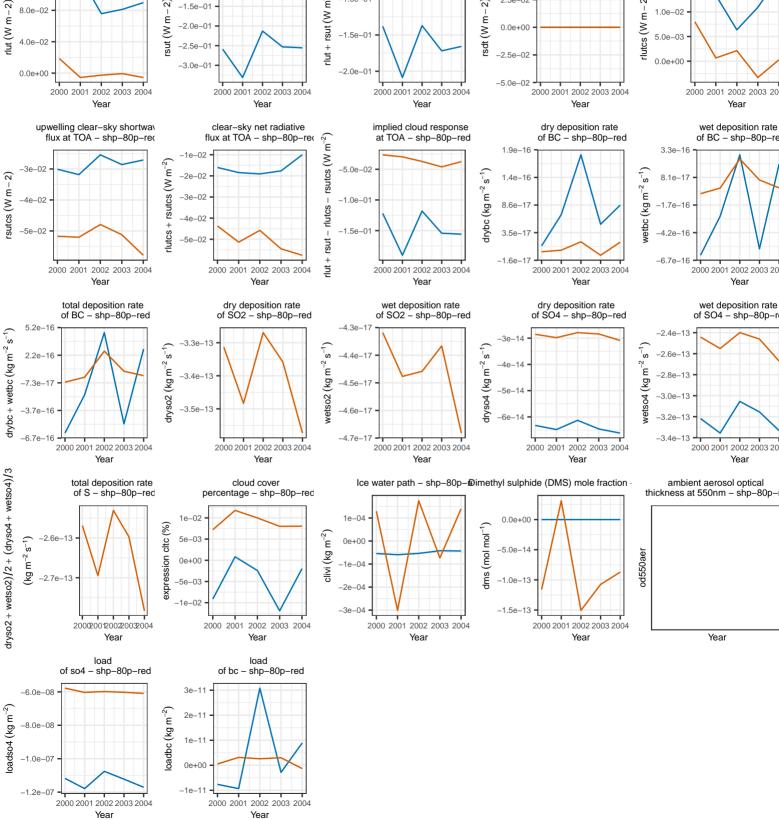
sea: absolute difference surface flux surface concentration surface concentration surface concentration of SO2 - shp-80p-red of BC - shp-80p-red of SO4 - shp-80p-red of SO2 - shp-80p-red 7.5e-14 nmrbc (kg kg-1) 5.0e-14 -8.0e-12 so2 (kg kg – 1) mmrso4 (kg kg -4 6e-13 2.5e-14 -1.0e-1 -3.5e-1 -2.5e-14 -1 2e-1 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year upwelling shortwave flux at TOA – shp–80p–red net radiative flux at TOA – shp–80p–red upwelling clear-sky longway flux at TOA - shp-80p-re incident shortwave flux at TOA – shp–80p–red 5 0e=02 -1.0e-0.11 5e_02 -lut + rsut $(W m^{-2})$ rlutcs (W m-2) -1.5e-01 rsdt (Wm-2)1.0e-02 0.0e + 0.0-1.5e-01 5.0e-03 -2 5e-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 implied cloud response dry deposition rate wet deposition rate flux at TOÁ - shp-80p-red at TOA - shp-80p-red of BC - shp-80p-red of BC - shp-80p-red rsutcs (W m^{-2}) -5.0e-02 1.4e-16 8.1e-17 drybc (kg $m^{-2} s^{-1}$ vetbc (kg m⁻² s⁻ -1 0e-01 8.6e rlutes 3.5e-17 rsut -6.7e-16 + <u>+</u> 10. 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 SO4 – shp–80p–red dry deposition rate of SO2 – shp–80p–red wet deposition rate of SO2 – shp–80p–red wet deposition rate of SO4 – shp–80p–red wetso2 (kg m⁻² s⁻ dryso4 (kg m^{-2} s⁻ wetso4 (kg m⁻² 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Ice water path - shp-80p-@imethyl sulphide (DMS) mole fraction cloud cover ambient aerosol optical thickness at 550nm - shp-80p-red 1e-04 clivi $(kg m^{-2})$ lom lom) smb 0e+00 od550aer -1e-04 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004



surface flux of BC – shp–80p–red

2000 2001 2002 2003 2004

Year

upwelling longwave flux at TOA – shp–80p–red

emiso2 (kg m $^{-2}$ s $^{-1}$

E

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 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$

3.5e-22

-3.3e-21

-5 1e-2

1.2e-01

8.0e-02