bc-no-seas: percent difference surface flux of BC - n-sea surface flux of SO2 - n-sea surface concentration surface concentration of SO4 - n-sea of BC - n-sea 0.3% 0.2% 0.03% 0.1% 0.1% Percent Percent Percent Percent 0% 0.02% -4% 0% -0.1% -0.1% 0.01% -6% -0.2% -0.2% 0% -0.3% 2001 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2003 Year Year Year Year upwelling longwave flux at TOA – n–sea upwelling shortwave flux at TOA – n–sea surface concentration net radiative flux at TOA - n-sea of SO2 - n-sea 0.6% 0.1% 0.05% 0.4% 0.05% Percent Percent 0.2% 0.02% Percent Percent 0% 0% 0% 0% -0.05% -0.02% -0.05% 2001 2001 2002 2001 2003 2002 Year Year Year Year incident shortwave flux at TOA – n–sea upwelling clear-sky longwave flux at TOA - n-sea upwelling clear-sky shortwave flux at TOA - n-sea clear-sky net radiative flux at TOA - n-sea 0.1% 0.02% 6e-08% 0.05% 0.05% 0.01% Percent 0% Percent 0% Percent Percent 0% -0.05% -0.05% 2e-08% -0.01% -0.1% 0% -0.029 2001 2003 2003 2004 2004 2002 2004 2001 2002 2003 2004 2001 2002 2001 2002 2003 Year Year Year Year dry deposition rate of BC – n–sea total deposition rate of BC – n–sea dry deposition rate of SO2 – n–sea wet deposition rate of BC - n-sea 0.6% 0.4% -4% Percent Percent Percent -5% 0.2% -6% -7.5%-15% -8% 2001 2002 2003 2004 2001 2003 2004 2001 2003 2001 2003 2002 2002 2002 Year Year Year Year wet deposition rate dry deposition rate wet deposition rate total deposition rate of SO2 - n-sea of SO4 - n-sea of SO4 - n-sea of S - n-sea 0.2% 0.1% 0.8% 0.5% 0.1% 0% Percent 0.4% 0% -0.1% 0.25% -0.2% -0.1%0% -0.3% -0.2% 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