shp-atl-shift: absolute difference surface flux of SO2 – SH–sea surface concentration of BC – SH–sea surface flux surface concentration surface concentration of BC - SH-sea of SO4 - SH-sea of SO2 - SH-sea 0.0e+00 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$ nmrbc (kg kg-1) emiso2 (kg m⁻² s⁻ 1.9e-21 2.5e-16 so2 (kg kg – 1) 5 0e-14 nmrso4 (kg kg 0e+00 0.0e+00 -2.6e-21 -7.0e-21 -3.2e-17 -1.5e-13 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year Year upwelling longwave flux at TOA – SH-sea upwelling shortwave flux at TOA – SH-sea incident shortwave flux at TOA – SH–sea upwelling clear-sky longwa flux at TOA - SH-sea net radiative flux at TOA - SH-sea 4e-02 5.0e-02 5.0e-02 2e-02 5.0e-03 -lut + rsut $(W m^{-2})$ 2e-02 5 2.56-02 (Wm-2)rlut (Wm-2)rsdt (Wm-2)rlutcs (W m-0e+00 0.0e+00 0e+00 0.0e + 000.0e + 0.0-2e-02 -2e-02 ısut -2.5e-02 -2.5e-02 -4e-02 -4e-02-6e-02 -5.0e-02 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year Year clear-sky net radiative implied cloud response dry deposition rate wet deposition rate upwelling clear-sky shortwa flux at TOA - SH-sea flux at TOA - SH-sea at TOA - SH-sea of BC - SH-sea of BC - SH-sea rsutcs (W m^{-2}) 5.8e-17 1.5e-16 0.0e+00 ·lutcs + rsutcs (W m⁻²) 0e+00 rsutcs (W m-2) 2.8e-17 2.2e-17 drybc (kg $m^{-2} s^{-1}$ vetbc (kg m⁻² s⁻ -5.0e-03 0.0e+00 -1e-02rlutes -1.0e-02 -2e-02 -2.5e-02 rsut -3e-02 _6 2e_1 -3.7e-16 ₽ 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year Year total deposition rate of BC – SH–sea dry deposition rate of SO4 – SH-sea wet deposition rate of SO4 – SH-sea dry deposition rate of SO2 – SH–sea wet deposition rate of SO2 – SH–sea 1.7e-16 -9.9e-18 1.4e-18 2.8e-16 1.7e-15 $drybc + wetbc \left(kg \ m^{-2} \ s^{-1} \right)$ wetso2 $(kg m^{-2} s^{-1})$ dryso2 (kg m $^{-2}$ s $^{-1}$ 2.3edryso4 (kg m⁻² s⁻ wetso4 (kg m^{-2} -1.3e-16 -4.0e-16 -5.5e-19 -5.9e-16 -3.0e-15 -2.8e-16 -8.0e-16 -7.6e-15 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year dryso2 + wetso2)/2 + (dryso4 + wetso4)/3Dimethyl sulphide (DMS) mole fractic total deposition rate cloud cover Ice water path - SH-sea ambient aerosol optical of S - SH-sea percentage - SH-sea thickness at 550nm - SH-se 5.0e-14 2e-02 0.0e + 008 clivi (kg m⁻²) lom lom) smb $(kg m^{-2} s^{-1})$ expression cltc 0e+00 -5.0e-14 1e-02 -1e-04 0e+00 -2e-04 -1e-02 -1e-04 20002001200220032004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 Year Year Year Year Year load of so2 – SH–sea load of bc - SH-sea -3e-09 loadso4 (kg m⁻²) loadbc (kg m $^{-2}$) 1e-11 0e+00 -6e-09 -9e-09 -2e-11 -3e-1 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year