## NH-pacific: absolute difference surface flux surface flux surface concentration surface concentration surface concentration of BC - shp-20p-red-1950 of SO2 - shp-20p-red-195 of BC - shp-20p-red-1950 of SO4 - shp-20p-red-19! of SO2 - shp-20p-red-19 1e-05 -6.0e-01 \_1 0e+00 5e-06 ∆ emibc -1.2e+00 -8.0e-01 0e+00 0e+00 -4e+00 -1.0e+00-5e-06 \_1 8e+00 -1.2e+00 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 – shp-20p-red-195 upwelling shortwave flux at TOA – shp-20p-red-195 net radiative flux at TOA – shp–20p–red–19 incident shortwave flux at TOA – shp–20p–red–19! upwelling clear-sky longwav flux at TOA - shp-20p-red-1 5.0e-02 1e-02 5.0e-02 5e-03 rsut ∆ rlutcs rsut 0.0e + 00ŧ 0.0e+00 0e+00 -2 5e-02 -2e-02 -3e-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 shortway flux at TOA - shp-20p-red-19 flux at TOA - shp-20p-red-19 at TOA - shp-20p-red-195 of BC - shp-20p-red-1950 of BC - shp-20p-red-1950 0e+00 rsutcs) 3e-01 2e-01 -1e-02 rsutcs -1e-02 2e-01 rlutcs 1e-01 ∆ wetbc -2e-02 -2e-02 0e+00 -1e-01 -3e-02 -2e-0 r L -2e-01 -3e-022000 2001 2002 2003 2004 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 wet deposition rate of SO4 – shp-20p-red-195 total deposition rate of BC – shp–20p–red–195 dry deposition rate of SO2 – shp–20p–red–19 wet deposition rate of SO2 – shp–20p–red–195 dry deposition rate of SO4 – shp–20p–red–19 -3e-01 -1.0e+005.0e-01 -5.0e-01 drybc + wetbc -1.0e+00∆ dryso2 2.5e-01 -6e-01 0.0e+00 -6e-01 -2.5e-01 -1.1e+00-7e-01-1.1e+002000 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)/3total deposition rate Ice water path - shp-20p-Dantethyl sulphide (DMS) mole fraction - sh cloud cover ambient aerosol optical of S - shp-20p-red-19 percentage - shp-20p-red-19 thickness at 550nm - shp-20p-red-1 2e - 02-9.5e-01 2e-0 3e-01 -1.0e+00 8 clivi (kg $m^{-2}$ ) \_lom lom) smp 0e+00 expression cltc -1.0e+00 0e+00 ∆ od550ae 0e+00 -1.1e+00 -1.2e+00 -2e-01 -3e-01 -1.2e+00-4e-02 20002001200220032004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 Year Year Year Year Year load load of so4 - shp-20p-red-19 of bc - shp-20p-red-1950 -2.5e-01 $\log \log (\log \, m^{-2})$ 5.0e-01 oadbc (kg m<sup>-2</sup> -5.0e-01 2.5e-01 -7.5e-01 0.0e+0.0-1.0e+00 -2.5e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year