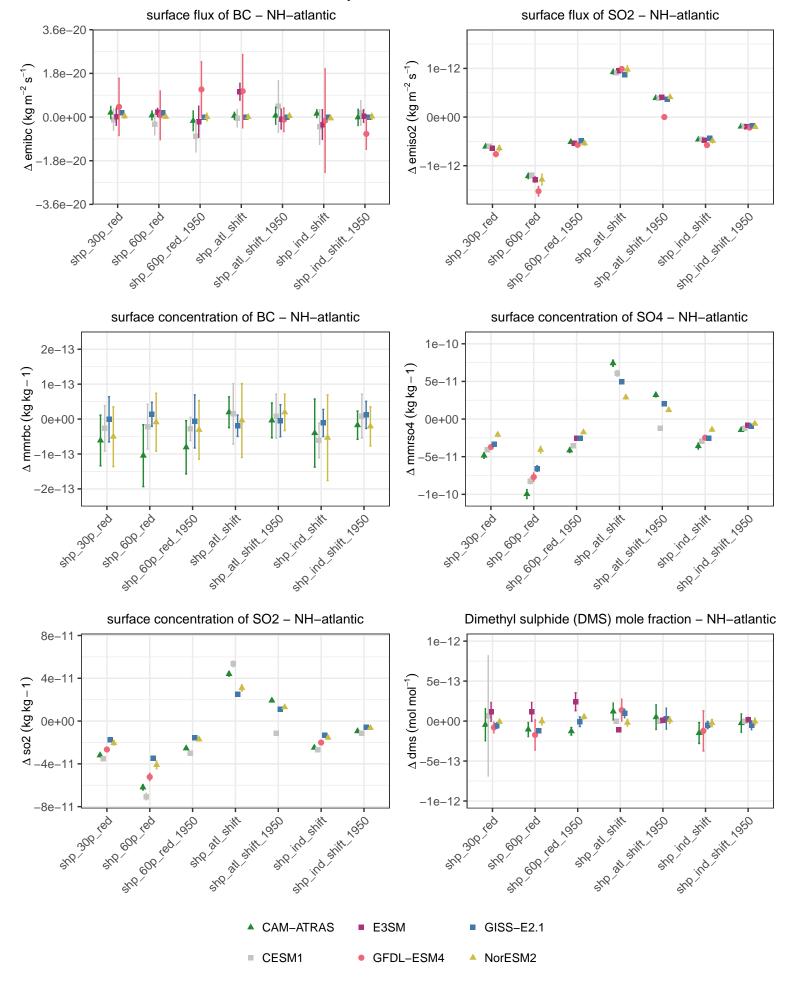
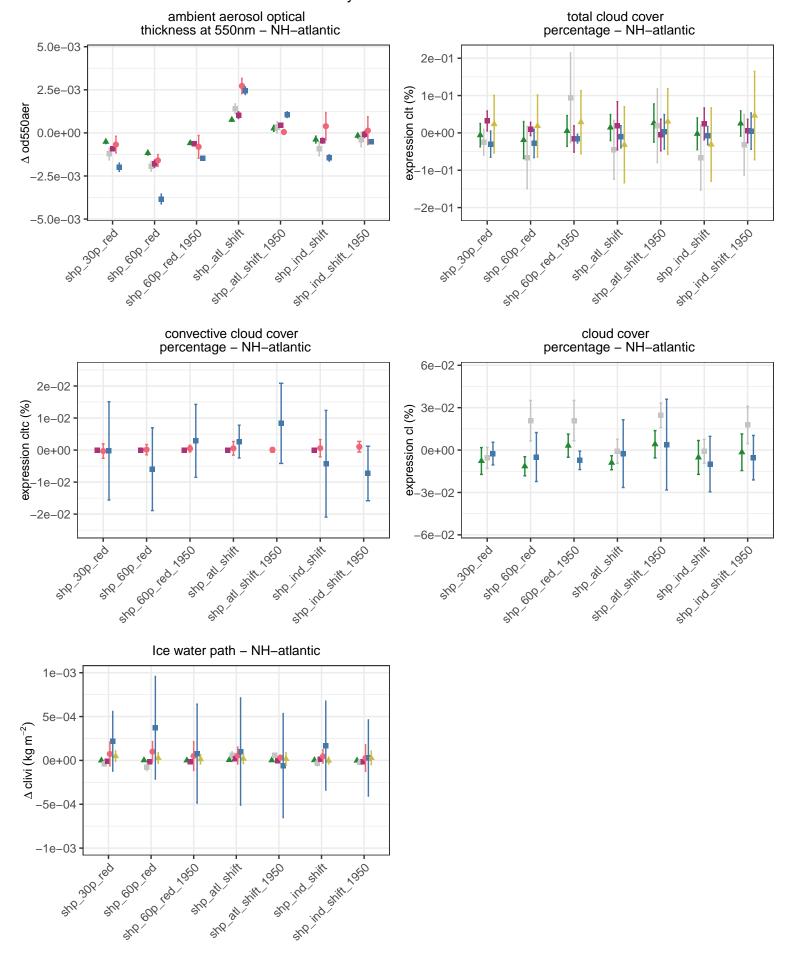
Summary – absolute difference



