bc-no-season: percent difference surface concentration of BC – NH–indian surface concentration of SO4 – NH–indian surface flux of BC – NH–indian surface flux of SO2 – NH–indian surface concentration of SO2 – NH-indian 0.3% 0% 6% 0.2% 4% ∆ emibc ∆ emiso2 ∆ mmrso4 ∆ mmrbc 0.1% 0.04% 2% 0% 0.02% -75% -6% 0% 0% -100% 2001 2002 2003 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 Year Yea Year Year Year shortwave flux at TOA – NH–indian net radiative flux at TOA – NH-indian clear-sky longwave flux at TOA - NH-indian longwave flux at TOA incident shortwave flux NH-indian at TOA - NH-indian 0.4% 0.05% 0.4% 0.2% ∆ (rlut + rsut) 0% ∆ rsut ∆ rlut -1e-07% 0% 0% -0.05% -0.5% -0.4% -3e-079 -0.4% 2001 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 2002 2003 2001 Year Year Year Year Year clear-sky shortwaveflux clear-sky net radiative implied cloud response dry deposition rate wet deposition rate at TOA - NH-indian flux at TOA - NH-indian at TOA - NH-indian of BC - NH-indian of BC - NH-indian 0.3% 0.5% (rlut + rsut - rlutcs - rsutcs) 0.3% 0% 0.2% ∆ (rlutcs + rsutcs) 0.2% ∆ rsutcs 0% 0.1% ∆ drybc △ wetbc 0.1% 0% 0% -0.5% -6% 2003 2001 2003 2001 2003 2001 2002 2003 2001 2002 2001 2002 2003 Year Year Year Year Year total deposition rate of BC – NH–indian dry deposition rate of SO4 – NH–indian dry deposition rate wet deposition rate wet deposition rate of SO2 - NH-indian of SO2 - NH-indian of SO4 - NH-indian ∆ (drybc + wetbc) 0.4% -5% ∆ dryso2 ∆ wetso2 ∆ dryso4 ∆ wetso4 0% 2% -0.4% 0% 0% 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 2001 2002 2003 2004 Year Year Year Year total deposition rate of S – NH–indian convective cloud cover $\Delta \left(\text{dryso2} + \text{wetso2} \right) / 2 + \left(\text{dryso4} + \text{wetso4} \right) / 3$ ambient aerosol optical total cloud cover percentage - NH-indian percentage - NH-indian 1% 1.5% -20% ∆ od550aer 3% △ cltc ∆ clt -40% 0.5% -60% 0% -80% 2003 2002 2003 2002 2003 2001 2002 2003 2004 2002 2004 2001 2004 2004 2001 2001 Year Year Year Year OsloCTM3 CFSM1 F3SM **GFDI** MIROC CESM2 GEOS **GISS** NorESM2 **UKESM**