Supplementary Information for

Quantifying stratospheric biases and identifying their potential sources in subseasonal forecast systems

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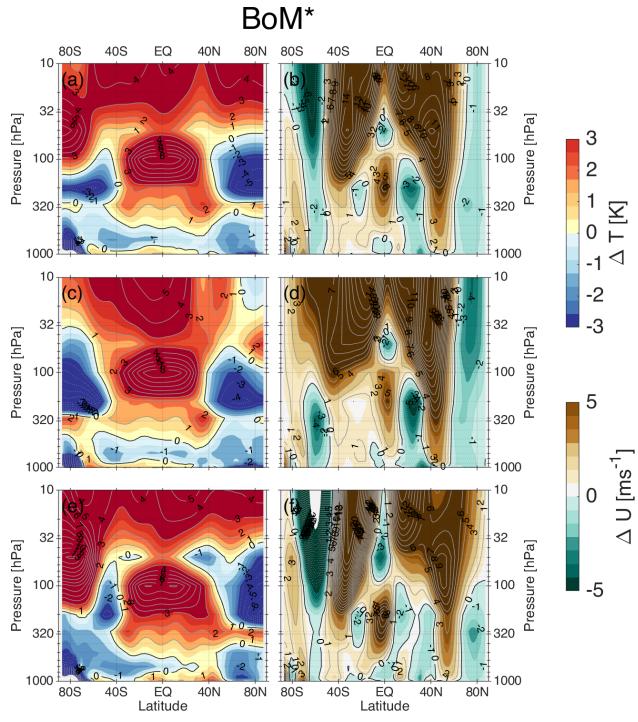


Figure S1. The week-4 zonal mean biases computed from the BoM hindcasts for (left column) temperatures and (right column) zonal winds. The top row represents the annual mean biases, while the middle and bottom rows are for DJF and JJA, respectively.

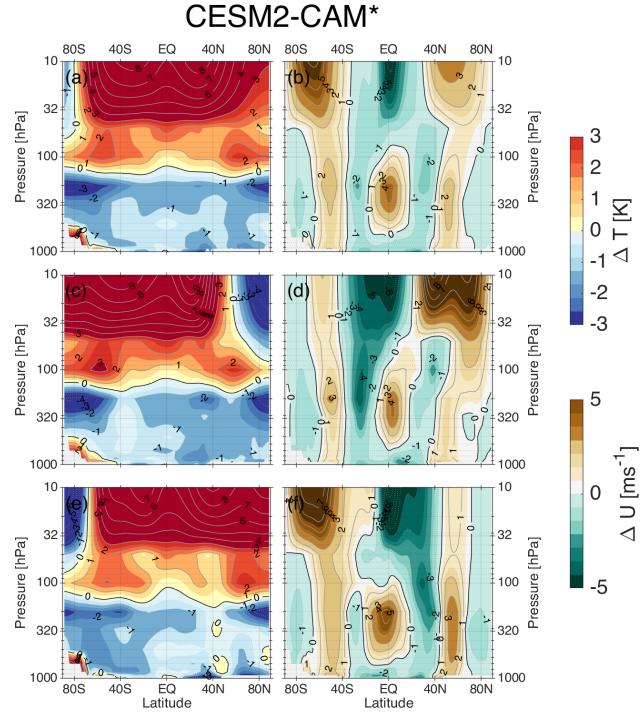


Figure S2. As in Figure S1, but for the CESM2-CAM system.

CESM2-WACCM EQ 40N 80N 80S 40S 80S 40S EQ 40N 80N 10 10 (a) (b) 32 32 Pressure [hPa] Pressure [hPa] 3 100 100 2 1 320 320 0 1000 1000 10 10 -2 (d)-3 32 Pressure [hPa] Pressure [hPa] 100 100 5 320 320 1000 1000 10 10 (f) (e) 32 32 Pressure [hPa] 100 100 -5 320 320

Figure S3. As in Figure S1, but for the CESM2-WACCM system. The bottom row is left blank since the CESM2-WACCM system only ran hindcasts from September to March. The "annual-mean" composite in the top row is then based only on 7 months (excluding April-August).

