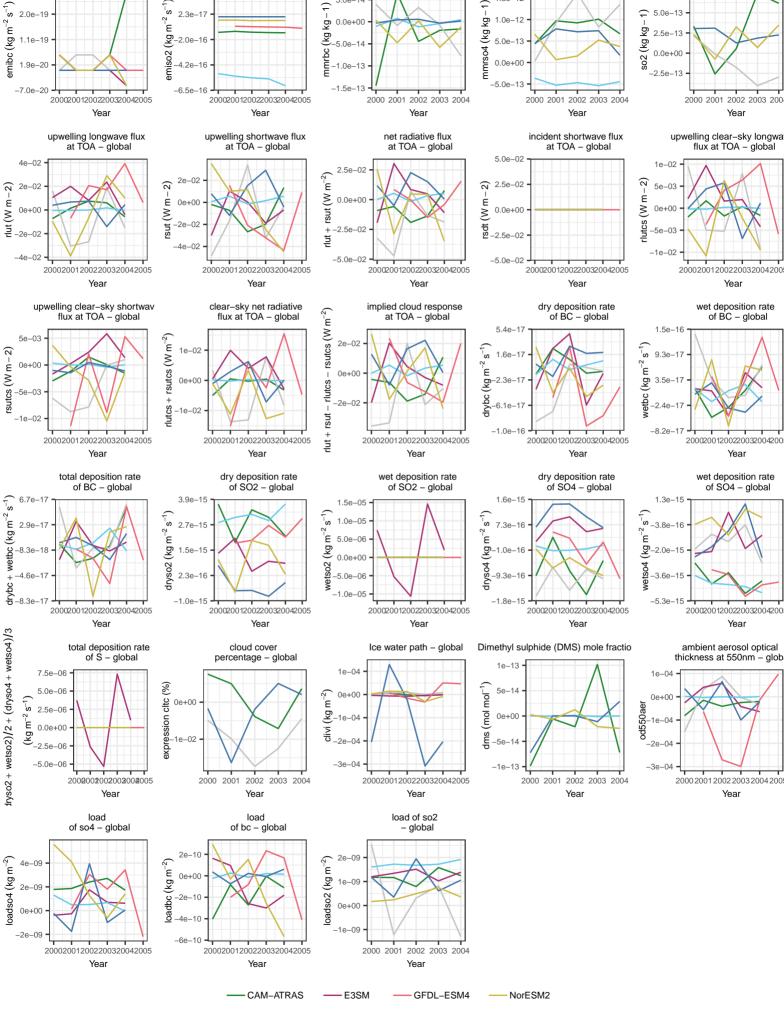
shp-atl-shift-1950: absolute difference surface concentration of SO4 – global surface concentration of SO2 – global surface concentration of SO2 - global of BC - global 7.5e-13 1 50-12 nmrbc (kg kg – 1) 5 0e-13 (kg kgso2 (kg kg 0.0e+00 0.0e+00 -2 5e-13 200020012002200320042005 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year upwelling shortwave flux at TOA – global upwelling clear–sky longwave flux at TOA – global net radiative flux incident shortwave flux at TOA – global at TOA – global 5 0e-02 2.5e-02 m^{-2} 2.5e-02 lutcs (W mrsut (W (Wm 0.0e+0.00.0e+00 rlut + -2.5e-02 -1e-02 -5.0e-02 200020012002200320042005 200020012002200320042005 200020012002200320042005 200020012002200320042005 Year Year Year Year clear-sky net radiative flux at TOA – global dry deposition rate of BC – global wet deposition rate of BC – global implied cloud response m^{-2} at TOA - global rlutcs - rsutcs (W $drybc (kg m^{-2} s^{-1}$ vetbc (kg m⁻² t 3.5e-17 -2e-02 rlut + rsut -8.2e 200020012002200320042005 200020012002200320042005 200020012002200320042005 200020012002200320042005 Year Year Year Year dry deposition rate of SO4 – global wet deposition rate of SO4 – global dry deposition rate of SO2 – global wet deposition rate of SO2 – global 1.6e-15 1.5e-05 $m^{-2} s^{-1}$ 1.0e-05 (kg m⁻² s⁻ $(kg m^{-2} s$ 5.0e-06 (ka 0.0e+00 wetso2 dryso4 vetso4 200020012002200320042005 200020012002200320042005 200020012002200320042005 200020012002200320042005 Dimethyl sulphide (DMS) mole fractio cloud cover Ice water path - global ambient aerosol optical percentage - global thickness at 550nm - globa 1e-04 $(kg m^{-2})$ _lom lom) smb 0e+00 0e+00 -3e-04 2000 2001 2002 2003 2004 200020012002200320042005 2000 2001 2002 2003 2004 $2000\,2001\,2002\,2003\,2004\,2005$ Year Year Year Year load load of so2



CESM1

GEOS

GISS-E2.1

surface flux of BC - global

2.9e-19