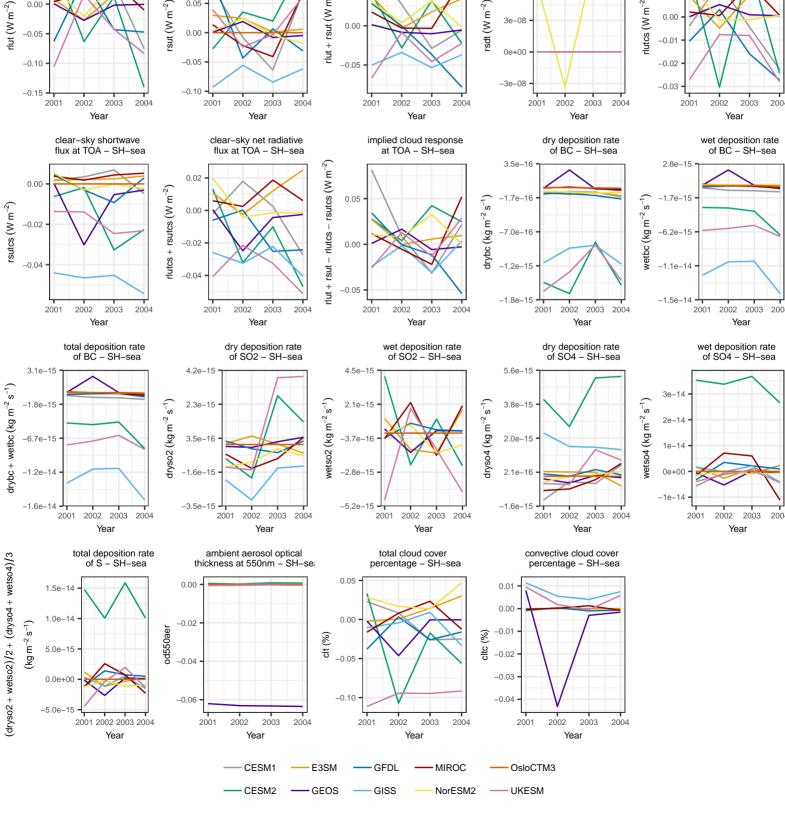
## bc-no-season: absolute difference surface flux of SO2 – SH–sea surface concentration of SO2 – SH–sea surface concentration surface concentration of SO4 – SH–sea 4e-12 0.0e+00 0.0e+00 mmrso4 (kg kg<sup>-1</sup>) -3.0e-11 mmrbc (kg kg<sup>-1</sup> -2 5e-13 so2 (kg kg<sup>-</sup>1 -6.0e-11 -5.0e-13 1e-12 0e+00 1.5e-16 \_1 0e\_13 2003 2004 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 Year Year Year Year net radiative flux at TOA – SH–sea incident shortwave flux at TOA – SH–sea clear-sky longwave flux at TOA - SH-sea shortwave flux at TOA - SH-sea 0.02 0.10 6e-08 0.01 rlut + rsut $(W m^{-2})$ 0.05 rlutcs (W m<sup>-2</sup>) $rsdt (W m^{-2})$ 0.00 3e-08 0.00 -0.01 0e+00 -0.02 -0.05 -3e-08 -0.03 2003 2001 2002 2003 2001 2003 2001 2003 Year Year Year Year clear-sky net radiative flux at TOA - SH-sea dry deposition rate of BC – SH–sea implied cloud response wet deposition rate at TOA - SH-sea of BC - SH-sea 3.5e-16 2.8e-15 rlut + rsut - rlutcs - rsutcs (W m-2) 0.05 wetbc $(kg m^{-2} s^{-1})$ drybc (kg m $^{-2}$ s $^{-1}$ ) -7.0e-16 -6.2e-15 0.00 -0.05 2001 2003 2001 2002 2003 2001 2003 2001 2002 2003 Year Year Year Year dry deposition rate of SO4 – SH-sea dry deposition rate wet deposition rate wet deposition rate of SO2 - SH-sea of SO2 - SH-sea of SO4 - SH-sea 4.5e-15 5.6e-15 wetso2 $(kg m^{-2} s^{-1})$ $dryso4 (kg m^{-2} s^{-1})$ 3.8e-15 wetso4 $(kg m^{-2} s^{-1})$ 2e-14 -3.7e-16 2.0e-15 1e-14 0e+002001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year ambient aerosol optical total cloud cover convective cloud cover percentage - SH-sea percentage - SH-sea 0.05



surface flux of BC – SH–sea

Year

longwave flux at TOA – SH–sea

emiso2 (kg  $\mathrm{m}^{-2}\,\mathrm{s}^{-1}$ )

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

-5.5e-

0.05

0.00

2001 2002 2003