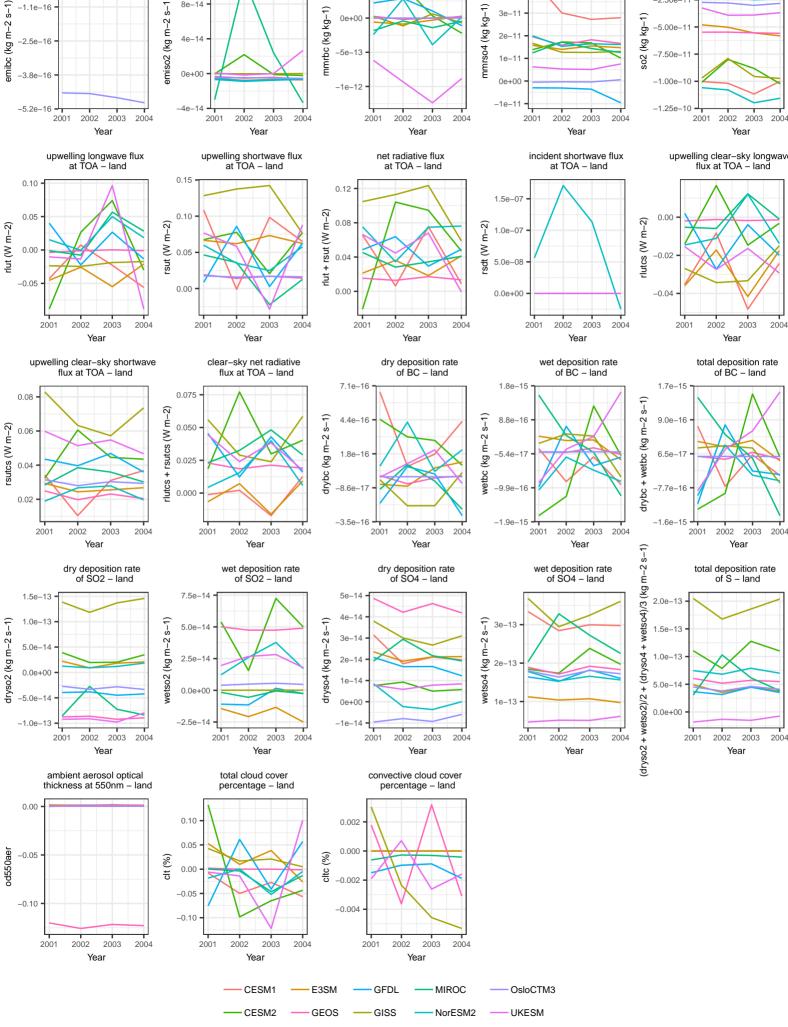
so2-no-season: absolute difference surface flux of SO2 – land surface concentration surface concentration of SO4 – land surface concentration of SO2 – land 4e-11 mmrso4 (kg kg-1) mmrbc (kg kg-1) 36-11 so2 (kg kg-1) emiso2 (kg m-2 -5.00e-11 4e-14 -7.50e-11 0e+00 0e+00 -1.00e-10 -1e-12 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year upwelling shortwave flux at TOA – land net radiative flux at TOA – land incident shortwave flux at TOA – land upwelling clear-sky longwave flux at TOA - land 0.12 rlut + rsut (W m-2) 0.10 0.00 rsut (W m-2) 0.08 rlutcs (W m-2) sdt (W m-2) -0.02 0.04 0.00 0.00 0.0e+00 -0.04 2001 2003 2001 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year clear-sky net radiative dry deposition rate wet deposition rate total deposition rate flux at TOA - land of BC - land of BC - land of BC - land 1.8e-15 1.7e-15 0.075 drybc + wetbc (kg m-2 s-1) m-2drybc (kg m-2 s-1) wetbc (kg m-2 s-1) 8.8e-16 9.0e-16 0.050 rlutes + rsutes (W 1.8e-16 0.025 0.000 2001 2002 2003 2001 2002 2003 2001 2003 2001 2002 2003 Year Year Year Year wetso4)/3 (kg m-2 s-1) wet deposition rate of SO4 – land wet deposition rate dry deposition rate total deposition rate of SO2 – land of SO4 – land of S - land 5e-14 2.0e-13 wetso2 (kg m-2 s-1) dryso4 (kg m-2 s-1) (kg m-2 s-1)5.0e-14 + (dryso4 + 2e-14 wetso4 0.0e+00 (dryso2 + wetso2)/2 0e+00 0.0e+00 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2004 Year Year total cloud cover convective cloud cover percentage - land percentage - land 0.10 0.002 0.05 0.000 %



surface flux of BC – land