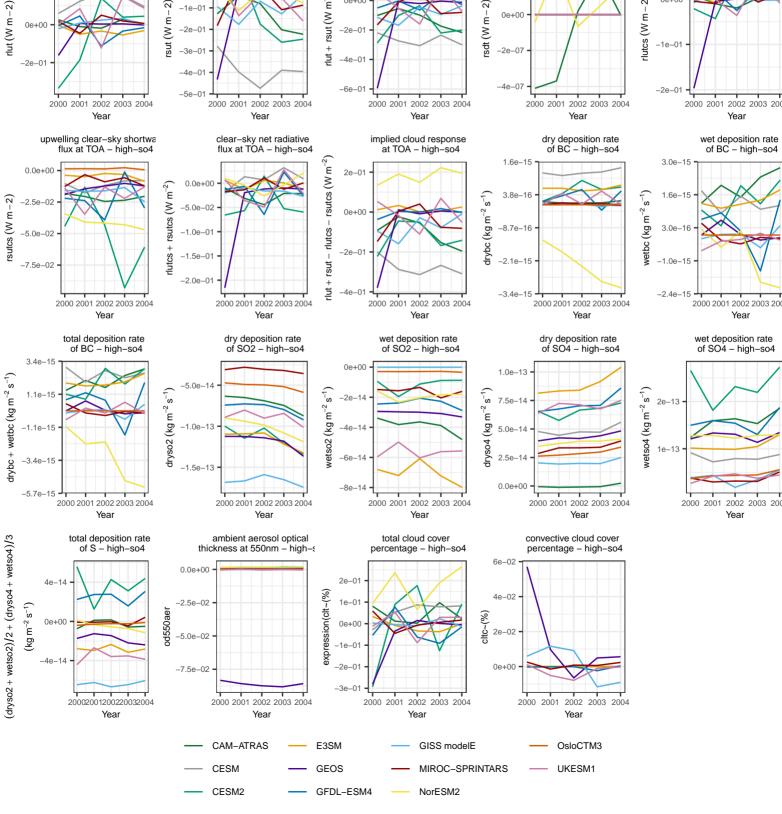
## NH-pacific: absolute difference surface flux of SO2 – high–so4 surface concentration of SO4 – high–so4 surface concentration of SO2 – high–so4 surface concentration of BC - high-so4 mmrso4 (kg kg-1) mmrbc (kg kg – 1) kg-1-5.0e-12 so2 (kg -7.5e-12 0e+00 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year upwelling clear-sky longway flux at TOA - high-so4 upwelling shortwave flux at TOA – high–so4 incident shortwave flux net radiative flux at TOA - high-so4 at TOA – high–so4 $rsut(W m^{-2})$ 0e+00 0e+00rsdt (Wm-2)rlutcs (W m-0e+00 -2e-01 -1e-01 -4e-0'\_4e\_07 -6e-0 -2e-01 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year implied cloud response at TOA – high–so4 dry deposition rate of BC – high–so4 wet deposition rate of BC – high–so4 rsut - rlutcs - rsutcs (W m<sup>-2</sup> 2e-01 wetbc $(kg m^{-2} s^{-1})$ $drybc (kg m^{-2} s^{-1})$ 0e+00 를 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year dry deposition rate of SO2 – high–so4 dry deposition rate of SO4 – high–so4 wet deposition rate of SO2 – high–so4 wet deposition rate of SO4 – high–so4 0e+00 wetso2 (kg $\mathrm{m}^{-2}\,\mathrm{s}^{-1}$ vetso4 (kg $m^{-2}$ s<sup>-1</sup> dryso4 (kg $\mathrm{m}^{-2}\,\mathrm{s}^{-1}$ 0.0e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 Year total cloud cover convective cloud cover percentage - high-so4 percentage - high-so4



surface flux

of BC - high-so4

Year

upwelling longwave flux at TOA – high–so4

0.0e+00

-1.0e-13

əmiso2 (kg m<sup>-2</sup> s<sup>-</sup>

7.6e-21

-7 5e-2

-1.3e-20

 $\mathrm{emibc}\,(\mathrm{kg}\,\mathrm{m}^{-2}\,\mathrm{s}^{-1})$