

Meridional Profiles of Temperature (T) at 300 mb (left) and 850 mb (right) for SD simulations (top) and FR simulations (bottom)

Figure 1. Meridional profiles of the 2000-2009 climatological annual mean zonal mean temperature (T) at 300 mb (left panels) and 850 mb (right panels). Simulations from the specified-dynamics/free-running REF-C1SD/REF-C1 experiments are shown in the top/bottom. Colors correspond to the different models in the CCMI model (see legend).



Figure 2. Comparisons of vertical profiles of w^* as output by the models (left panels) and derived from v^* via continuity (right panels) as in *Dietmuller et al. (2018)*. Profiles have been averaged over 40°S and 40°N (top) and over 20°S and 20°N (bottom).

Seasonal Cycle of Zonal Winds (U) at 850 mb among Specified-Dynamics (left) and Free-Running (right) Simulations



Figure 3. 2000-2009 climatological mean seasonal cycle of the zonal mean zonal wind at 850 mb. Simulations from the specifieddynamics/free-running REF-C1SD/REF-C1 experiments are shown in the left/right. Colors correspond to the different models in the CCMI model (see legend).



Figure 4. Zonal mean Root Mean Square (RMS) spread for U (a), V (b), T (c) and ω (d) for both the SD^{*} and FR^{*} ensembles (left and right, respectively).



Zonal Mean Annual Mean Root Mean Square (RMS) Spread

Figure 5. Zonal mean Root Mean Square (RMS) spread for v^* (a), w^* (b), N₂O (c), O₃ (d), Γ_{STRAT} (e) and Γ_{NH} (f) for both the SD^{*} and FR^{*} ensembles (left and right, respectively).



Zonally Averaged Seasonal Correlation Coefficient

Figure 6. Correlation of the seasonal cycle for U (a), V (b), T (c) and ω (d) for both the SD^{*} and FR^{*} ensembles (left and right, respectively).



Zonally Averaged Seasonal Correlation Coefficient

Figure 7. Correlation of the seasonal cycle for v^* (a), w^* (b), N₂O (c), O₃ (d), Γ_{STRAT} (e) and Γ_{NH} (f) for both the SD^{*} and FR^{*} ensembles (left and right, respectively).