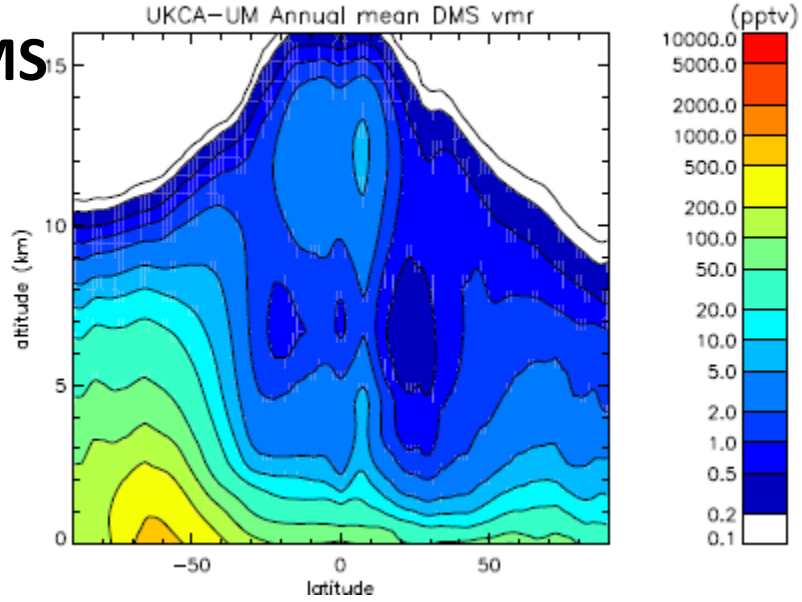
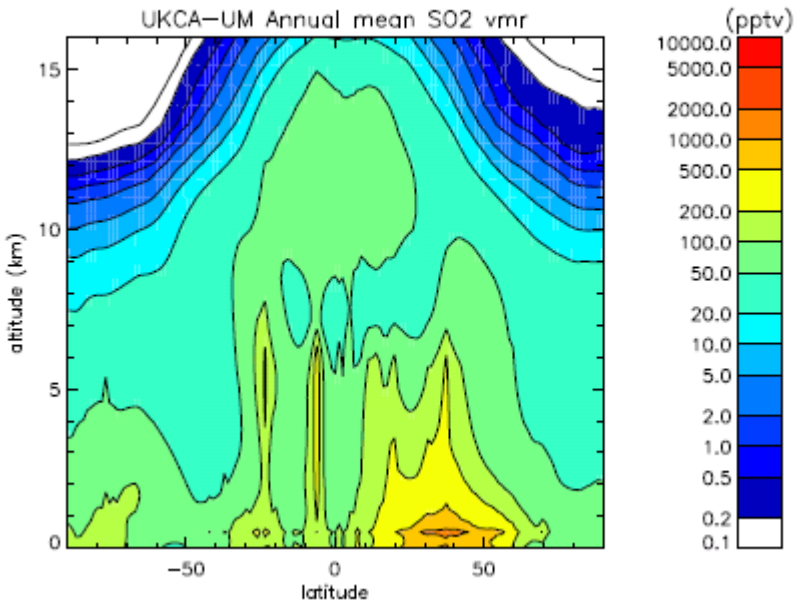
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

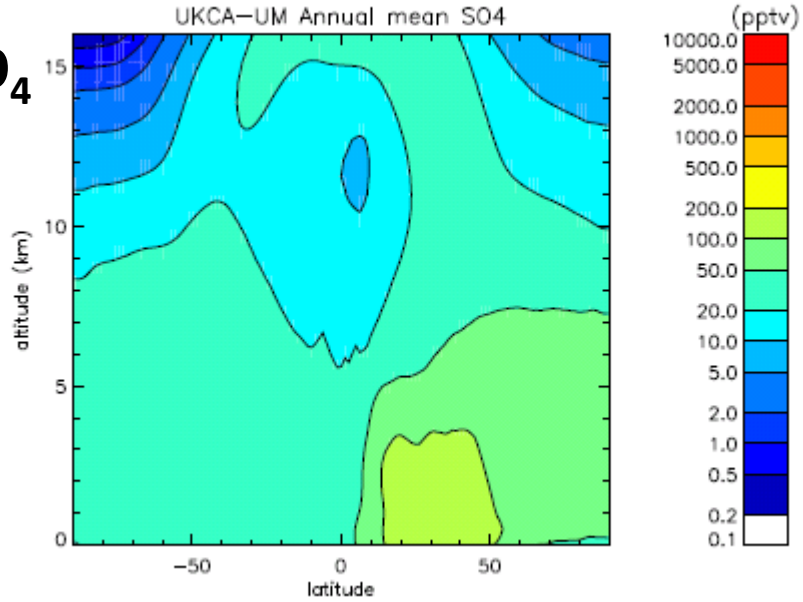
DMS



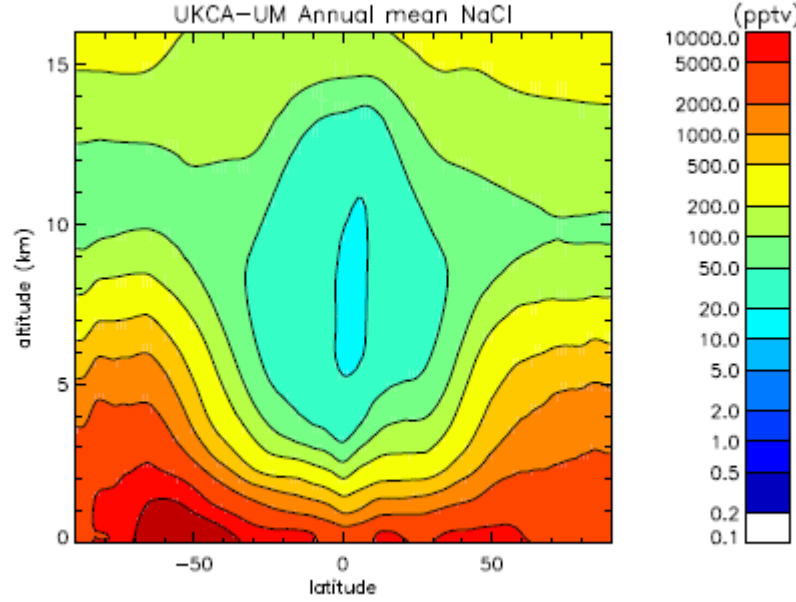
SO_2



SO_4



NaCl

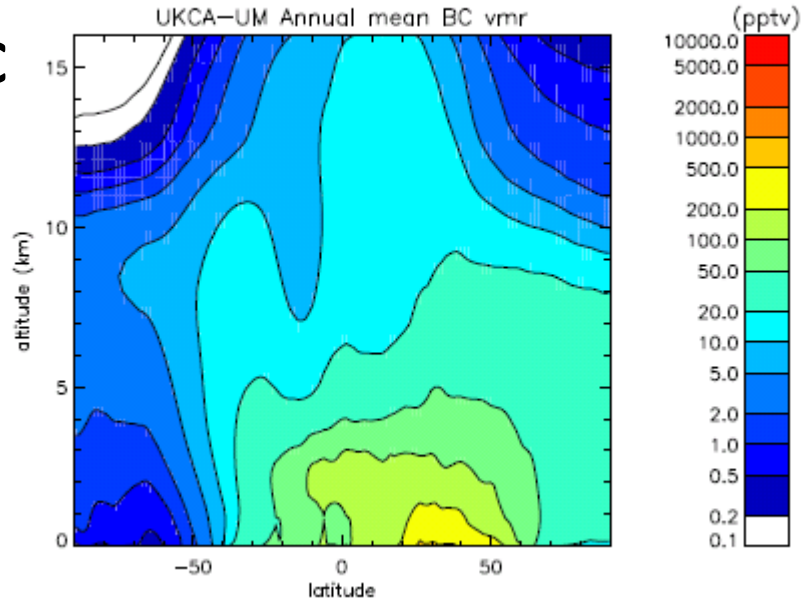


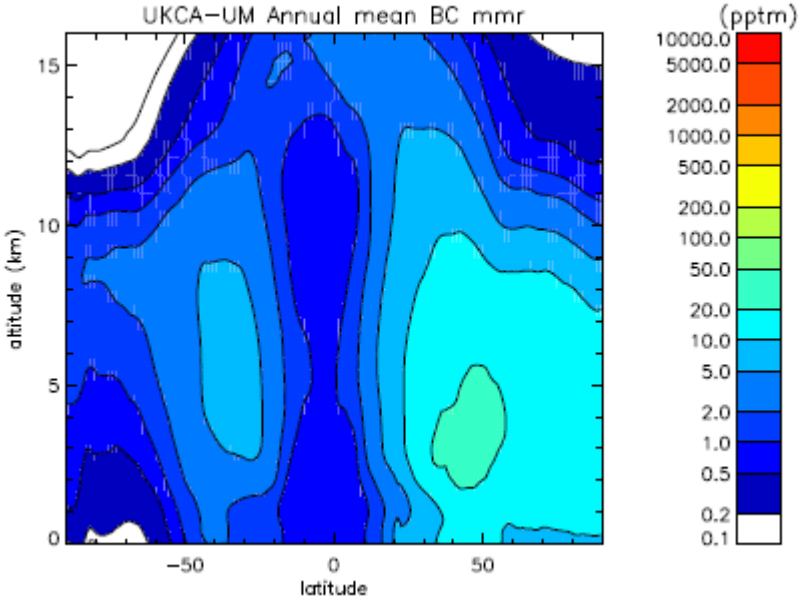
All annual-means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

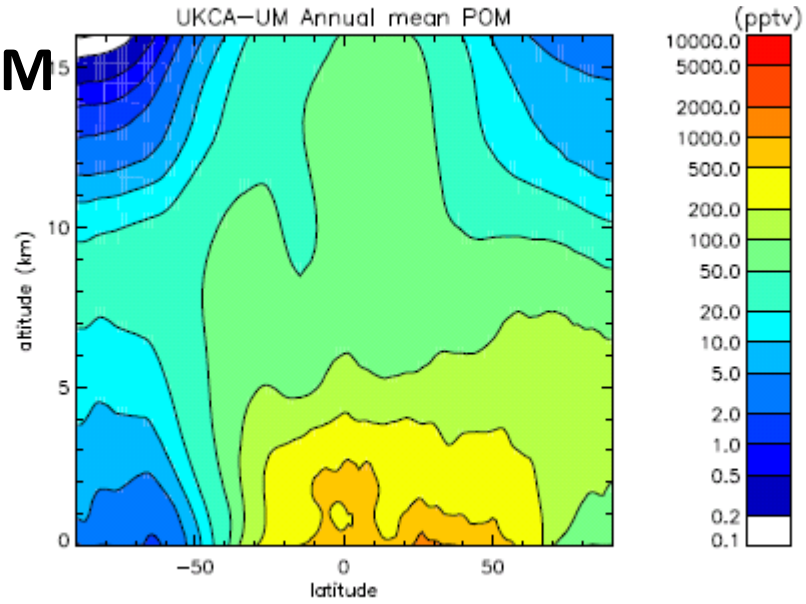
BC





BC

POM



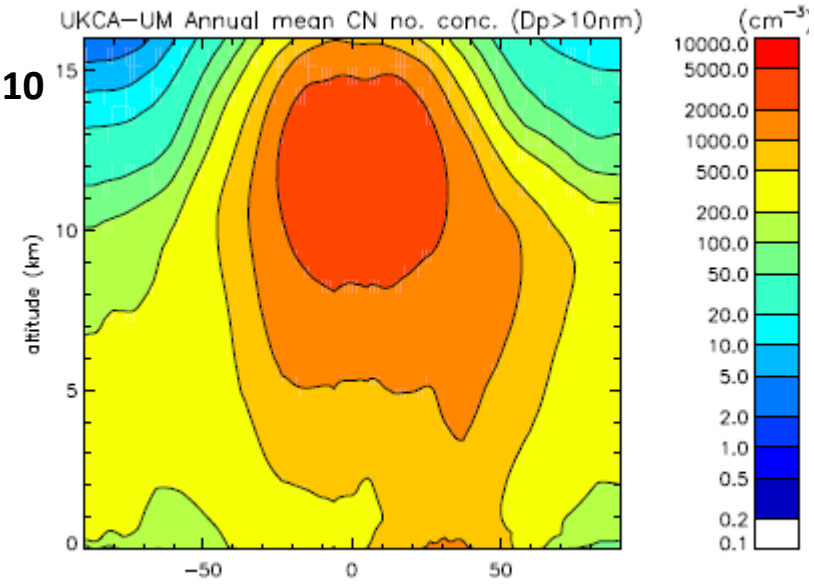
Over longitude range 150W-180W which is approximately that of HIPPO-1 campaign (Schwartz et al., 2010)

All annual-means

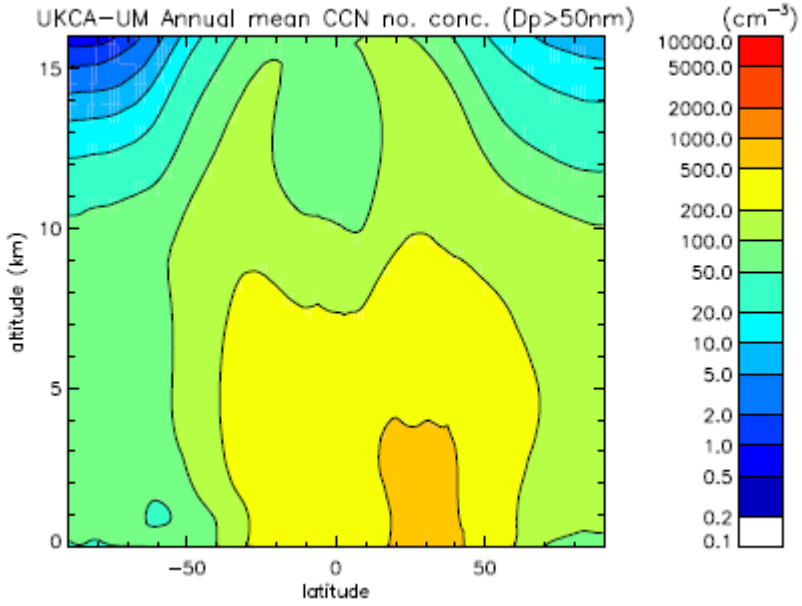
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

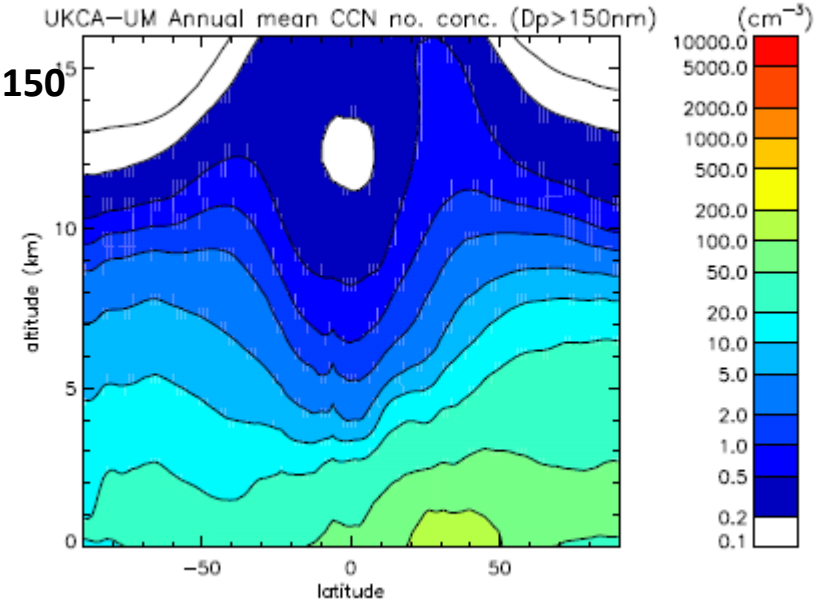
N_{10}



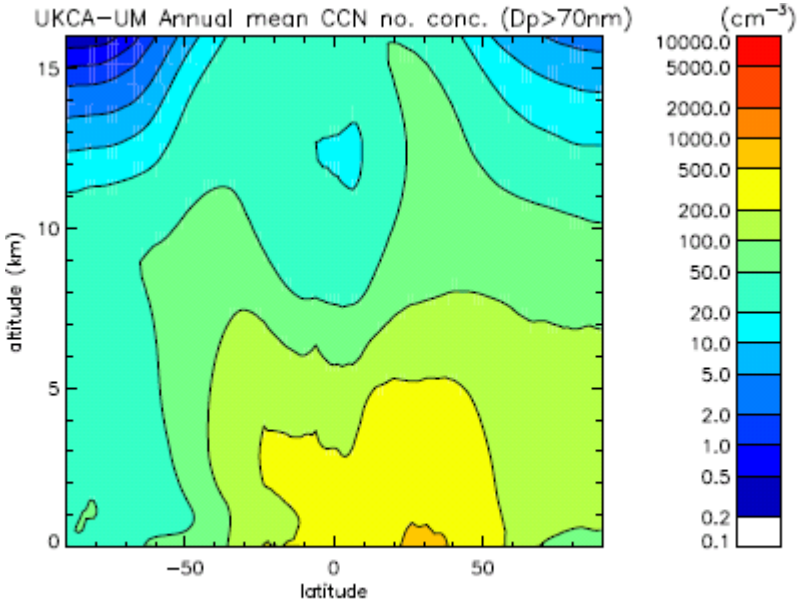
N_{50}



N_{150}



N_{70}

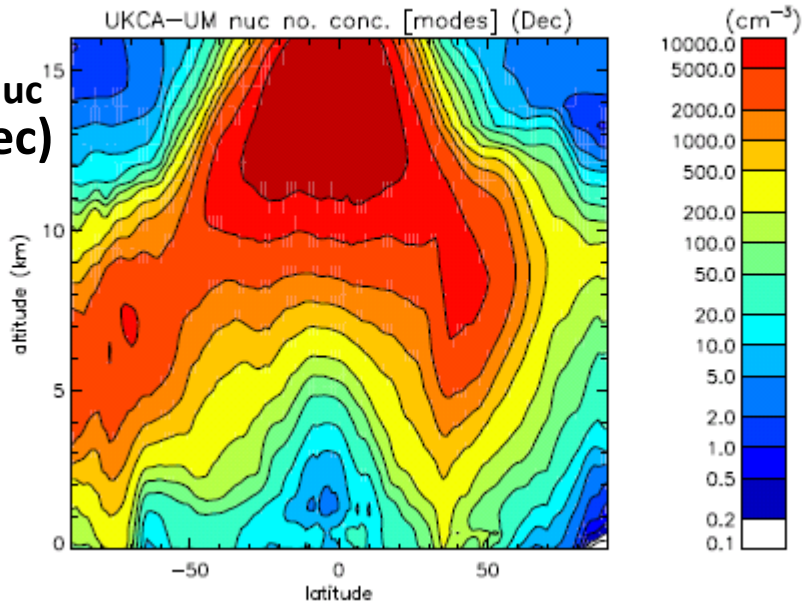


All annual-means

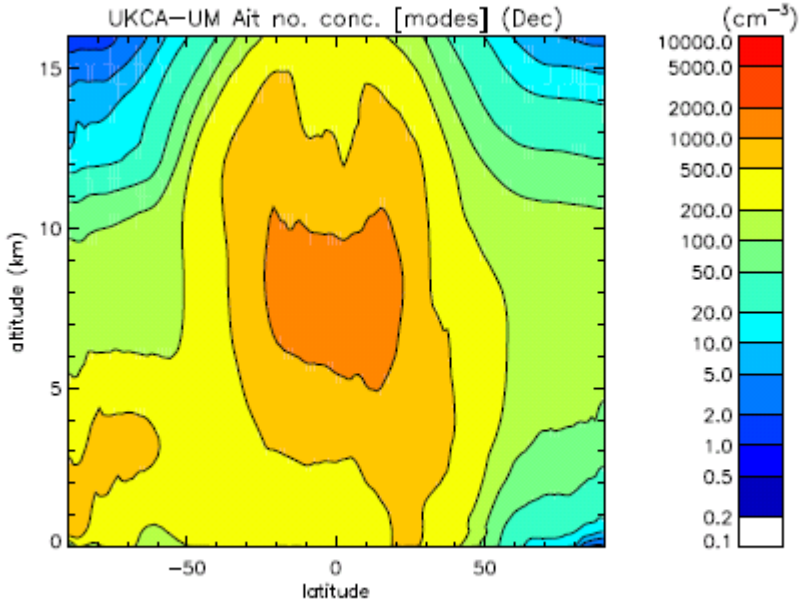
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

