bc-no-season: absolute difference surface flux of BC – NH–atlantic surface flux of SO2 – NH–atlantic surface concentration of BC – NH–atlantic surface concentration of SO2 – NH-atlantic surface concentration of SO4 – NH–atlantic 0e+00 1 2e-13 0e+00 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$ emiso2 (kg $m^{-2} s^{-1}$) -1e-10 mmrso4 (kg kg⁻⁷ mmrbc (kg kg⁻¹ so2 (kg kg^{_′} 0.0e + 0.0-3.2e-16 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year Year longwave flux at TOA – NH–atlantic shortwave flux at TOA – NH–atlantic net radiative flux at TOA – NH–atlantic incident shortwave flux at TOA – NH–atlantic clear-sky longwave flux at TOA - NH-atlantic 0.2 0.050 3e-07 rlut + rsut $(W m^{-2})$ 0.1 rlutcs (W m⁻²) $rsut (W m^{-2})$ 0.025 0.0 $rsdt (W m^{-2})$ 0.0 0.0 0.000 -0.1 1e-07 -0.1 -0.20e+00 -0.2 -0.3 -0.050 2001 2003 2001 2003 2001 2003 2001 2002 2003 2003 2001 Year Year Year Year Year dry deposition rate of BC – NH–atlantic clear-sky shortwave clear-sky net radiative implied cloud response wet deposition rate flux at TOA - NH-atlantic flux at TOA - NH-atlantic at TOA - NH-atlantic of BC - NH-atlantic rlut + rsut - rlutcs - rsutcs (W m⁻² 0e+00 0.1 0.000 rlutcs + rsutcs (W m $^{-2}$ 0.025 wetbc $(kg m^{-2} s^{-1})$ drybc (kg ${\sf m}^{-2}\,{\sf s}^{-1}$ 0.0 0.000 -3.4e-15 -0.1 -0.025 -0.050 -0.2 -0.050 2001 2002 2003 2001 2003 2001 2003 2001 2003 2001 2002 2003 Year Year Year Year Year total deposition rate of BC – NH–atlantic dry deposition rate of SO4 – NH–atlantic dry deposition rate wet deposition rate wet deposition rate of SO2 - NH-atlantic of SO2 - NH-atlantic of SO4 - NH-atlantic 6.3e-15 5.0e-15 $drybc + wetbc (kg m^{-2} s^{-1})$ wetso2 $(kg m^{-2} s^{-1})$ $dryso2 (kg m^{-2} s^{-1})$ 3.0e-15 dryso4 (kg m⁻² s⁻¹ wetso4 $(kg m^{-2} s^{-1}$ -5.0e-15 5.0e-14 -1.0e-14 0e+00 0.0e+00 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2001 2002 2003 2001 2002 2003 2004 Year total deposition rate ambient aerosol optical total cloud cover convective cloud cover of S - NH-atlantic thickness at 550nm - NH-atlar percentage - NH-atlantic 0.05 0.00 0.2 0.1 0.00 $(kg m^{-2} s^{-1})$ -0.055.0e-14 od550aer cltc (%) clt (%) 0.0 2.5e-14 -0.1 -0.05 -0.10-0.2 0.0e + 00-0.102001 2002 2003 2004 2003 2004 2002 2003 2004 2001 2002 2001 2001 2002 2003 2004

Year

MIROC

NorESM2

GFDI

GISS

Year

OsloCTM3

UKESM

rlut $(W m^{-2})$

rsutcs $(W m^{-2})$

(dryso2 + wetso2)/2 + (dryso4 + wetso4)/3

Year

Year

CFSM1

CESM2

F3SM

GEOS