bc-no-season: percent difference surface concentration of BC – SH–land surface concentration of SO4 – SH–land surface flux of BC – SH–land surface flux of SO2 – SH–land surface concentration of SO2 – SH-land 0% 0.2% 0.025% 0.8% 0% 0% Percent Percent Percent Percent Percent 0.4% -0.025% 0.05% 0% -0.05% -3% -0.4 0% 2001 2002 2003 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 Year Year Year Year Year upwelling longwave flux at TOA – SH–land upwelling shortwave flux at TOA – SH–land net radiative flux at TOA – SH-land incident shortwave flux at TOA – SH–land upwelling clear-sky longwav flux at TOA - SH-land 2.5e-08% 0.03% 0.06% 0.2% 0.2% 0.02% 0.03% 0.01% Percent Percent Percent Percent 0.1% 0.1% -2.5e-08% 0% 0% -0.01% -0.03% -0.1% -0.02% -7.5e-08% 2001 2002 2003 2004 2001 2003 2001 2003 2004 2002 2003 2002 2003 Year Year Year Year Year dry deposition rate of BC – SH–land wet deposition rate of BC – SH–land upwelling clear-sky shortwave clear-sky net radiative total deposition rate flux at TOA - SH-land flux at TOA - SH-land of BC - SH-land 50% 0% 40% 40% 0.2% 0.2% 30% 30% Percent 0.1% 20% 0.1 20% 10% 10% -6% 0% 0% 2003 2003 2003 2003 2003 2001 2001 2002 2001 2002 2001 2002 2004 2001 2002 Year Year Year Year Year dry deposition rate of SO4 – SH-land total deposition rate of S – SH–land dry deposition rate wet deposition rate wet deposition rate of SO2 - SH-land of SO2 - SH-land of SO4 - SH-land 0.4% 0.25% 0.2% 0% Percent Percent Percent Percent 0.4% 0% -0.25% -0.5% -0.2% -0.4% -0.5% 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 Year ambient aerosol optical thickness at 550nm – SH–lan convective cloud cover total cloud cover percentage - SH-land percentage - SH-land 0.5% 600% 0.2% 0.25% 400% Percent Percent Percent 0% 0% 200% -0.25% 0% -0.3%2002 2003 2002 2003 2002 2003 2001 2004 2001 2004 2001 2004 Year Year Year OsloCTM3 MIROC CESM1 **GFDI**

E3SM

GISS

NorESM2