shp-atl-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 8.5e-2 3.5e-11 1.5e-13 1.1e-21 emiso2 (kg m-2 s-1) emibc (kg m-2 s-1) mmrso4 (kg kg-1) mmrbc (kg kg-1) 0e+00 1.0e-13 -6.3e-21 5.0e-14 2.5e-1 -5e-13 -1.4e-20 0.0e+00 -5.0e--2.1e-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 0.0 0.3 0.1 rlut + rsut (W m-2) so2 (kg kg-1) rlut (W m-2) -0.1 0.2 0.0 0.1 _0.2 -0.2000 2001 2002 2003 2000 2001 2002 2000 2001 2002 2003 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 0.01 0.04 0.03 rlutcs + rsutcs (W m-2) 0.025 0.00 rlutcs (W m-2) rsutcs (W m-2) rsdt (W m-2) 0.02 0.02 0.000 -0.01 0.01 -0.02 -0.025 0.00 0.00 -0.03-0.050 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 wet deposition rate of BC – NH–atlantic total deposition rate of BC – NH–atlantic dry deposition rate of SO2 - NH-atlantic 1.6e-16 1.0e-15 1.2e-15 2.7e-13 drybc + wetbc (kg m-2 s-1) wetbc (kg m-2 s-1) 6.9e-16 dryso2 (kg m-2 s-1) drybc (kg m-2 s-1) 9.7e-18 1.9e-16 2.7e-13 2.7e-_8 1e_16 2.6e-13 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2000 2001 2002 2003 Year Year Year Year (dryso2 + wetso2)/2 + (dryso4 + wetso4)/3 (kg m-2 s-1) dry deposition rate of SO4 – NH–atlantic wet deposition rate wet deposition rate total deposition rate of SO2 - NH-atlantic of SO4 - NH-atlantic of S - NH-atlantic 3.5e-17 2.0e-13 dryso4 (kg m-2 s-1) wetso2 (kg m-2 s-1) wetso4 (kg m-2 s-1 4e-14 2.0e-13 3.0e-17 1.9e-13 1.8e-13 2.8e-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