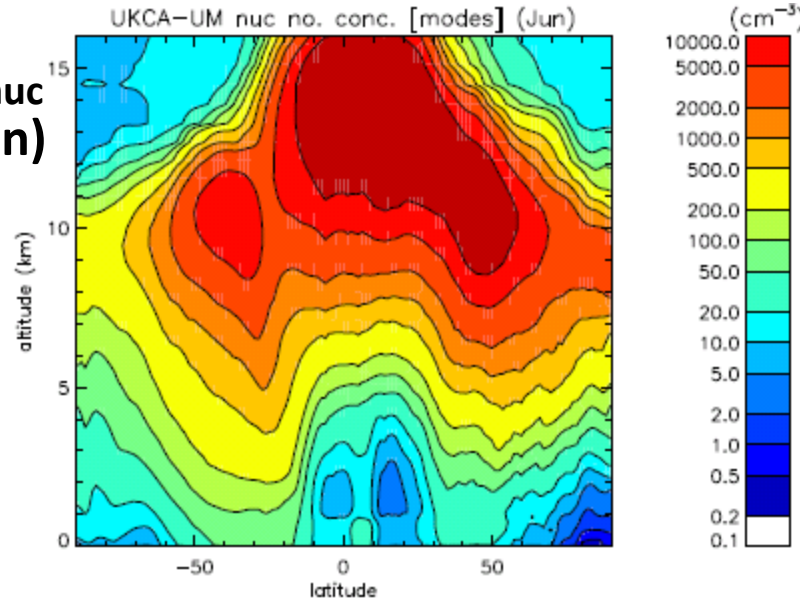
N_{nuc} (Dec)



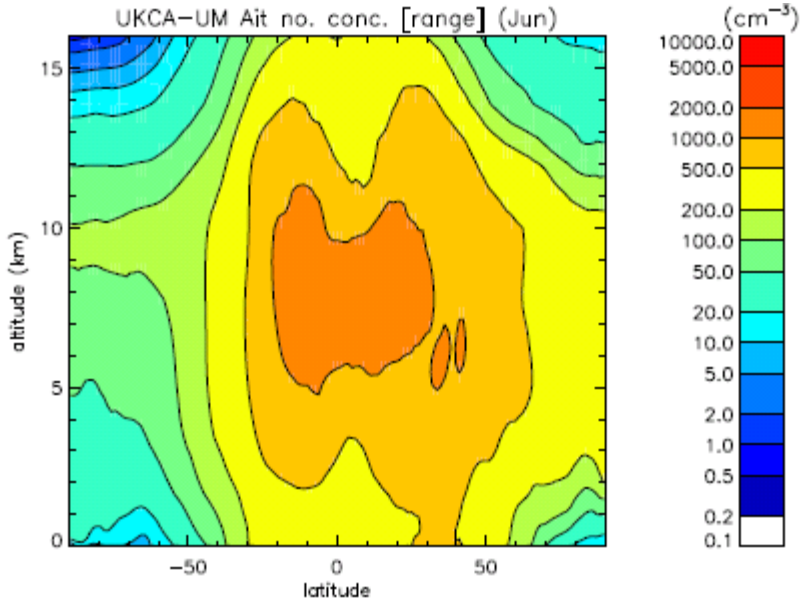
N_{ait} (Dec)



N_{nuc} (Jun)



N_{ait} (Jun)

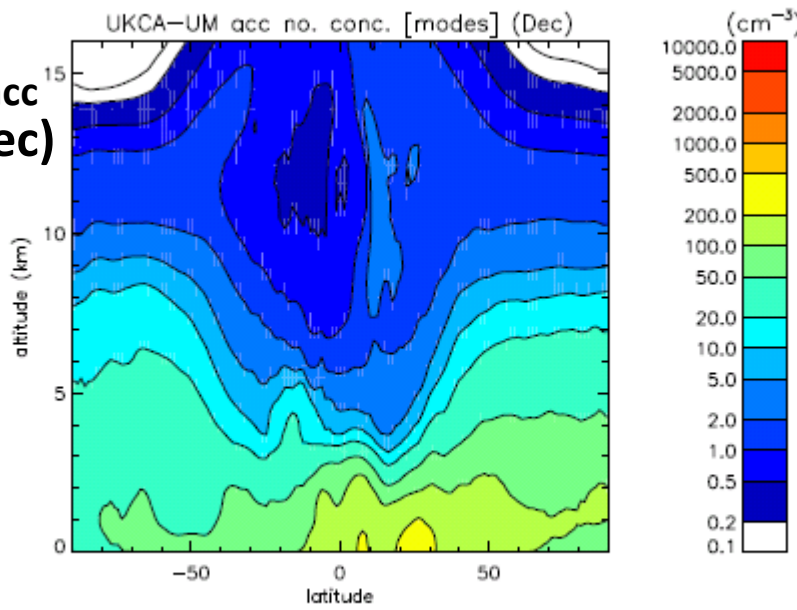


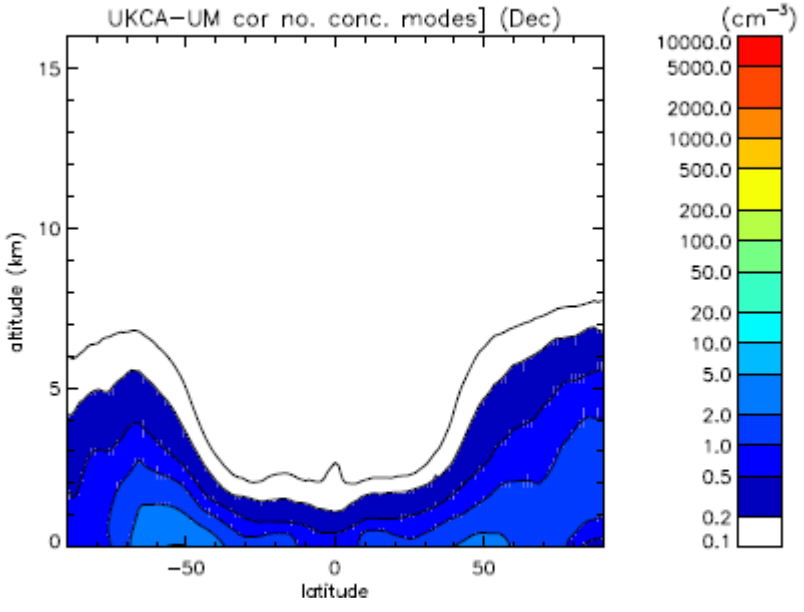
Dec and Jun means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

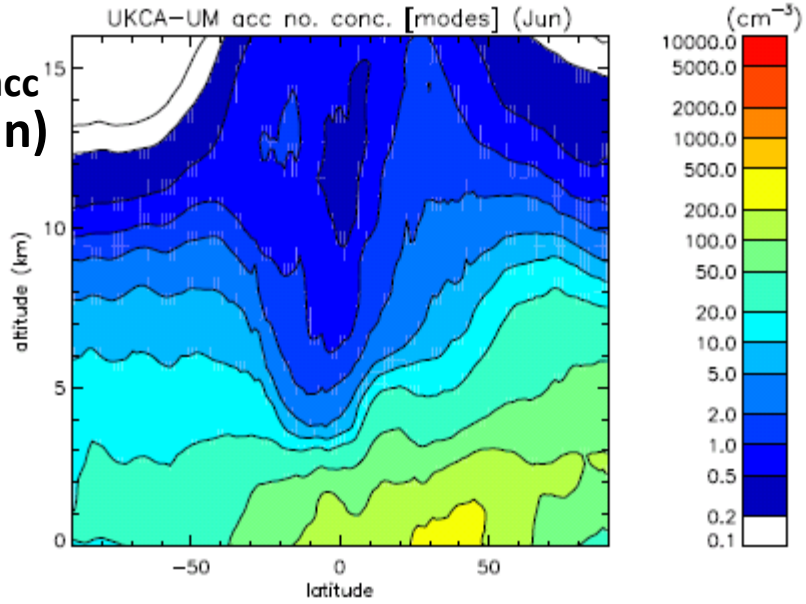
N_{acc} (Dec)

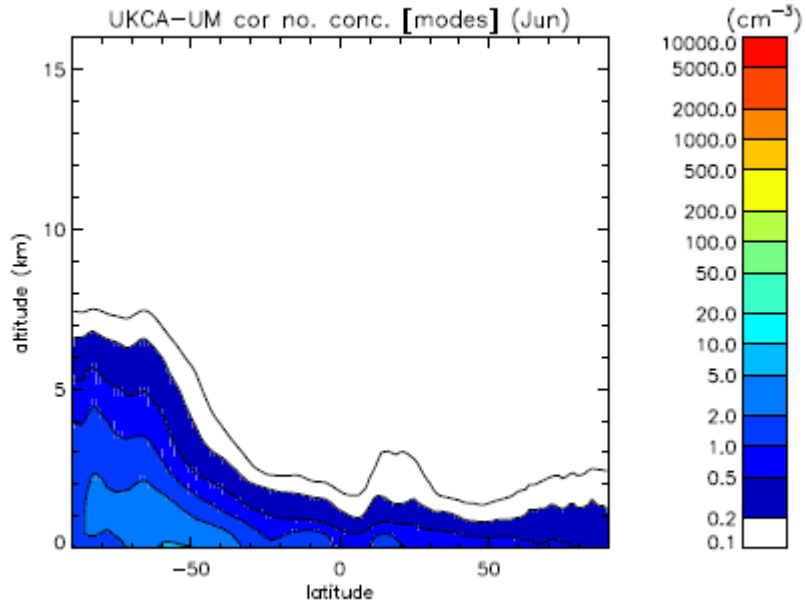




N_{cor} (Dec)

N_{acc} (Jun)





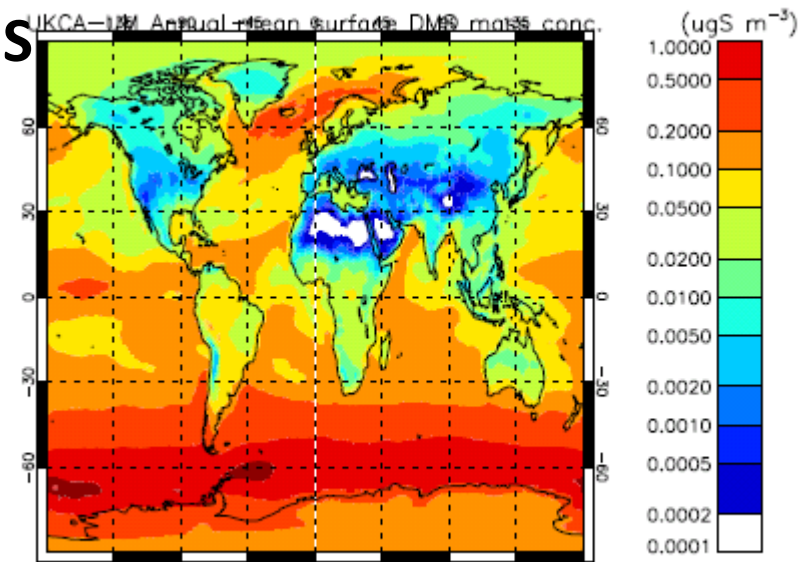
N_{cor} (Jun)

Dec and Jun means

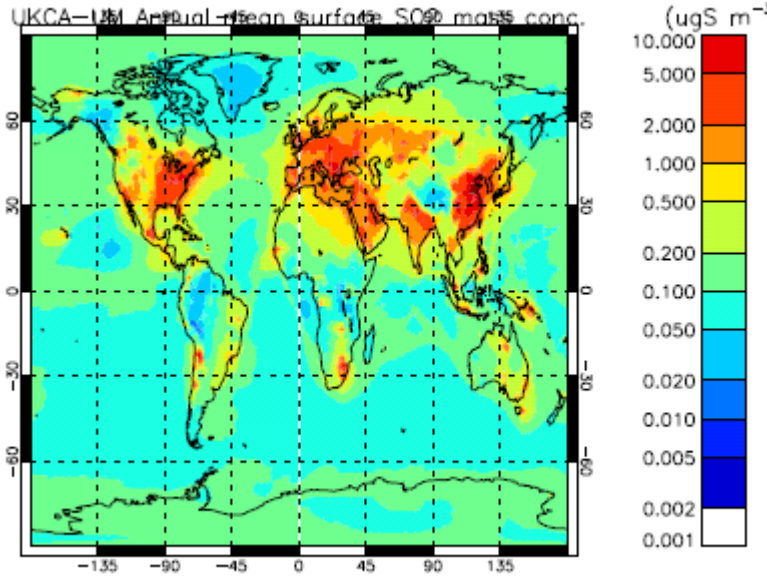
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

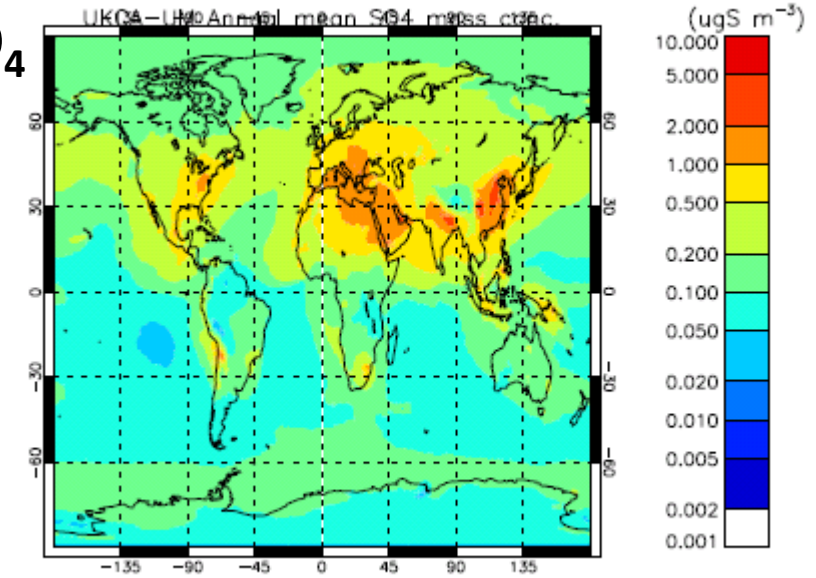
DMS



SO_2



SO_4

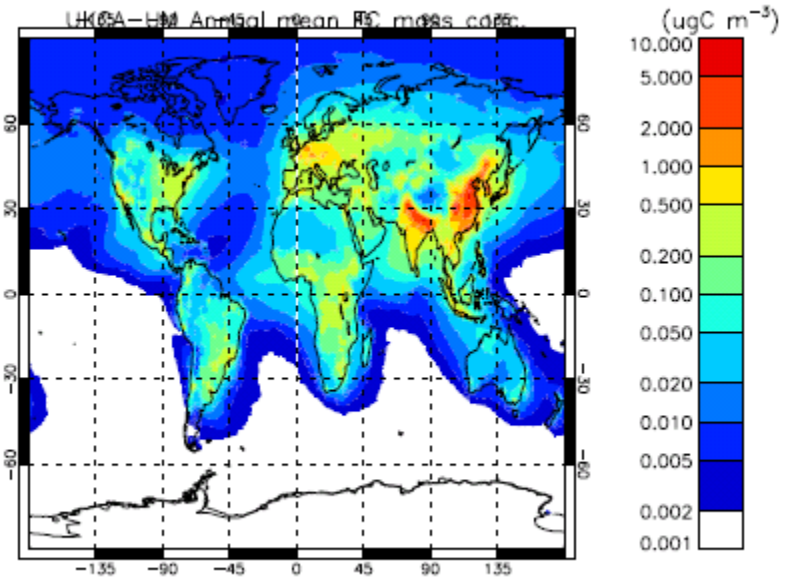


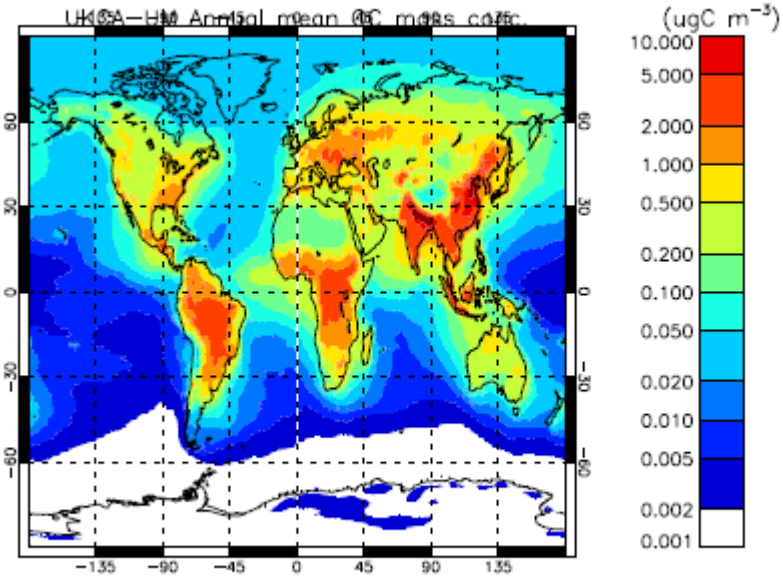
All annual-means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

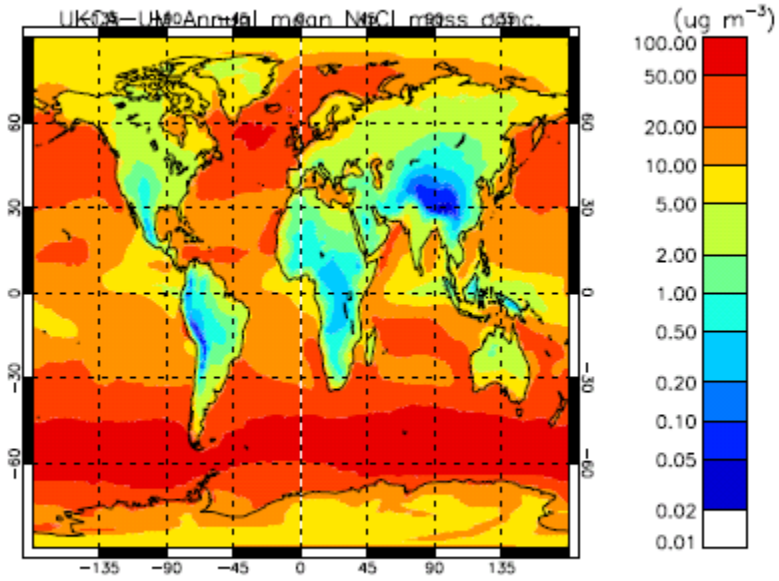
BC





POM

NaCl

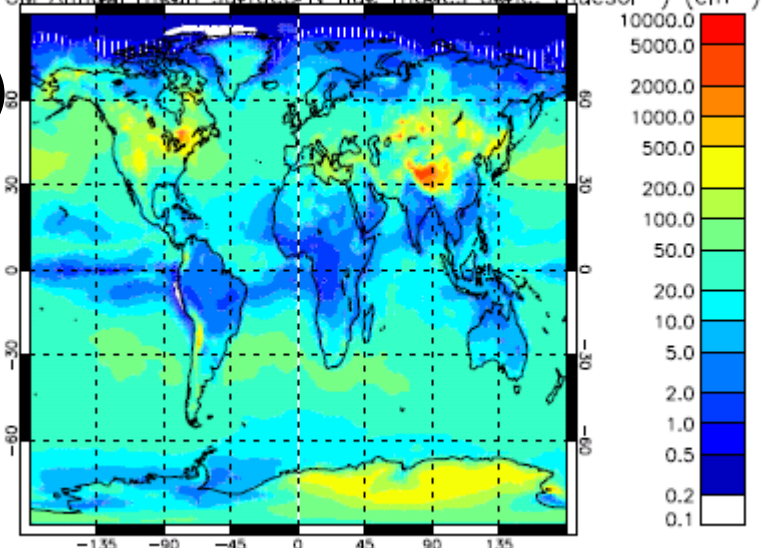


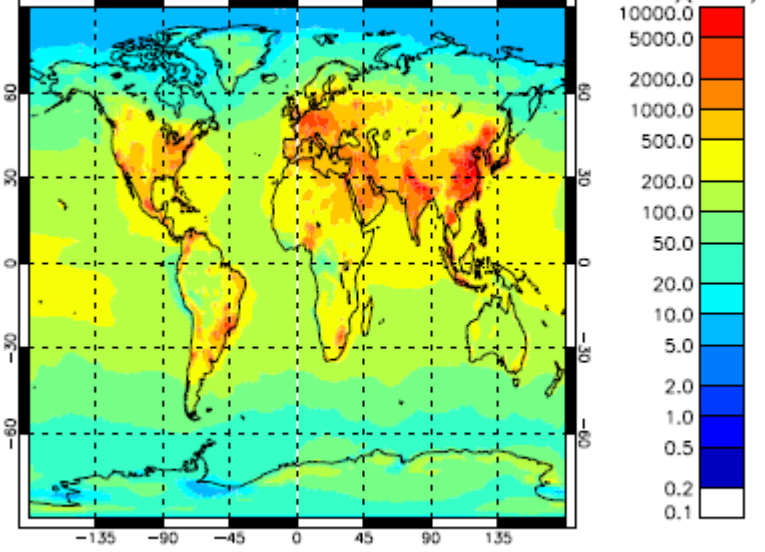
All annual-means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

