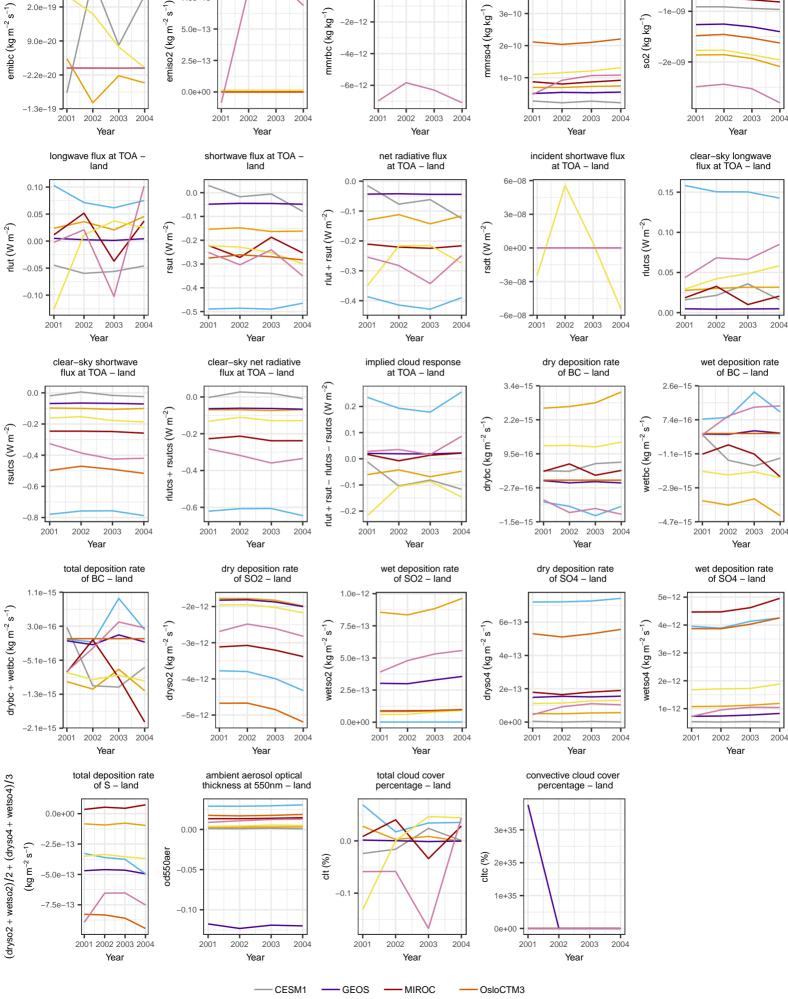
so2-at-height: absolute difference surface flux of SO2 – land surface concentration of BC – land surface concentration of SO4 – land surface concentration of SO2 – land 0e+00 mmrbc (kg kg⁻¹) mmrso4 (kg kg¯ so2 (kg kg⁻¹ -2e-09 2002 2003 2001 2002 2003 2001 2002 2003 2001 2002 2003 Year Year Year Year incident shortwave flux at TOA – land clear-sky longwave flux at TOA - land net radiative flux at TOA - land land 0.0 6e-08 0.15 $rlut + rsut (W m^{-2})$ 3e-08 rlutcs $(W m^{-2})$ $rsdt (W m^{-2})$ 0.10 -0.2 0e+00 -0.30.05 -3e-08 -0.4 0.00 2002 2003 2001 2003 2001 2002 2003 2001 2003 Year Year Year Year implied cloud response dry deposition rate wet deposition rate flux at TOA - land at TOA - land of BC - land of BC - land 3.4e-15 2.6e-15 rlut + rsut - rlutcs - rsutcs (W m-2) 0.2 2.2e-15 $drybc (kg m^{-2} s^{-1})$ wetbc (kg m⁻² s⁻¹) 0.1 9.5e-16 0.0 -0.1 -0.2 2003 2003 2001 2003 2001 2002 2001 2002 2003 Year Year Year Year dry deposition rate of SO2 – land dry deposition rate of SO4 – land wet deposition rate of SO4 – land wet deposition rate of SO2 – land 7.5e-13



E3SM

GISS

NorESM2

UKESM

surface flux of BC -

land