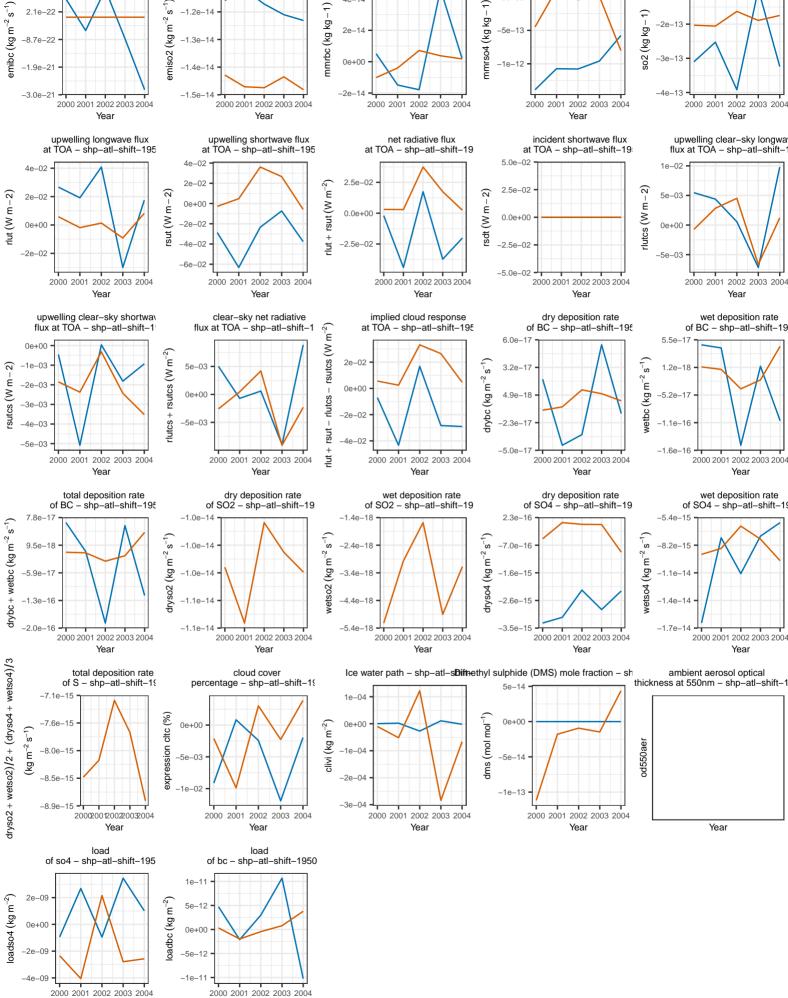
## sea: absolute difference surface flux surface concentration surface concentration surface concentration of SO2 - shp-atl-shift-19 of BC - shp-atl-shift-1950 of SO4 - shp-atl-shift-195 of SO2 - shp-atl-shift-195 0e+00 mmrso4 (kg kg – 1) nmrbc (kg kg-1) so2 (kg kg – 1) 2e-14 0e+00 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 Year Year Year Year upwelling clear-sky longway flux at TOA - shp-atl-shift-1 incident shortwave flux at TOA – shp-atl-shift-19 net radiative flux at TOA - shp-atl-shift-19 5 0e=02 $rsut(W m^{-2})$ rsdt (Wm-2)5e-03 rlutcs (W m -0.0e+00 0.0e + 0.00e+00 -2.5e-02 -2.5e-02 -5e-03 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year implied cloud response dry deposition rate wet deposition rate clear-sky net radiative at TOA - shp-atl-shift-195 of BC - shp-atl-shift-195 of BC - shp-atl-shift-198 rsutcs (W $m^{-2}$ ) 6.0e-2e-02 3.2e-17 1.2e-18 drybc (kg $m^{-2} s^{-1}$ wetbc (kg m<sup>-2</sup> s<sup>-</sup> 0e+00 rlutcs rsut -5.0e-1 rit + 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year wet deposition rate of SO2 – shp-atl-shift-19 dry deposition rate of SO4 – shp-atl-shift-19 wet deposition rate of SO4 – shp-atl-shift-19 2.3e-16 wetso2 (kg m $^{-2}$ s $^{-1}$ dryso4 (kg m<sup>-2</sup> s<sup>-′</sup> wetso4 $(kg m^{-2})$ -3.4e-18 -1.6e-15 -3.5e-15 -5.4e-2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Ice water path - shp-atl-sDiffnethyl sulphide (DMS) mole fraction - sh cloud cover ambient aerosol optical thickness at 550nm - shp-atl-shift-1 0e+00 clivi (kg m<sup>-2</sup>) \_lom lom) smp od550aeı -2e-04 -3e-04



surface flux

of BC - shp-atl-shift-195

Year