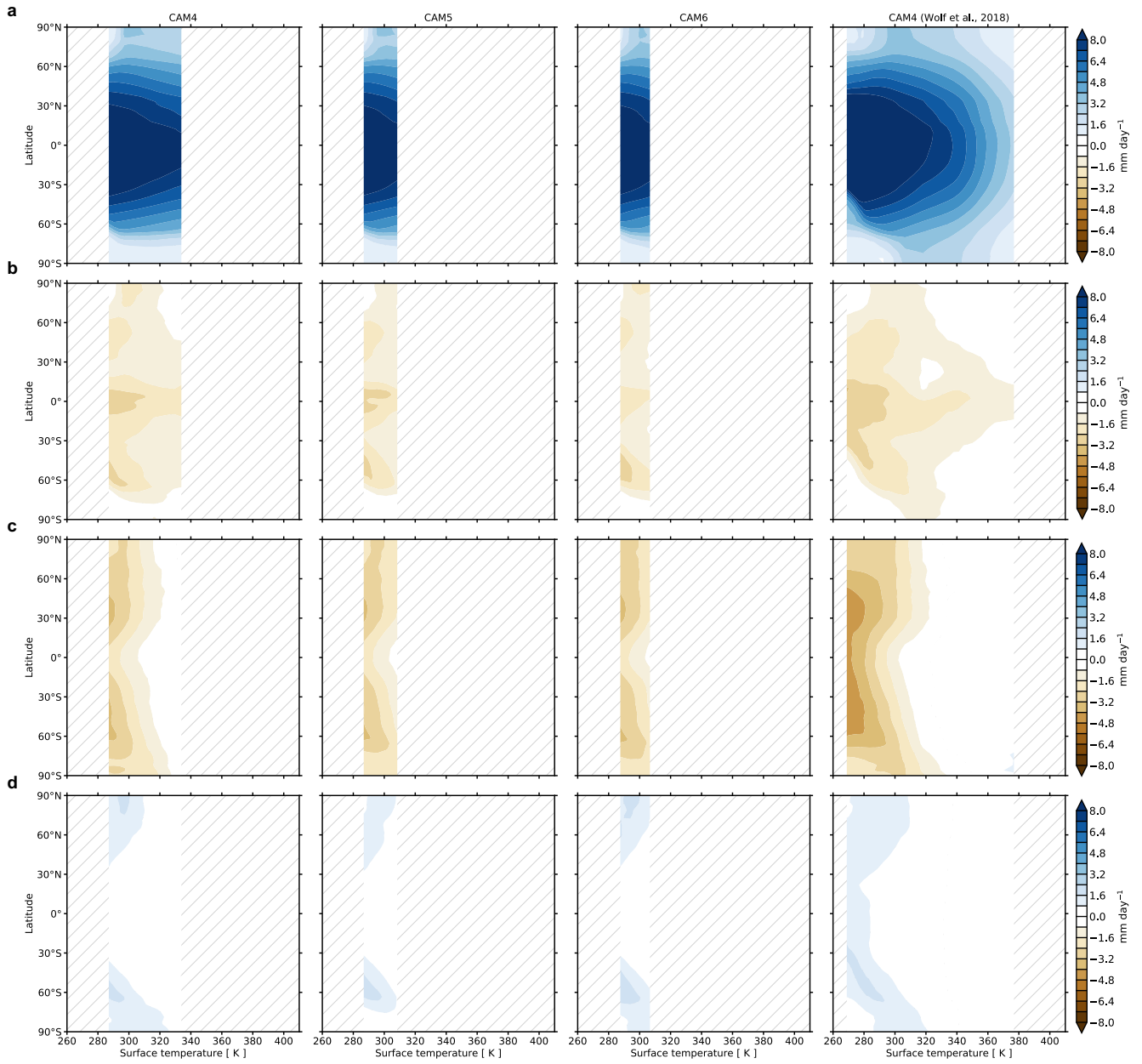
Supplemental Figure 1: **Net surface clear-sky and cloud surface shortwave and longwave fluxes.** Global-mean net surface longwave and shortwave fluxes decomposed into clear-sky and cloud components as a function of global-mean surface temperature for the CAM simulations.



Supplemental Figure 2: **Net top-of-atmosphere and surface shortwave fluxes.** Global-mean net top-of-atmosphere (open circles) and net surface (colored circles) shortwave fluxes as a function of global-mean surface temperature for the CAM and LongRunMIP simulations.



Supplemental Figure 3: **Zonal-mean precipitation as a function of climate state.** Zonal-mean precipitation as a function of global-mean surface temperature for the LongRunMIP simulations. The light grey hatching indicates no simulation data.



Supplemental Figure 4: **Zonal-mean clear-sky and cloud components of the surface radiative fluxes.** The zonal-mean (a) net surface clear-sky shortwave flux, (b) net surface cloud shortwave flux, (c) net surface clear-sky longwave flux, and (d) net surface cloud longwave flux (converted from  $\text{W m}^{-2}$  to  $\text{mm day}^{-1}$ ) as a function of global-mean surface temperature for the CAM simulations. The light grey hatching indicates no simulation data.