Summary – absolute difference surface flux of BC surface flux of SO2 - high-so4 - high-so4 1.179439e-18 0e+00 5.664675e-19 Δ emiso2 (kg m $^{-2}$ s $^{-1}$) $\Delta\,\text{emibc}\,(\text{kg}\,\text{m}^{-2}\,\text{s}^{-1})$ -3e-13 -4.650356e-20 -6e-13 -6.594746e-19 -9e-13 -1.272446e-18 SHIAND AH allahic Art allantic SHJand diopal arctic Art indian land AH indian surface concentration of BC surface concentration of SO4 high–so4 - high-so4 3e-10 5.0e-12 Δ mmrso4 (kg kg-1) Δ mmrbc (kg kg – 1) 2.5e-12 0.0e+001e-10 -2.5e-12 0e+00 AH Indian art pacific SHIAND SHJand arctic diopal diopal land Art indian AH Pacific land surface concentration of SO2 surface concentration of DMS - high-so4 - high-so4 0.0e+00 3e-12 -5.0e-1 Δ so2 (kg kg – 1) ∆dms (kg kg-1) 2e-12 1e-12 -1.0e-10 0e+00 -1.5e-10 -1e-12 -2.0e-10 SHJand diopal AH Jindian Art Dacific ST SE SHJand diopal AH Static AH lidigit AH Sacitic AH Sas CAM-ATRAS E3SM OsloCTM3 GISS modelE