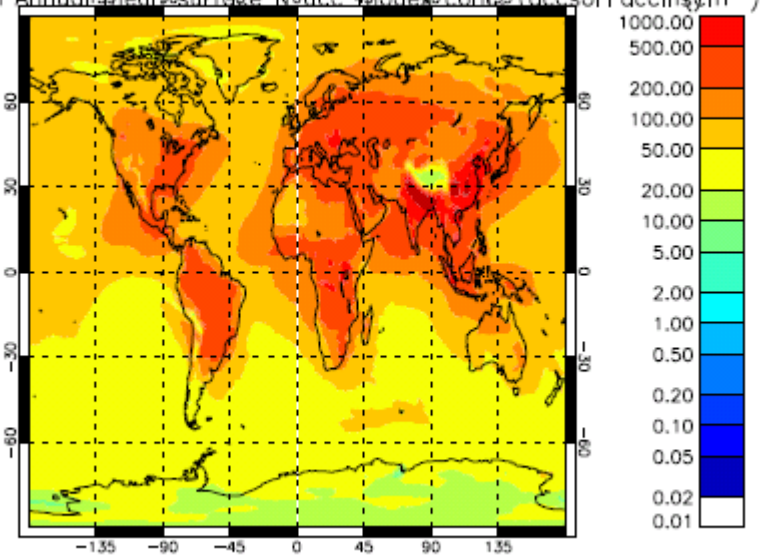
N_{nuc} (Dec)

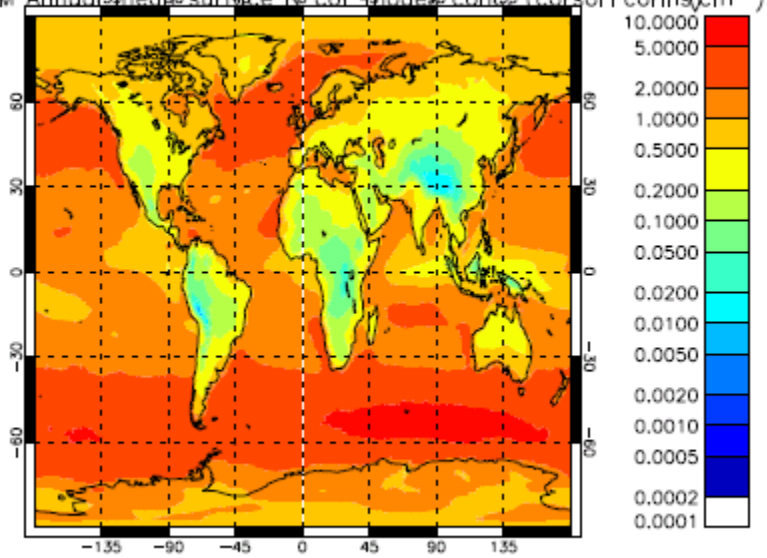




N_{Ait} (Dec)

N_{acc}





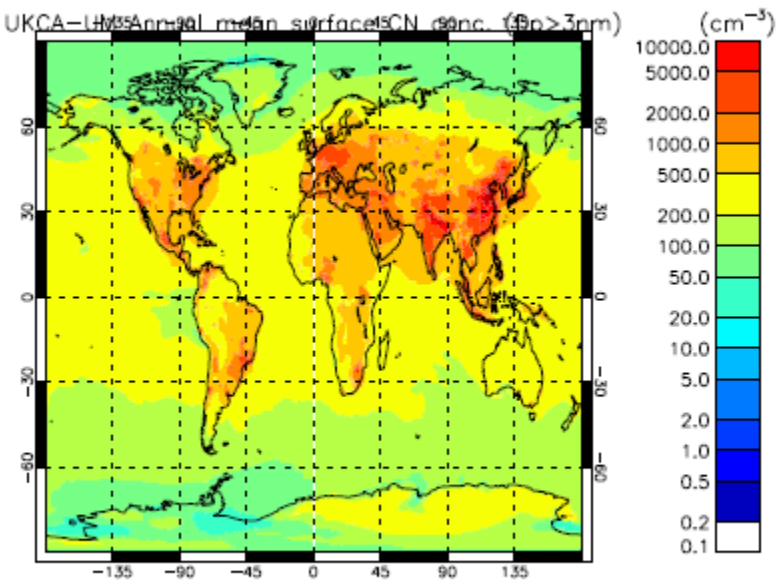
N_{cor}

All annual-means

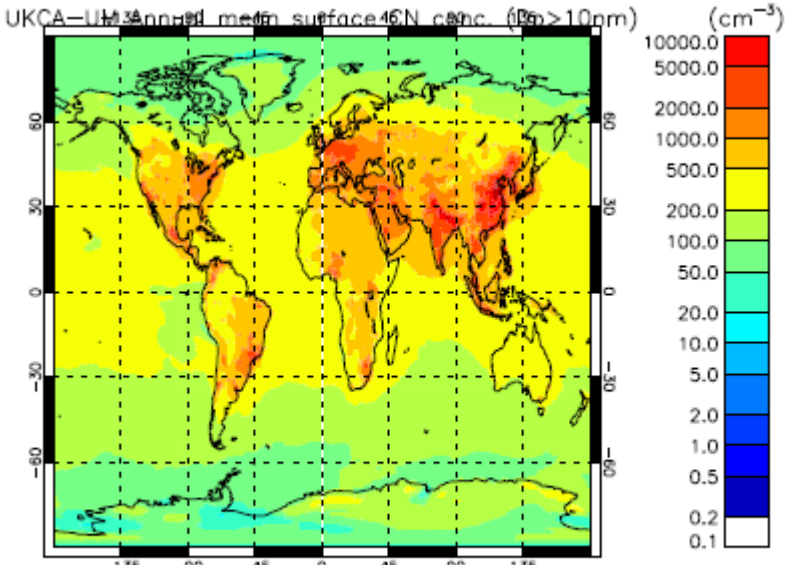
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

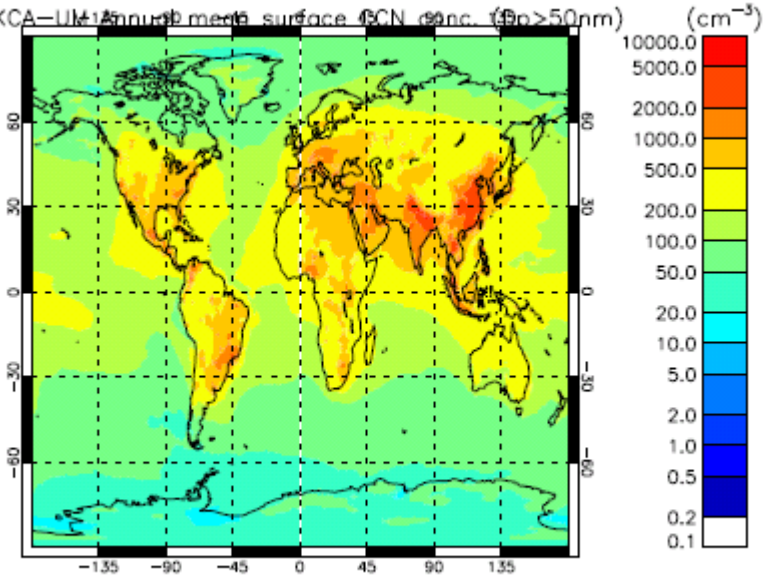
N_3



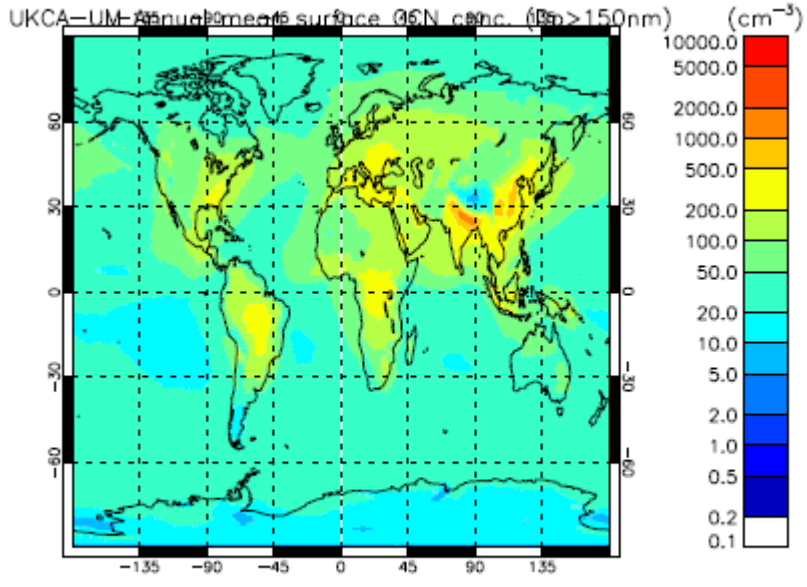
N_{10}



N_{50}



N_{150}

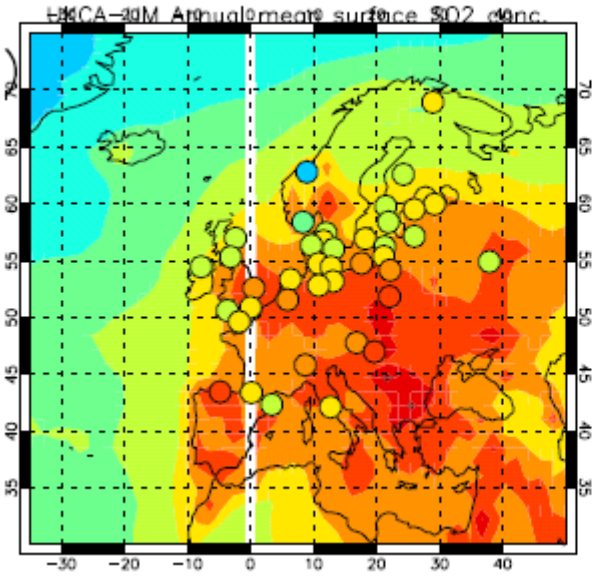


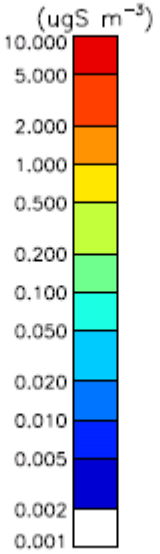
All annual-means

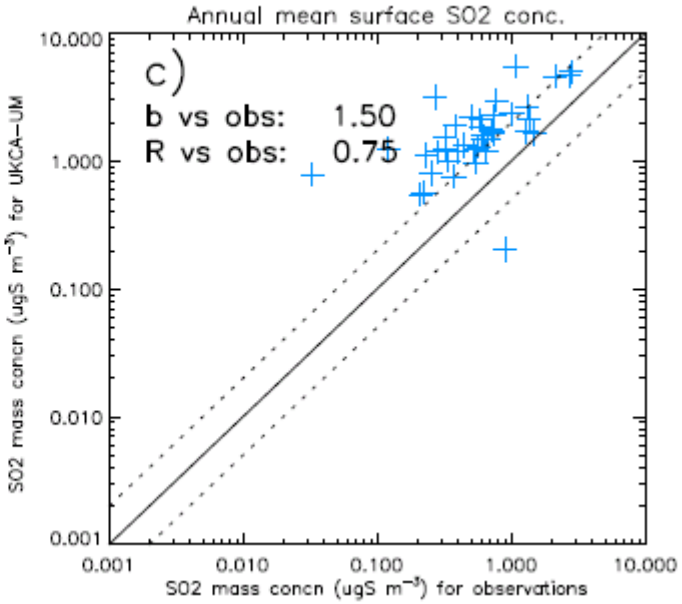
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

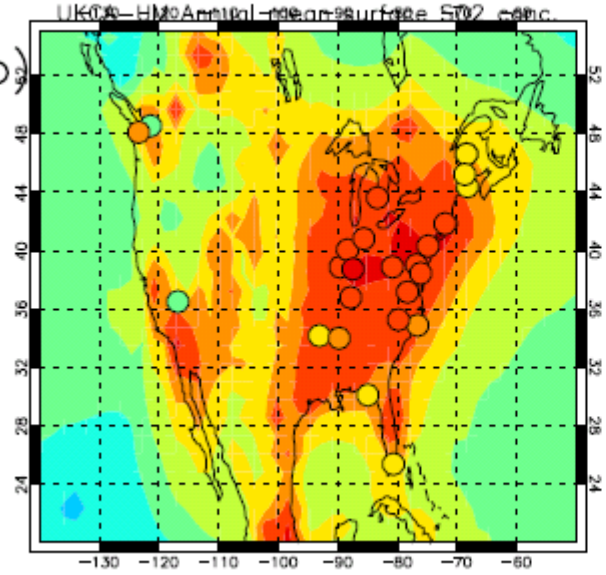
SO_2

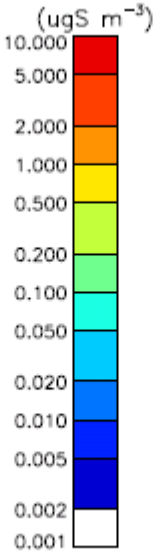


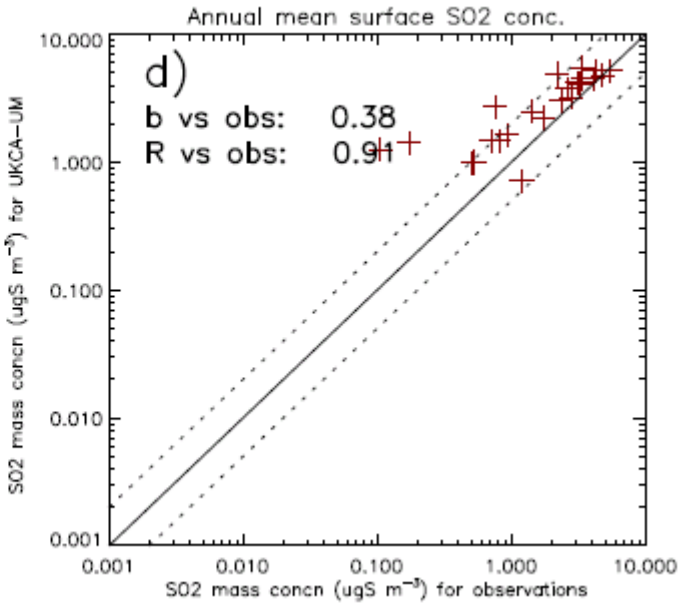




SO_2





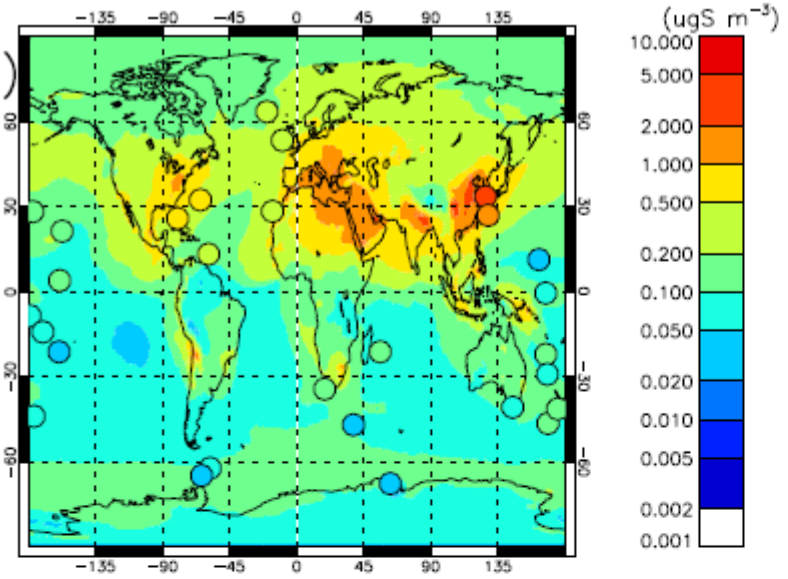


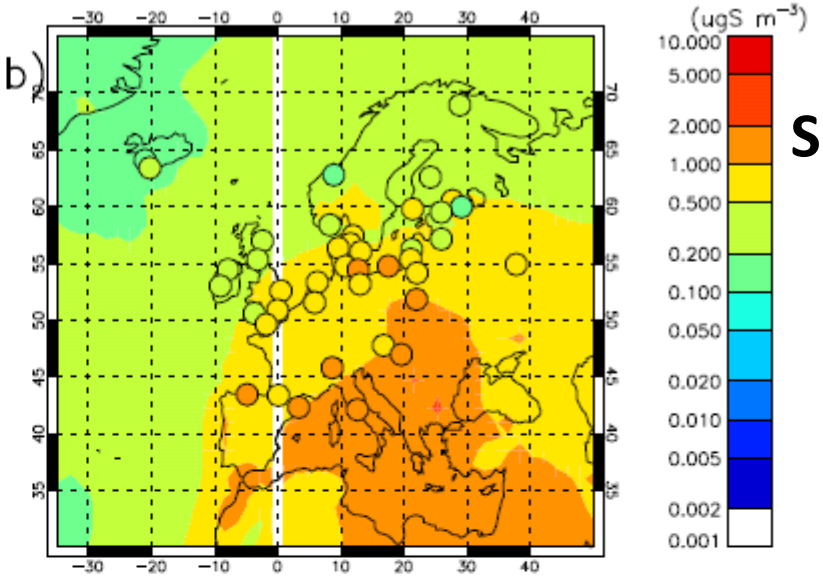
All annual-means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

