Supporting information for: "On the sensitivity of aerosol-cloud interactions to changes in sea surface temperature in radiative-convective equilibrium"

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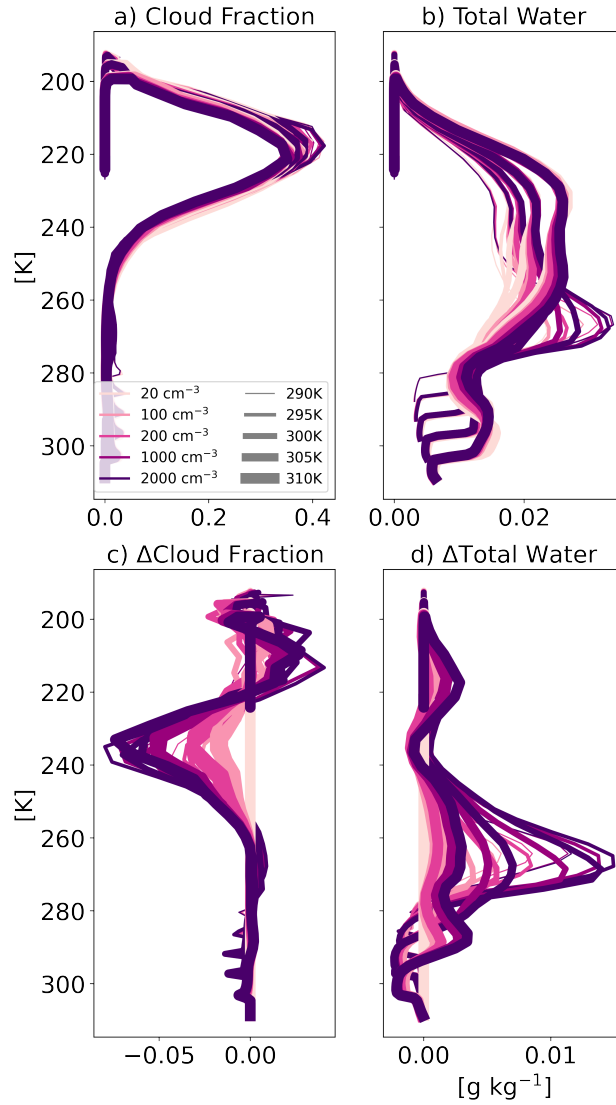
Figure 1. Domain and time mean vertical profiles of cloud fraction and total water in the cloud (**a** and **b**, respectively), and their response to an increase in N_a relative to the cleanest runs for each SST ($N_a = 20$ cm^{-3}; **c** and **d**, respectively).
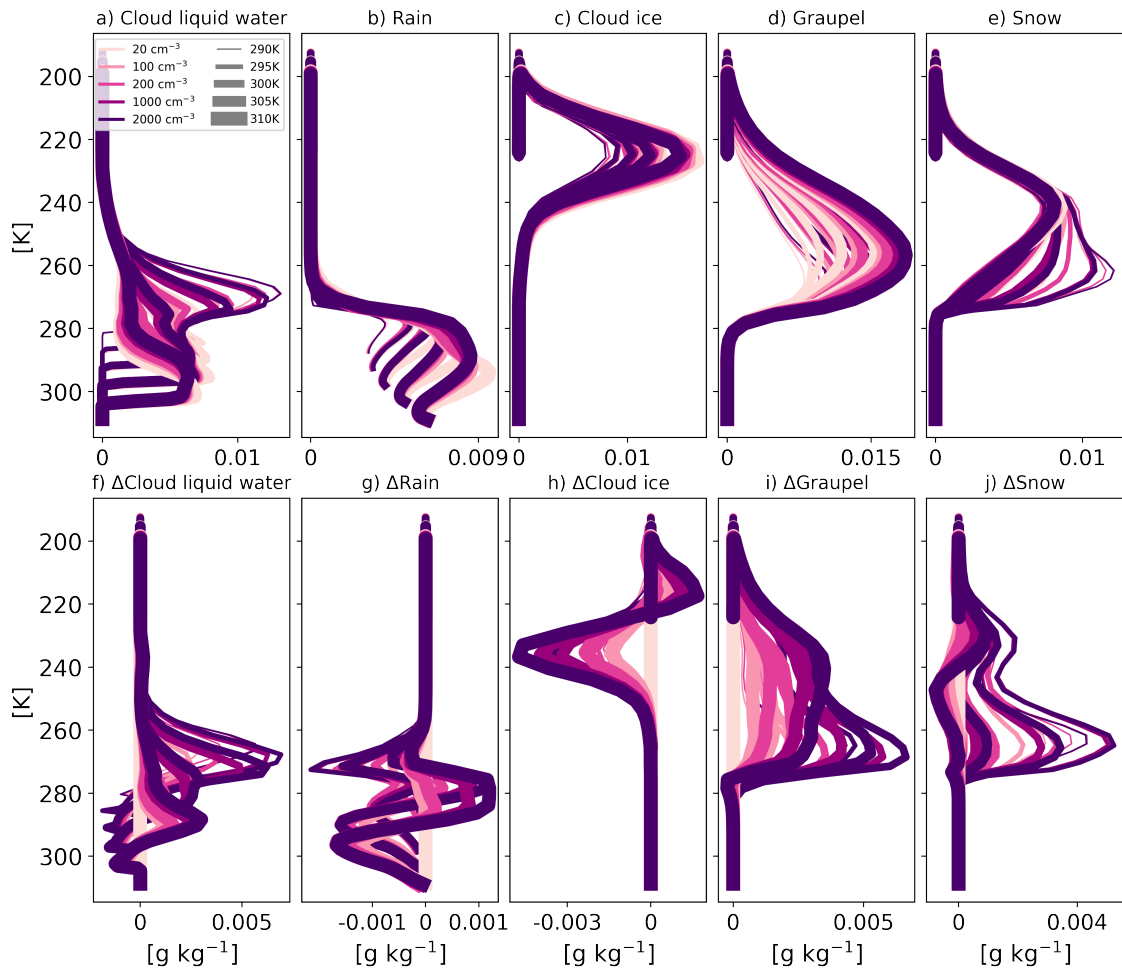
