bc-no-season: percent difference surface flux of SO2 – SH–sea surface concentration of BC – SH–sea surface flux of BC – SH–sea surface concentration of SO4 – SH–sea surface concentration of SO2 – SH–sea 1.2% 0.2% 0.25% 0.02% 0.1% 0.8% 0% 0.01% Percent Percent Percent 0% -0.25% -0.1% -10% -0.5% -0.01% -0.2% 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 Year Year Year Year Year upwelling longwave flux at TOA – SH–sea upwelling shortwave flux at TOA – SH-sea net radiative flux at TOA – SH–sea upwelling clear-sky longway flux at TOA - SH-sea incident shortwave flux at TOA - SH-sea 0.03% 0.01% 2e-08% 0.05% 0.02% 0.05% 0.005% Percent 0.01% 1e-08% 0% 0% -0.05% 0% -0.05% -0.01% -0.005% -0.1% -08% -0.02% -0.1 2001 2003 2004 2001 2002 2003 2001 2003 2001 2002 2003 2002 2003 Year Year Year Year Year dry deposition rate of BC – SH–sea upwelling clear-sky shortway clear-sky net radiative wet deposition rate total deposition rate flux at TOA - SH-sea flux at TOA - SH-sea of BC - SH-sea of BC - SH-sea 0.15% 0.15% 0.1% -5% -5% Percent 0.05% 0.05% Percent Percent Percent Percent 0% _20% -10% -0.05%-0.05% -15% -0.1% -30% -0.1% 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2001 2003 2001 2002 2003 Year Year Year Year Year wet deposition rate of SO4 – SH-sea total deposition rate of S – SH–sea dry deposition rate wet deposition rate dry deposition rate of SO2 - SH-sea of SO2 - SH-sea of SO4 - SH-sea 1.2% 0.6% 0.25% 0.4% 0.8% 0% -0.4% Percent Percent Percent 0.2% 0.4% 0.5% -0.25%-0.8% 0% 0% 0% -0.5%-0.2% 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year ambient aerosol optical total cloud cover convective cloud cover thickness at 550nm - SH-se percentage - SH-sea percentage - SH-sea 0.15% 0.05% 0.1% 0% 0.05% Percent Percent 0% -0.05% 100% -0.05% -0.1% -0.1% 0% 2002 2003 2002 2003 2001 2004 2001 2002 2003 2004 2001 2004 Year Year Year OsloCTM3 CESM1 **GFDI** MIROC E3SM **GISS** NorESM2