



AOD in CAMS reanalysis and CMIP6 Regional and seasonal variations

Johanne Mehren

Models

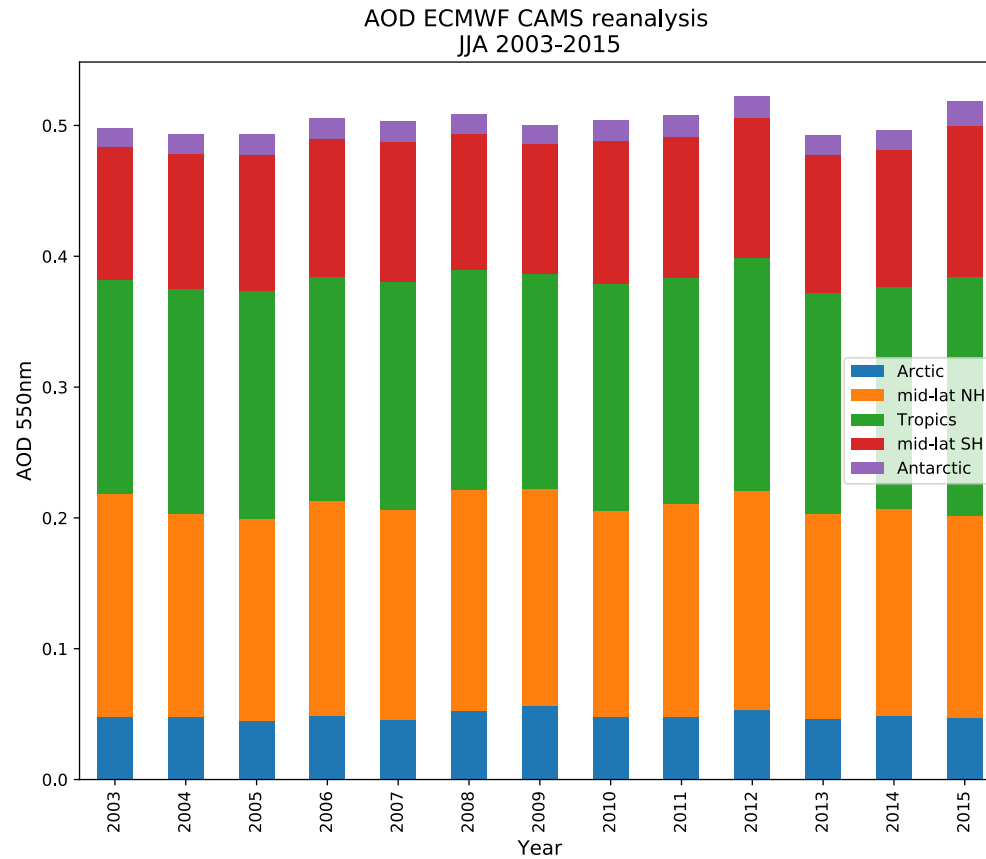
ECMWF CAMS reanalysis

- Global reanalysis of atmospheric compositions
- Period 2003-2018
- Resolution?
- Regions: arctic (70,90), mid-latitude NH (30,70), tropics (-30, 30), mid-lat SH (-70,-30), antarctic (-70, -90)

