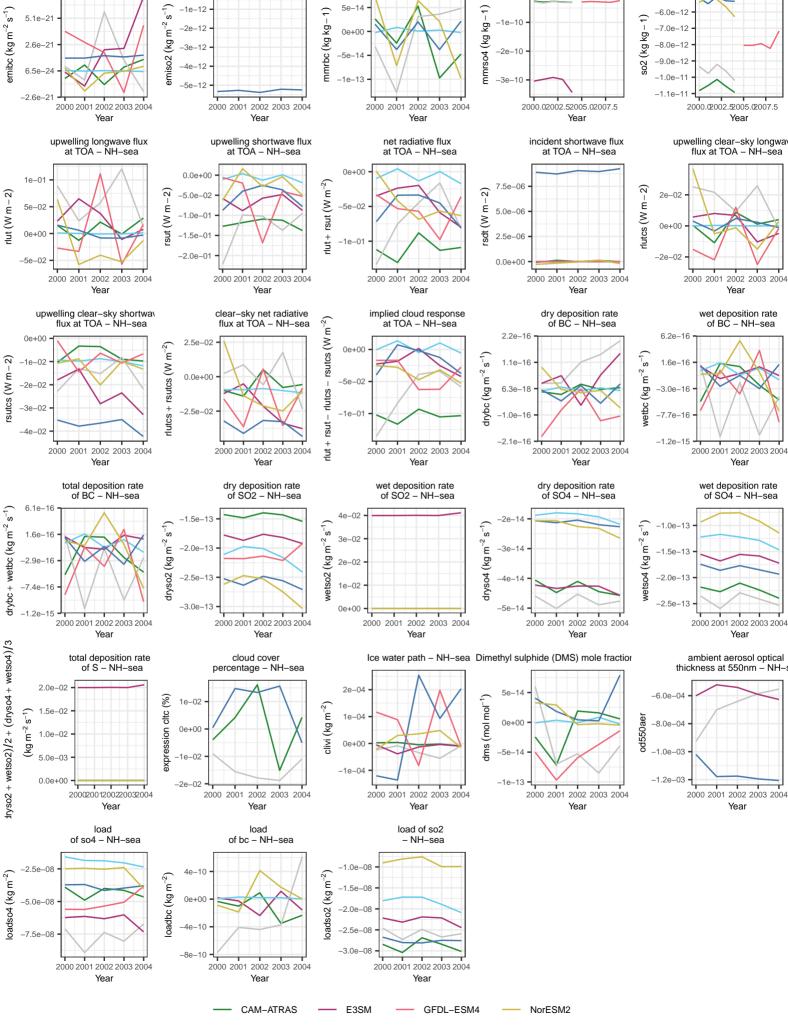
shp-30p-red: absolute difference surface flux of SO2 – NH–sea surface concentration surface concentration of SO4 – NH–sea surface concentration of SO2 – NH–sea mmrso4 (kg kg-1) nmrbc (kg kg-1) so2 (kg kg – 1) -7.0e-12 0e+00 -8 0e-12 -5e-14 -1.0e-1 2000 2001 2002 2003 2004 2002 2003 2004 2000.02002.52005.02007.5 2000.02002.52005.02007.5 2000 2001 Year Year Year Year upwelling shortwave flux at TOA – NH-sea net radiative flux at TOA – NH–sea incident shortwave flux at TOA – NH–sea upwelling clear-sky longway flux at TOA - NH-sea 0e+00 $rsut (W m^{-2})$ 7.5e-06 rlutcs (Wm-2)2e-02 sdt (W m-0e+00 rlut + -1e-01 -2e-02 0.0e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 Year Year Year Year clear-sky net radiative flux at TOA - NH-sea implied cloud response at TOA – NH–sea dry deposition rate of BC – NH–sea wet deposition rate of BC – NH–sea rsutcs (W m^{-2}) 2 2e-16 6.2e-16 0e+00 wetbc (kg $\,\mathrm{m}^{-2}\,\mathrm{s}^{-1}$ drybc (kg m⁻² s⁻ -5e-02 rlutcs -6.3e-18 -1e-01 rsut – 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year dry deposition rate of SO2 – NH-sea wet deposition rate of SO2 – NH-sea dry deposition rate of SO4 – NH-sea wet deposition rate of SO4 – NH–sea 4e-02 -1.0e-13 wetso2 (kg m^{-2} s⁻¹ dryso4 (kg m⁻² s⁻¹) wetso4 (kg m⁻² 1e-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 percentage – NH-sea Ice water path - NH-sea Dimethyl sulphide (DMS) mole fraction ambient aerosol optical thickness at 550nm - NH-s -6.0e-04 _lom lom) smp clivi (kg m⁻²) 1e-04 od550ae -8.0e-04 0e+00 _1 0e_03 -1.2e-03 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 Year Year Year Year load load of so2 of bc - NH-sea - NH-sea



CESM1

GEOS

GISS modelE

surface flux of BC – NH–sea

7.7e-21