Figure 2. Domain and time mean vertical profiles of the different hydrometeors: (**a**) cloud liquid water, (**b**) rain, (**c**) ice, (**d**) graupel, and (**e**) snow, and their response to an increase in N_a relative to the cleanest runs for each SST ($N_a = 20$ cm^{-3}; **f** – **j**).
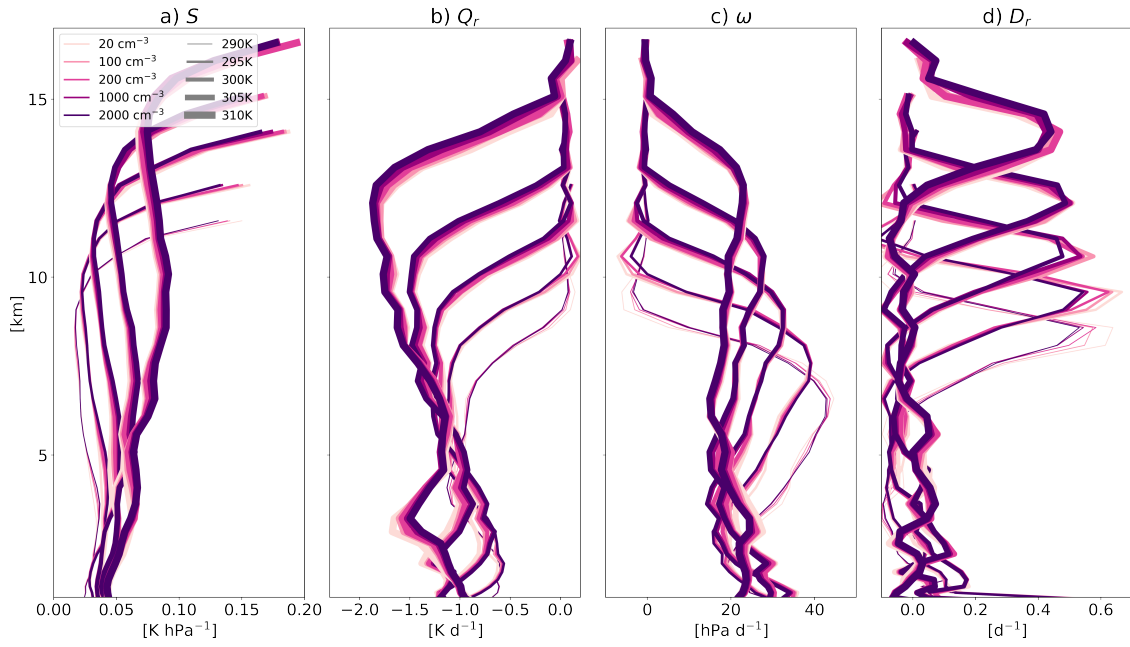
Figure 3. Domain and time mean vertical profiles of the: **a)** static-stability – S, **b)** radiative cooling rate – Q_r, **c)** vertical pressure velocity – ω, and **d)** radiative-driven mass divergence – D_r for the different simulations conducted under different SSTs and N_a conditions.