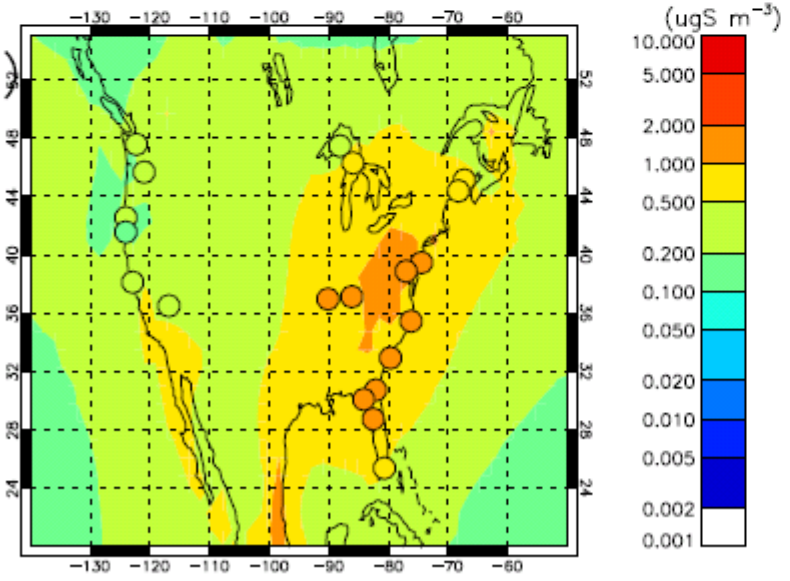
SO_4

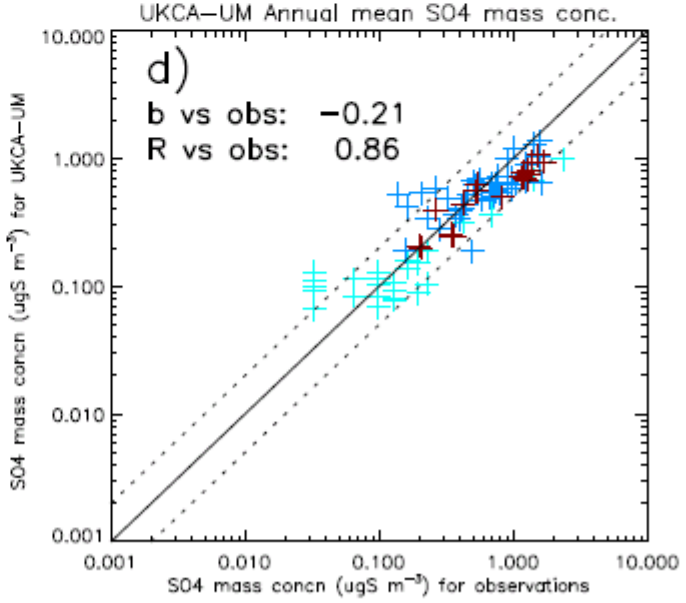




SO_4

SO_4



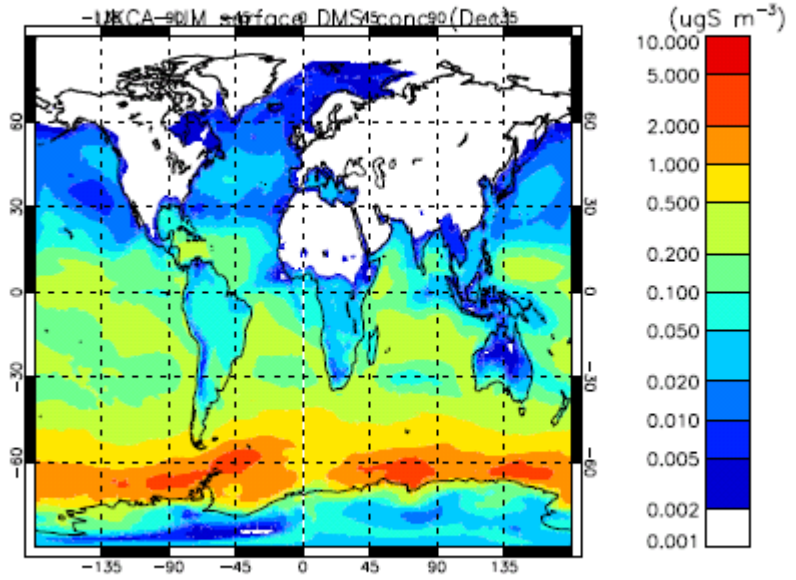


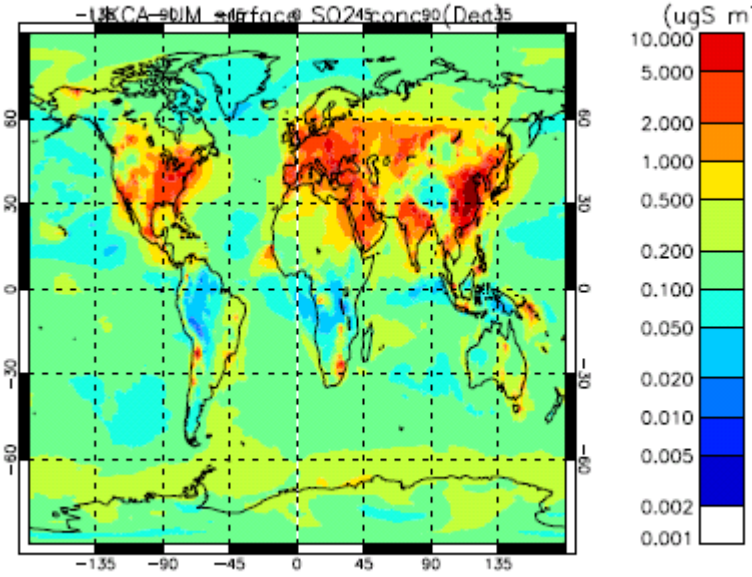
All annual-means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

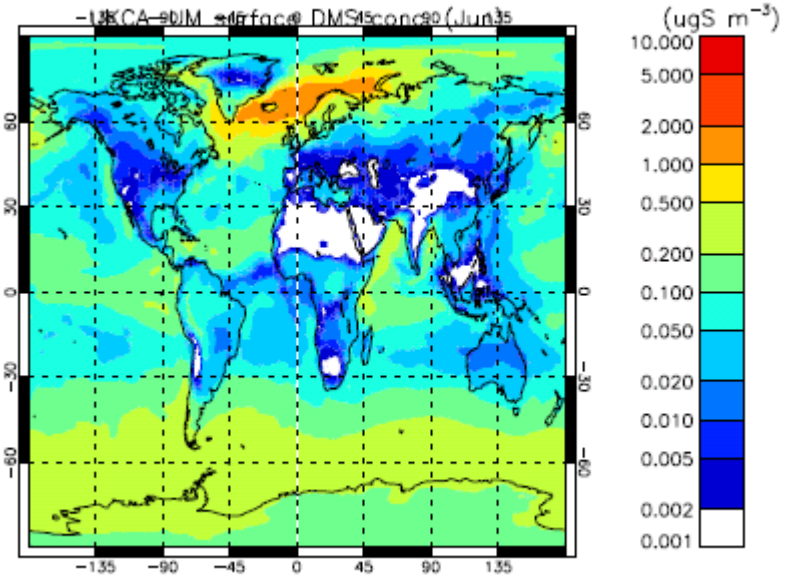
DMS (Dec)

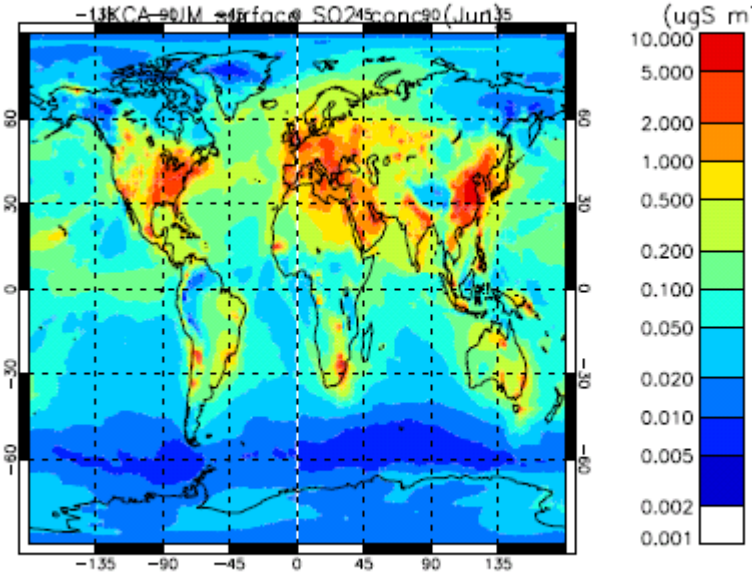




SO_2 (Dec)

DMS (Jun)





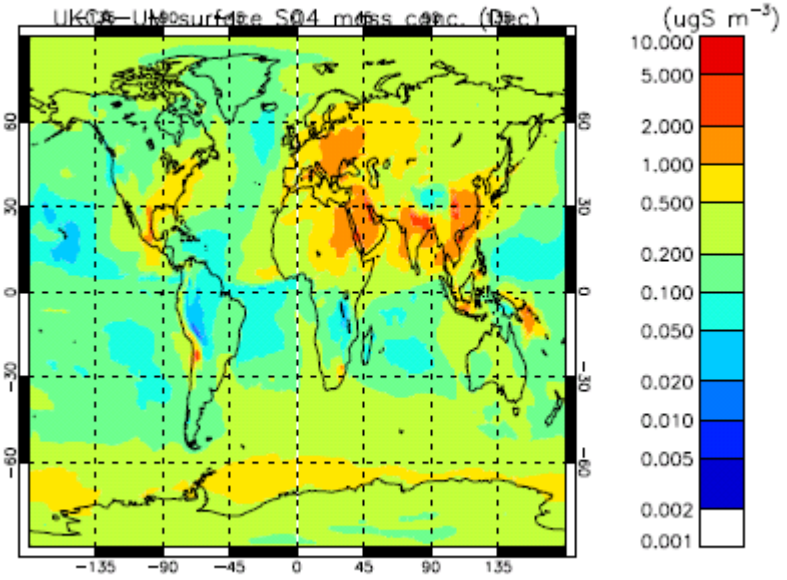
SO_2 (Jun)

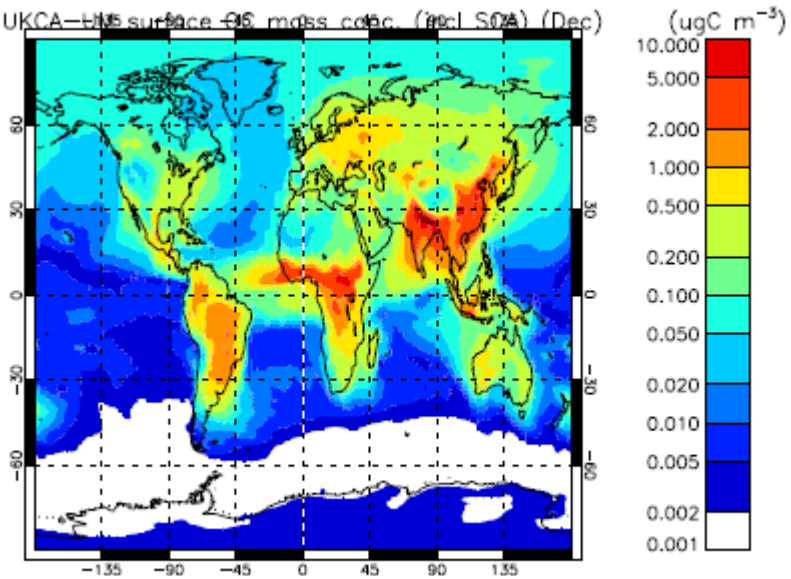
Dec & Jun means

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

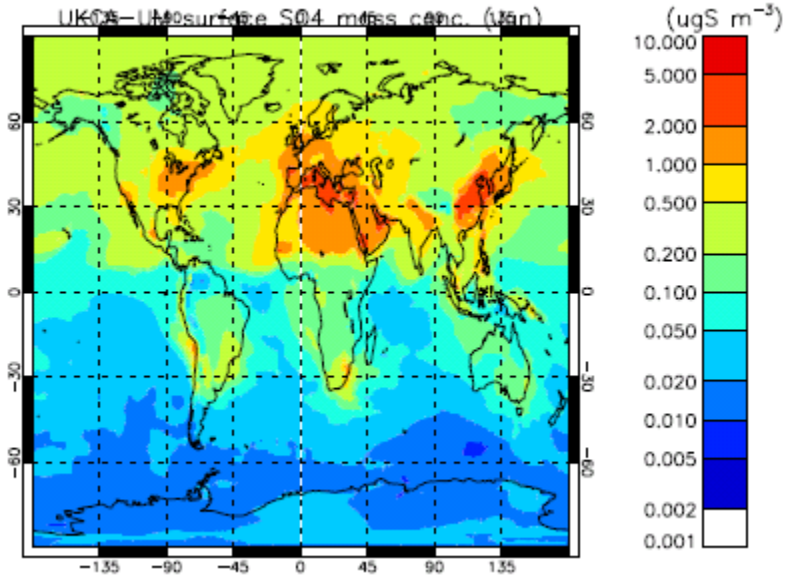
SO_4 (Dec)

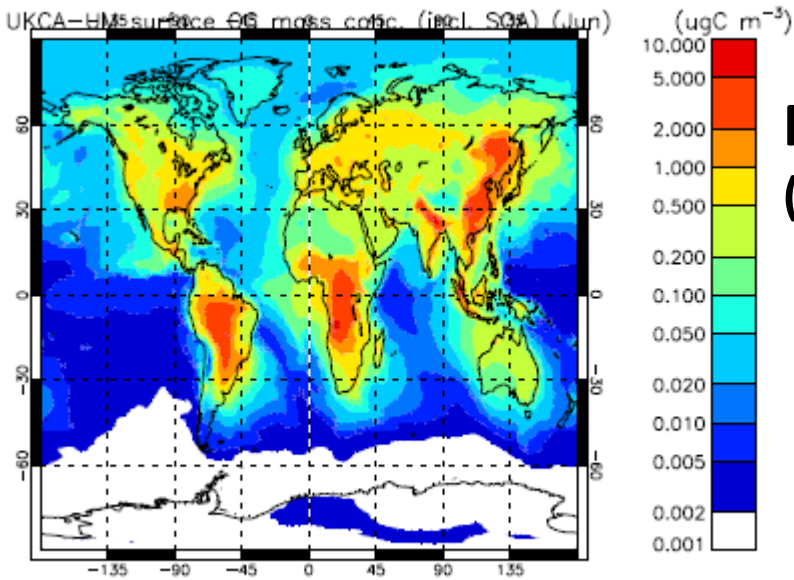




POM (Dec)

SO_4 (Jun)



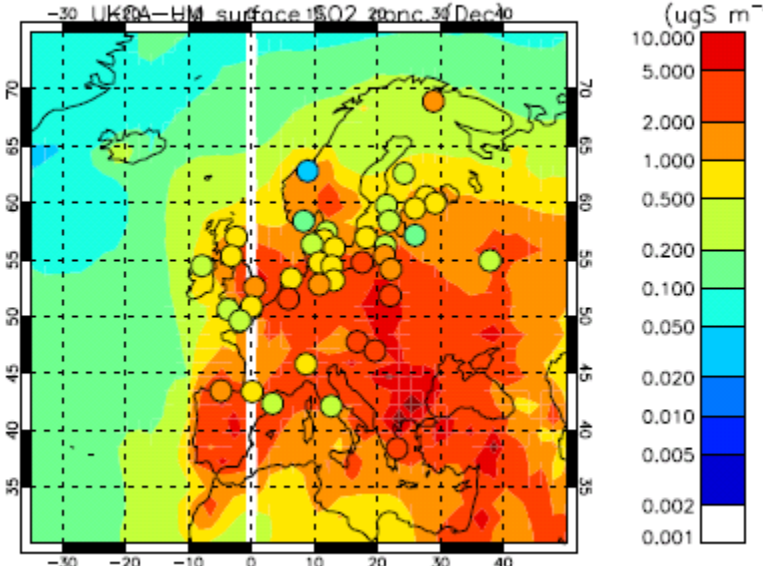


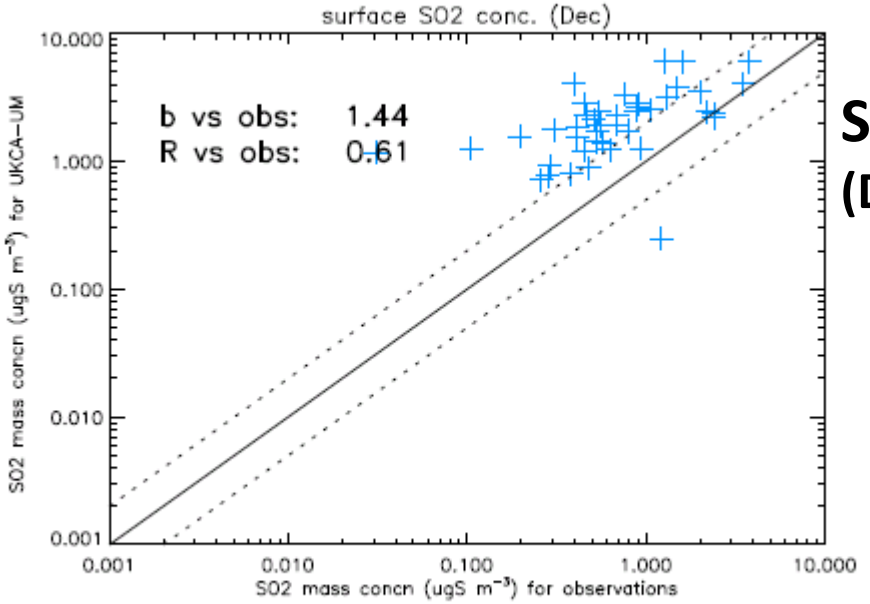
POM (Jun)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

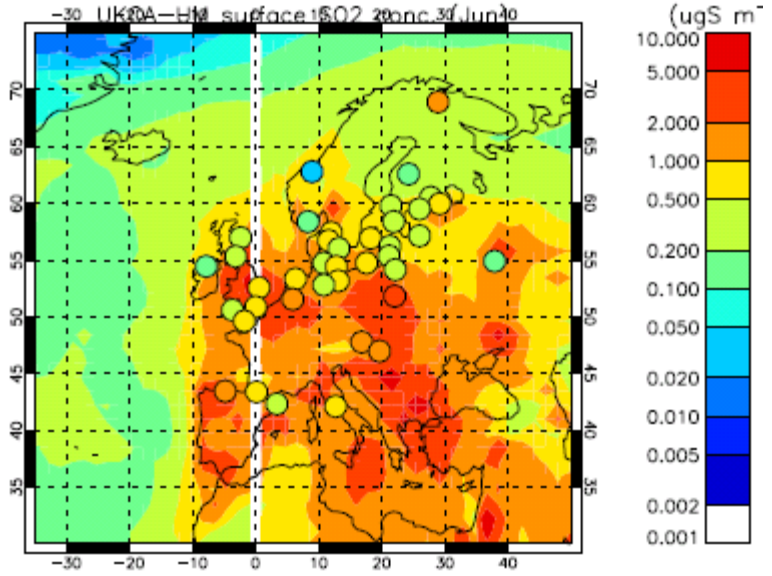
SO_2 (Dec)

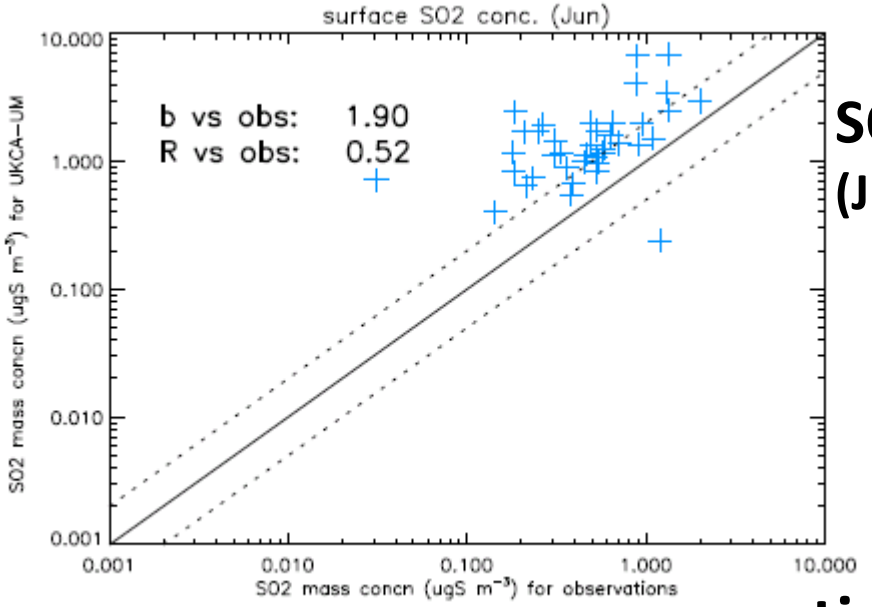




SO_2 (Dec)

SO_2 (Jun)