CESM

CESM2

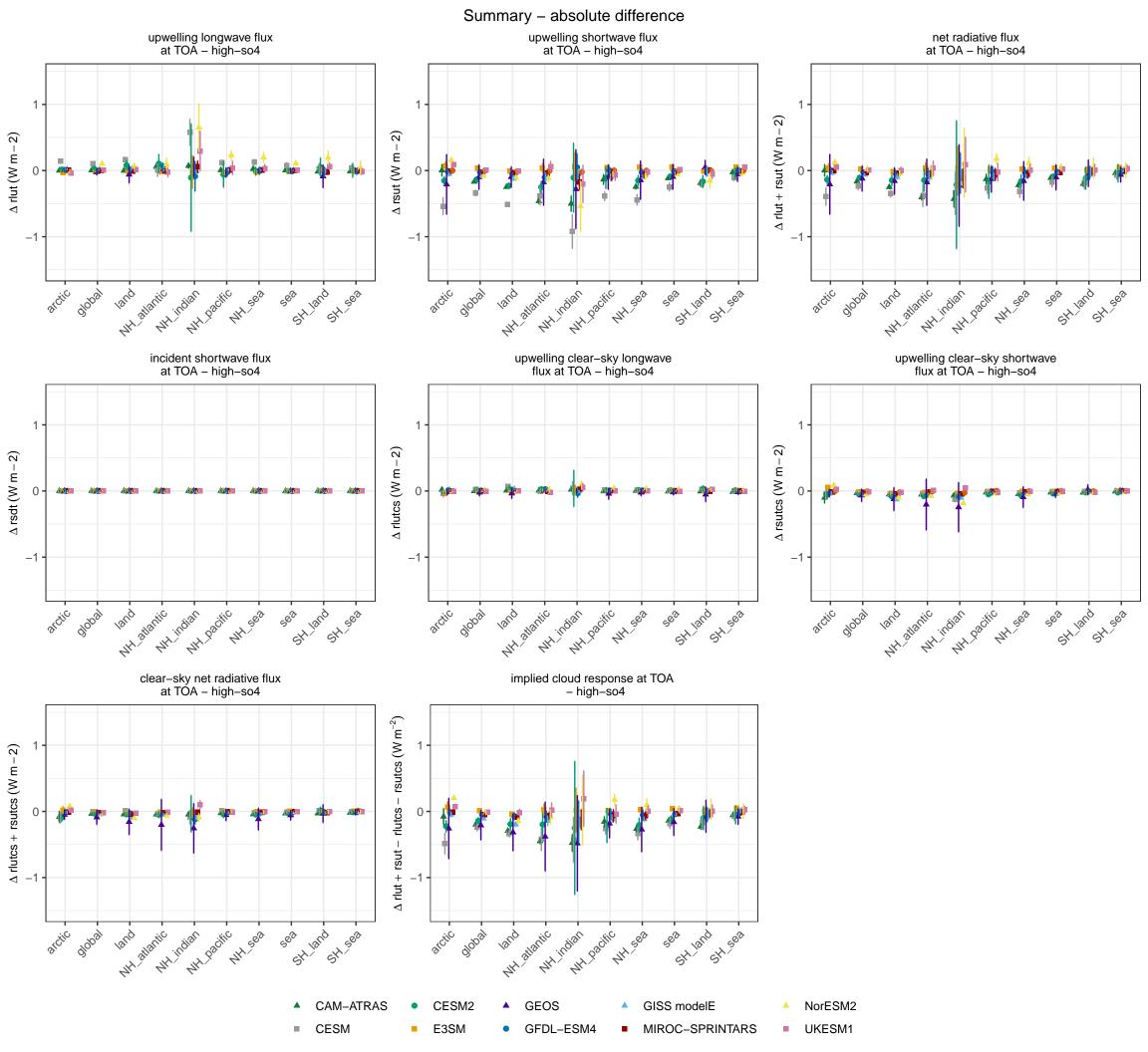
GEOS

GFDL-ESM4

MIROC-SPRINTARS

NorESM2

UKESM1



Summary – absolute difference ambient aerosol optical total cloud cover thickness at 550nm - high-so4 percentage - high-so4 0.00 1.0 Δ clt (percent) od550aer 0.10 − 0.10 -0.050.5 0.0 -0.15-0.5Art allantic HH allantic SHIland diopal SHI land diopal AH indian AH indian convective cloud cover surface cloud cover percentage - high-so4 - high-so4 0.9 0.10 0.6 0.05 ∆cltc (percent) ∆cl (percent) 0.00 0.3 -0.050.0 -0.10-0.3-0.15SH Jand olobal SHIRING diopal WH allantic arctic arctic arctic d H. Allaniic H. Indian H. Pacific H. Sao ice water path - high-so4 0.002 0.001 $\Delta clivi (kg m^{-2})$ 0.000 -0.001-0.002diopal SHJand st see arctic Art allaritic Art indian Art Pacific

