Supplementary figures

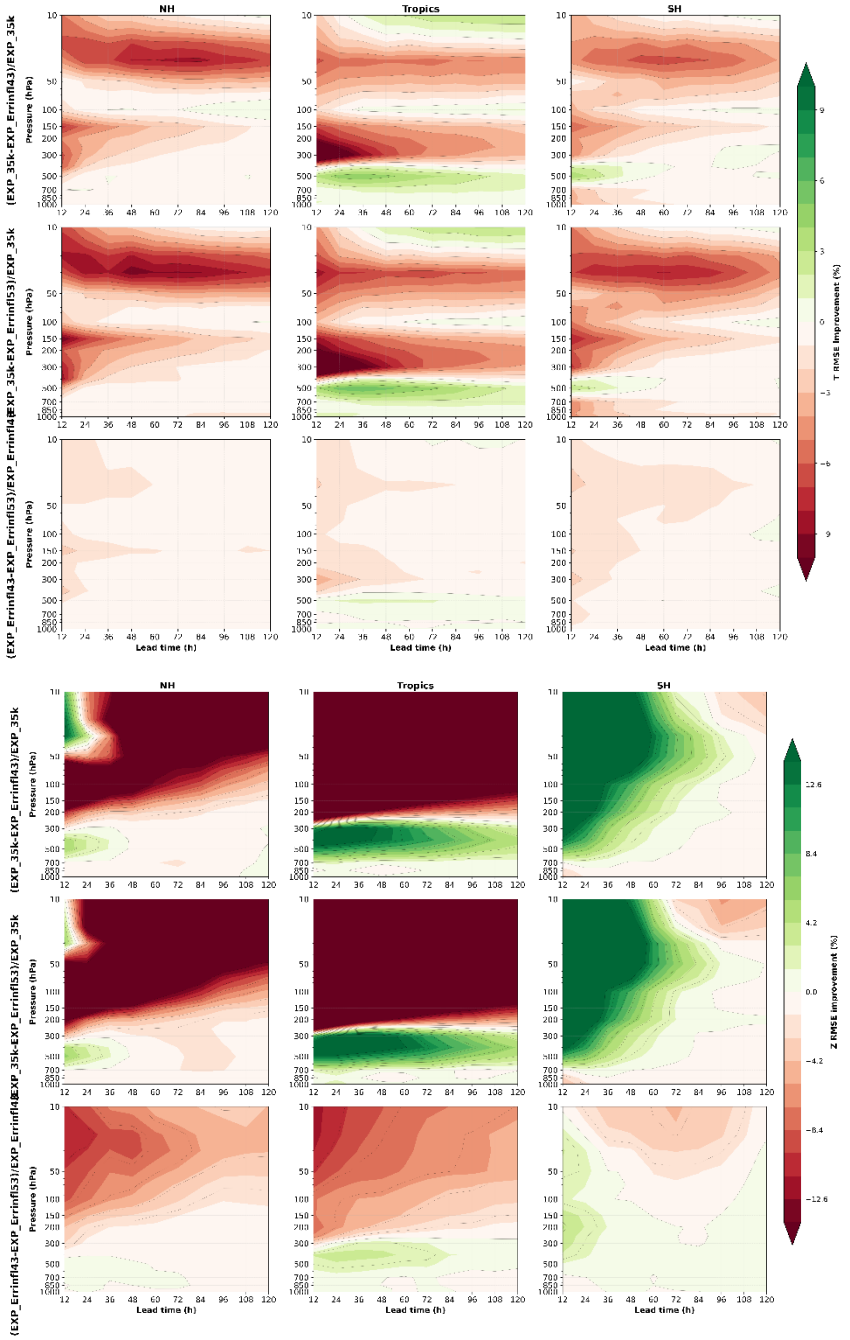

Figure S1. Forecast performance by lead time and region, verified against the IFS analysis, for temperature (upper panels) and geopotential height (lower panels). Rows show (top) EXP_Errinfl43 relative to EXP_35k, (middle) EXP_Errinfl53 relative to EXP_35k, and (bottom) EXP_Errinfl53 relative to EXP_Errinfl43. Green indicates improvement and red degradation relative to the reference experiment; in the bottom row, green indicates better performance in EXP_Errinfl53 than in EXP_Errinfl43.