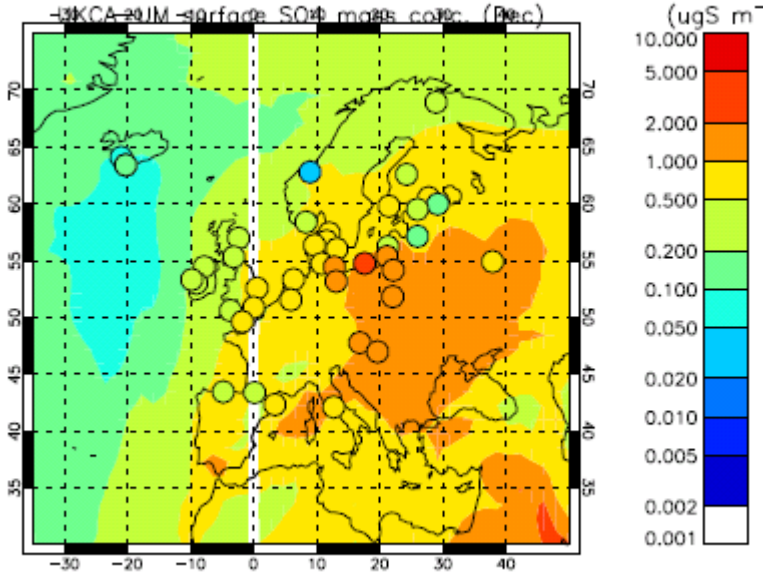


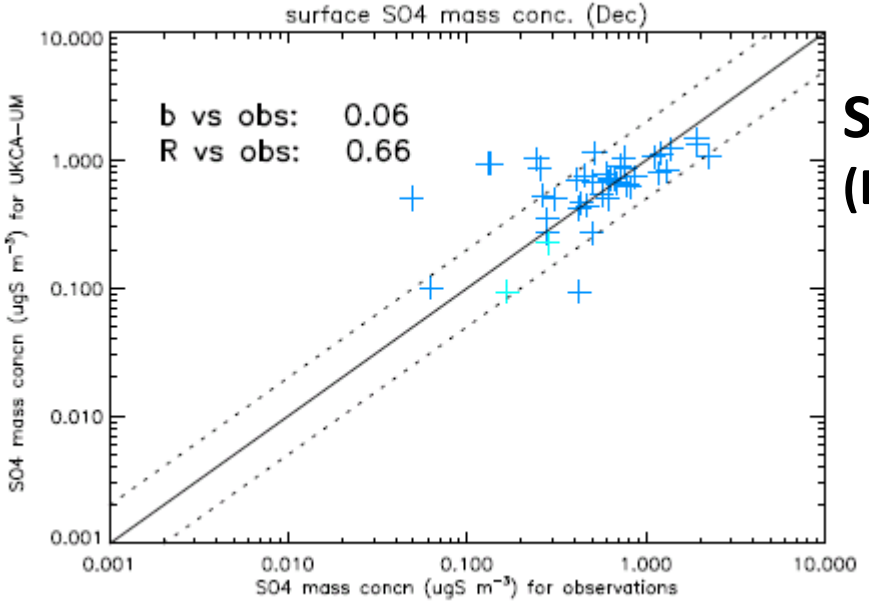
SO_2 (Jun)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

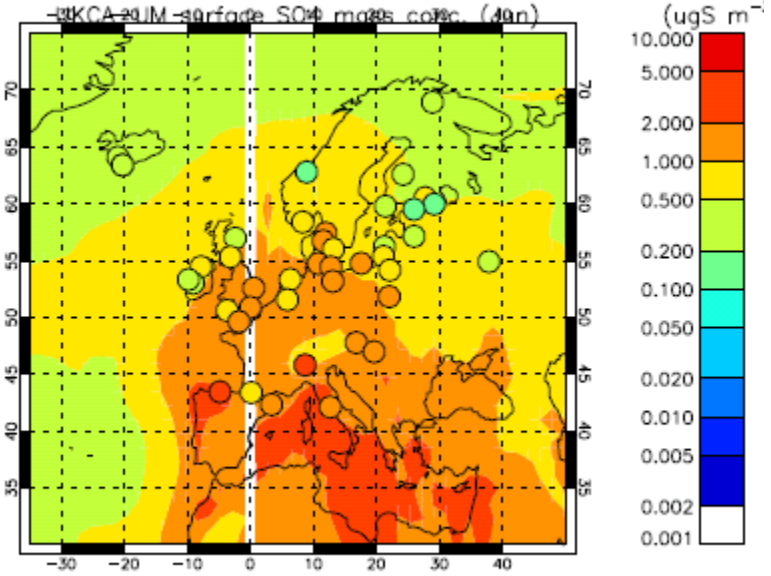
SO_4 (Dec)

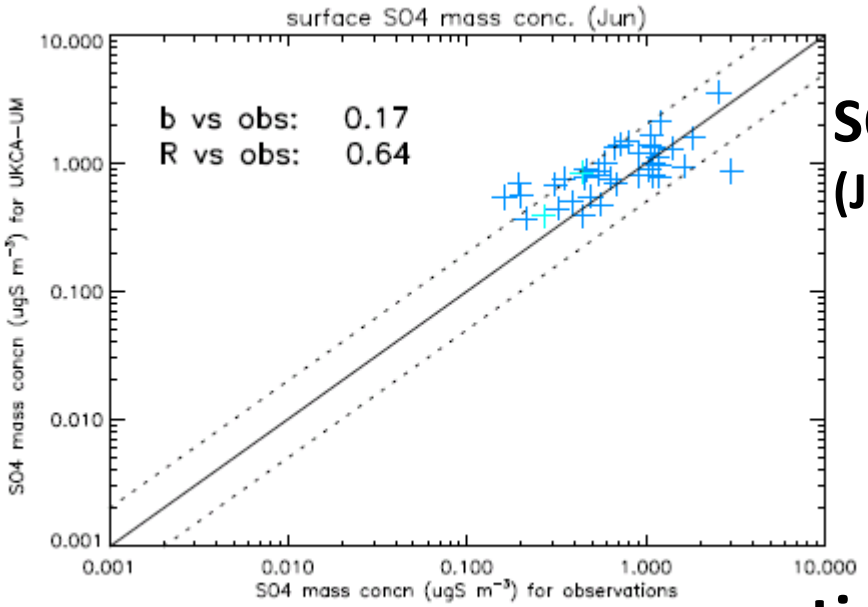




SO_4 (Dec)

SO_4 (Jun)



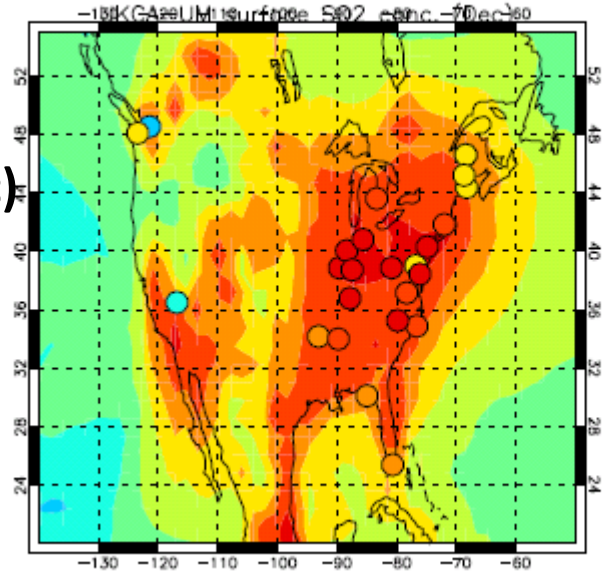


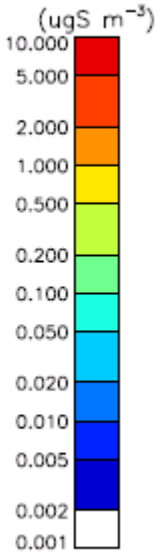
SO_4 (Jun)

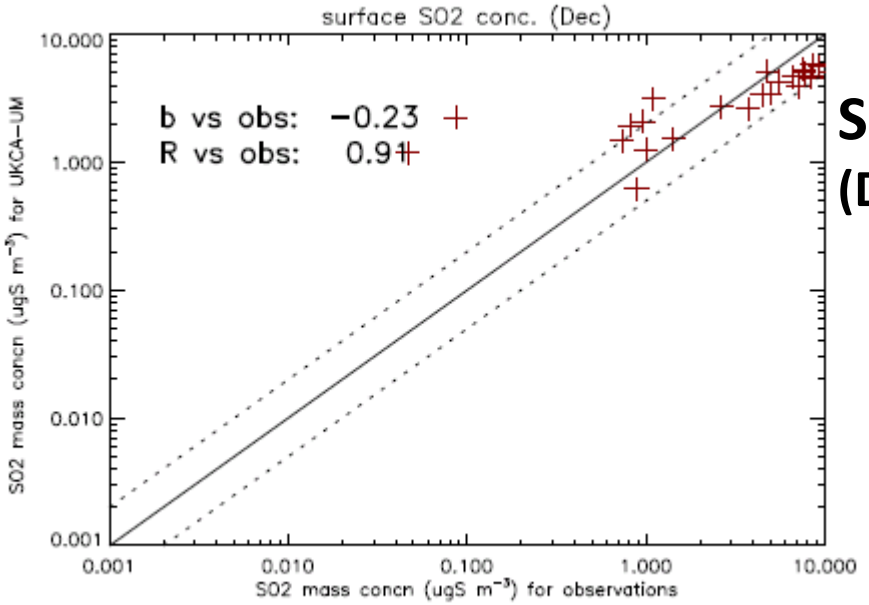
amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

SO_2 (Dec)

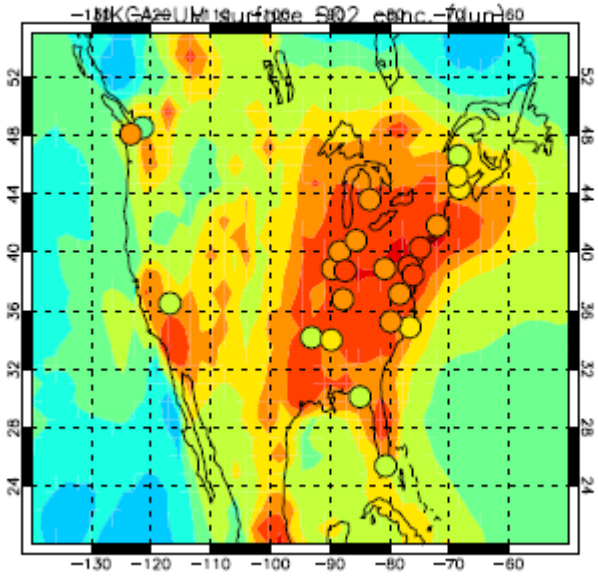


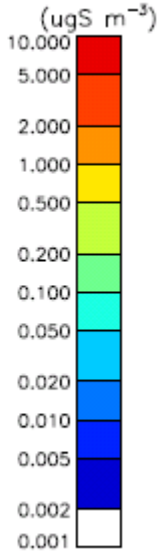


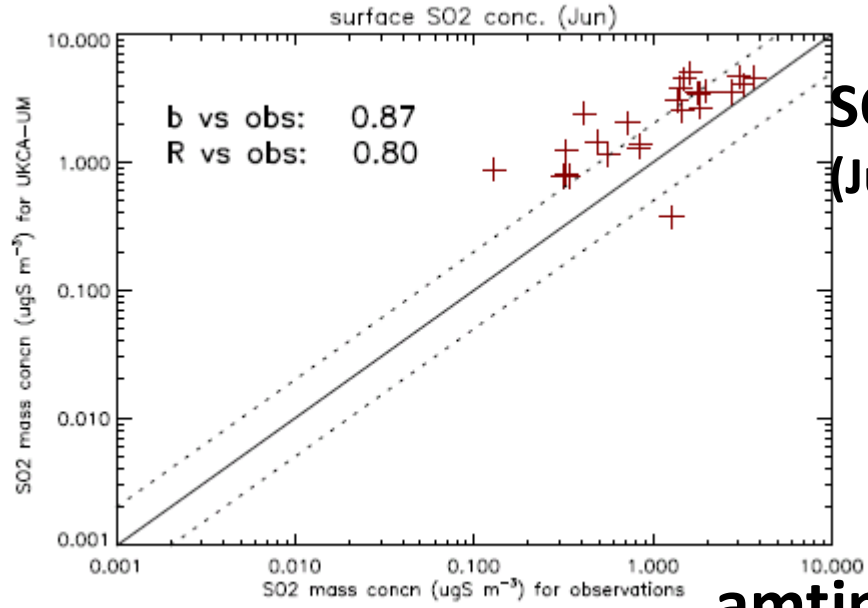


SO_2 (Dec)

SO_2 (Jun)





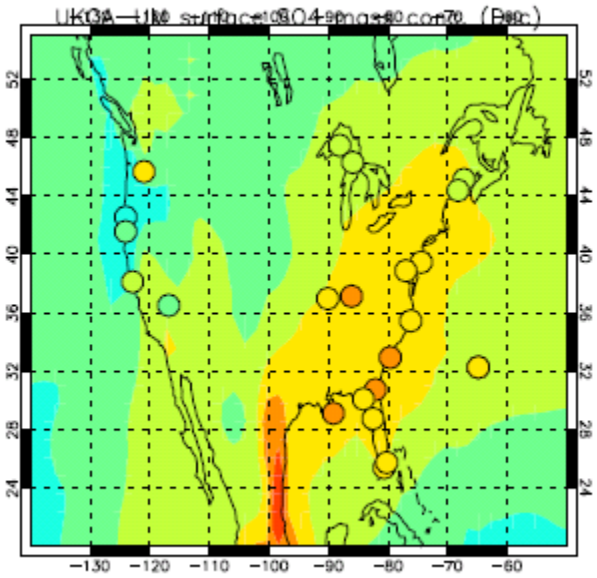


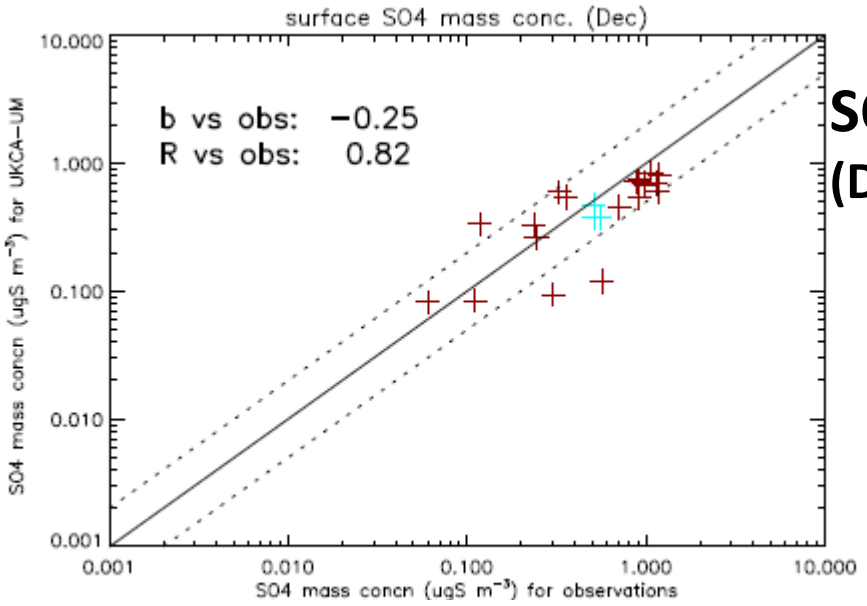
SO_2 (Jun)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

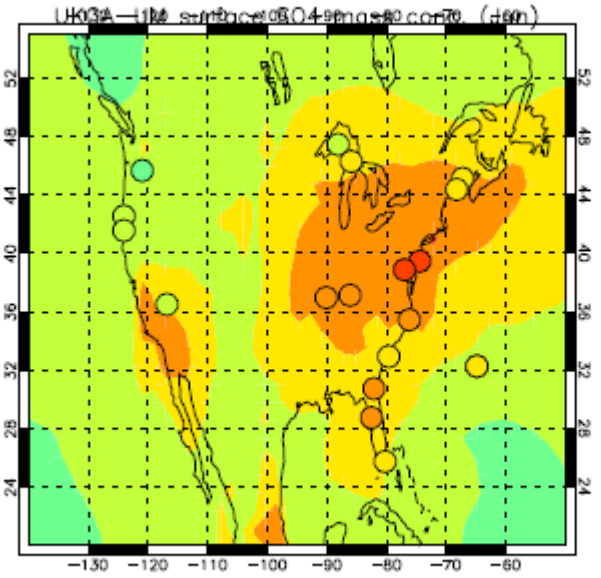
SO_4 (Dec)

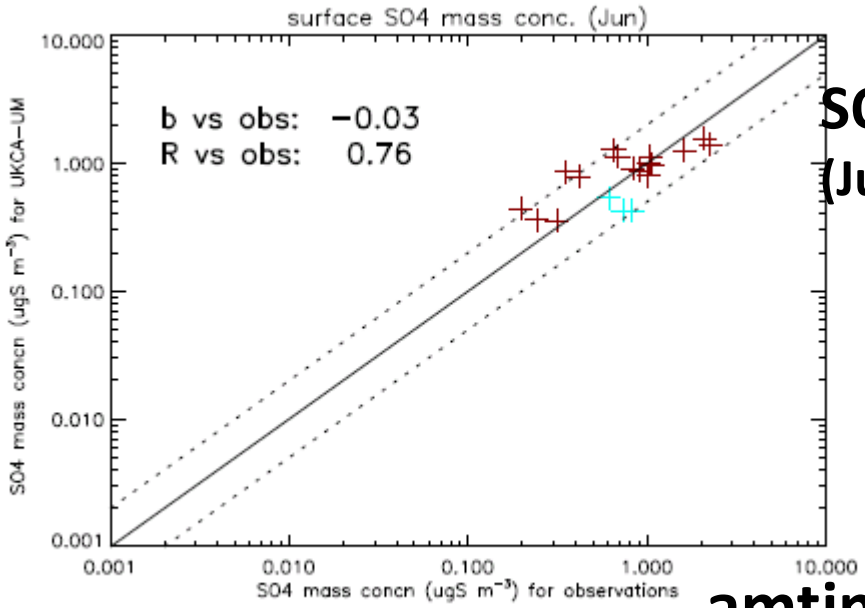




SO_4 (Dec)

SO_4 (Jun)



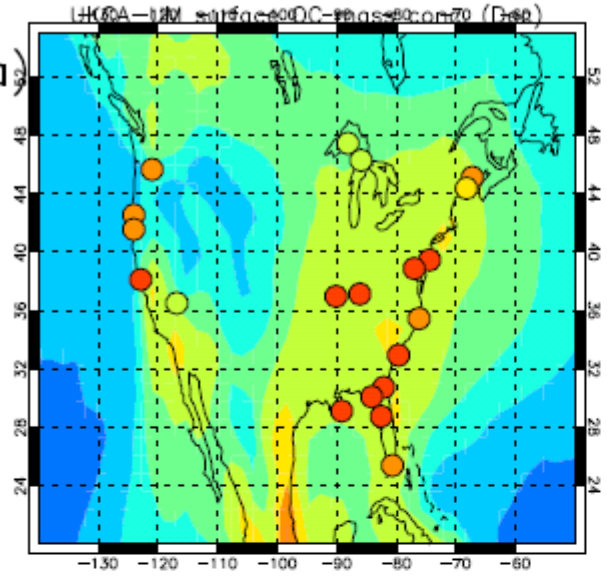


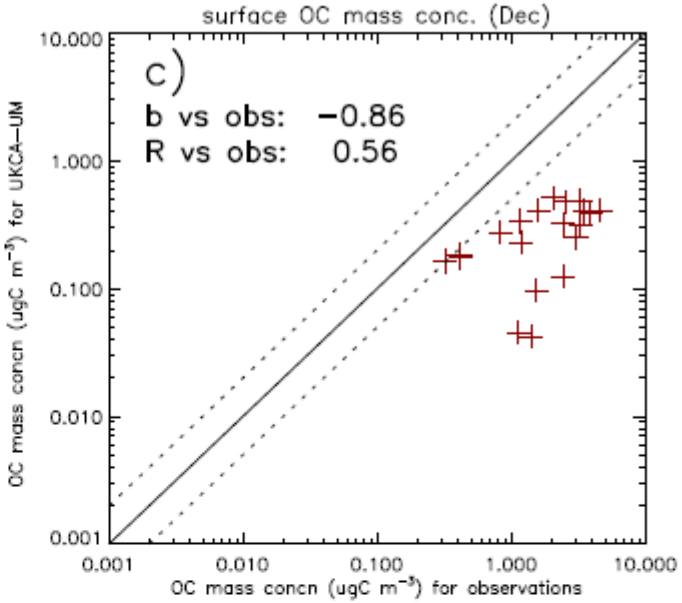
SO_4 (Jun)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

