bc-no-season: absolute difference surface concentration of BC – NH–sea surface flux of SO2 – NH–sea surface concentration of SO4 – NH–sea surface concentration of SO2 – NH–sea 0e+00 mmrso4 (kg kg-1) mmrbc (kg kg-1) so2 (kg kg-1) emiso2 (kg m-2 3e-14 2e-14 0e+00 -3e-12 2001 2002 2003 2001 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year upwelling shortwave flux at TOA – NH–sea net radiative flux at TOA – NH–sea incident shortwave flux at TOA – NH–sea upwelling clear-sky longwave flux at TOA - NH-sea 0.05 2.0e-07 rlut + rsut (W m-2) 0.00 0.1 rlutcs (W m-2) rsut (W m-2) sdt (W m-2) 0.00 -0.03 1.0e-07 -0.05 -0.06 0.0e+00 2001 2003 2001 2003 2003 2001 2003 Year Year Year Year dry deposition rate of BC – NH–sea total deposition rate of BC – NH–sea clear-sky net radiative wet deposition rate flux at TOA - NH-sea of BC - NH-sea -1.3e-16 0.06 drybc + wetbc (kg m-2 s-1 rlutcs + rsutcs (W m-2) drybc (kg m-2 s-1) 0.04 wetbc (kg m-2 0.02 0.00 -0.02 2001 2003 2001 2002 2003 2001 2002 2003 2001 2003 Year Year Year Year wetso4)/3 (kg m-2 s-1) dry deposition rate of SO4 – NH–sea total deposition rate of S – NH–sea wet deposition rate of SO4 – NH–sea wet deposition rate of SO2 - NH-sea 2.0e-13 wetso2 (kg m-2 s-1) dryso4 (kg m-2 s-1) wetso4 (kg m-2 s-1 2.8e-15 2e-14 + (dr) 5.0e-14 (dryso2 + wetso2)/2 0.0e + 0.00e+00 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2002 2003 Year convective cloud cover total cloud cover percentage - NH-sea 0.025 0.1 0.000 -0.025