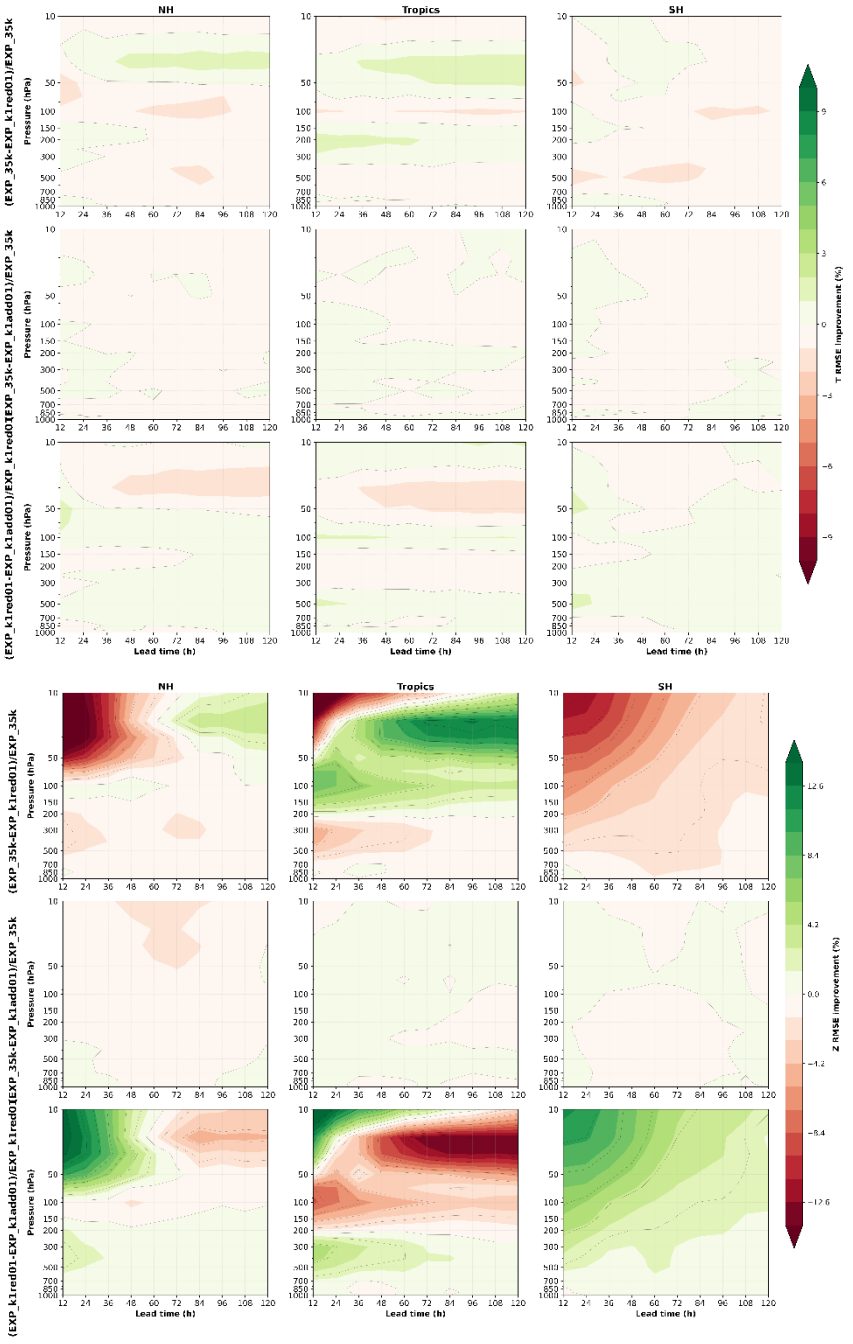

Figure S2. Forecast performance by lead time and region, verified against the IFS analysis, for temperature (upper panels) and geopotential height (lower panels). Rows show (top) EXP_k1red01 relative to EXP_35k, (middle) EXP_k1add01 relative to EXP_35k, and (bottom) EXP_k1add01 relative to EXP_k1red01. Green indicates improvement and red degradation relative to the reference experiment; in the bottom row, green indicates better performance in EXP_k1add01 than in EXP_k1red01.