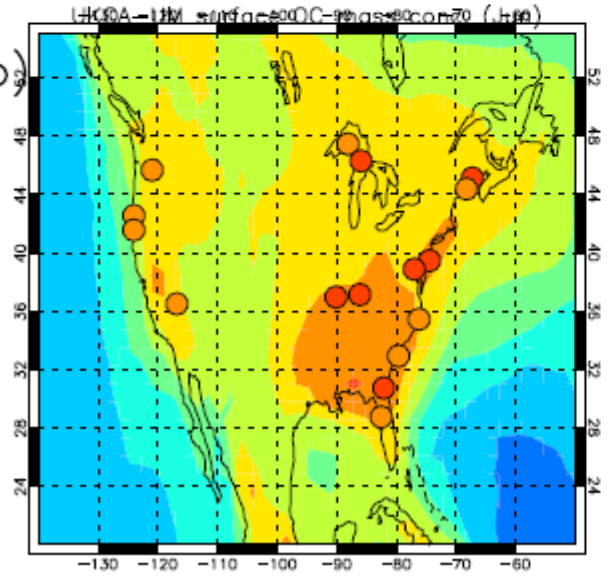
POM (Dec)

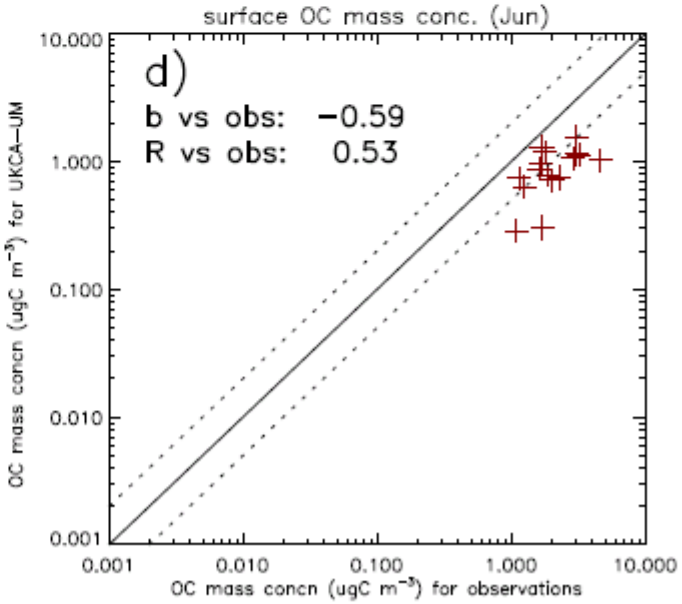




POM (Dec)

POM (Jun)

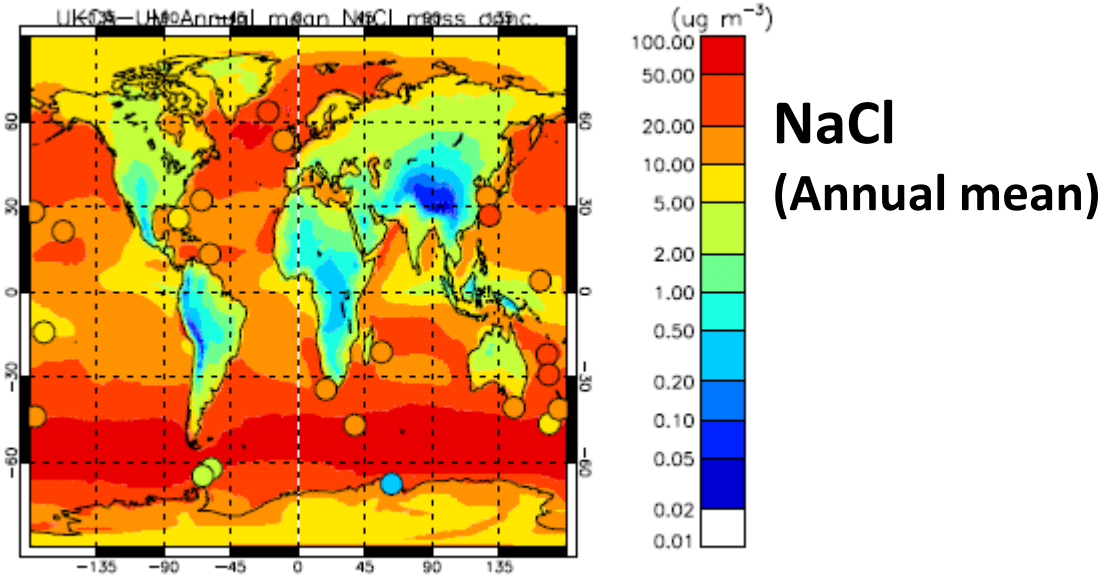




POM (Jun)

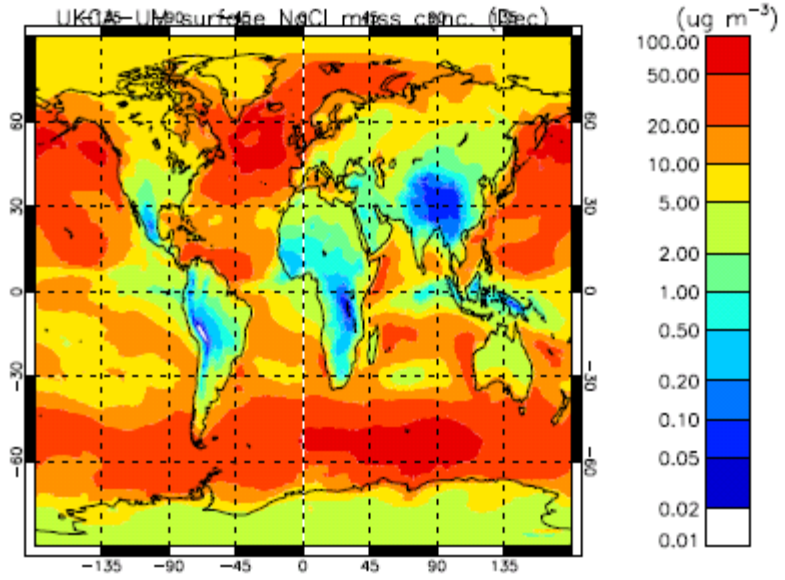
amtjn

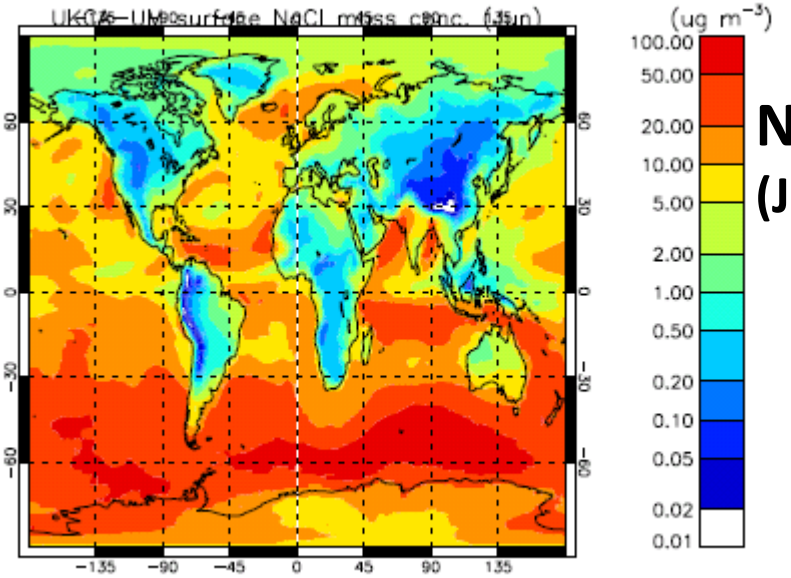
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



NaCl
(Annual mean)

NaCl
(Dec)

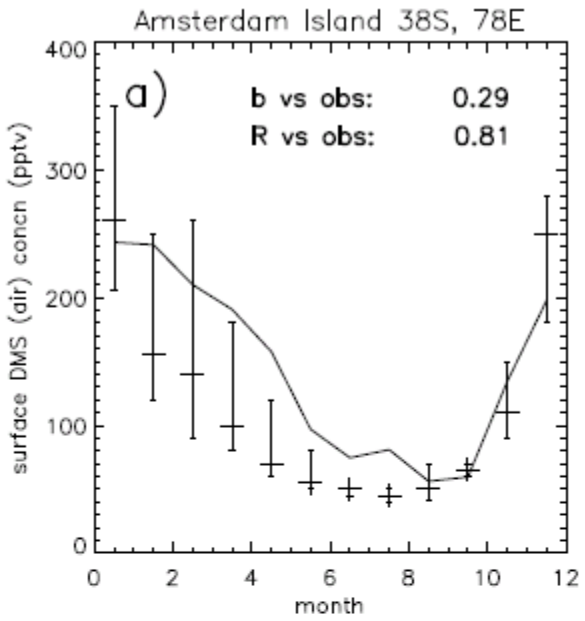


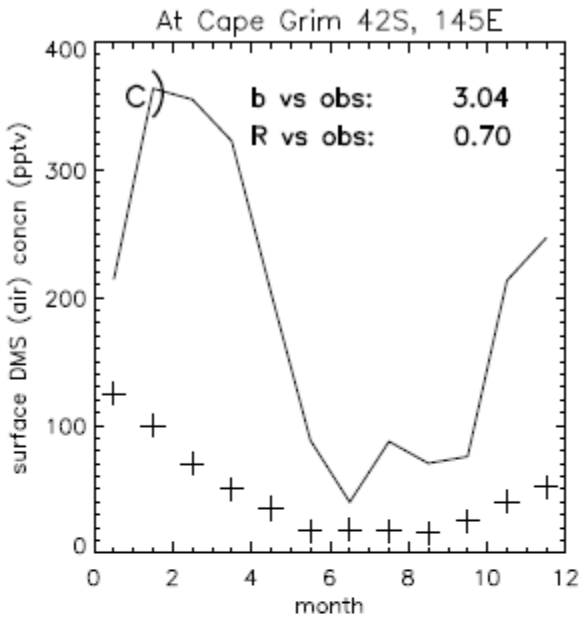


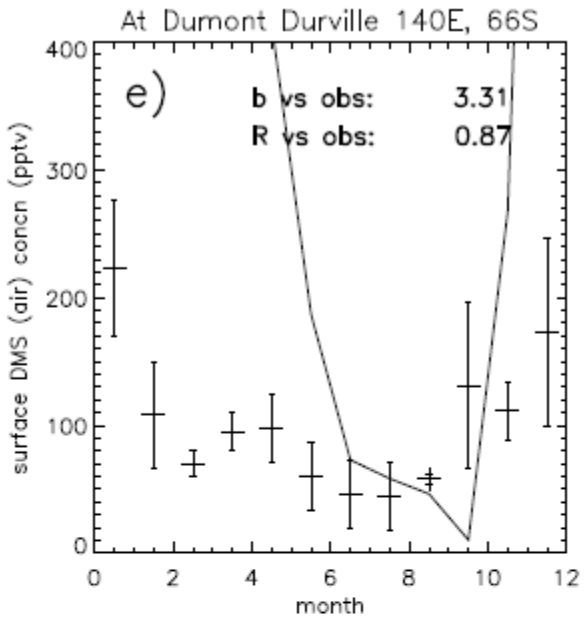
NaCl
(Jun)

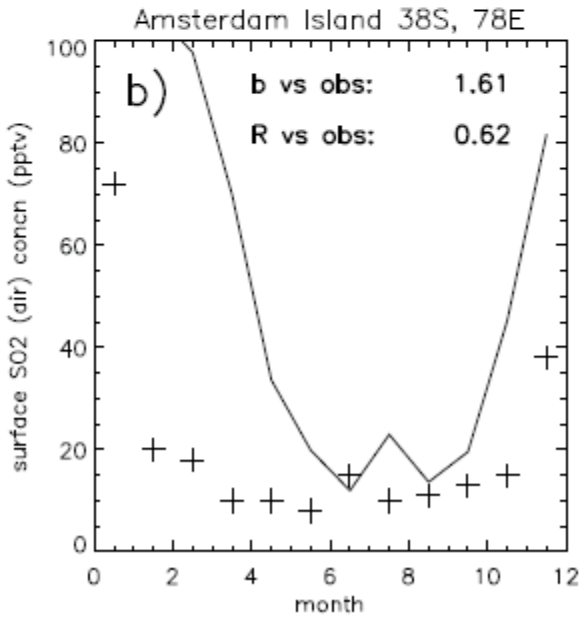
amtjn

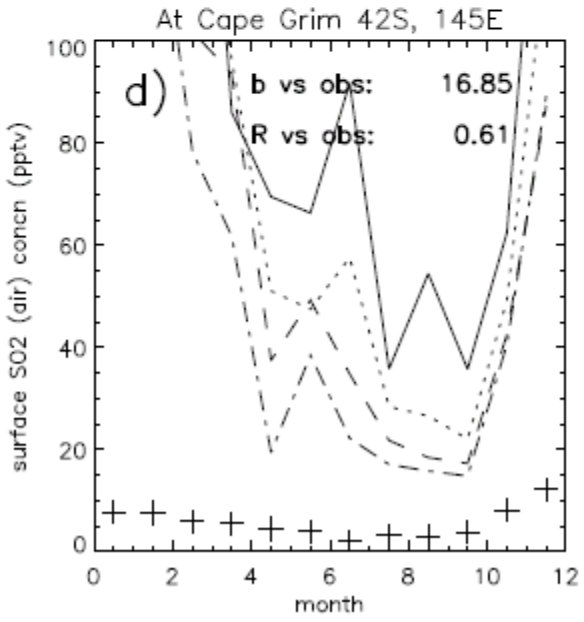
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)







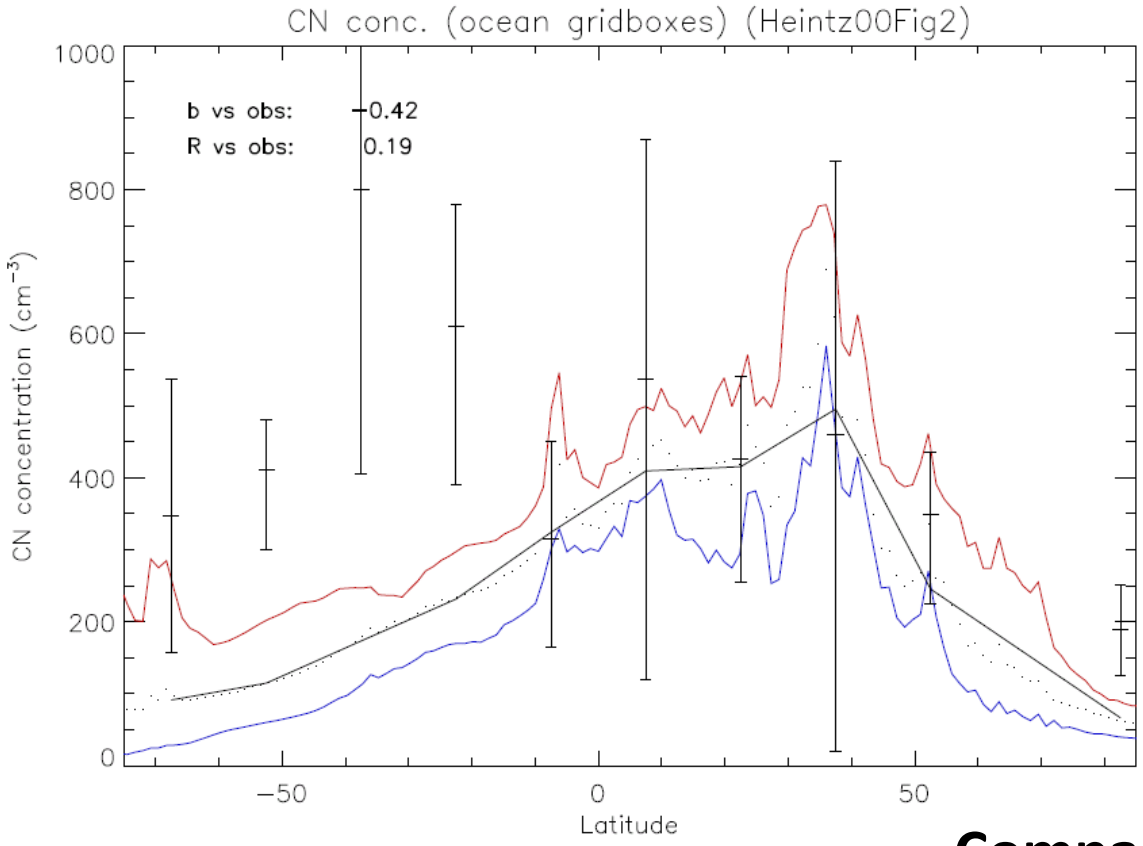




DMS (a, c, e) and SO_2 (b, d) at Southern Hemisphere sites.