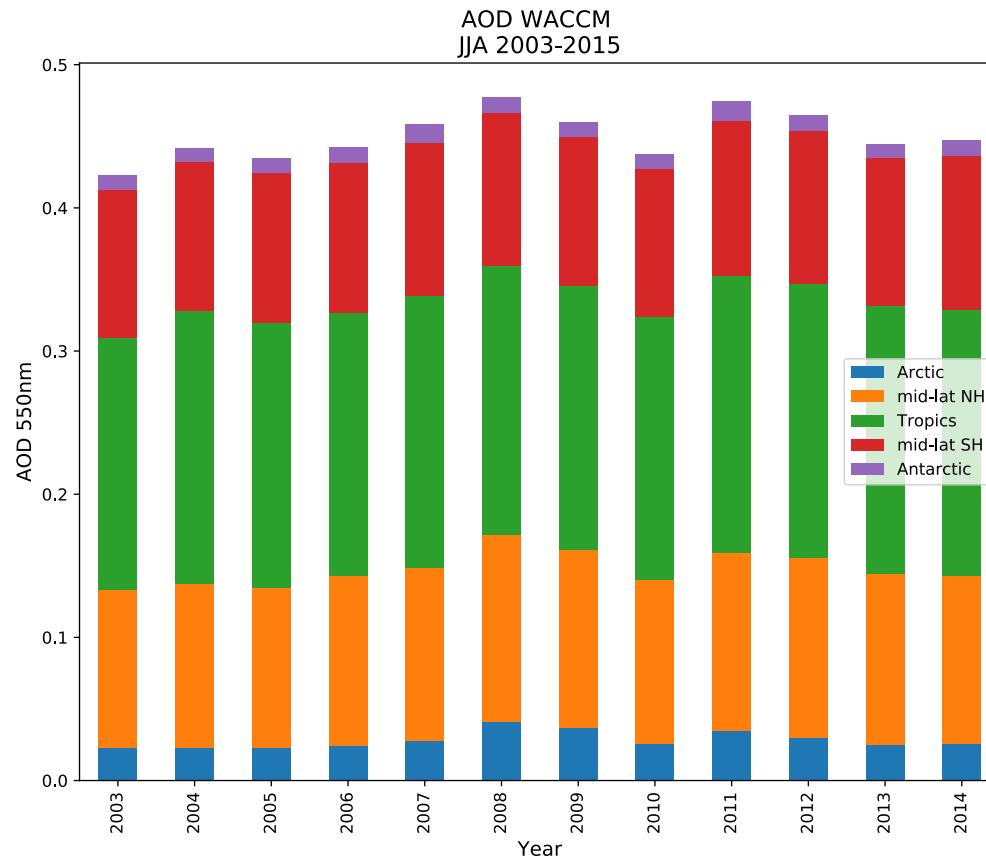
CMIP6

- CESM2-WACCM
- Historical forcing, period 1850-2014
- Grid resolution 0.9x1.25
- Seasons: JJA and DJF

