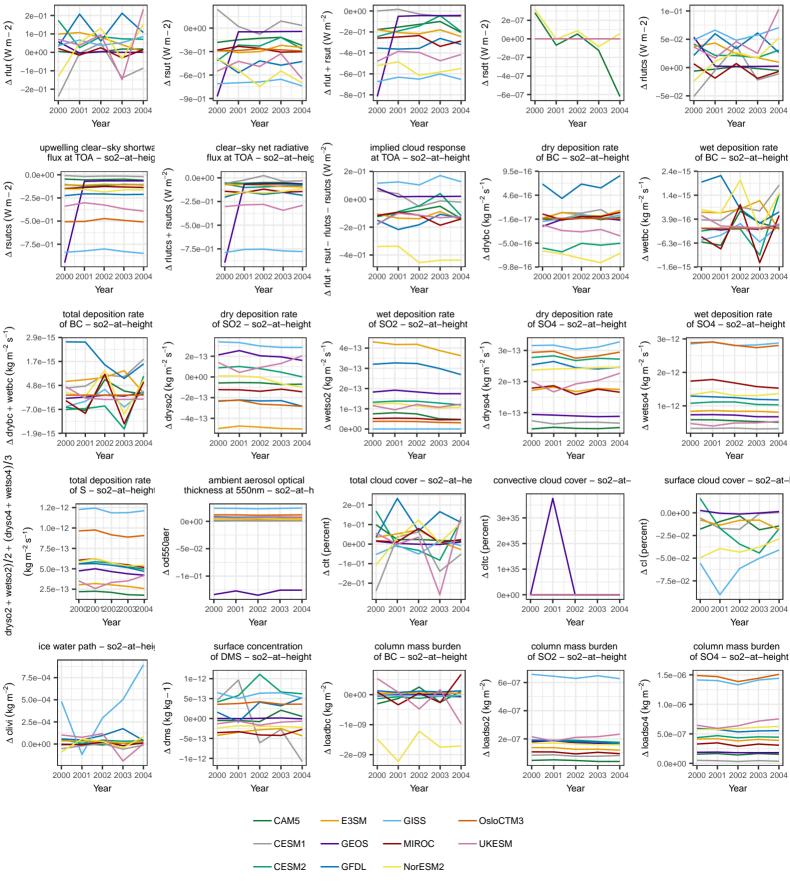
NH-atlantic: absolute difference surface flux surface concentration surface concentration of SO2 - so2-at-height of SO4 - so2-at-height of SO2 - so2-at-height ∆ mmrso4 (kg kg −1) (kg kg – 1) △ mmrbc (kg kg – 0e+00 $\Delta so2$ (2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year upwelling clear-sky longway flux at TOA - so2-at-heigh upwelling shortwave flux net radiative flux incident shortwave flux at TOA – so2–at–height at TOA - so2-at-height at TOA - so2-at-height 0e+00 Δ rlut + rsut (W m⁻²) Δ rlutcs (W m-2) E rsdt (W 0e+00 -6e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year clear-sky net radiative flux at TOA - so2-at-heig dry deposition rate of BC – so2–at–height $\rm rsutcs \ (W\ m^{-2})$ implied cloud response wet deposition rate at TOA - so2-at-height of BC - so2-at-height 2e-0 9.5e-16 wetbc (kg m^{-2} s $^{-1}$ drybc (kg $m^{-2} s^{-1}$ rlutcs rsut 4e-01 rlut + 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Yea Year dry deposition rate of SO2 – so2–at–height wet deposition rate of SO2 – so2–at–height dry deposition rate of SO4 – so2–at–height wet deposition rate of SO4 – so2–at–height wetso2 (kg m^{-2} s $^$ wetso4 (kg m $^{-2}$ s $^{-}$ $_{ m \Delta}$ dryso4 (kg m $^{-2}$ s $^{-}$ 2e-13 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 Yea Yea Year Year ambient aerosol optical total cloud cover - so2-at-he convective cloud cover - so2-atsurface cloud cover - so2-at-2e-01 0.0e+00 ∆ cltc (percent) ∆ clt (percent) ∆ cl (percent _2 5e_02 -5.0e-02 1e+35 -2e-01 0e+00 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001



surface flux

3.7e-20

1.4e-20

2.1e-21

 Δ emibc (kg m⁻² s⁻¹)

of BC - so2-at-height

2000 2001 2002 2003 2004

upwelling longwave flux at TOA – so2–at–height

emiso2 (kg m⁻² s⁻