Summary – absolute difference upwelling longwave flux upwelling shortwave flux net radiative flux at TOA - NH-atlantic at TOA - NH-atlantic at TOA - NH-atlantic 1.0 1.0 1.0 Δ rlut + rsut (W m – 2) Δ rlut (W m – 2) $\Delta \operatorname{rsut}(\operatorname{Wm}-2)$ 0.5 0.5 0.5 0.0 0.0 0.0 -0.5 -0.5 0.5 -1.0-1.0-1.0sho ind shift 1960 +10 600 red 1950 ste all stift, 1950 310 600 red 1950 sho ind shift 1950 STR 21 STIFL 250 sho ind shift loso ste all stift. Jose snP att shift she ind shift STP at shift she ind shift STR all STIFF she ind shift sub end ing . 600 teg sub end ing clear-sky net radiative flux implied cloud response at TOA incident shortwave flux NH-atlantic at TOA - NH-atlantic at TOA - NH-atlantic Δ rlut + rsut - rlutcs - rsutcs (W m⁻²) Δ rlutcs + rsutcs (W m – 2) 1.0 1.0 1.0 $\Delta \operatorname{rsdt} (\operatorname{Wm} - 2)$ 0.5 0.5 0.5 0.0 0.0 0.0 -0.5 -0.5 -0.5 -1.01.0 -1.0SHO ALL SHIP. 1950 470 600 red 1950 +10 600 led 1950 Str. ind Stift 1950 Stopind Shit 1950 SHO IN SHIP. 1950 STR ind shift STR 3H SHIP, 1950 STR all SHIP. JOSO snP at shift sno ind shift STP all shift sno ind shift Sub end leg STR all STIFF and end tog sub en leg upwelling clear-sky shortwave upwelling clear-sky longwave flux at TOA - NH-atlantic flux at TOA - NH-atlantic 1.0 1.0 $\Delta \operatorname{rsutcs} (\operatorname{Wm} - 2)$ Δ rlutcs (W m-2) 0.5 0.5 0.0 0.0 -0.5 -0.5 -1.0-1.0+10 600 red 1950 +1000 ped 1050 SHP all SHIP. and ind shift 1950 STR All SHIPL 1950 stopind shift 1950 STP at Shift snp ind shift SIRP all SHIFT sub eab ing snp ind shift sub 300 leg sub en lag CAM-ATRAS E3SM GISS-E2.1 CESM1 GFDL-ESM4 NorESM2

