land: absolute difference surface flux surface flux surface concentration surface concentration surface concentration of BC - shp-10p-red-19 of SO2 - shp-10p-red-19 of BC - shp-10p-red-195 of SO4 - shp-10p-red-195 of SO2 - shp-10p-red-195 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$ nmrbc (kg kg-1) 0e+00 1.0e-19 emiso2 (kg m⁻² s⁻ so2 (kg kg – 1) 0e+00 nmrso4 (kg kg 0e+00 -1e-13 -1.2e-20 -5.0e-15 -2e-12 -2e-13 -6.9e-20 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 Year Year Year Year Year upwelling longwave flux at TOA – shp-10p-red-195 upwelling shortwave flux at TOA – shp–10p–red–195 net radiative flux at TOA – shp-10p-red-198 upwelling clear-sky longway flux at TOA - shp-10p-red-1 incident shortwave flux at TOA – shp–10p–red–19 5.0e-02 1e-02 2e-02 $rsut(W m^{-2})$ 4e - 02rlut (Wm-2)rsut (Wm-2)(Wm-2)E 0e+00 -1e-02 1.5e-02 rlutcs (W 0.0e + 0.01.0e-02 0e+00-2e-02 -2e-02 rsdt 5.0e-03 -3e-02 4e-02 -2 5e-02 -4e-02 0.0e+00 4e-02 -6e-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 upwelling clear-sky shortwa clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - shp-10p-redflux at TOA - shp-10p-red-1 at TOA - shp-10p-red-195 of BC - shp-10p-red-19 of BC - shp-10p-red-19 rsutcs (W m^{-2}) 4e-02 lutcs + rsutcs (W m^{-2}) 1.0e-02 3e-02 rsutcs (W m-2) 1.2e-16 3.7e-16 drybc (kg $m^{-2} s^{-1}$ vetbc (kg m⁻² s⁻ 0e+00 2e-02 3.1e rlutcs 1e-02 0.0e + 0.0-5e-02 0e+00 -5.0e -5.6e-17 rsut -1e-02 -1.0e-02 -1e-01 rt H _1 4e_16 _4 1e_1 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 – shp–10p–red–19t dry deposition rate of SO2 – shp–10p–red–19 dry deposition rate of SO4 – shp–10p–red–19 wet deposition rate of SO4 – shp-10p-red-19 wet deposition rate of SO2 – shp-10p-red-19 6.9e 3.2e-18 1.7e-16 $\mathrm{drybc} + \mathrm{wetbc} \, (\mathrm{kg} \, \mathrm{m}^{-2} \, \mathrm{s}^{-1})$ 0.0e + 0.0wetso2 (kg m^{-2} s⁻¹ 4.2e-16 dryso2 (kg m⁻² s⁻ dryso4 (kg m⁻² s⁻ wetso4 $(kg m^{-2})$ 1.6e-16 -4.9e-15 -8.5e-19 -1.4e-15 -1.0e-16 -3.0e-15 -6.1e-15 -4.9e-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 dryso2 + wetso2)/2 + (dryso4 + wetso4)/3Ice water path - shp-10pDienethyl sulphide (DMS) mole fraction - sh total deposition rate cloud cover ambient aerosol optical of S - shp-10p-red-1! percentage - shp-10p-red-19 thickness at 550nm - shp-10p-red-1 3e-14 2e-02 8 0.0e + 0.0e +-3 6e-15 16-02 clivi (kg m⁻²) _lom lom) smb $(kg m^{-2} s^{-1})$ 당 1e-14 0e+00 od550aeı 0e+00 -02 -6.0e-15 20002001200220032004 2002 2003 2004 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year Year load load of so4 - shp-10p-red-195 of bc - shp-10p-red-1950 $\log dso4 ~(kg~m^{-2})$ loadbc (kg m $^{-2}$) 0e+00 0e+00 -5e-09 -1e-11 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year