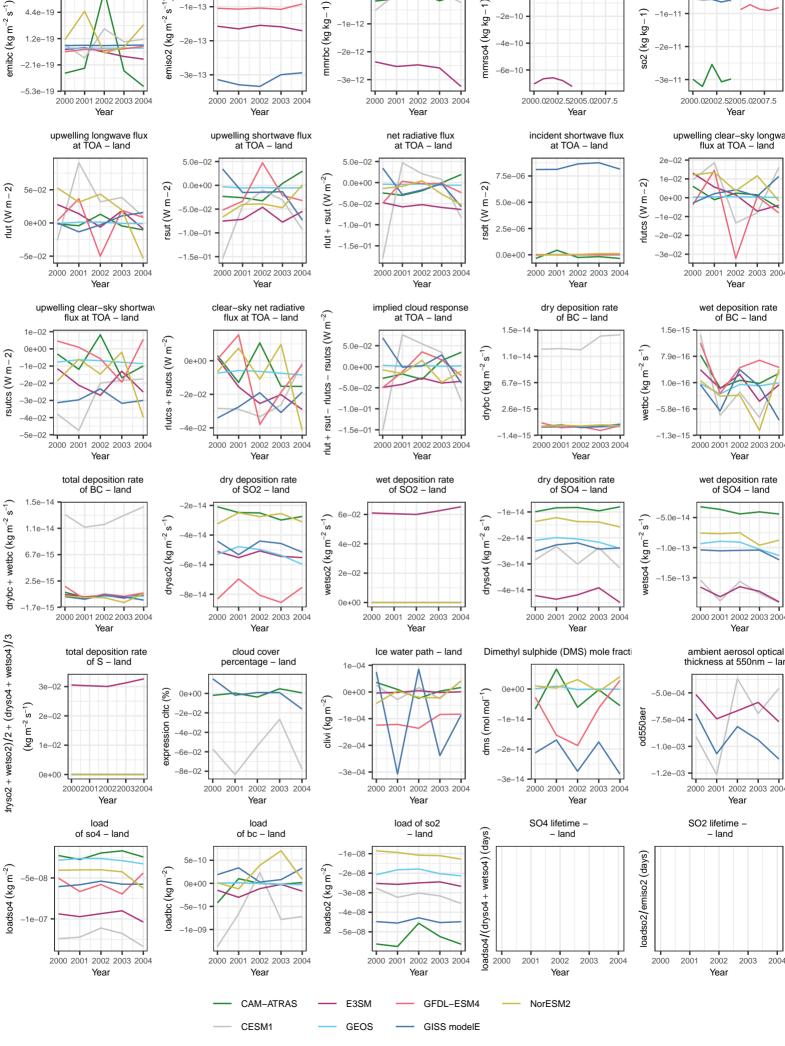
shp-60p-red: absolute difference surface flux of SO2 – land surface concentration surface concentration surface concentration of SO4 – land of SO2 – land 0e+00 mmrso4 (kg kg-1) nmrbc (kg kg – 1) so2 (kg kg – 1) 2002 2003 2004 2002 2003 2004 2000.02002.52005.02007.5 2000.02002.52005.02007.5 2000 2001 2000 2001 Year Year Year Year upwelling shortwave flux at TOA – land incident shortwave flux at TOA – land upwelling clear-sky longway flux at TOA - land net radiative flux at TOA – land 5 0e-02 7.5e-06 $rsut (W m^{-2})$ 5 sdt (Wm-2)rlutcs (W m-5.0e-06 -1e-02 -1.0e-01 2.5e-06 rlut + -1.0e-01-2e-02 -3e-02 0.0e+00 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 - land implied cloud response dry deposition rate of BC – land wet deposition rate of BC – land rsutcs (W m^{-2}) at TOA – land 1.5e-14 1.5e-15 vetbc (kg m^{-2} s⁻¹) drybc (kg m⁻² s⁻ 0e+00 0.0e+00 6.7e-15 -2e-02 2 6e-15 rsut -4e-02 ± E 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year dry deposition rate of SO2 – land wet deposition rate of SO2 – land dry deposition rate of SO4 – land wet deposition rate of SO4 – land -2e-14 wetso2 $(kg m^{-2} s^{-1})$ $\rm wetso4~(kg~m^{-2}~s^{-1}$ $dryso4 (kg m^{-2} s^{-1}$ 4e-02 2e-02 0e+002000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year cloud cover Ice water path - land Dimethyl sulphide (DMS) mole fracti ambient aerosol optical percentage - land thickness at 550nm – land 1e-04 0e+00 0e+00 -5 0e-04 m^{-2} dms (mol mol⁻¹ -1e-04 clivi (kg -6e-02 -8e-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 SO4 lifetime SO2 lifetime load load of so2 of bc - land - land land land wetso4) (days -1e-08 5e-10 0e+00 -5e-10 -4e-08



surface flux of BC – land

7.7e-19

4 40-19