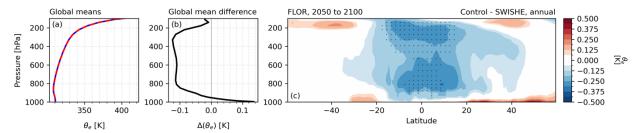
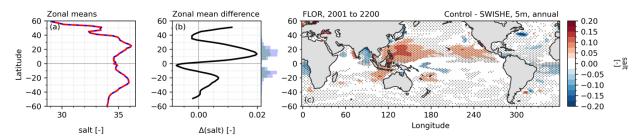
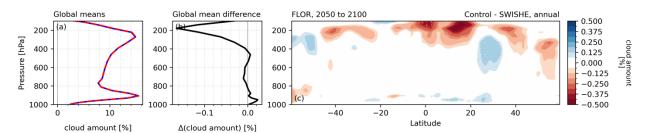
## **Supplemental figures**



**Figure S1**: plots of (a) equivalent potential temperature ( $\theta_e$ ) global means in the GFDL FLOR coupled atmosphere-ocean model, (b) the global mean difference in  $\theta_e$  between the control and SWISHE model runs, (c) the zonal mean of  $\theta_e$  difference between the control and SWISHE model runs. Results show that TCs reduce the equivalent potential temperature of the tropics by reducing tropospheric specific humidity.



**Figure S2**: plots of (a) sea surface salinity (SSS) global means in the GFDL FLOR coupled atmosphere-ocean model, (b) the global mean difference in SSS between the control and SWISHE model runs, (c) the zonal mean of SSS difference between the control and SWISHE model runs. Results show that TCs increase the surface salinity in most areas that are TC-active.



**Figure S3**: plots of (a) cloud fraction global means in the GFDL FLOR coupled atmosphere-ocean model, (b) the global mean difference in cloud fraction between the control and SWISHE model runs, (c) the zonal mean of cloud fraction between the control and SWISHE model runs. Results show that TCs are correlated with a decrease in tropical and subtropical high cloud cover, which has implications on the atmospheric radiative budget.

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