Total AOD reanalysis



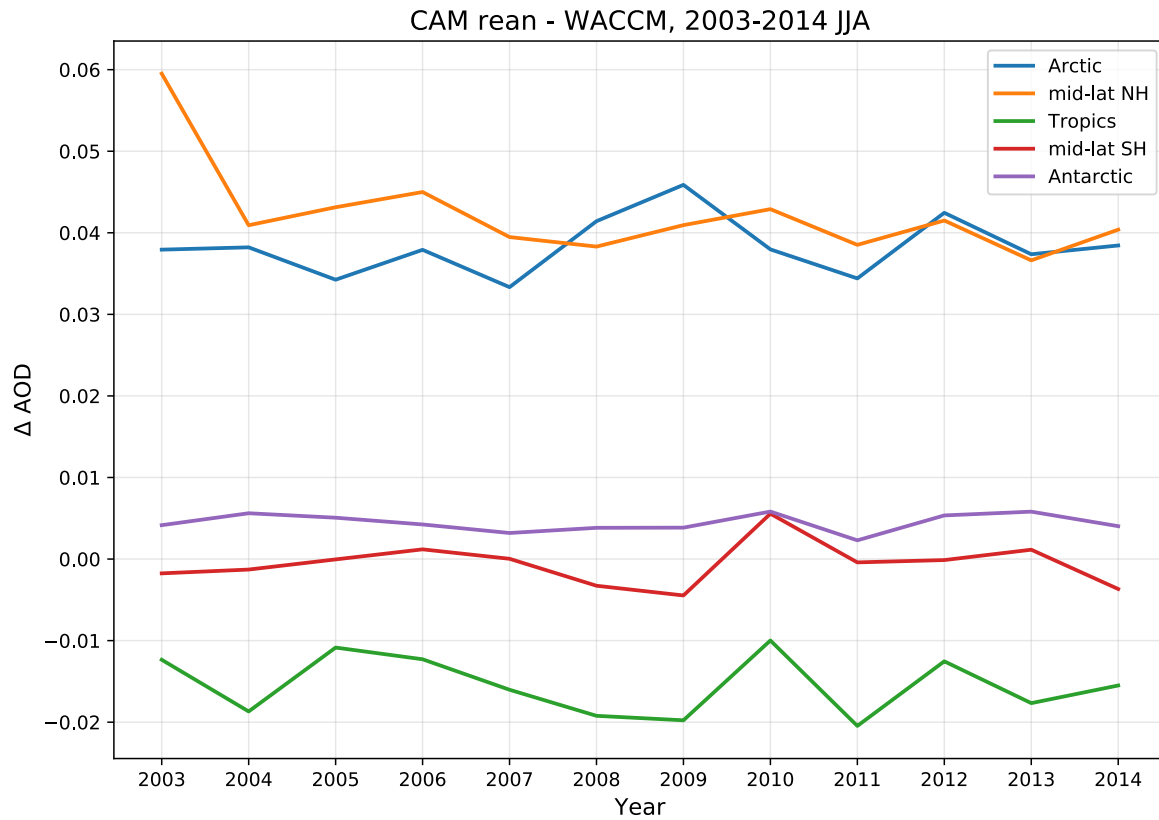
Total AOD WACCM



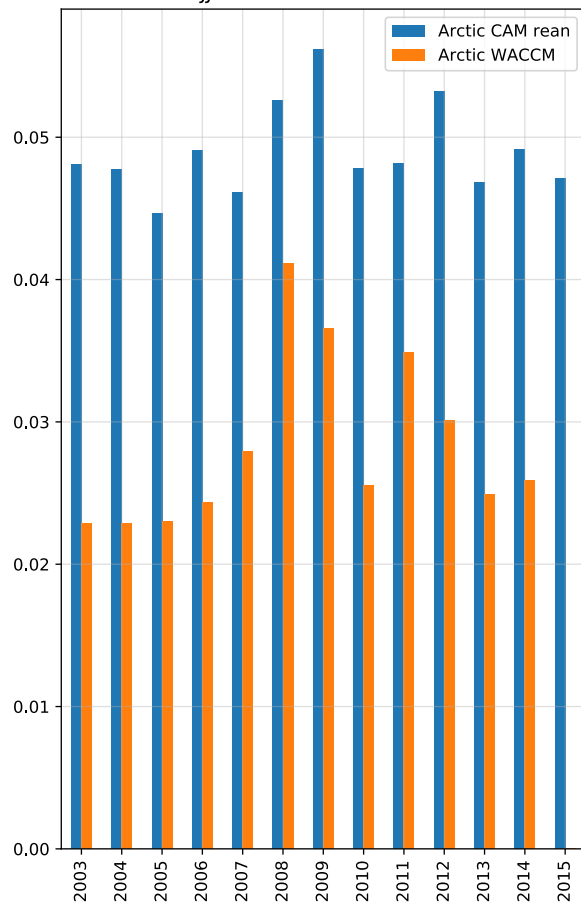
Difference CAM rean – WACCM

season = JJA

