## shp-ind-shift: absolute difference surface flux of BC - NH-atlantic surface flux of SO2 - NH-atlantic surface concentration of BC – NH-atlantic surface concentration of SO4 - NH-atlantic 1 1e-2 -3.5e-21 emiso2 (kg m-2 s-1) emibc (kg m-2 s-1) mmrso4 (kg kg-1) nmrbc (kg kg-1) -2.8e-11 -1.0e-12 0e+00 -8.2e-21 -3.2e-1 -1.5e-12 -1.3e-20 -3.6e-1 -1e-13 -2.0e-12 -1.7e-20 2000 2001 2002 2003 2000 2001 2002 2003 2000 2001 2002 2003 2000 2001 2002 2003 Year Year Year Year upwelling longwave flux at TOA – NH–atlantic upwelling shortwave flux at TOA – NH–atlantic net radiative flux at TOA - NH-atlantic surface concentration of SO2 - NH-atlantic -0.08 -0.10 0.15 so2 (kg kg-1) rsut (W m-2) rlut (W m-2) rlut + rsut (W -0.15 0.10 -2.0e-1 -0.20 -0.12 0.05 -2.5e-1 -0.25 0.00 -0.1 2000 2001 2002 2000 2001 2002 2000 2002 2000 2001 2002 2003 Year Year Year Year upwelling clear–sky longwave flux at TOA – NH–atlantic upwelling clear–sky shortwave flux at TOA – NH–atlantic clear-sky net radiative flux at TOA - NH-atlantic incident shortwave flux at TOA - NH-atlantic 0.050 0.06 -0.02 0.02 0.025 rsutcs (W m-2) rlutcs (W m-2) rsdt (W m-2) rlutes + rsutes (W 0.04 0.00 0.000 -0.03 0.02 -0.02 -0.025 -0.04 0.00 -0.050 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year dry deposition rate of BC – NH–atlantic dry deposition rate of SO2 – NH–atlantic wet deposition rate of BC – NH–atlantic total deposition rate of BC – NH–atlantic 1.1e-16 1.1e-15 1.1e-15 drybc + wetbc (kg m-2 s-1) 5.8e-17 3.5e-16 drybc (kg m-2 s-1) wetbc (kg m-2 s-1) dryso2 (kg m-2 s-1) 1.9e-18 -4.7e-16 -4.2e-16 -3 2e-13 -1.2e-15 -3.3e-13 -2.0e-15 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2000 2001 2002 2003 Year Year Year Year + (dryso4 + wetso4)/3 (kg m-2 s-1) wet deposition rate dry deposition rate wet deposition rate total deposition rate of SO2 - NH-atlantic of SO4 - NH-atlantic of SO4 - NH-atlantic of S - NH-atlantic -3.3e-17-2.3e-13 -3e-14 dryso4 (kg m-2 s-1) wetso2 (kg m-2 s-1) -3.4e-17 wetso4 (kg m-2 s-1 -2.3e-13 -4e-14 -3.5e-17 -2.5e-13 -3.6e--2.8e-13 (dryso2 + wetso2)/2 -2 5e-13 -3.0e-13 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year CESM1 GISS