global: absolute difference surface concentration of BC – bc–no–season surface flux of BC – bc–no–season surface flux of SO2 – bc–no–season surface concentration of SO4 – bc–no–season surface concentration of SO2 – bc–no–season 0.0e+00 6e+00 -2.5e+01 4e+00 ∆ emiso2 ∆ mmrso4 1.0e-01 ∆ mmrbc ∆ emibc -5.0e+01 0e+00 2e+00 _7 5e+01 -1e-01 00+00 0.0e+00 2003 2003 2002 2002 2003 2001 2002 2003 2001 2002 2002 2004 2001 2003 2001 2001 Year Year Year Year Year upwelling longwave flux at TOA – bc-no-season upwelling shortwave flux at TOA – bc–no–season upwelling clear-sky longwav flux at TOA - bc-no-seaso net radiative flux incident shortwave flux at TOA - bc-no-season at TOA - bc-no-season 1e-01 2.5e-02 1.5e-08 rsut 1e-02 ∆ rlutcs ∆ rlut 1.0e-08 -1e-01 0e+00 0.0e+00 -2e-01 5.0e-09 -2e-01 -1e-02 0.0e+00 -2.5e-02 2003 2003 2002 2003 2001 2002 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2001 Year Year Year Year Year upwelling clear–sky shortwav flux at TOA – bc–no–season clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - bc-no-seaso at TOA - bc-no-season of BC - bc-no-season of BC - bc-no-season 0e+00 rsutcs 0e+00 0e+00 rsutcs -1e+00 0e+00 ∆ (rlut + rsut - rlutcs △ drybc 1e-01 -1e+00 -2e-0 -2e-01 -2e+00 -2e+00 0e+00 -4e-01 -4e-01 -3e+00 -3e+00 2001 2003 2004 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year Year dry deposition rate of SO4 – bc–no–season total deposition rate dry deposition rate wet deposition rate wet deposition rate of BC - bc-no-season of SO2 - bc-no-season of SO2 - bc-no-season of SO4 - bc-no-season 0e+00 1e-01 3e+00 2.5e-01 -2e+00 drybc + wetbc 5e-02 2e+00 0.0e + 00∆ dryso2 ∆ dryso4 0e+00 -4e+00 1e+00 -2.5e-01 2e+00-5.0e-01 0e+00 -5e-02 -6e+00 0e+00 2002 2003 2001 2002 2003 2001 2003 2001 2003 2001 2003 Year Year Year total deposition rate ambient aerosol optical total cloud cover convective cloud cover (dryso2 + wetso2)/2 + (dryso4 + wetso4)/3of S – bc–no–season thickness at 550nm - bc-no-se percentage - bc-no-seaso percentage - bc-no-season 3e+00 0e+00 1e-01 -2e+01 2e+00 0e+00 ∆ clt -4e+01 1e+00 -1e-01 -1e-01 -6e+01 -2e-01 0e+00 2001 2002 2003 2004 2002 2003 2002 2003 2003 Year Year Year Year **UKESM** CESM1 GISS MIROC **GFDI** E3SM CESM2 NorESM2 OsloCTM3 **GEOS**