40S

EQ Latitude

80N 80S

40S

80S

40N

EQ

Latitude

1000

80N

40N

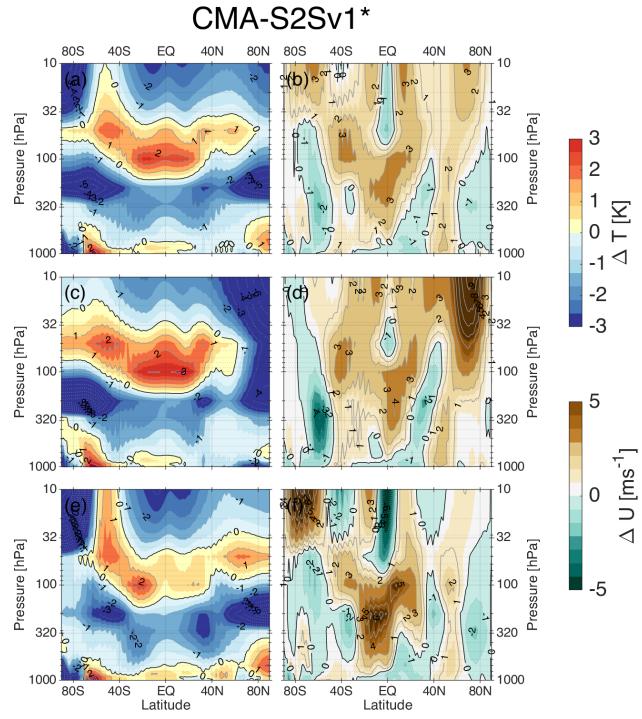


Figure S4. As in Figure S1, but for the CMA system.

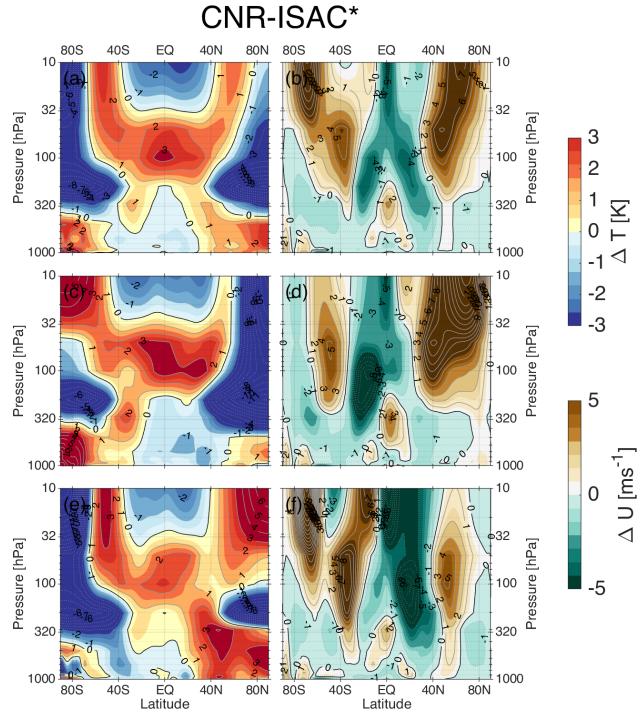


Figure S5. As in Figure S1, but for the CNR-ISAC system.

