## shp-10p-red: absolute difference surface concentration of BC – NH–indian surface flux surface flux surface concentration surface concentration of BC - NH-indian of SO2 – NH-indian of SO4 - NH-indian of SO2 - NH-indian 0e+00 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$ nmrbc (kg kg-1) əmiso2 (kg m $^{-2}$ s $^{-1}$ 4.7e-21 mmrso4 (kg kg so2 (kg kg – -5.0e-2 \_9 8e\_2 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2000 2001 Year Year Year Year Year upwelling longwave flux at TOA – NH–indian upwelling shortwave flux at TOA – NH–indian net radiative flux at TOA – NH-indian upwelling clear-sky longwav flux at TOA - NH-indian incident shortwave flux at TOA – NH–indian 5 0e=02 3e-01 $rsut(W m^{-2})$ 56-02 2e-01 rlut (Wm-2)sut (Wm-2)5e-02 rsdt (Wm-2)rlutcs (W m -1e-01 0e+00 0.0e + 0.00e+00 0e+00 -5e-02 -2 5e-02 -5e-02 -1e-01 -2e-01 -1e-01 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 clear-sky net radiative implied cloud response dry deposition rate wet deposition rate upwelling clear-sky shortwa flux at TOA - NH-indian flux at TÓA - NH-indian rsutcs (W $m^{-2}$ ) at TOA - NH-indian of BC - NH-indian of BC - NH-indian 1e-01 $m^{-2}$ 5.0e-15 2.5e-02 2.5e-02 rsutcs (W m-2) 5e-02 3.3e-16 drybc (kg $m^{-2} s^{-1}$ vetbc (kg m<sup>-2</sup> s<sup>-</sup> rsutcs (W 0.0e+00 0.0e+0.00.0e+00 0e+00 rlutcs --2.5e-02 -5e-02 -5.0e-02 rsut -1e-01 -6.7e-16 rit + 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 dry deposition rate of SO4 – NH-indian total deposition rate of BC – NH–indian dry deposition rate of SO2 – NH–indian wet deposition rate of SO2 – NH-indian wet deposition rate of SO4 – NH–indian 1e-13 $drybc + wetbc (kg m^{-2} s^{-1})$ 5 0e-15 0e+00 wetso4 $(kg m^{-2} s^{-1})$ dryso2 (kg m $^{-2}$ s $^{-1}$ wetso2 (kg $\mathrm{m}^{-2} \mathrm{s}^{-1}$ dryso4 (kg m<sup>-2</sup> s<sup>-</sup> 0e+00 0.0e+00 -5.0e-18 -5.0e--2e-14 -8.3e--1.2e-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)/3Ice water path - NH-indiarDimethyl sulphide (DMS) mole fraction total deposition rate cloud cover ambient aerosol optical of S - NH-indian percentage - NH-indian thickness at 550nm - NH-indian -5.6e-14 4e - 024e-03 8 1e-14 3e-02 clivi (kg $m^{-2}$ ) \_lom lom) smp $(kg m^{-2} s^{-1})$ 양 0e+00 od550aer expression 1e-02 -1e-14 0e+00 0e+00 -2e-14 20002001200220032004 2000 2001 2003 2004 2002 2003 2004 2002 2003 2004 2002 2000 2001 2000 2001 Year Year Year Year Year load load of so2 - NH-indian of bc - NH-indian 1e-10 0.0e+00 0e+00 oadso4 $(kg m^{-2})$ loadbc (kg m<sup>-2</sup>) -5.0e-08 -1e-10 -2e-10 -1.0e-07 -10 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year