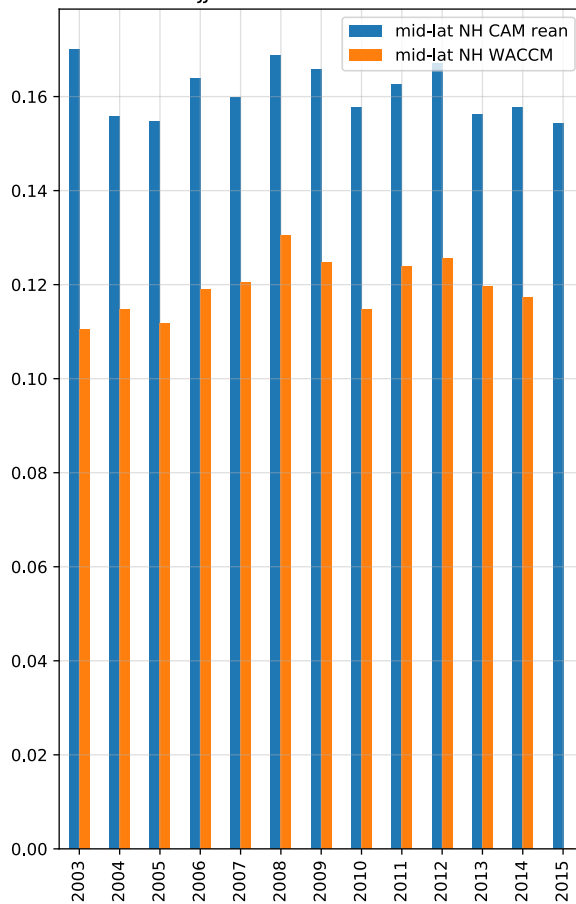
Total AOD



CAM rean & WACCM Arctic
JJA 2003-2014 Total AOD



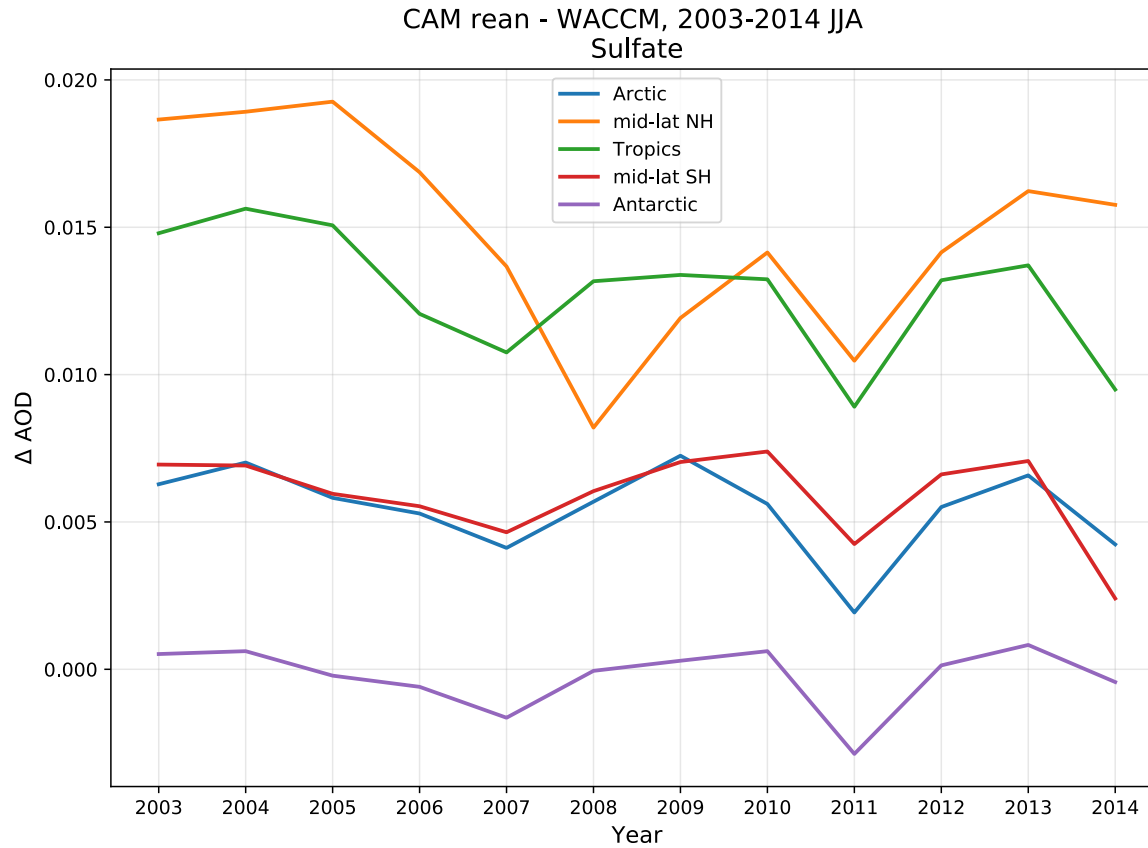
CAM rean & WACCM Mid-lat NH
JJA 2003-2014 Total AOD