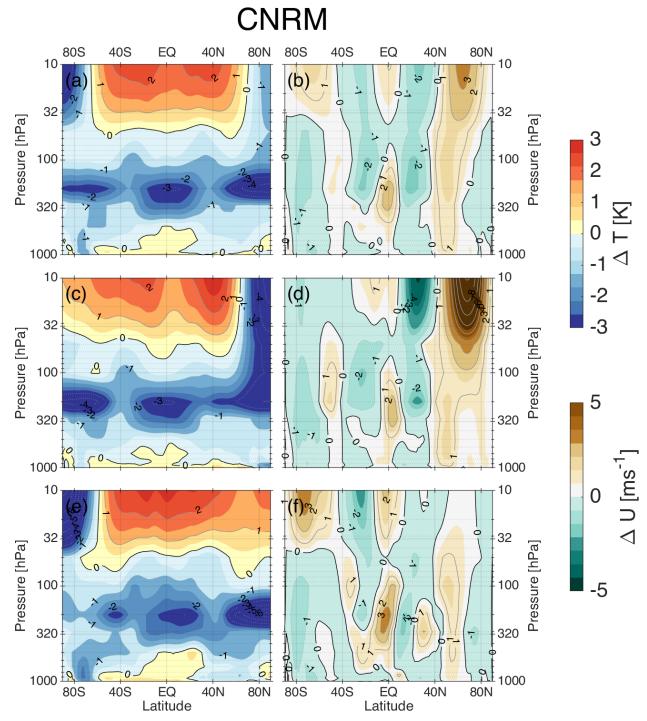


Figure S6. As in Figure S1, but for the CNRM system.

ECCC-GEM16*

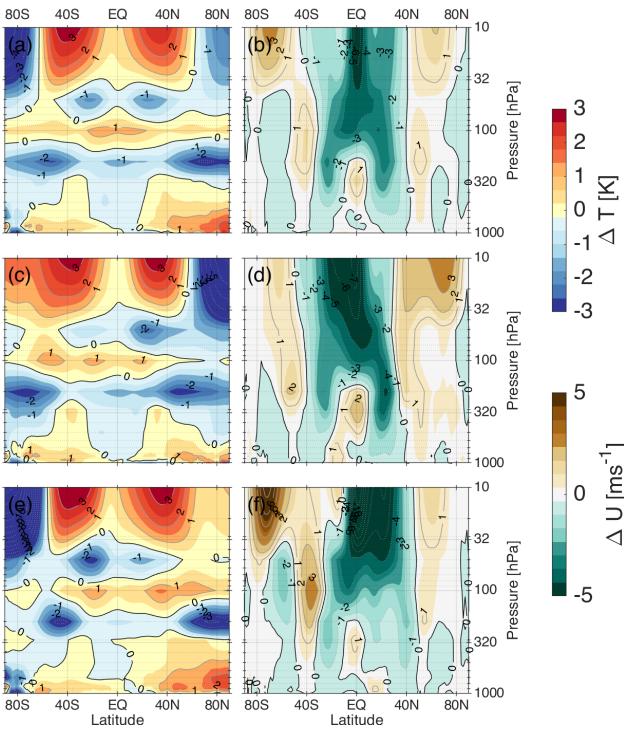


Figure S7. As in Figure S1, but for the low-top ECCC system (GEM16).

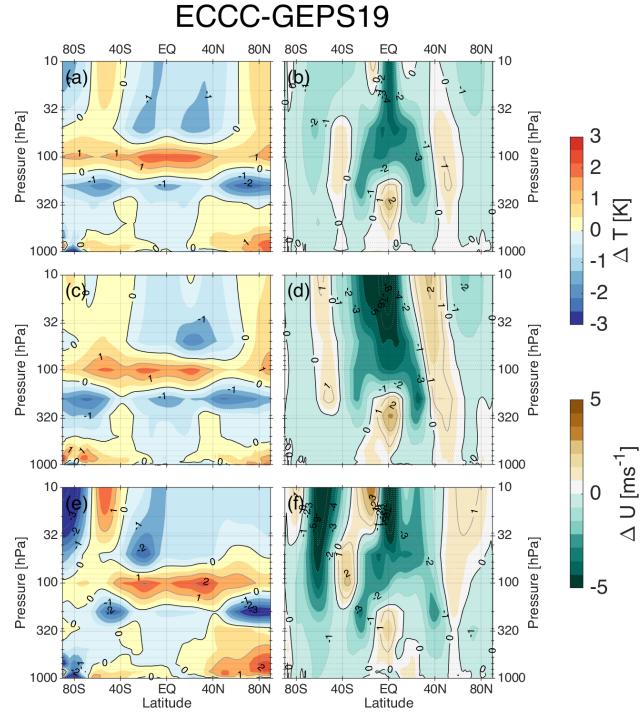


Figure S8. As in Figure S1, but for the high-top ECCC system (GEPS19).

