## Summary – absolute difference surface flux of BC surface flux of SO2 - bc-no-season - bc-no-season 6.667936e-15 3.102302e-15 5e-14 $\Delta\,\text{emibc}\,(\text{kg}\,\text{m}^{-2}\,\text{s}^{-1})$ $\Delta$ emiso2 (kg m $^{-2}$ s $^{-1}$ -4.633319e-16 0e+00 -4.028966e-15 -5e-14 -7.594600e-15 SHJand AHI allantic Art indian arctic diopal dlobal surface concentration of BC surface concentration of SO4 - bc-no-season - bc-no-season 1e-11 1e-10 $\Delta$ mmrbc (kg kg – 1) $\Delta$ mmrso4 (kg kg-1) 0e+00 5e-11 0e+00 -2e-11 Art allatic SHJand Art allanic Art Pacific diopal Art indian Art Dacific surface concentration of SO2 surface concentration of DMS - bc-no-season - bc-no-season 0e+00 1.0e-12 $\Delta$ so2 (kg kg – 1) 5.0e-13 ∆dms (kg kg-1) -1e-09 0.0e+00-5.0e-13 -2e-09 -1.0e-12 -1.5e-12 diopal SHJand 5<sup>1</sup> SHJand arctic arctic AH alanic AH Indian AH Dacitic AH Sharing AH Judgar AH Sachig AH Sag

