

# Representation and Improvement of BB Aerosol Absorption in Global Models

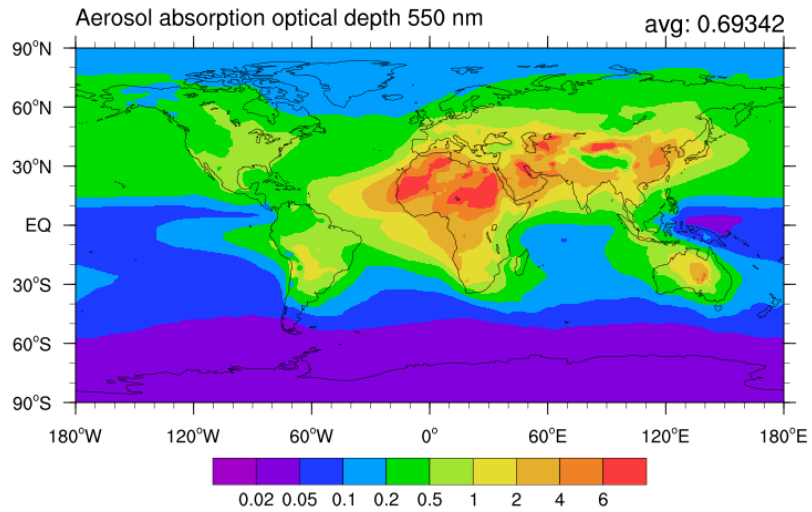
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BNL-ANL SFA on “Aerosol and Cloud Processes”