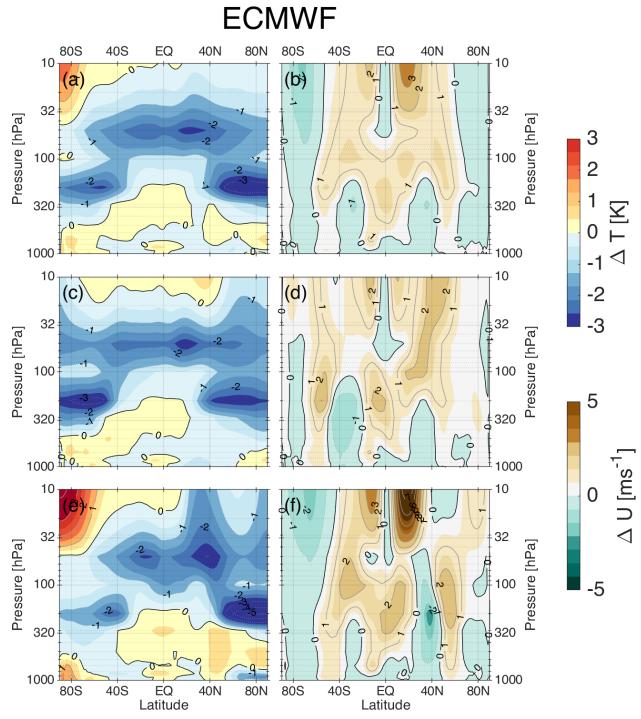


Figure S9. As in Figure S1, but for the ECMWF system.

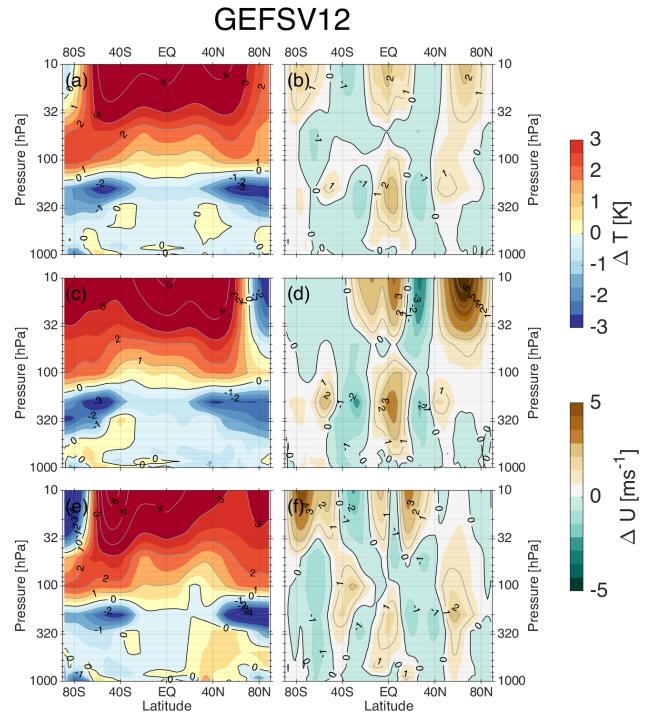


Figure S10. As in Figure S1, but for the GEFSv12 system.