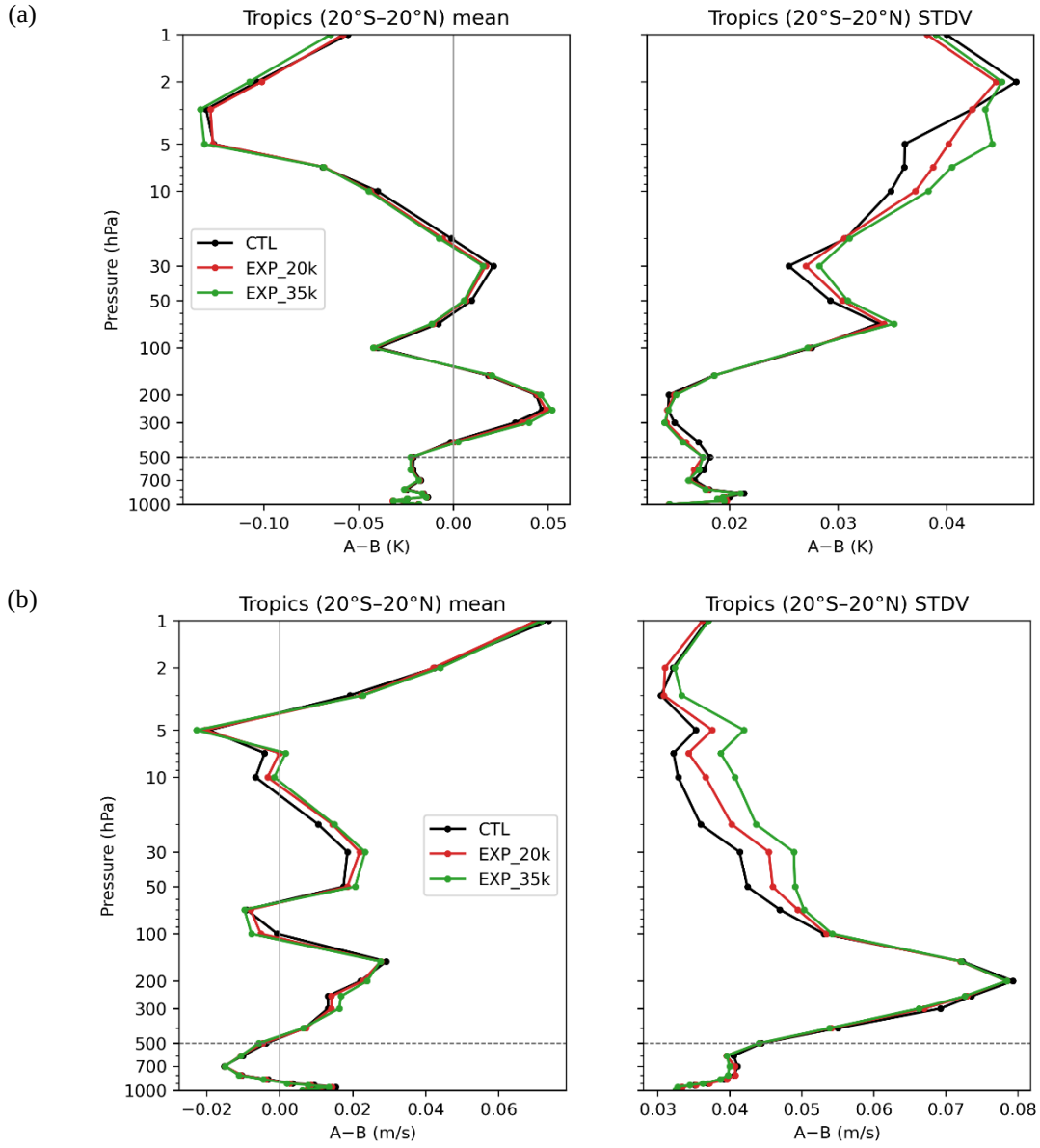

Figure A3. Vertical profiles of the analysis increment (A–B) averaged over the tropical band (20°S–20°N) for (a) temperature and (b) zonal wind, showing (left) the mean and (right) the cycle-to-cycle STDV. Values are averaged over 8 September–30 November 2022; the dashed line marks 500 hPa. The cycle-to-cycle STDV of zonal wind increases somewhat with data volume in the stratosphere, but the three experiments are similar near 500 hPa in the tropics—the focus of this diagnostic.