Difference CAM rean – WACCM

season = JJA

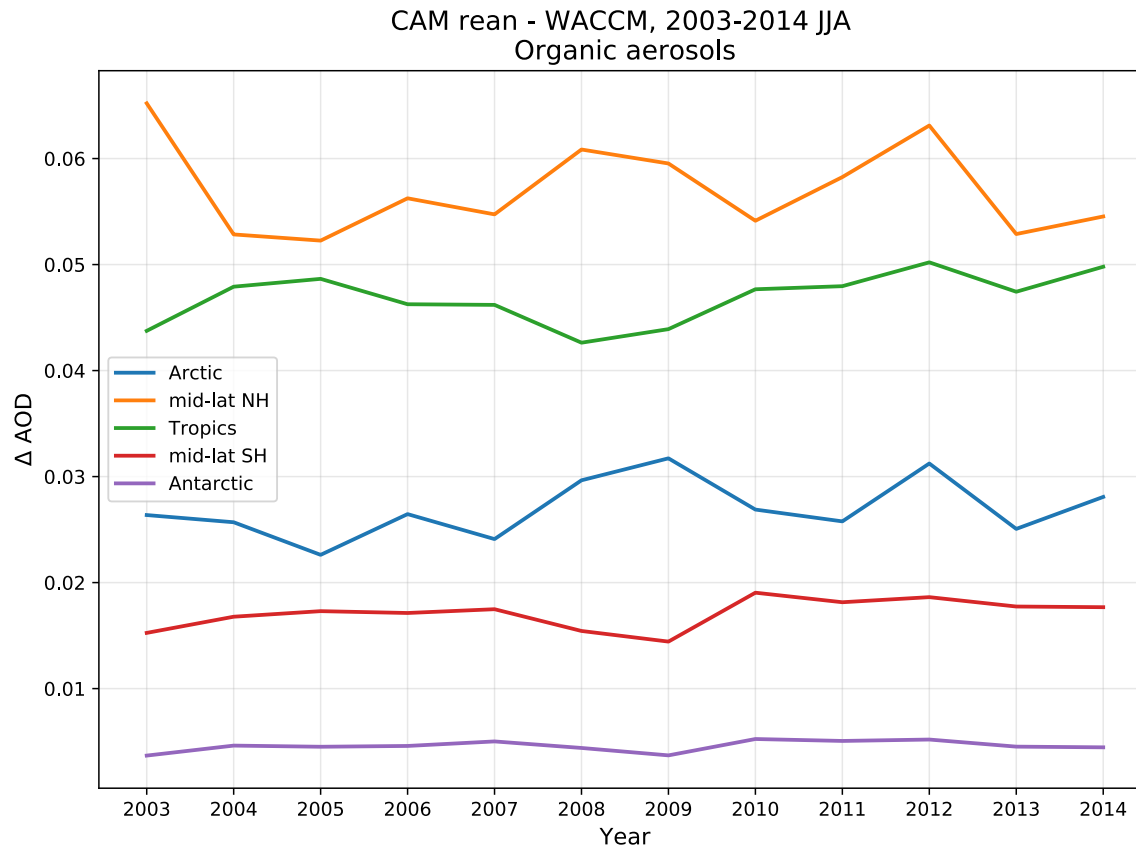
Sulfate



Difference CAM rean – WACCM

season = JJA

Organic Aerosols



Future work

- Make seasonal comparison –DJF
- Where do we find the largest deviations?
- Do all variables add up?

References

- Inness et al 2019, “The CAMS reanalysis of atmospheric composition”