shp-ind-shift-1950: 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 2e-20 -2e-13 9.1e-21 emiso2 (kg m-2 s-1) 5e-14 emibc (kg m-2 s-1) mmrso4 (kg kg-1) mmrbc (kg kg-1) -4e-13 1.25e-11 0e+00 5.8e-21 -1.50e-11 -5e-14 -6e-13 2.5e-2 -1e-13 -1.75e-11 -7.9e-22 2000 2001 2002 2003 2000 2001 2002 2003 2000 2001 2002 2003 2000 2001 2002 Year Year Year Year upwelling longwave flux at TOA – NH–atlantic upwelling shortwave flux at TOA – NH–atlantic surface concentration net radiative flux at TOA - NH-atlantic of SO2 - NH-atlantic 0.05 -6.0e-12 0.00 0.00 + rsut (W m-2) 0.1 -0.05 so2 (kg kg-1) rlut (W m-2) -0.05-8.0e-12 -0.10 -0.10 0.0 ᆵ -0.15 -0.15 -0.20 -0. -1.2e-1 2000 2001 2002 2003 2000 2002 2000 2001 2002 2000 2001 2002 2003 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 0.01 0.00 -0.01 0.00 0.025 rlutcs (W m-2) rsutcs (W m-2) rsdt (W m-2) rlutes + rsutes (W -0.01 -0.01 -0.02 0.000 -0.02 -0.03-0.03 -0.02 -0.025 -0.04-0.050 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 Year Year Year Year dry deposition rate of BC – NH–atlantic wet deposition rate of BC – NH–atlantic total deposition rate of BC – NH–atlantic dry deposition rate of SO2 - NH-atlantic 2.5e-16 6.2e-16 7.3e - 16-1.3e-13 drybc + wetbc (kg m-2 s-1) 1.3e-16 wetbc (kg m-2 s-1) 2.2e-16 dryso2 (kg m–2 s–1) drybc (kg m-2 s-1) -1.4e-20-2.4e-16 -3.0e-16 -1.4e-13 -8.2e-16 -2 5e-16 2000 2004 2000 2001 2002 2003 2004 2001 2002 2003 2004 2000 2001 2002 2003 2000 2001 2002 2003 Year Year Year Year 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 -1.1e-17 -1.1e-14 + (dryso4 + wetso4)/3 (kg -9.0e-14 dryso4 (kg m-2 s-1) wetso2 (kg m-2 s-1) wetso4 (kg m-2 s-1) -1.0e-13 -14e-17-2 0e-14 -1e-13 -1.6e-1 (dryso2 + wetso2)/2 -1.2e-13 -1.8e-17 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