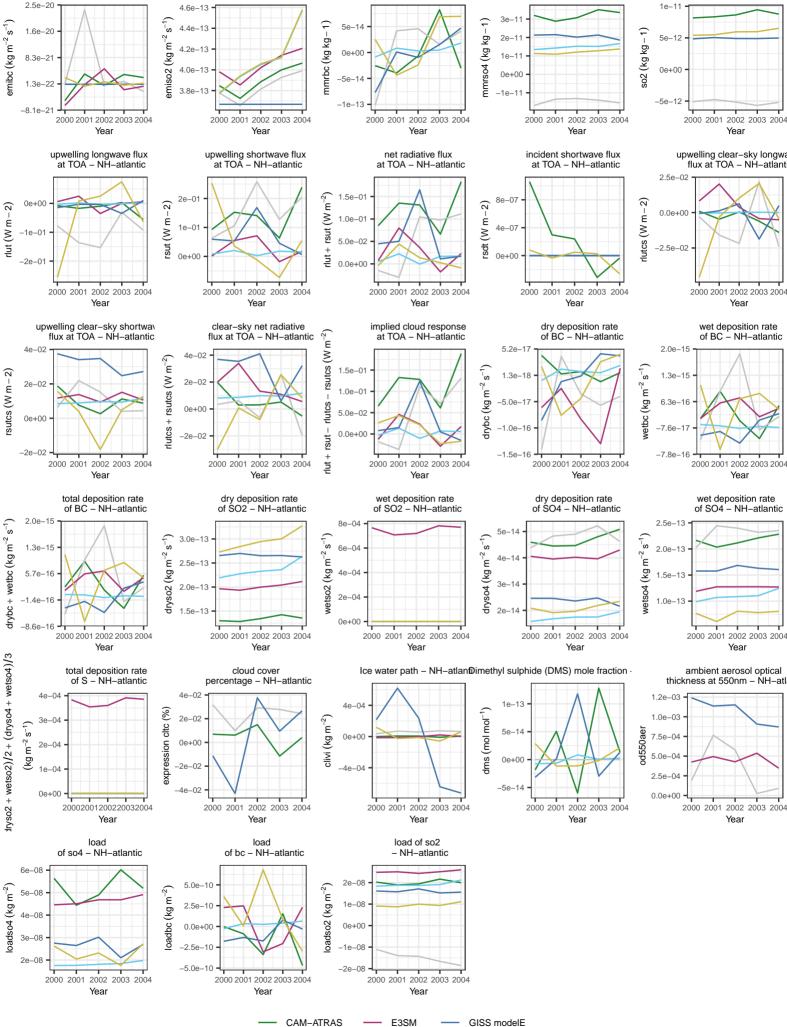
shp-atl-shift-1950: absolute difference surface flux of SO2 – NH–atlantic surface concentration surface concentration of SO4 – NH–atlantic surface concentration of SO2 – NH-atlantic 4.6e-13 mmrso4 (kg kg – 1) nmrbc (kg kg-1) so2 (kg kg – 1) 0e+00 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 Year Year Year Year upwelling shortwave flux at TOA – NH–atlantic net radiative flux at TOA – NH-atlantic upwelling clear–sky longwa flux at TOA – NH–atlanti incident shortwave flux at TOA – NH–atlantic 2e-01 $rsut (W m^{-2})$ rsdt (Wm-2)rlutcs (W m-0.0e+00 5.0e-02 -2 5e-02 0e+00 0e+00 0.0e+00 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 Year Year Year Year implied cloud response at TOA – NH–atlantic clear-sky net radiative dry deposition rate of BC – NH-atlantic wet deposition rate of BC – NH-atlantic m⁻²) flux at TOA – NH–atlantic 2 0e-15 rsutcs (W 1.5e-01 vetbc (kg m⁻² s^{-′} drybc (kg m⁻² s⁻ 2e-02 0e+00 5.0e-02 0.0e+00 -2e-02 rsut rlut + 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 Year Year Year Year dry deposition rate of SO2 – NH-atlantic wet deposition rate of SO2 – NH-atlantic dry deposition rate of SO4 – NH-atlantic wet deposition rate of SO4 – NH-atlantic 8e-04 3.0e-13 $\rm wetso2~(kg~m^{-2}~s^{-1}$ dryso4 (kg m⁻² s⁻¹) wetso4 $(kg m^{-2} s^{-1}$ 4e-04 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year Ice water path – NH-atlan@imethyl sulphide (DMS) mole fraction cloud cover ambient aerosol optical thickness at 550nm – NH–atla percentage - NH-atlantic 1e-13 ⁻_lom lom) smb 2e-02 clivi (kg m⁻²) 0e+00 0e+00 -4e-04 -4e-02 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year load load of so2 - NH-atlantic of bc - NH-atlantic



CESM1

GEOS

NorESM2

surface flux of BC – NH–atlantic