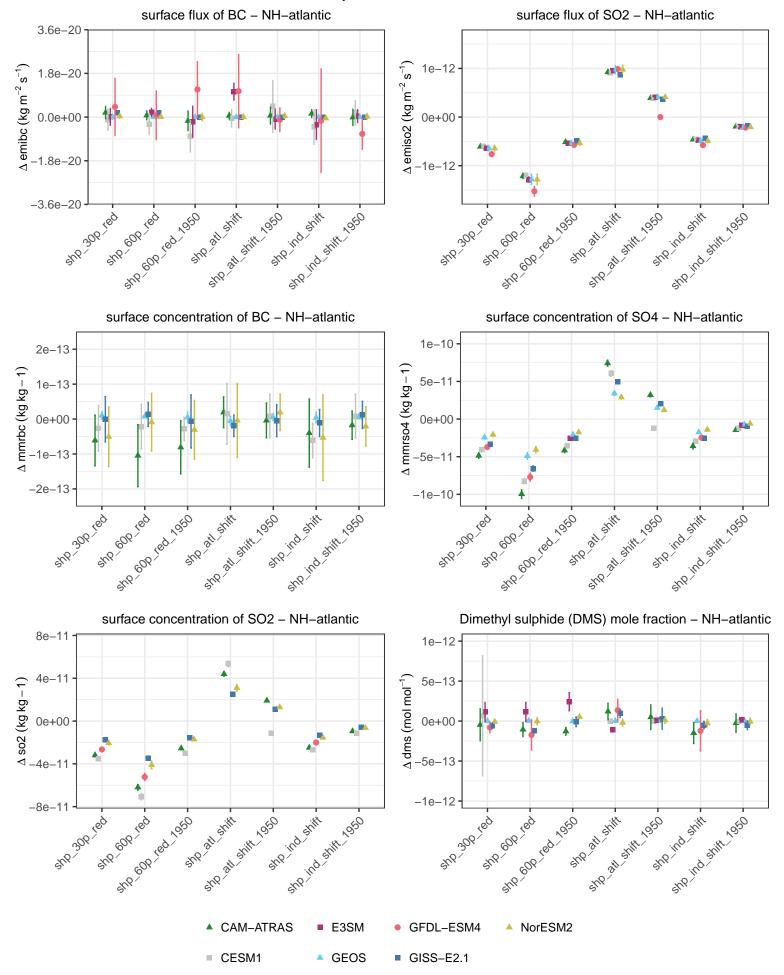
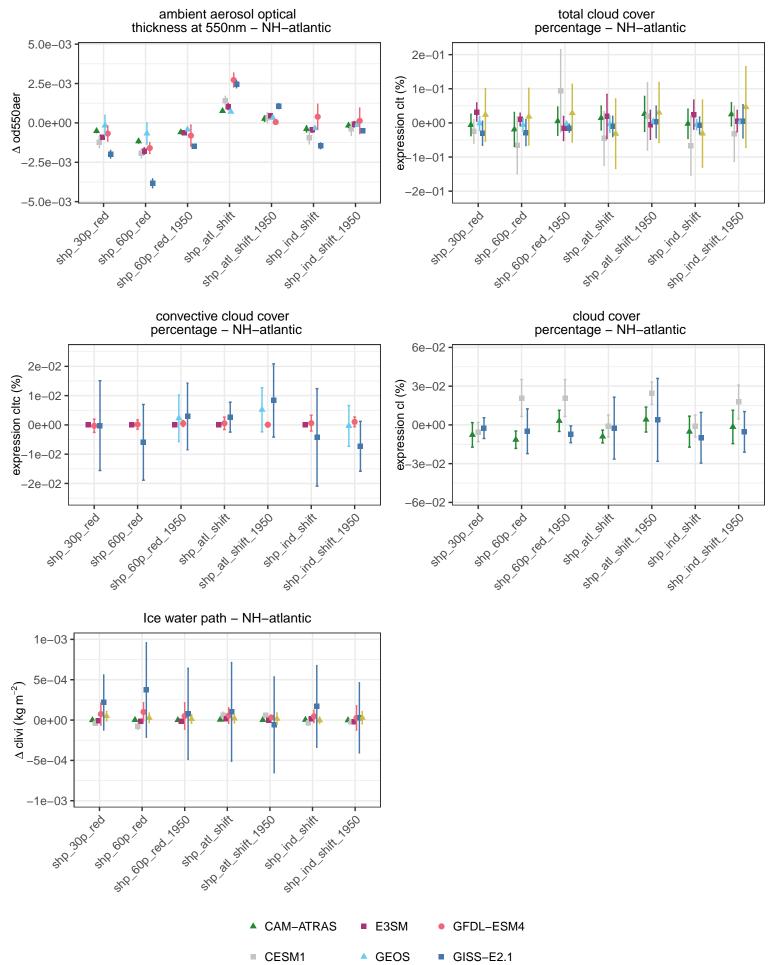
Summary – absolute difference