Summary - absolute difference



▲ CAM-ATRAS

CESM1

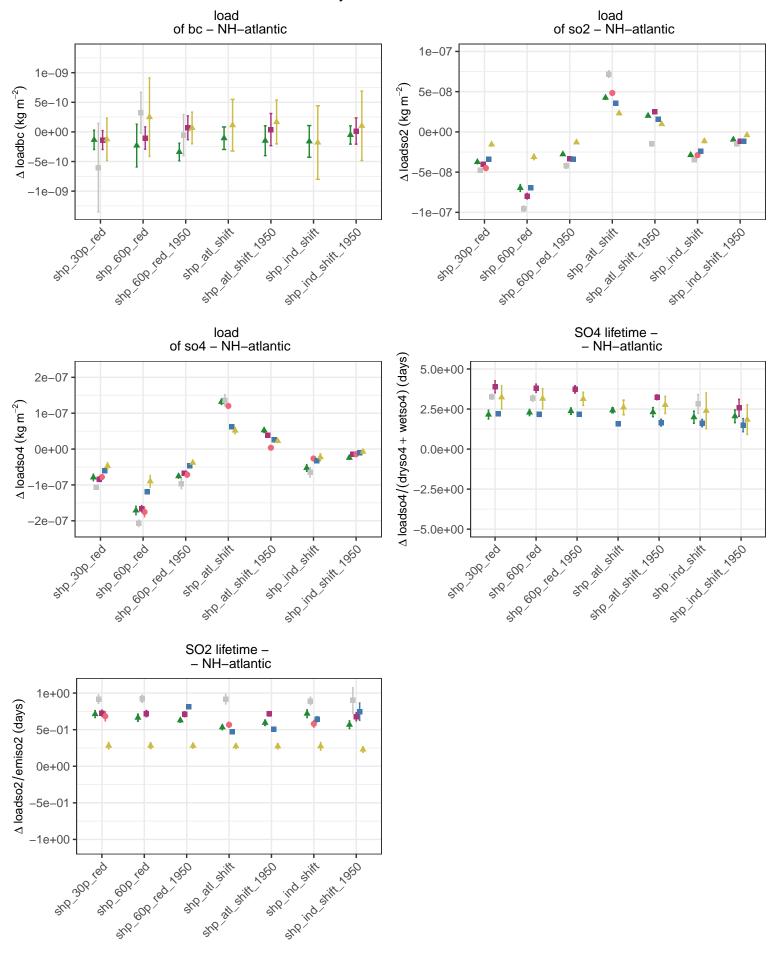
■ E3SM

• GFDL-ESM4

GISS-E2.1

Summary - absolute difference dry deposition rate wet deposition rate total deposition rate of BC - NH-atlantic of BC - NH-atlantic of BC - NH-atlantic 3.7e-16 2.4e-15 1.8e-15 Δ drybc + wetbc (kg m – 2 s – 1) Δ drybc (kg m⁻² s⁻¹) Δ wetbc (kg m⁻² s⁻¹) 1.9e-16 1.2e-15 8.3e-16 0.0e + 000.0e + 001.6e-1.2e-15 1.9e-16 -1.1e-15 STR all Strike Ind or the STR and Strike or the 314 600 181 1850 + and Sall Shift, 1980 3114 600 184 1850 ... and de distriction of sub 300 lag -3.7e-16 -2.4e-15 ste 300 teg -2.1e-15 stre 300 teg dry deposition rate wet deposition rate dry deposition rate of so4 - NH-atlantic of so2 - NH-atlantic of so2 - NH-atlantic 2e-13 1e-12 Δ dryso2 (kg m⁻² s⁻¹) Δ wetso2 (kg m⁻² s⁻¹) Δ dryso4 (kg m⁻² s⁻¹) 1e-13 1e-13 5e-13 0e+00 0e+00 0e+00 5e-13 -1e-13 -1e-13 one of Stiff, of of Stiff, of the stiff, of -1e-12 Sto of State ork off Stiff 1000 318 600 fed 1950 3.14 600 18d 1. SHO JIN SHIRL JOSO 214 90 to 1 SIR ALL SHIFT , 600 leg -2e-13 stp.ind shift sing 300 fed sub 300 leg 1800 Leg (dryso2 + wetso2)/2 + (dryso4 + wetso4)/3total deposition rate wet deposition rate of so4 - NH-atlantic of S - NH-atlantic 8e-13 4e-13 Δ wetso4 (kg m⁻² s⁻¹) 4e-13 $(kg m^{-2} s^{-1})$ 0e+00 0e+00 4e-13 4e-13 Sto of Stiff, 1950 4 60 18d 1960 snPind shift SHO IN SHIP JOSO 314 90 Sec. 4 SHO Ind Shirt Jobo -8e-13 sing 300 teg SUB LEGA ste 300 ing -8e-13 CAM-ATRAS E3SM GISS-E2.1 CESM1 GFDL-ESM4 NorESM2

Summary - absolute difference



▲ CAM-ATRAS

CESM1

E3SM

NorESM2

Summary - absolute difference Δ clear – sky shortwave flux (W m $^{-2})$ 0.05 - Δ shortwave flux (W $\rm m^{-2})$ Δ shortwave flux (W m⁻²) 0.2 0.2 0.00 0.0 0.0 -0.05 **-**-0.2 **-**-0.2 -2e-07 -1e-07 0e+00 0e+00 -1e-07 -5e-08 0.3 0.6 0.9 Δ SO4 column burden (kg m⁻²) Δ SO2 column burden (kg m⁻²) Δ SO2 lifetime (days) Δ SO4 column burden (kg m $^{-2}$) 1e-07 **-**∆ SO4 lifetime (days) ∆ SO2 lifetime (days) 0e+00 -0.3 --2e-07 -1e-07 -5e-08 0e+00 5e-08 5e-08 -1e-07 -5e-08 0e+00 -2e-07 -1e-07 0e+00 Δ SO4 column burden (kg m⁻²) Δ SO2 column burden (kg m⁻² Δ SO2 column burden (kg m⁻²) 0.4 -8e-13 -∆ SO2 column burden (kg m⁻²) Δ net radiative flux (W m $^{-2}$) 5e-08 Δ DMS (mol mol $^{-1}$) 4e-13 • 0.2 0e+00 0.0 5e-08 -4e-13 · -1e-07 -5e-08 0e+00 -8e-11 -4e-11 0e+00 -1e-07 -5e-08 0e+00 5e-08 Δ SO2 (kg kg⁻¹) Δ SO2 lifetime (days) Δ SO2 column burden (kg m⁻²) CAM-ATRAS E3SM GISS-E2.1

-GFDL-ESM4

NorESM2

CESM1