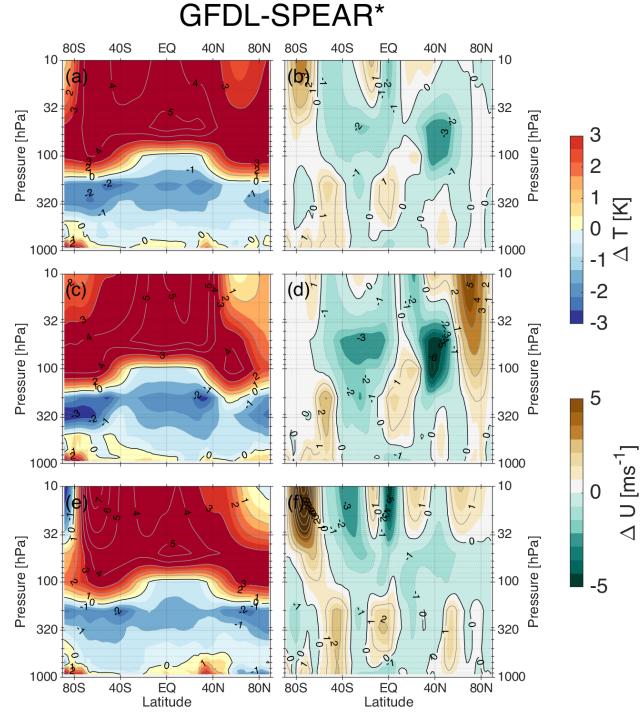


Figure S11. As in Figure S1, but for the GFDL-SPEAR system.

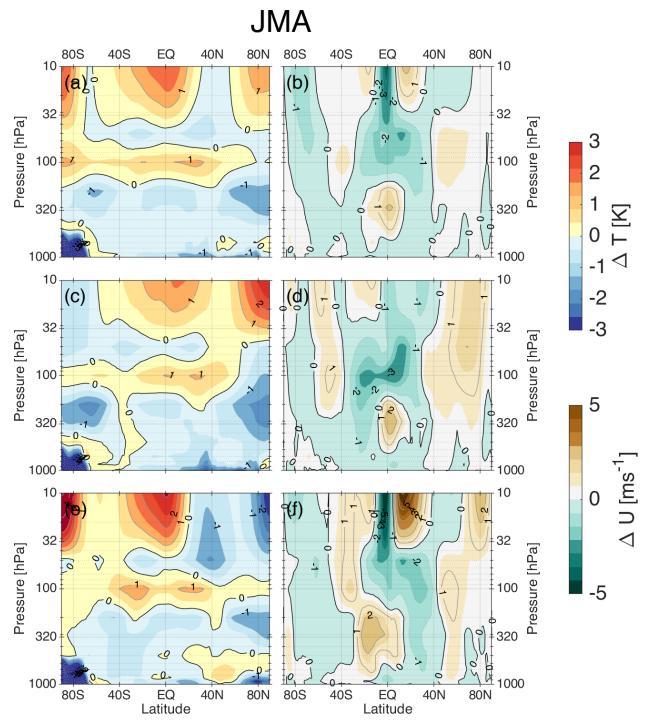


Figure S12. As in Figure S1, but for the JMA system.

