## so2-no-seas: 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 50-19 1.5e-13 (kg m-2 s-1) (kg m-2 s-1) 5.0e-14 5.0e+00 1.4e-19 emibc (kg m-2 s-1) 5e-13 mmrso4 (kg kg-1) mmrbc (kg kg-1) 2.0e-20 0e+00 -9.6e-20 2e-11 -5e-13 -2.1e-19 2001 2003 2003 2001 2002 2002 2001 2002 2001 2002 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 0.15 0.0e+00 0.12 0.10 rlut + rsut (W m-2) -5.0e-11 rsut (W m-2) 0.10 so2 (kg kg-1) rlut (W m-2) 0.05 -1.0e-10 0.00 0.05 -1.5e-10 0.00 -0.052001 2003 2001 2002 2001 2002 2003 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 0.08 rlutcs + rsutcs (W m-2) 0.050 1e-07 rsutcs (W m-2) rlutcs (W m-2) rsdt (W m-2) 0.06 -0.02 0.025 0.04 0e+00 -0.040.000 0.02 -0.06 -1e-07 2004 2004 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 Year Year Year Year total deposition rate of BC – n–land dry deposition rate of SO2 – n–land dry deposition rate of BC – n–land wet deposition rate of BC – n–land 1.1e-15 1.3e-15 1.3e-15 2e-13 drybc + wetbc (kg m-2 s-1) dryso2 (kg m-2 s-1) 6.9e-16 wetbc (kg m-2 s-1) 3.2e-16 drybc (kg m-2 s-1) 1e-13 3.0e-16 -5.1e-16 -6.9e-16 0e+00 -4.7e-16 -2.7e-15 2001 2001 2003 2004 2001 2003 2003 2002 2003 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 SO4 - n-land of S - n-land 2.5e-14 2.0e-13 wetso2 (kg m-2 s-1) dryso4 (kg m-2 s-1) wetso4 (kg m-2 s-1) 0.0e+00 1.5e-13 -2.5e-14 2e-14 1.0e-13 -5.0e-14 0e+00 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year Year CESM1 E3SM GISS MIROC NorESM2