## bc-no-season: absolute difference surface flux of SO2 – global surface flux of BC – global surface concentration surface concentration of SO4 – global surface concentration of SO2 – global 2.6e-18 -5.0e-13 1e-12 emiso2 (kg m-2 s-1) emibc (kg m-2 s-1) 0e+00 nmrbc (kg kg-1) ĝ 0e+00 so2 (kg kg-1) mmrso4 (kg -1e-12 -2e-12 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 Year Year Year Year Year upwelling shortwave flux at TOA – global upwelling clear-sky longwav flux at TOA - global upwelling longwave flux net radiative flux incident shortwave flux at TOA - global at TOA - global at TOA - global 0.02 0.010 0.02 6e-08 rlut + rsut (W m-2) 0.005 rlutcs (W m-2) 0.025 sut (W m-2) 0.00 rsdt (W m-2) rlut (W m-2) 0.00 0.000 -0.02 -0.005 0.000 2e-08 -0.02 -0.010 0e+00 -0.025 -0.0152001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 Year Year Year Year Year upwelling clear-sky shortwave clear-sky net radiative dry deposition rate wet deposition rate total deposition rate flux at TOA - global flux at TOA - global of BC – global of BC - global of BC - global -3.5e-16 3.8e-15 8.0e-16 drybc + wetbc (kg m-2 s-1) wetbc (kg m-2 s-1) drybc (kg m-2 s-1) 2.6e-15 -2.8e-17 rsutcs (W m-2) 0.00 0.00 rlutcs + rsutcs (W -8.5e-16 1.4e-15 -0.01 -0.01 2001 2003 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year Year dry deposition rate of SO4 – global wet deposition rate of SO4 – global total deposition rate of S – global dry deposition rate wet deposition rate wetso4)/3 (kg m-2 of SO2 - global of SO2 – global 2.8e-15 5.2e-15 1 4e-15 5.9e-15 1.9e-15 dryso2 (kg m-2 s-1) dryso4 (kg m-2 s-1) wetso2 (kg m-2 s-1 m-2 s-1 1.2e-15 3.2e-15 4.7e-16 2.9e-15 1.0e-15 (dryso2 + wetso2)/2 + (dryso4 + -2.8e-16 1 2e-15 -5 0e-16 <u>\$</u> -1 6e-16 1 4e-16 wetso4 -7.4e-16-3.3e-15 -2.8e-15 -6.2e-15 2002 2003 2002 2003 2002 2003 2002 2003 2003 Year Year Year Year Year ambient aerosol optical convective cloud cover total cloud cover thickness at 550nm - globa percentage - global percentage - global 0.04 3e-04 0.0005 0.02 od550aer 1e-04 cltc (%) clt (%) -0.0005 0.00 0e+00 -0.0010 -0.02 -1e-04 -0.0015 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003



Year