high-so4: absolute difference surface flux of BC - n-land surface flux of SO2 - n-land surface concentration surface concentration of BC - n-land of SO4 - n-land 2.0e-19 -1.2e-12 4.0e-10 -1.3e-12 7.7e-20 emiso2 (kg m-2 s-1) emibc (kg m-2 s-1) mmrso4 (kg kg-1) mmrbc (kg kg-1) 3.56-10 -4.1e-20 3.0e-10 -1.4e-12 -1.6e-19 -1.4e-12 2.5e-10 0e+00 -2.8e-19 2001 2002 2003 2001 2002 2003 2002 2003 2001 2001 2002 2003 Year Year Year Year upwelling longwave flux at TOA – n–land upwelling shortwave flux at TOA – n–land surface concentration net radiative flux at TOA - n-land of SO2 - n-land 0.5 0.6 0.4 0.1 rlut + rsut (W m-2) -1.5e-10 so2 (kg kg-1) rsut (W m-2) rlut (W m-2) 0.3 0.0 0.4 0.2 -0.1 0.2 0.1 -0.2 -2.5e-10 0.0 0.0 2001 2002 2003 2001 2001 2002 2001 2002 Year Year Year Year upwelling clear–sky longwave flux at TOA – n–land upwelling clear–sky shortwave flux at TOA – n–land clear-sky net radiative flux at TOA - n-land incident shortwave flux at TOA - n-land 0.15 0.15 rlutcs + rsutcs (W m-2) 0.00 rsutcs (W m-2) rlutcs (W m-2) rsdt (W m-2) 0.10 1e-07 0.12 -0.04 0.09 0e+00 -0.08 0.00 -1e-07 2004 2004 2001 2004 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2002 2003 Year Year Year Year total deposition rate of BC – n–land dry deposition rate of BC – n–land wet deposition rate of BC – n–land dry deposition rate of SO2 – n–land 3.0e-15 3.7e-15 9.4e-15 drybc + wetbc (kg m-2 s-1) drybc (kg m-2 s-1) dryso2 (kg m-2 s-1) wetbc (kg m-2 s-1) -4e-13 -1.4e-15 -1.3e-15 -2.8e-15 -3.6e-15 -6.1e-15 -6e-13 -5.8e-15 -1.2e-14 -9.4e-15 2001 2003 2001 2003 2001 2003 2003 2002 2002 2002 2001 2002 Year Year Year Year (dryso2 + wetso2)/2 + (dryso4 + wetso4)/3 (kg m-2 s-1) wet deposition rate dry deposition rate wet deposition rate total deposition rate of SO2 - n-land of SO4 - n-land of S - n-land 7e-13 0e+00 7.5e-14 wetso2 (kg m-2 s-1) dryso4 (kg m-2 s-1) wetso4 (kg m-2 s-1) -2e-13 2.5e-14 0.0e+00 -4e-13 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year Year NorESM2 CESM1 E3SM GISS MIROC