## so2-at-height: percent difference surface concentration of BC – NH–pacific surface flux of BC – NH–pacific surface flux of SO2 – NH–pacific surface concentration of SO4 – NH–pacific surface concentration of SO2 – NH–pacific 0.4% 20% 1.5e-05% 0.2% 0% 0% Percent Percent cent Percent 1e-05% Percent 5% Per 5e-06% -10% -0.4% 5% 0% -0.6% 0% 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 Year Year Year Year Year upwelling longwave flux at TOA – NH–pacific upwelling shortwave flux at TOA – NH–pacific net radiative flux at TOA – NH–pacific incident shortwave flux at TOA – NH–pacific upwelling clear–sky longwav flux at TOA – NH–pacific 0.8% 5e-09% 0.6% 0.01% 0.04% Percent 0.4% Percent 0% Percent 0.4% -5e-09% 0% 0.2% -1e-08% -0.01% -0.04% 0% -1.5e-08% 0% -0.02% 2001 2002 2003 2001 2003 2001 2003 2002 2003 2002 2003 Year Year Year Year Year upwelling clear-sky shortwave clear-sky net radiative dry deposition rate wet deposition rate total deposition rate flux at TOA - NH-pacific flux at TOA - NH-pacific of BC - NH-pacific of BC - NH-pacific of BC - NH-pacific 2% 1.5% 1.5% 0.5% Percent Percent 0% 0% 0% 0.5% 0.5% -0.5% -0.3%-0.5% 0% 0% -0.6% 2003 2003 2001 2001 2003 2001 2003 2001 Year Year Year Year Year dry deposition rate of SO4 – NH–pacific dry deposition rate of SO2 – NH–pacific wet deposition rate of SO4 – NH–pacific total deposition rate of S – NH–pacific wet deposition rate of SO2 - NH-pacific 15% 20% 20% 10% Percent Percent Percent 20% Percent Percent 10% 10% 10% 0% 5% 10% -5% 0% 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year convective cloud cover ambient aerosol optical total cloud cover thickness at 550nm - NH-pac percentage - NH-pacific 0.2% 6e+35% 0% 0.1 4e+35% Percent Percent Percent 0% 2e+35% -50% -0.1% 0% -75% 2002 2002 2003 2003 2004 2001 2002 2003 2004 2001 2001 Year Year

MIROC

NorESM2

**GFOS** 

GISS

CFSM1

E3SM

OsloCTM3

**UKESM**