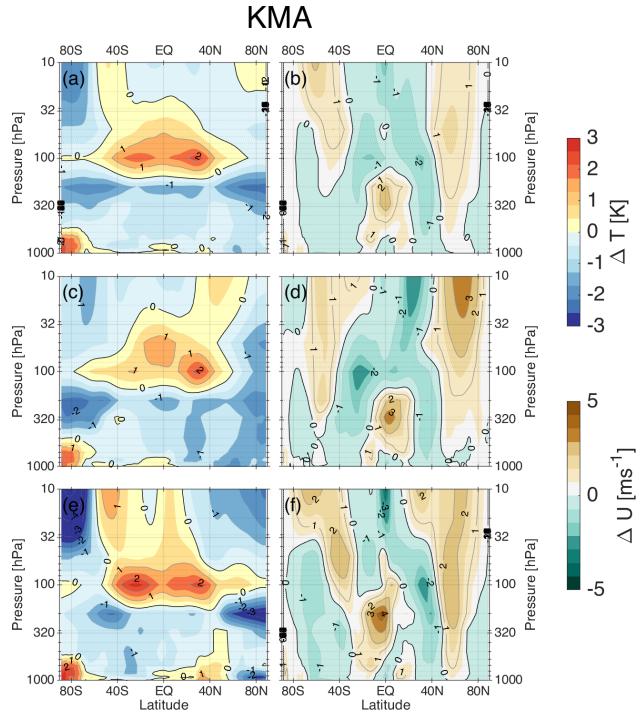


Figure S13. As in Figure S1, but for the KMA system.

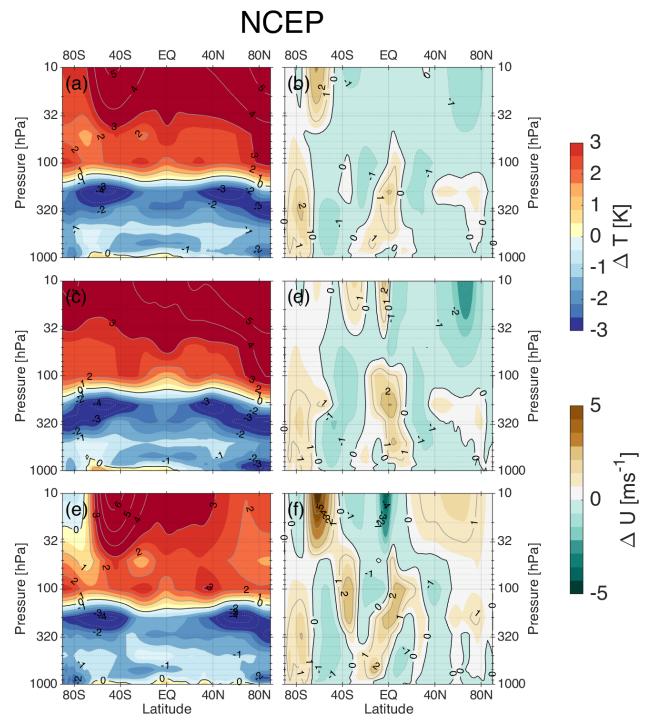


Figure S14. As in Figure S1, but for the NCEP system.

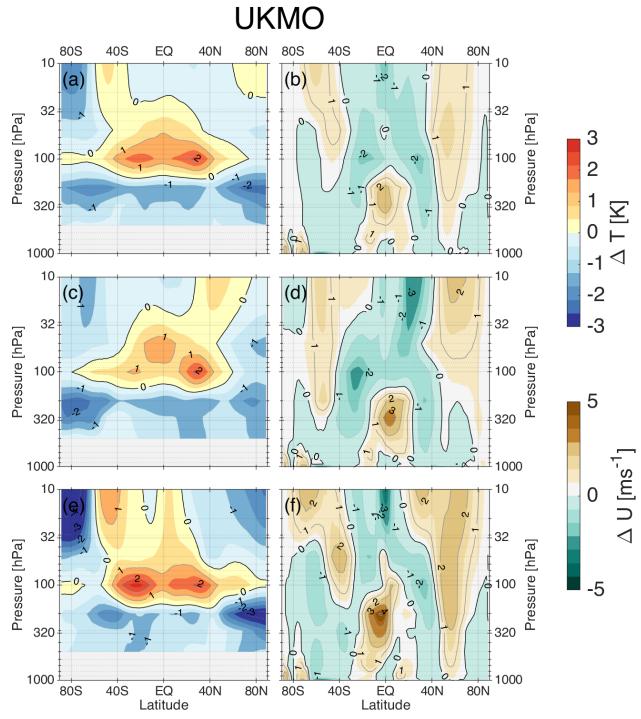


Figure S15. As in Figure S1, but for the UKMO system.