Summary - percent difference surface flux of BC - land surface flux of SO2 - land 8% 0.2% 0.1% 4% Δ emibc ∆ emiso2 0% 0% -0.1% -4% -0.2% -8% surface concentration of BC - land surface concentration of SO4 - land 3% 2% 20% 1% ∆ mmrbc ∆ mmrso4 0% 0% -1% -20% -2% -3% surface concentration of SO2 - land surface concentration of DMS - land 100% 2% 50% ∆ dms $\Delta \, \text{so2}$ 0% 0% -50% -2% -100% ▲ CAM5 E3SM GISS OsloCTM3 CESM1 GEOS MIROC UKESM

• CESM2

• GFDL

NorESM2

Summary - percent difference column mass burden of SO4 - land column mass burden of SO2 - land 20% 25% ∆ loadso4 ∆ loadso2 0% 0% -20% -25% SO4 lifetime - land column mass burden of BC - land 8% △ loadso4/(dryso4 + wetso4) 5% 4% Δ loadbc 0% 0% -5% -4% 10 50^A SO2 timescale - land 2500000% ∆ loadso2/emiso2 0% -2500000% right sol 10 50A OsloCTM3 ▲ CAM5 E3SM GISS

CESM1

• CESM2

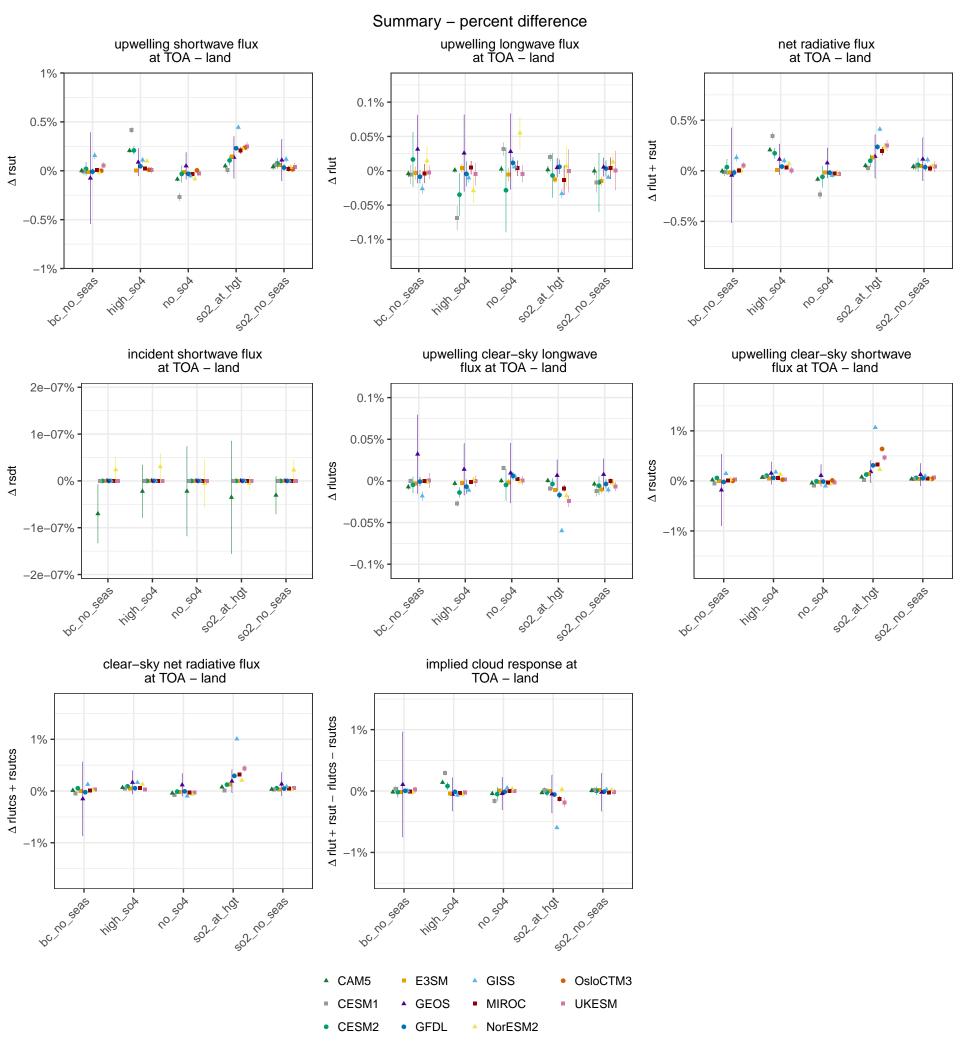
GEOS

• GFDL

MIROC

NorESM2

UKESM



Summary - percent difference ambient aerosol optical total cloud cover - land thickness at 550nm - land 0.6% 0.3% 40% Δ od550aer $\Delta \, { m clt}$ 0% 0% -0.3%-40% -0.6% convective cloud cover - land surface cloud cover - land 0.5% 2.5% Δ cltc ∆ cl 0% -2.5% -0.5%Ac ho seas 1050A sol at hot ice water path - land 1% 0.5% ∆ clivi 0% -0.5% -1% bc no seas ro sol ▲ CAM5 E3SM GISS OsloCTM3 CESM1 GEOS MIROC UKESM • CESM2 • GFDL NorESM2