CAM-ATRAS

CESM

CESM2

E3SM

GEOS

GFDL-ESM4

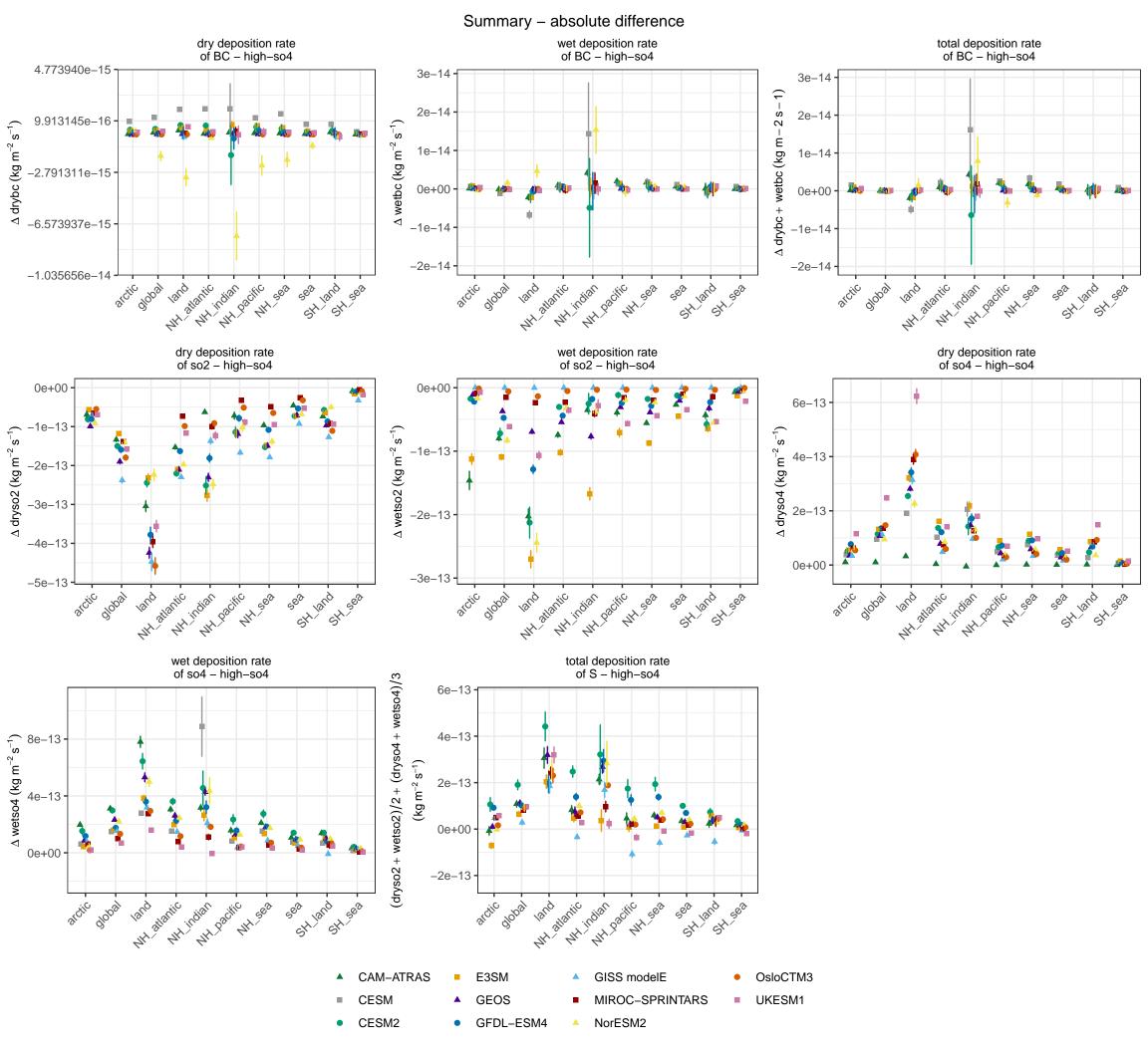
GISS modelE

NorESM2

MIROC-SPRINTARS

OsloCTM3

UKESM1



Summary – absolute difference column mass burden of BC column mass burden of SO2 - high-so4 - high-so4 1e-07 5.0e-09 0e+00 $\Delta \log \log ({\rm kg} \ {\rm m}^{-2})$ $\Delta loadbc \, (kg \; m^{-2})$ 2.5e-09 -1e-07 0.0e+00 -2e-07 -2.5e-09 -3e-07 SHIAND SHJand AH allahic arctic diopal Art indian diopal arctic Art indian land SO4 lifetime - high-so4 column mass burden of SO4 - high-so4 8e-07 8e-07 ∆ loadso4/(wetso4 + dryso4) (days) $\Delta loadso4~(kg~m^{-2})$ 4e-07 4e-07 0e+00 0e+00 -4e-07 AH allantic SHIRING -4e-07 diopal diopal arctic alctic Mr. stantic Art Indian Art Daothic Art Sea SH Jano SH Sea SOD SO2 timescale - high-so4 1e-07 ∆ loadso2/emiso2 (days) 0e+00 -1e-07 -2e-07 -3e-07 Art Pacific diopal SHIAND sti sea arctic d Art allahic Art indian CAM-ATRAS E3SM OsloCTM3 GISS modelE

CESM

CESM2

GEOS

GFDL-ESM4

MIROC-SPRINTARS

NorESM2

■ UKESM1