so2-no-season: absolute difference surface flux of SO2 – land surface concentration of BC – land surface flux of BC surface concentration of SO4 – land surface concentration of SO2 – land land 4e-11 emiso2 (kg $m^{-2} s^{-1}$) mmrso4 $({ m kg~kg}^{-1})$ 36-11 nmrbc (kg kg $^{-1}$) so2 (kg kg⁻ -5.00e-11 2e-11 4e-14 -7.50e-11 1e-11 0e+00 0e+00 -1e-12 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 2004 Year Year Year Year Year incident shortwave flux at TOA – land clear-sky longwave flux at TOA - land longwave flux at TOA shortwave flux at TOA net radiative flux at TOA - land land land 1.5e-07 0.04 0.00 0.00 rlut + rsut $(W m^{-2})$ rlutcs (W m^{-2}) $rsut (W m^{-2})$ $rsdt (W m^{-2})$ 1.0e_07 -0.04 0.02 -0.05 -0.08 0.00 -0.10 0.0e + 00-0.12 -0.15 2002 2003 2001 2002 2003 2001 2003 2001 2002 2003 2001 2003 2001 Year Year Year Year Year clear-sky shortwave flux at TOA - land clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - land at TOA - land of BC - land of BC - land 7.1e-16 1.8e-15 rlut + rsut - rlutcs - rsutcs (W m-2) rlutcs + rsutcs (W m⁻²) 0.000 4.4e-16 8.8e-16 $drybc (kg m^{-2} s^{-1})$ wetbc $(kg m^{-2} s^{-1})$ 0.00 -0.025 1.8e-16 -0.05 -0.050 -0.075 -3.5e-16 2001 2003 2004 2001 2003 2001 2003 2001 2002 2003 2001 2003 Year Year Year Year Year wet deposition rate of SO4 – land total deposition rate dry deposition rate wet deposition rate dry deposition rate of BC - land of SO2 - land of SO2 - land of SO4 – land 5e-14 1.5e-13 7.5e-14 1.0e-13 wetso2 $(kg m^{-2} s^{-1})$ $dryso4 (kg m^{-2} s^{-1})$ $dryso2 (kg m^{-2} s^{-1})$ 5.0e wetso4 (kg $\mathrm{m}^{-2}\,\mathrm{s}^{-1}$ 3e-14 5.0e-14 2e-14 2e-13 0.0e+00 1e-14 0.0e+00 0e+00 -1.0e-13 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year total deposition rate of S – land ambient aerosol optical total cloud cover convective cloud cover thickness at 550nm - land percentage - land percentage - land 0.00 0.10 0.002 1.5e-13 0.05 0.000 od550aer -0.05 % 0.00 cltc -0.002-0.10-0.004 -0.10