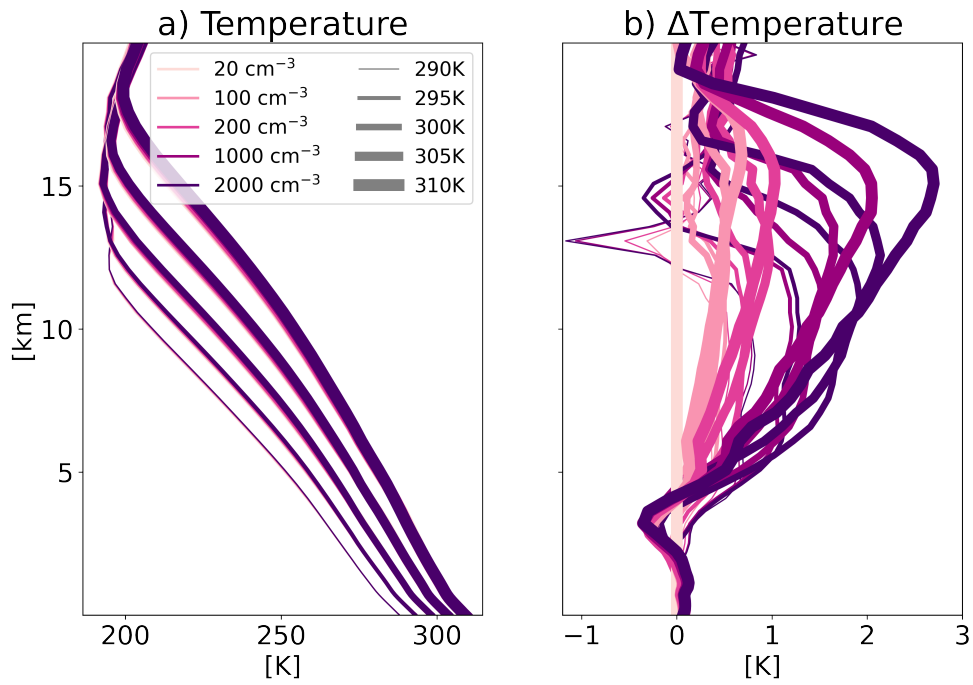
Figure 4. Domain and time mean vertical profiles of temperature (**a**) and its response to an increase N_a, relative to the cleanest runs for each SST ($N_a = 20$ cm^{-3}) (**b**)
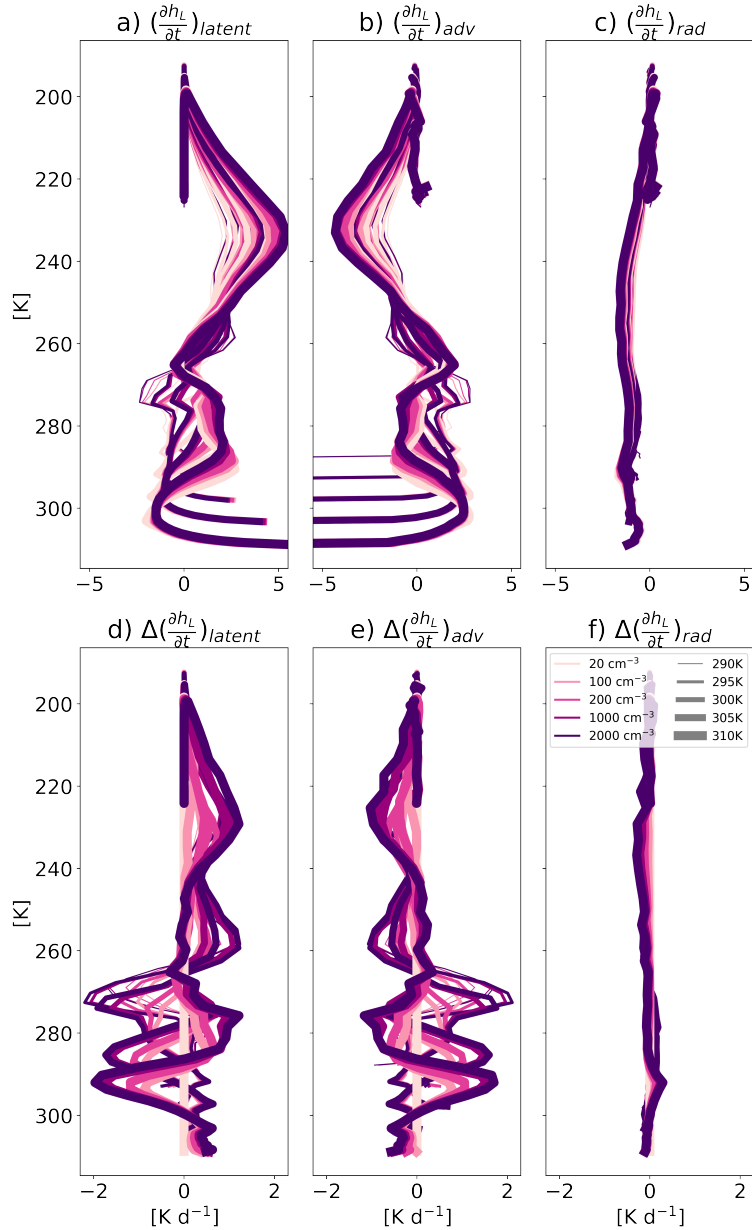
Figure 5. Vertical profiles of the domain and time mean tendency of the liquid/ice water static energy (h_L) due to (**a**) latent heating, (**b**) advection, and radiation (**c**) in the different simulations conducted under different SST and N_a. Panels **d** – **f** presents the response of these terms to an increase in N_a, relative to the cleanest runs for each SST ($N_a = 20$ cm^{-3}).