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

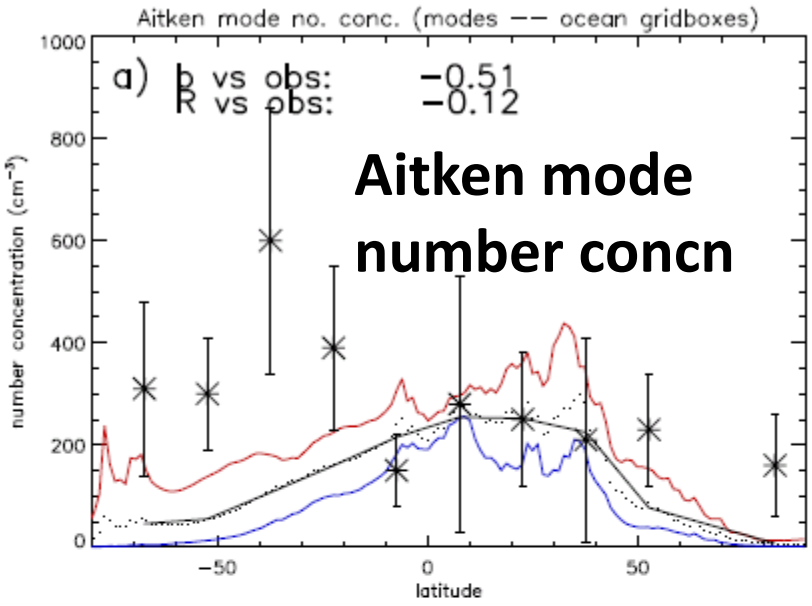


CN (Dp>10nm)

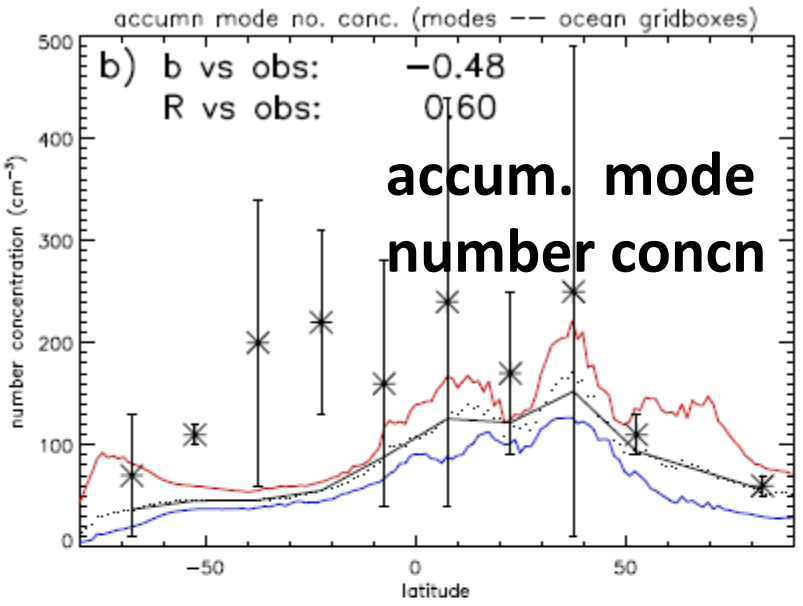
Comparison to observed marine boundary layer size distributions from cruise measurements compiled in Heintzenberg et al. (2000).

amtjn

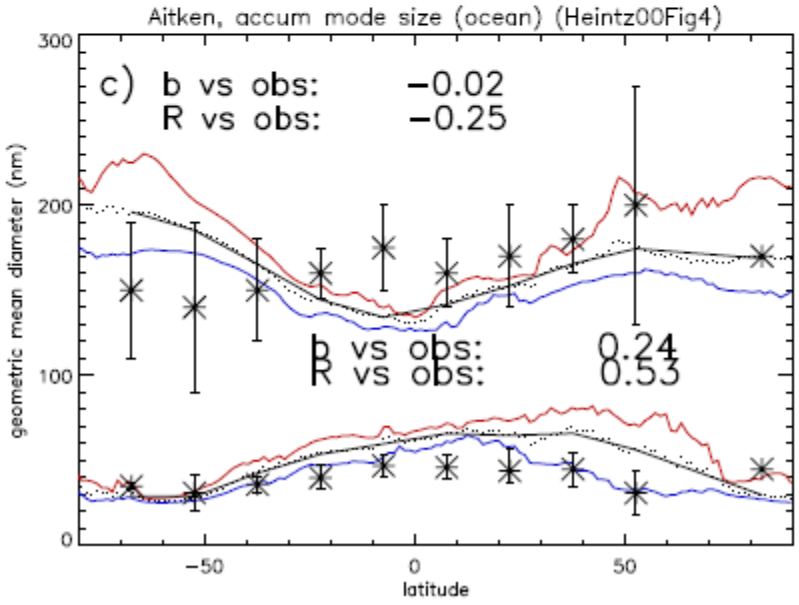
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



Aitken mode number concn



accum. mode number concn

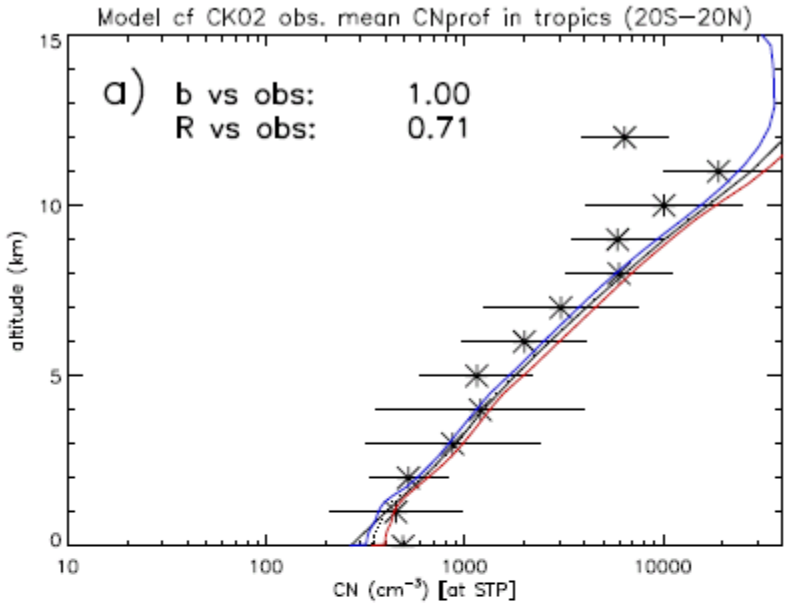


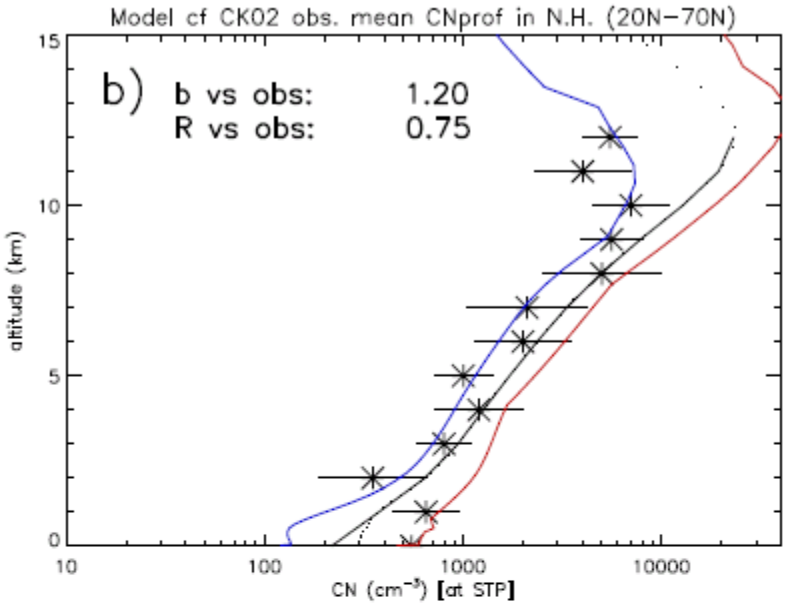
Mean diameter of Aitken and accum. modes

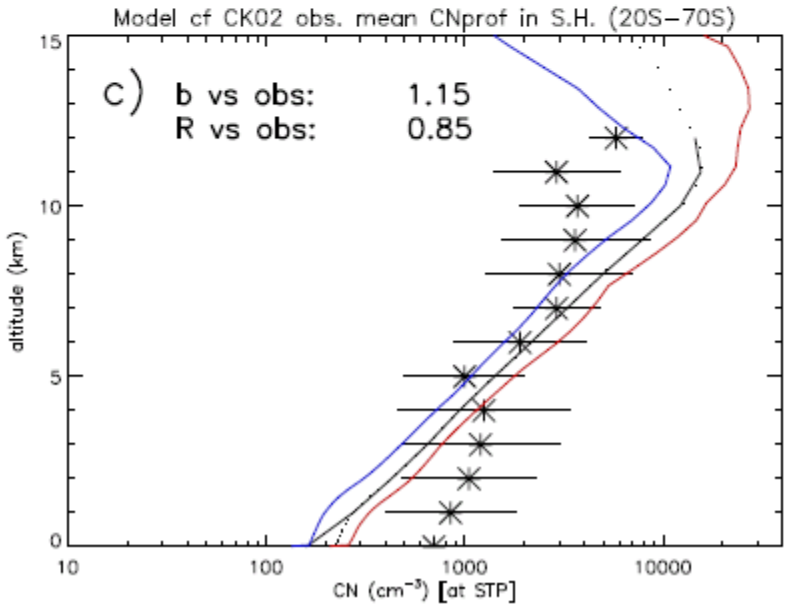
Comparison to observed marine boundary layer size distributions from cruise measurements compiled in Heintzenberg et al. (2000).

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



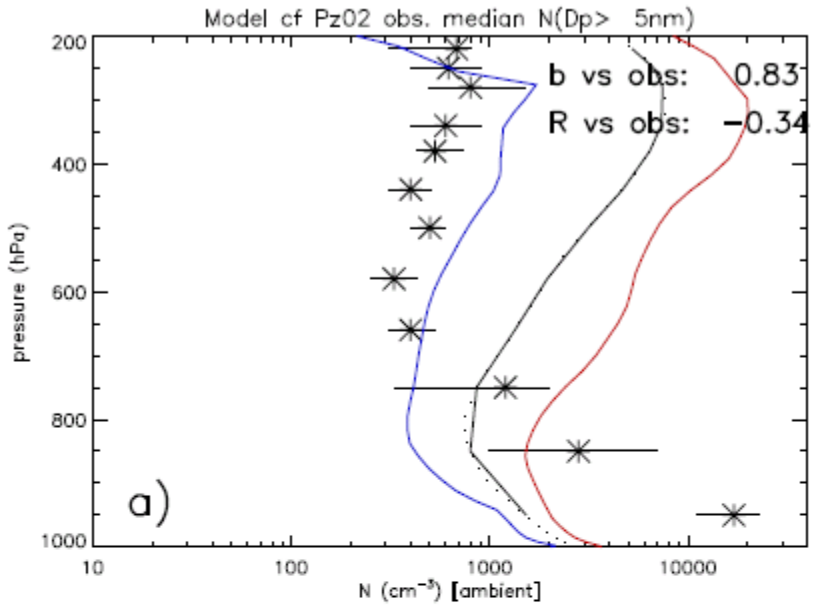


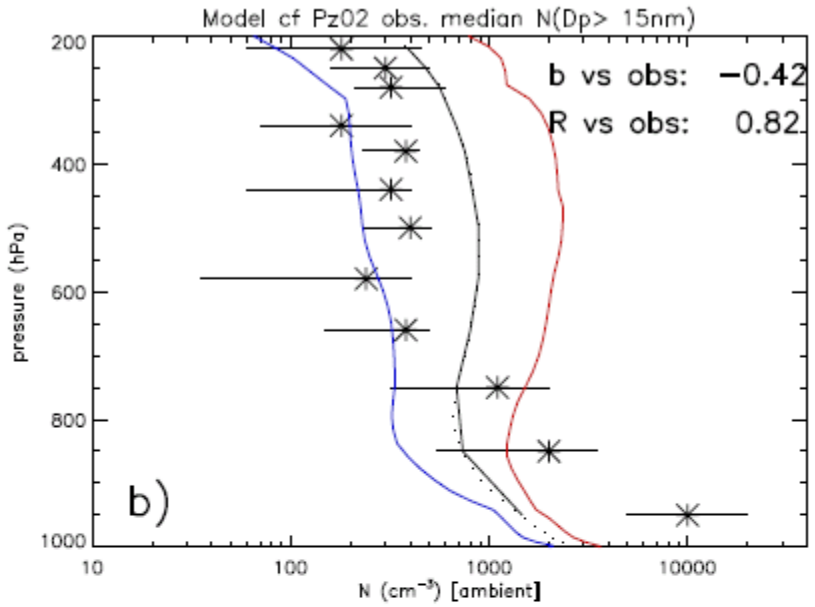


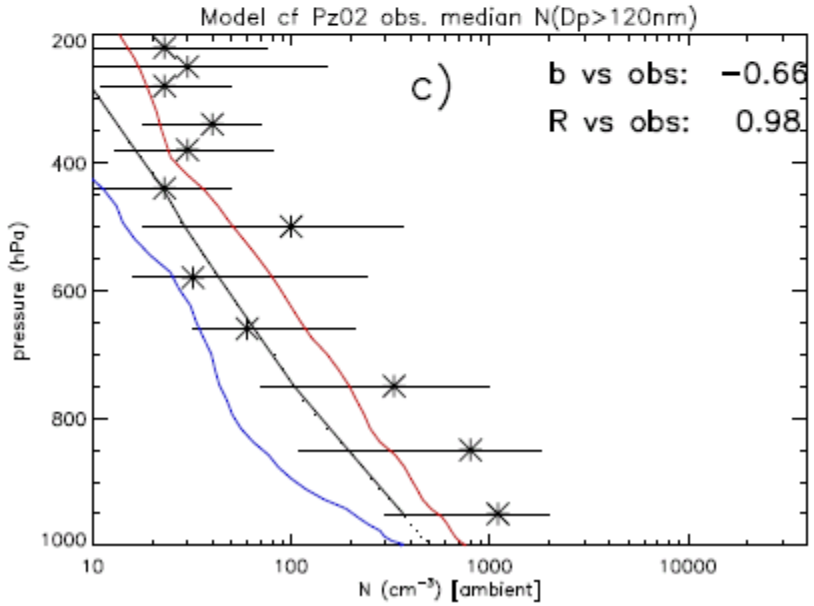
Comparison to observed profiles of CN (Dp>3nm) over Pacific and S. Ocean. Observatoins from aircraft measurements compiled in Clarke & Kapustin (2002).

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



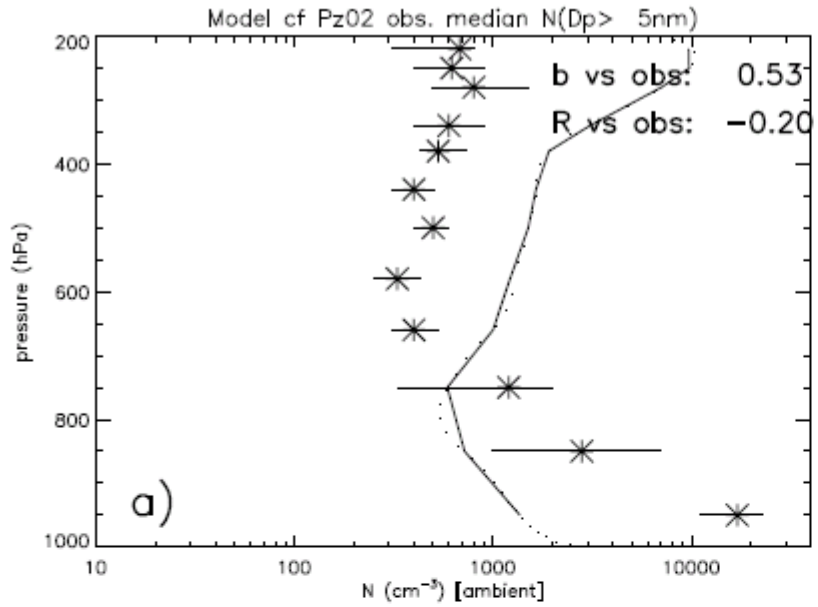


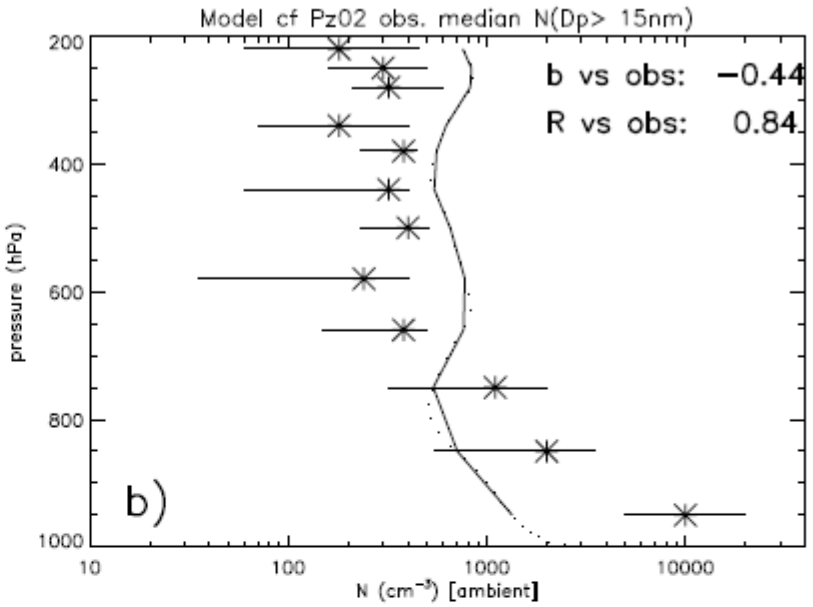


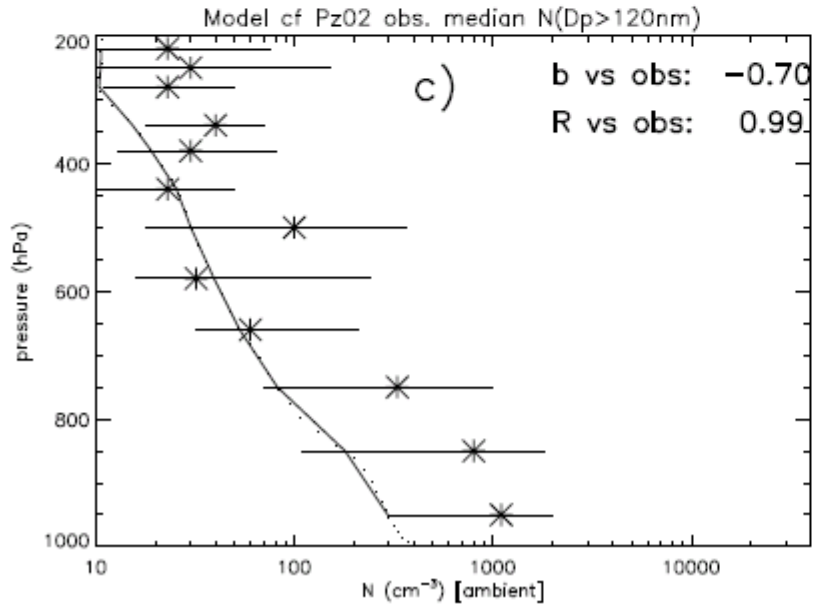
Comparison to observed profiles of size-resolved number concentrations for Dp>5nm, 15nm, 150nm over Germany from LACE campaign (Petzold et al. 2002)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



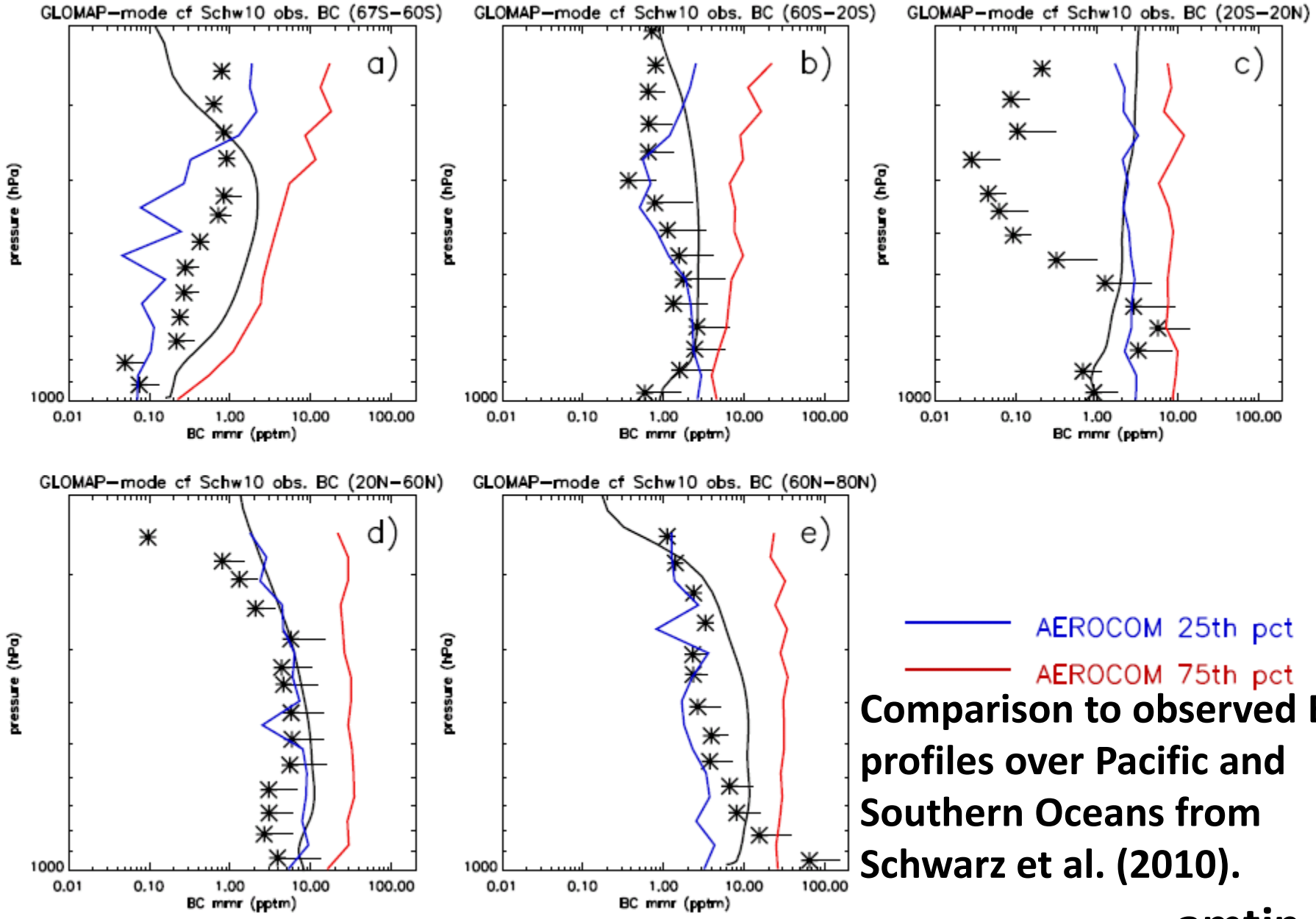




Comparison to observed profiles of size-resolved number concentrations for Dp>5nm, 15nm, 150nm over Germany from LACE campaign (Petzold et al. 2002)

