high-so4: percent difference surface flux of BC - global surface flux of SO2 - global surface concentration surface concentration of SO4 – global of BC - global 0.6% 12% -05% -3.8% 0.4% Percent Percent 1e-05% Percent 10% -3.9% 9% _/10/ 0.2% 0% 0% 2001 2001 2003 2001 2003 2004 2001 2003 2002 2003 2002 2002 2002 Year Year Year Year upwelling longwave flux at TOA – global surface concentration upwelling shortwave flux net radiative flux at TOA - global at TOA – global of SO2 - global 0.3% 0% 0.3% 0.2% -4.2% Percent Percent 0.2% Percent Percent -0.02% 0.1% 0.1% -0.04% -4.6% 0% 0% -4.8% -0.06% 2001 2002 2003 2001 2002 2003 2001 2002 2001 2002 Year Year Year Year upwelling clear-sky longwave flux at TOA – global upwelling clear-sky shortwave flux at TOA – global clear-sky net radiative flux at TOA – global incident shortwave flux at TOA - global 0.1% 0.1% 3e-08% -0.005% 0.075% 0.075% 2e-08% Percent Percent Percent 0.05% 0.05% -0.01% 1e-08% 0.025% 0.025% 0% -0.015% 2001 2003 2001 2004 2004 2003 2002 2004 2002 2003 2001 2002 2003 2001 2002 Year Year Year Year dry deposition rate of SO2 – global dry deposition rate wet deposition rate total deposition rate of BC – global of BC – global of BC – global 0.4% -3.6% 0.5% 0.2% Percent Percent Percent Percent 0% 0% -0.5% -4.4% -0.5% -1% -0.4% 2001 2002 2003 2004 2001 2003 2004 2002 2003 2004 2001 2002 2003 2002 2001 Year Year Year Year wet deposition rate dry deposition rate wet deposition rate total deposition rate of SO2 - global of SO4 – global of SO4 – global of S – global 3% 10% 2.5% 0.5% -2.5% Percent Percent Percent 9% 2% -3% 0% 1.5% 8% -3.5% 1% -4% 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 Year Year Year Year CESM1 E3SM GISS MIROC NorESM2