Summary - percent difference surface flux of BC - sea surface flux of SO2 - sea 0.2% 4% 0.1% Δ emibc ∆ emiso2 0% 0% -0.1% -4% -0.2%surface concentration of BC - sea surface concentration of SO4 - sea 20% 5% 10% ∆ mmrbc ∆ mmrso4 0% -10% -5% -20% surface concentration of SO2 - sea surface concentration of DMS - sea 1% 100% 0.5% 50% ∆ dms $\Delta \, \text{so2}$ 0% -50% -0.5%-100% ▲ CAM5 E3SM GISS OsloCTM3

CESM1

• CESM2

GEOS

• GFDL

MIROC

NorESM2

UKESM

Summary - percent difference column mass burden of SO4 - sea column mass burden of SO2 - sea 20% 20% 10% 10% ∆ loadso4 ∆ loadso2 0% 0% -10% -10%-20% -20% SO4 lifetime - sea column mass burden of BC - sea 20% $\Delta \log 4/(dryso4 + wetso4)$ 50000% 10% Δ loadbc 0% 0% -10% -50000% -20% right sol 10 50^k SO2 timescale - sea 1e+05% ∆ loadso2/emiso2 50000% 0% -50000% -1e+05% right soa 70 50A OsloCTM3 ▲ CAM5 E3SM GISS

CESM1

• CESM2

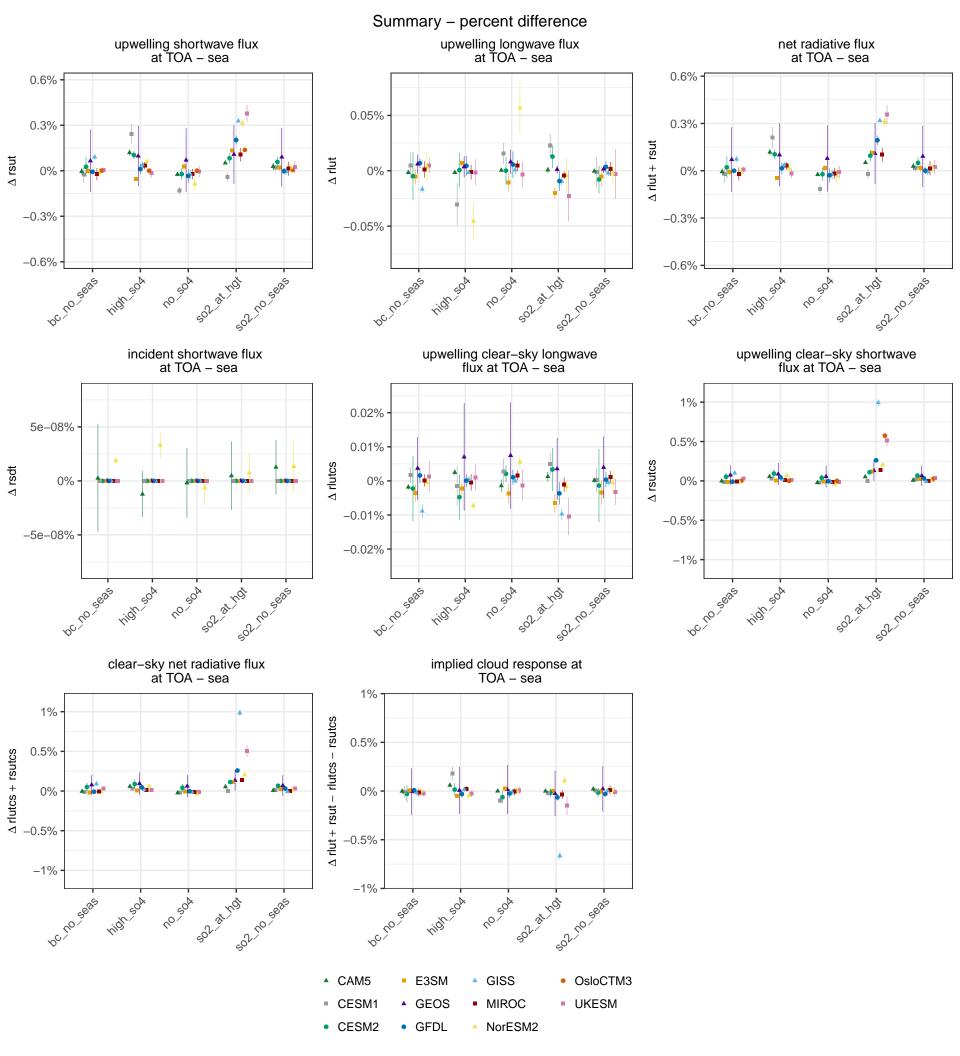
GEOS

• GFDL

MIROC

NorESM2

UKESM



Summary - percent difference ambient aerosol optical total cloud cover - sea thickness at 550nm - sea 0.3% 0.2% 50% 0.1% Δ od550aer $\Delta \, \text{clt}$ 0% 0% -0.1% -50% -0.2% -0.3%convective cloud cover - sea surface cloud cover - sea 1% 0.2% 0.5% 0.1% Δ cltc ∆ cl 0% -0.1% -0.5% -0.2% sol at to ice water path - sea 0.5% Δ clivi -0.5% bc no seas 10 50A E3SM GISS OsloCTM3 ▲ CAM5 CESM1 GEOS MIROC UKESM

• CESM2

• GFDL

NorESM2