OsloCTM3

UKESM1

CAM-ATRAS

CESM

CESM2

E3SM

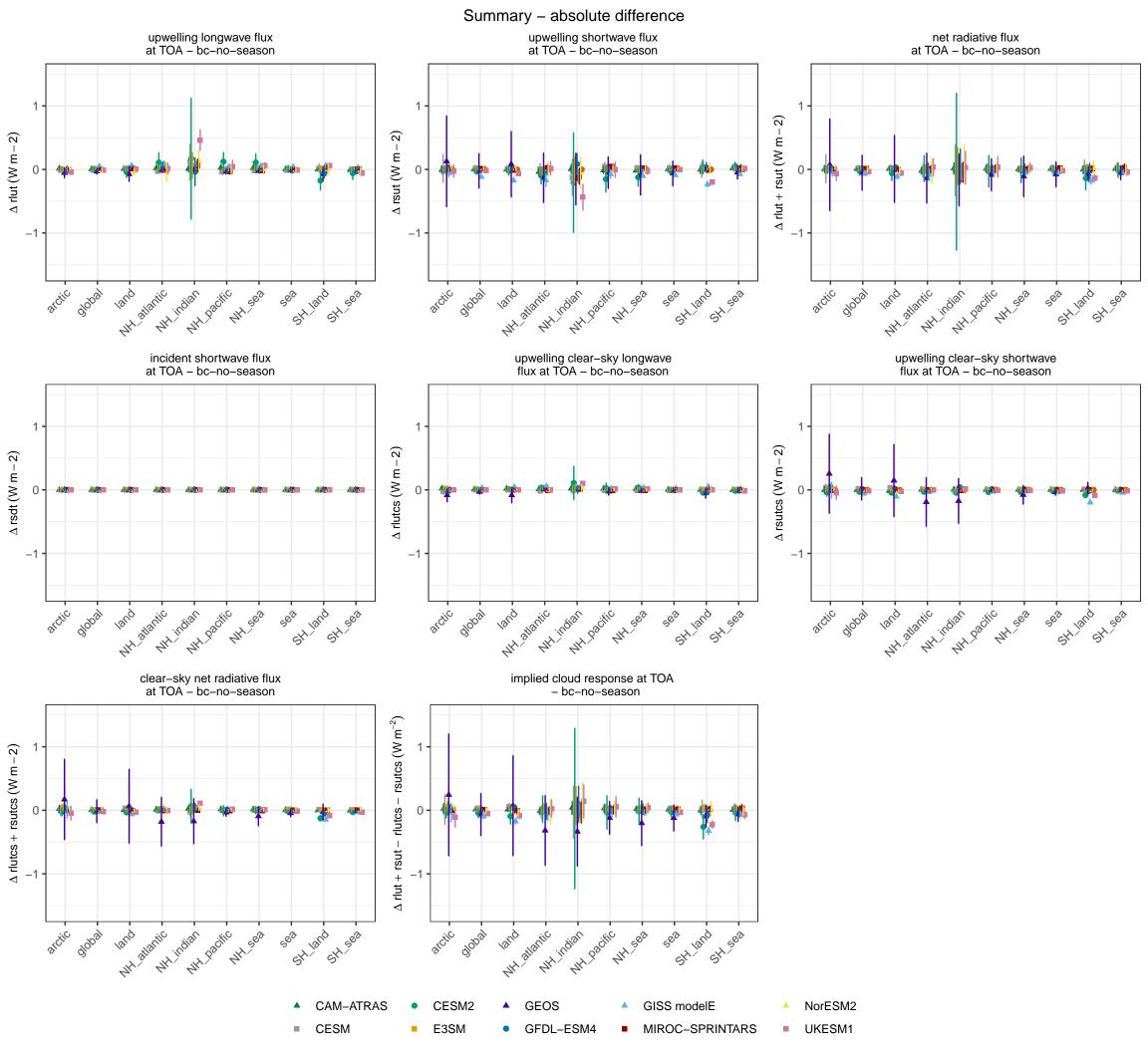
**GEOS** 

GFDL-ESM4

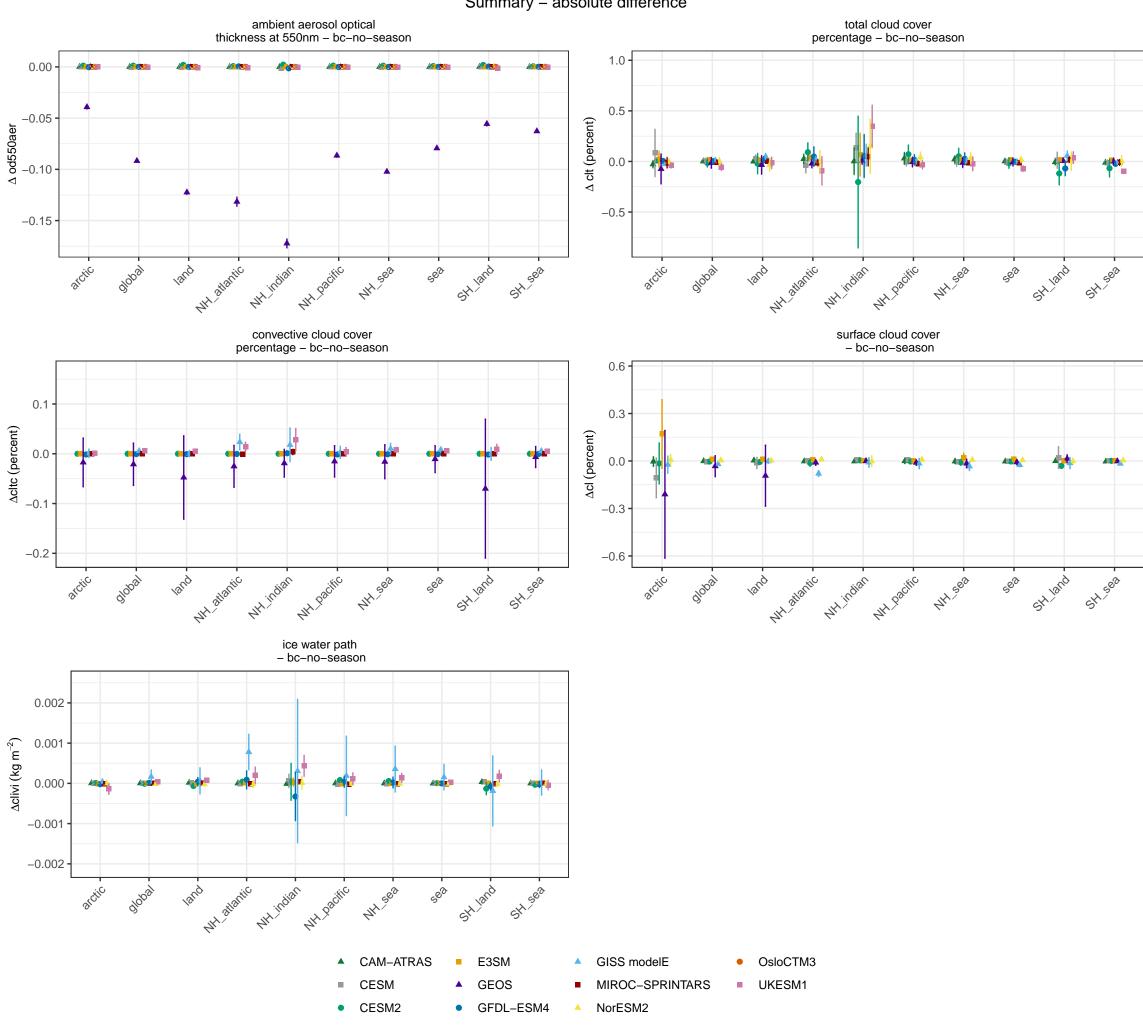
GISS modelE

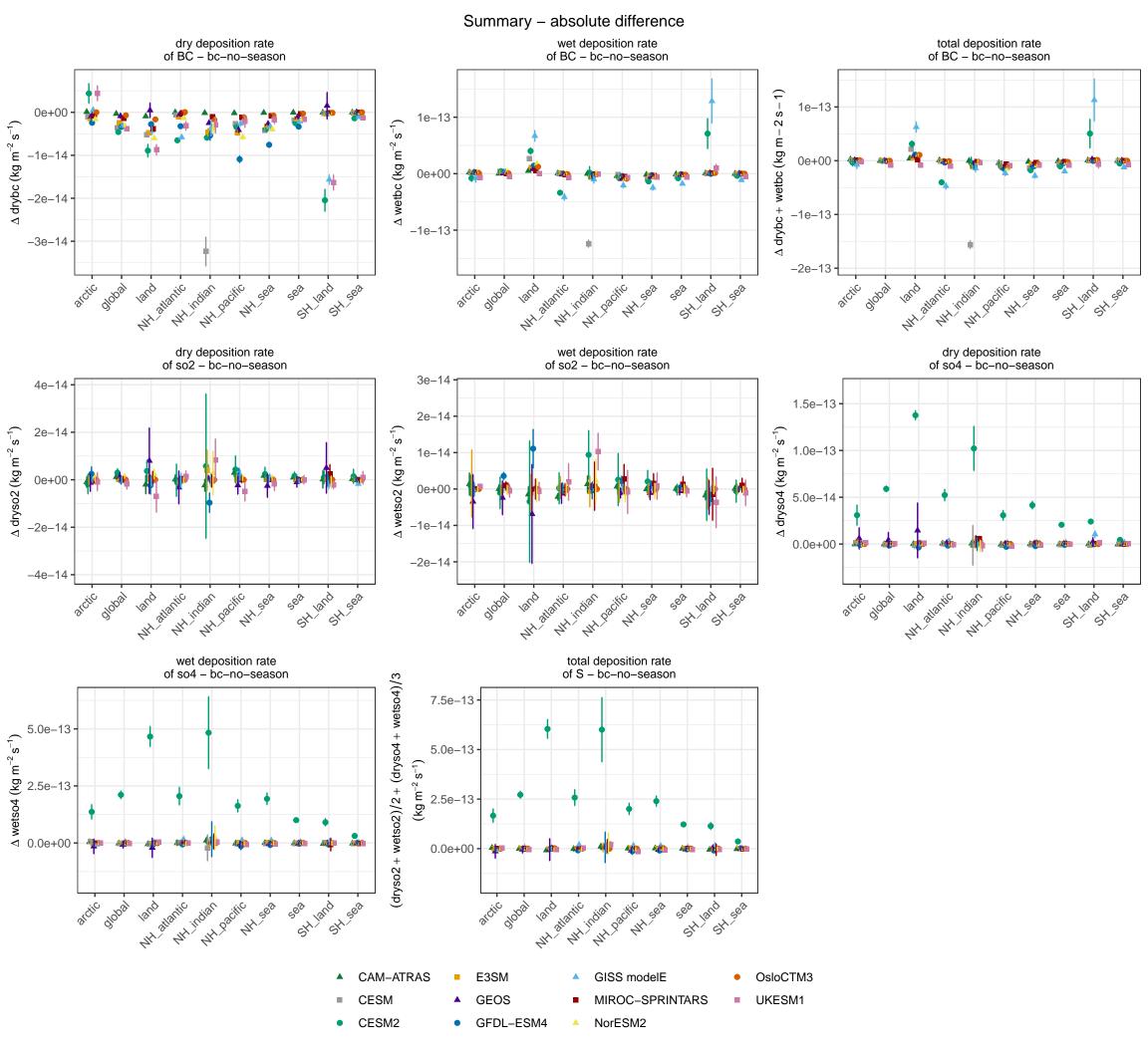
NorESM2

MIROC-SPRINTARS



## Summary – absolute difference





## Summary – absolute difference column mass burden of SO2 column mass burden of BC - bc-no-season - bc-no-season 1e-08 1e-07 0e+00 $\Delta loadbc \, (kg \; m^{-2})$ $\Delta \log \log ({ m kg} \ { m m}^{-2})$ -1e-08 0e+00 -2e-08 -3e-08-1e-07 Art allantic SHJand SHJand diopal Art indian diopal SO4 lifetime column mass burden of SO4 - bc-no-season - bc-no-season 8e-07 ∆ loadso4/(wetso4 + dryso4) (days) $\Delta loadso4~(kg~m^{-2})$ 4e-07 4e-07 0e+00 0e+00 -4e-07 AH allantic -4e-07 SH Jand diopal diopal aictic alctic and Art alarisc Art Indian Art Dacisic Art sea SH Jand SH sea SO2 timescale - bc-no-season ∆ loadso2/emiso2 (days) 1e-07 0e+00 -1e-07 SHIRING diopal arctic d AH alianiic AH jidian AH Jacilic

OsloCTM3

■ UKESM1

CAM-ATRAS

CESM

CESM2

E3SM

**GEOS** 

GFDL-ESM4

GISS modelE

NorESM2

MIROC-SPRINTARS