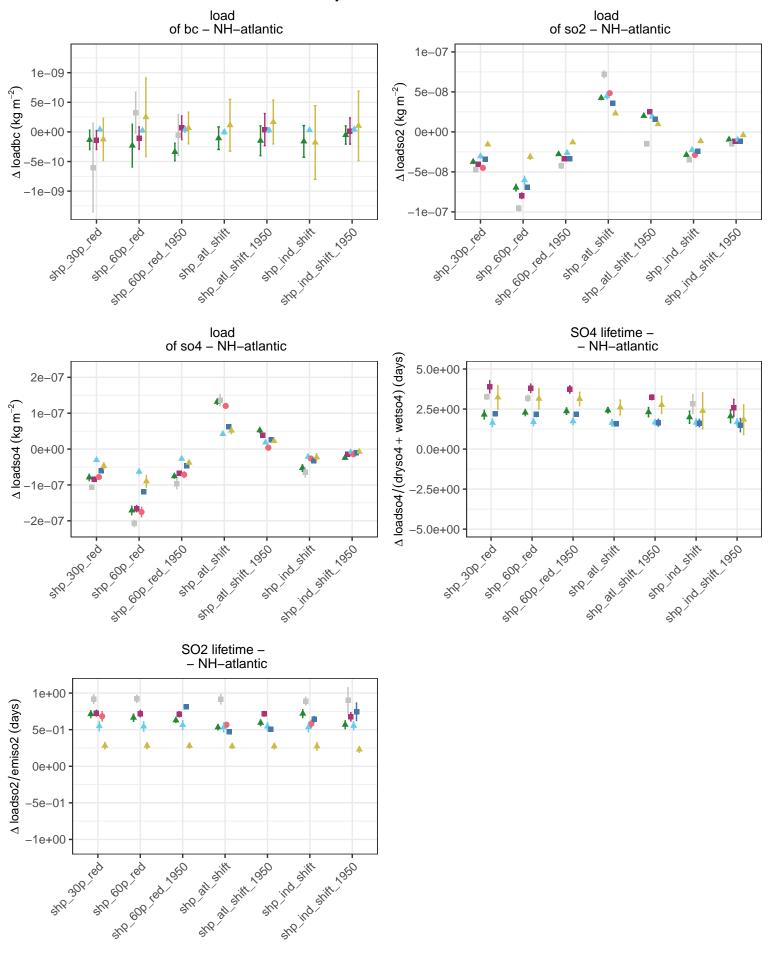
Summary – absolute difference upwelling longwave flux upwelling shortwave flux net radiative flux at TOA - NH-atlantic at TOA - NH-atlantic at TOA - NH-atlantic 1.0 1.0 1.0 Δ rlut + rsut (W m – 2) Δ rlut (W m – 2) $\Delta \operatorname{rsut}(\operatorname{Wm}-2)$ 0.5 0.5 0.5 0.0 0.0 0.0 -0.5 -0.50.5-1.0-1.0-1.0sho ind shift 1960 +10 600 red 1950 ste all stift, 1950 310 600 led 1950 sho ind shift 1950 STR 21 STIFL 250 sho ind shift loso ste all stift. Jose snP at shift she ind shift STP at shift she ind shift STR all STIFF she ind shift elb leg Sub log sub end ing clear-sky net radiative flux implied cloud response at TOA incident shortwave flux at TOA - NH-atlantic 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 Stopind Shit 1950 SHO IN SHIP. 1950 STR ind shift Stopind Shit 1950 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 sub en leg 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 1050 SHP all SHIP. +10 600 red 1050 SHO All SHIP. JOSO sho ind shift 1950 Stopind Shit 1950 STR at Shift snp ind shift stp.ind.shift snP at shift sub 300 leg sub en lag sub en leg CAM-ATRAS ■ E3SM GFDL-ESM4 NorESM2 CESM1 GEOS GISS-E2.1

Summary – absolute difference



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 + Sto Statistical 3114 600 184 1850 ... Sto ind Stift 1950 Str. of Stift, real of o sub 300 lag -3.7e-16 -2.4e-15ste 300 teg -2.1e-15 \$18³309 (8^d dry deposition rate wet deposition rate dry deposition rate of so2 - NH-atlantic of so4 - NH-atlantic of so2 - NH-atlantic 1e-12 Δ wetso2 (kg m⁻² s⁻¹) Δ dryso2 (kg m⁻² s⁻¹) Δ dryso4 (kg m⁻² s⁻¹) 5e-04 1e-13 5e-13 0e+00 0e+00 0e+00 5e-13 -5e-04 -1e-13 one and shift and shift, and and shift, and and shift and shift. -1e-12 ork off Stiff 1000 318 600 fed 1950 Stop ind Shift 1960 and old led by ow de diff. 1950 SHO JIN SHIRL JOSO 214 90 to 1 sub 300 leg SUB LED SIRP all SHIFT sno ind shift Sub leg (dryso2 + wetso2)/2 + (dryso4 + wetso4)/3total deposition rate wet deposition rate of so4 - NH-atlantic of S - NH-atlantic 8e-13 4e-04 Δ wetso4 (kg m⁻² s⁻¹) 4e-13 3e-04 $(kg m^{-2} s^{-1})$ 0e+00 2e-04 1e-04 4e-13 d stift, lost stift, ost of st Sto of Stiff, 1950 0e+00 4 60 18d 1960 314 90 Green -8e-13 snp ind shift Str. ind. Stift 1969 sing 300 teg SUB LEGA CAM-ATRAS ■ E3SM GFDL-ESM4 NorESM2 CESM1 GEOS GISS-E2.1

Summary - absolute difference



▲ CAM-ATRAS

CESM1

■ E3SM

GEOS

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 -0.6 -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 SO2 column burden (kg m⁻² Δ SO2 column burden (kg m⁻²) Δ SO4 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 GFDL-ESM4 -NorESM2

CESM1

GEOS

→ GISS-E2.1