amtjn

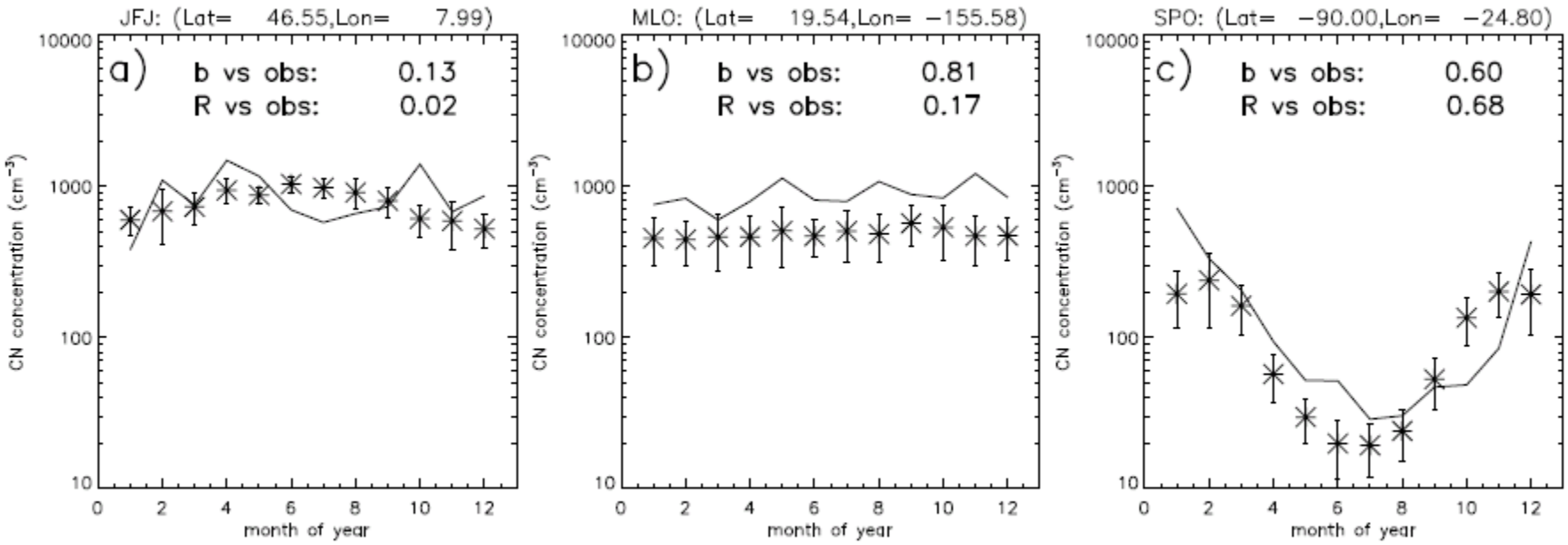
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



Comparison to observed BC profiles over Pacific and Southern Oceans from Schwarz et al. (2010).

amtjn

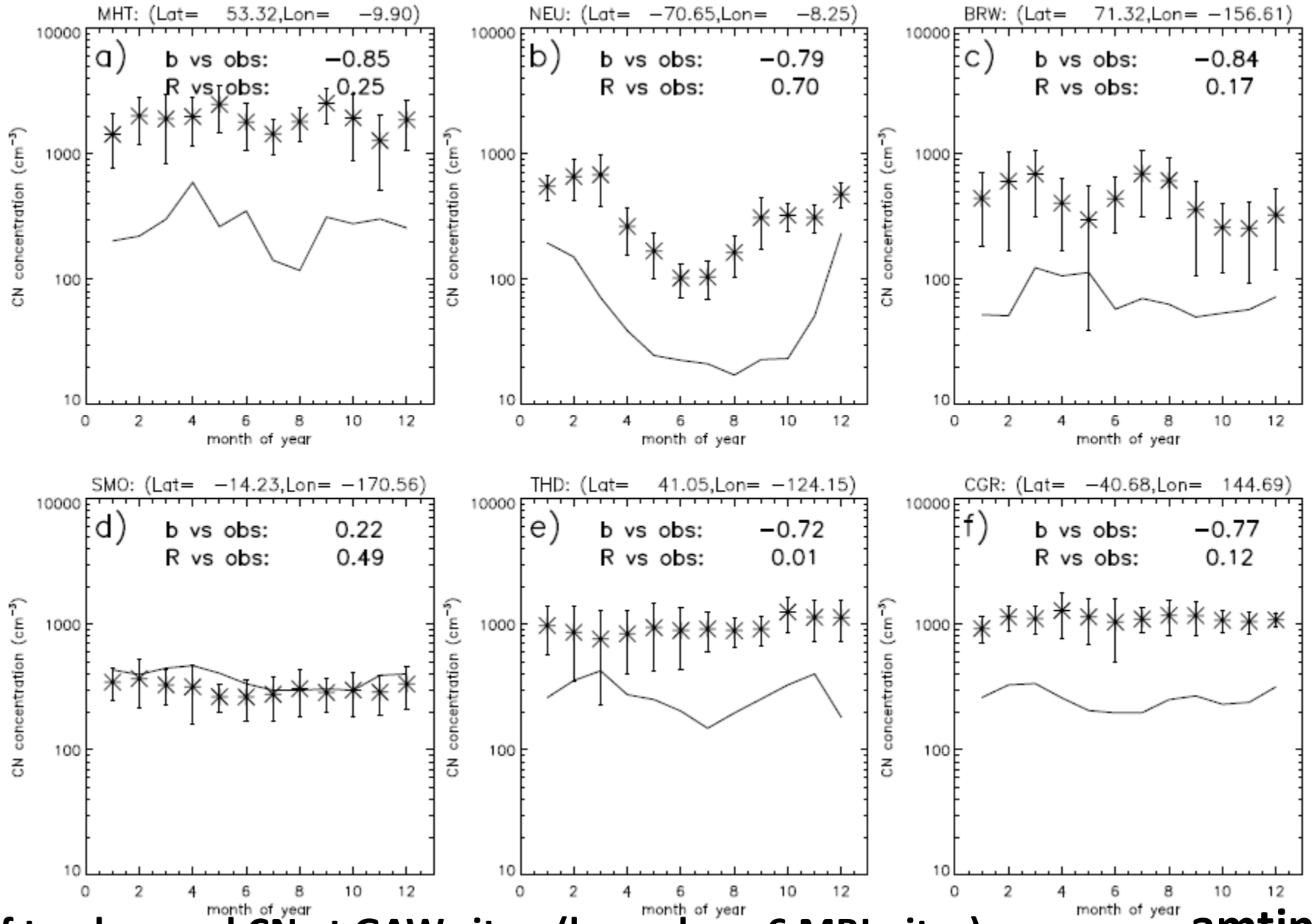
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)



Comparison to observed CN at GAW sites
Here show 3 Free Troposphere sites

amtjn

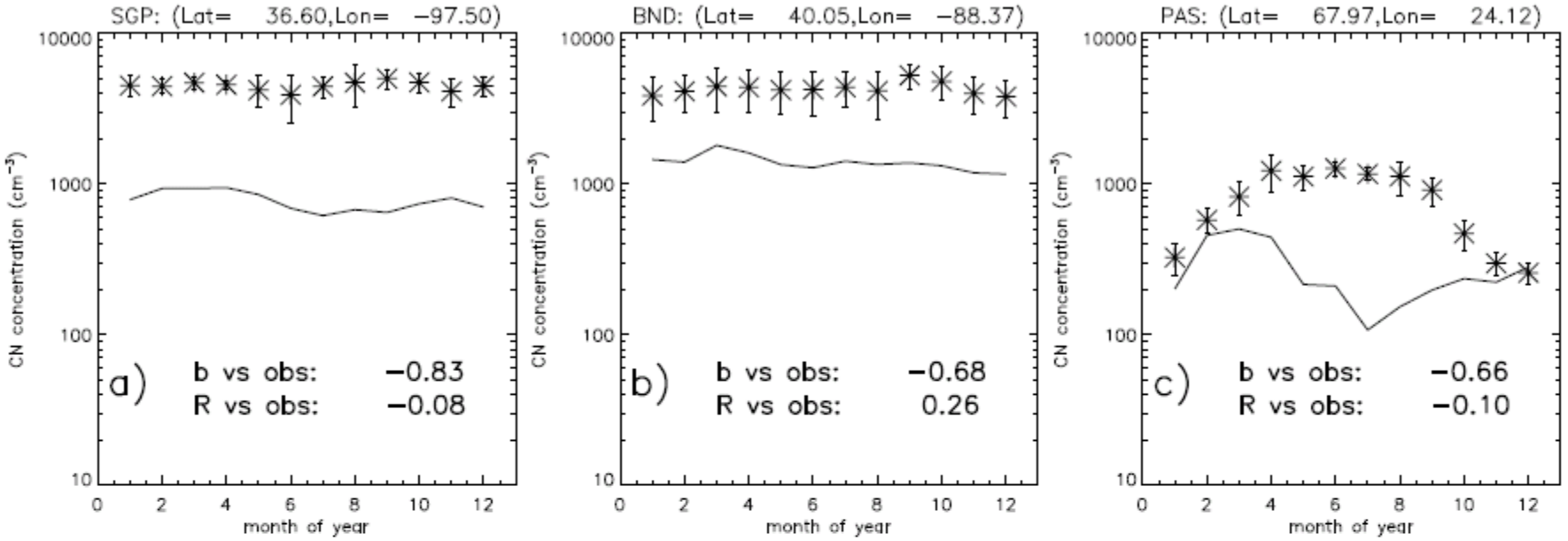
V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

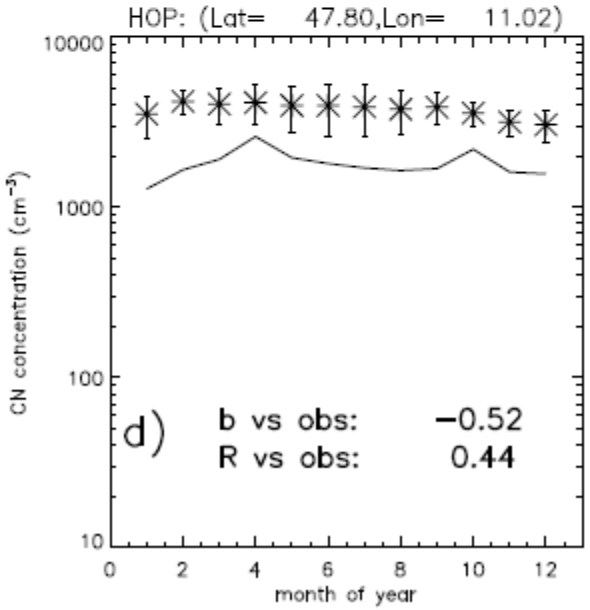


cf to observed CN at GAW sites (here show 6 MBL sites)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)

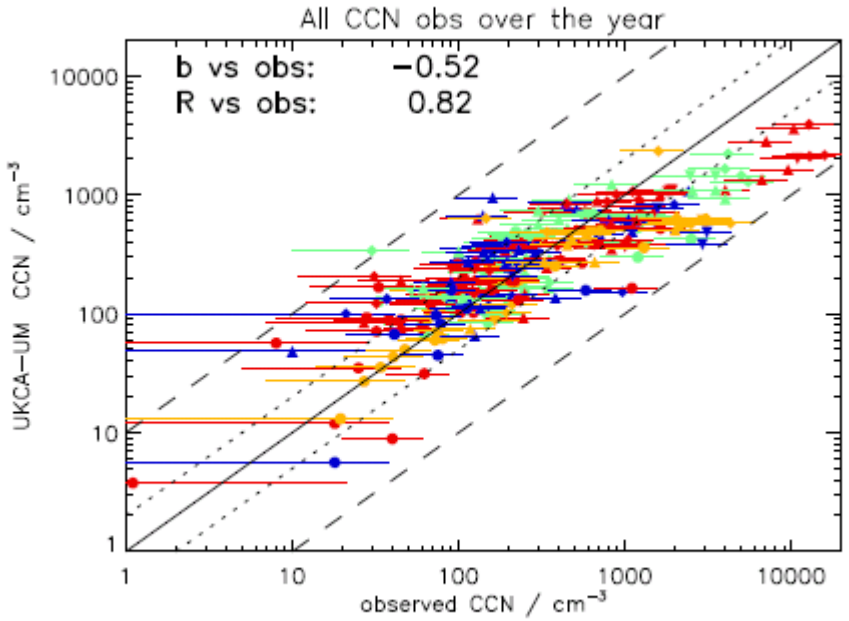


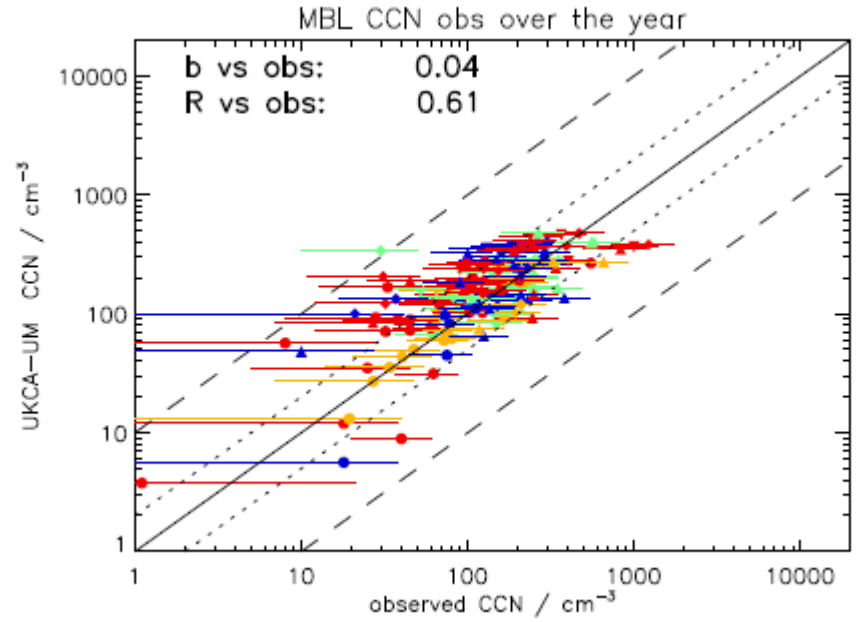


Comparison to observed CN at GAW sites
Here show 4 Continental BL sites

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)





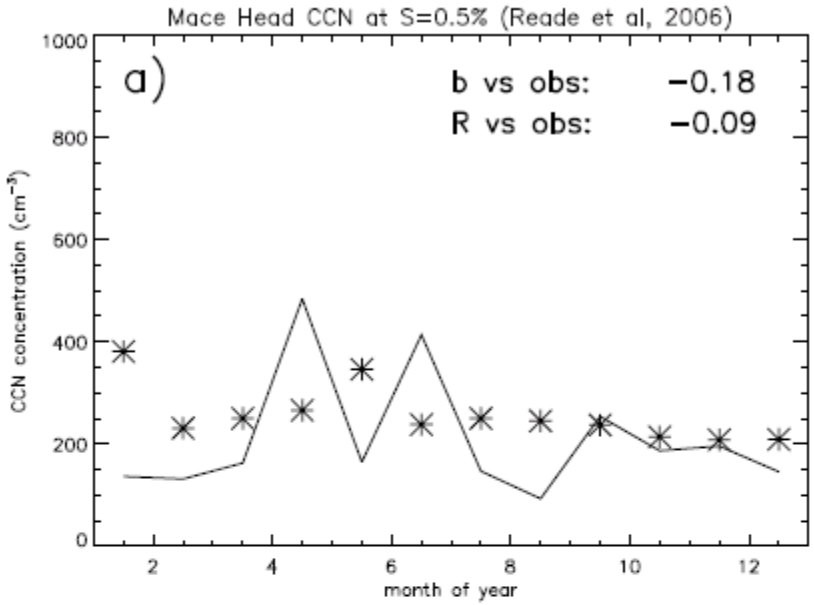
MAM
JJA
SON
DJF

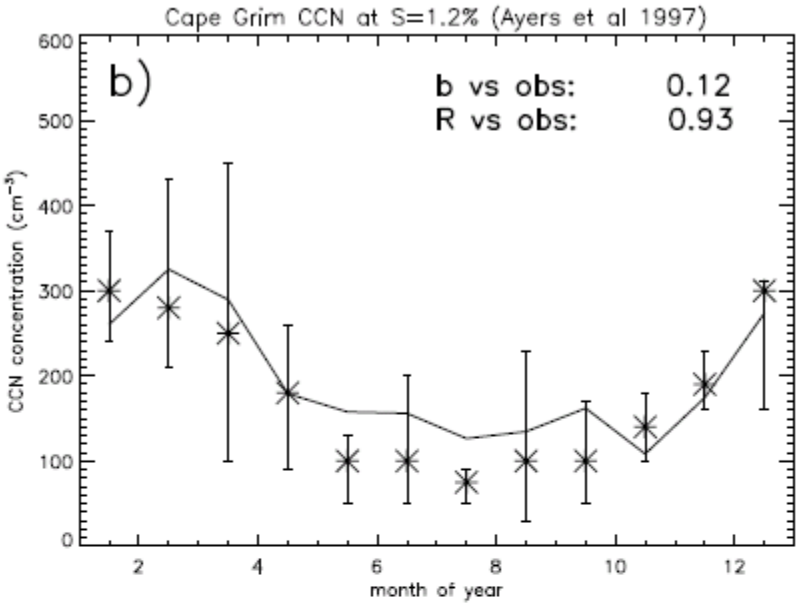
- SS<0.25%
- 0.25<SS<0.5%
- 0.50<SS<0.75%
- SS>0.75%

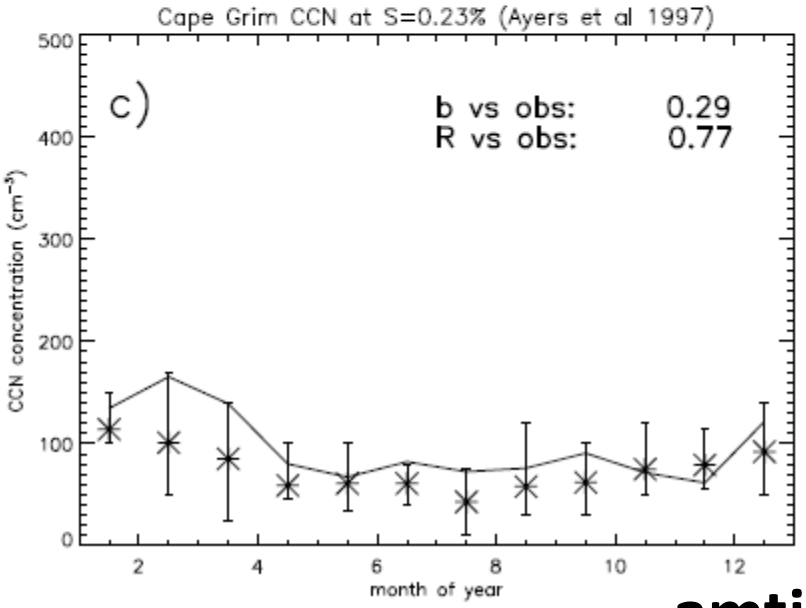
Comparison of CCN at various supersaturations against compilation of observations from Spracklen et al. (2011)

amtjn

V8.4 GA4.0 N96L85 CheT+GLOMAP+RADAERv2+ACTIVATE (New Dyn.)







Mace Head (a) and Cape Grim (b and c) CCN seasonal cycle from compilation of observations from Spracklen et al. (2011)

amtjn