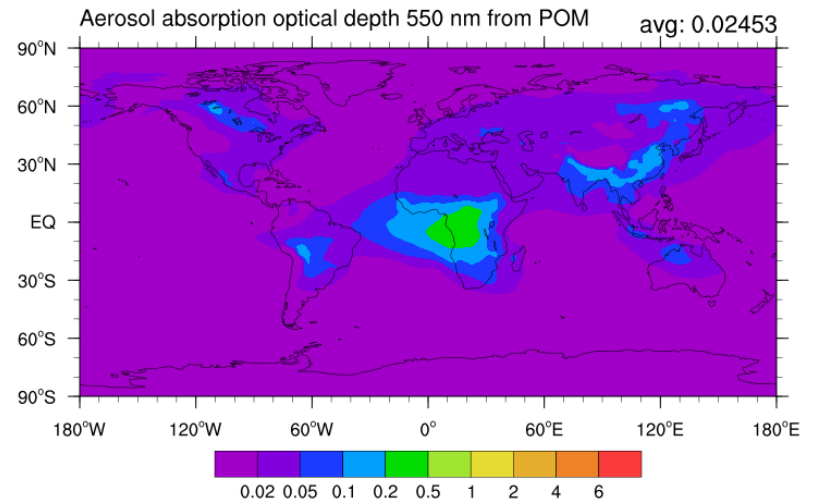


# Absorption Aerosol Optical Depth (x100) in CAM5

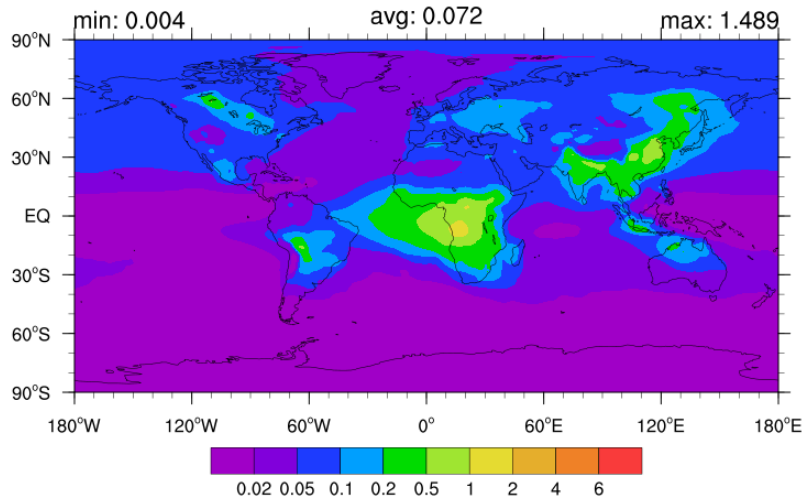
## Total AAOD



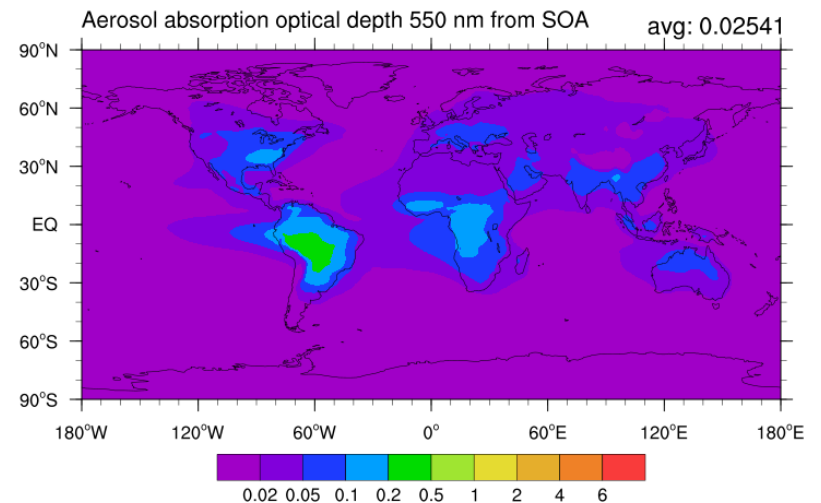
## POM AAOD



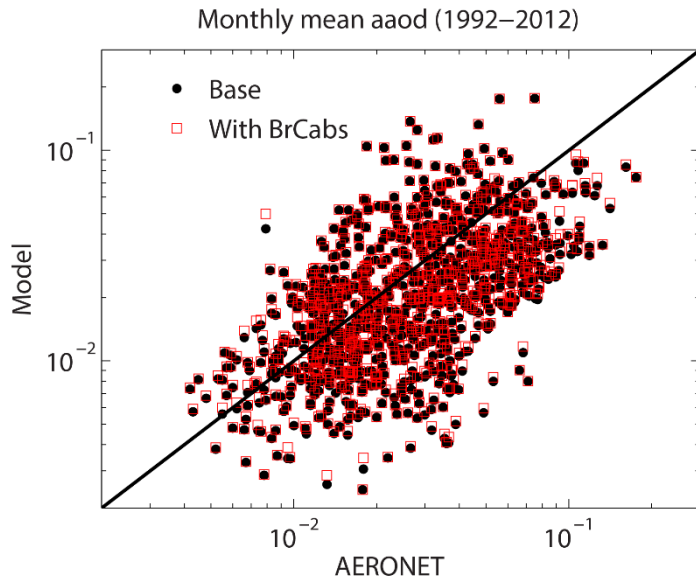
## POM + "coating" effect



## SOA AAOD



# Underestimation in AOD and Enhanced Absorption by BrC



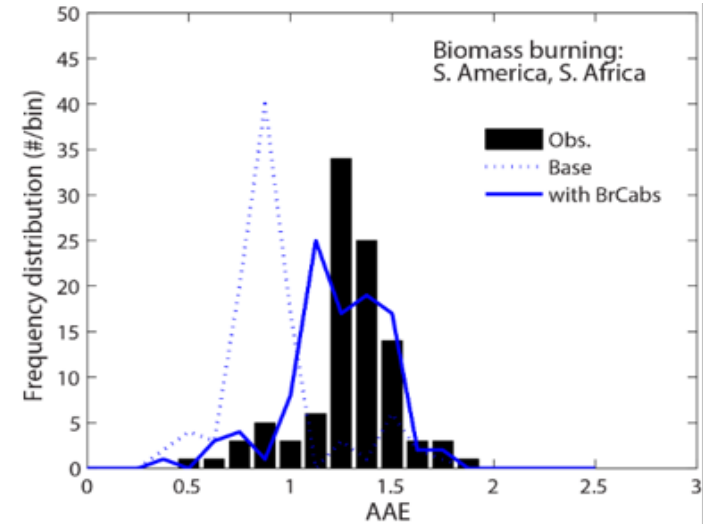
AAOD (550nm)

AERONET:  $0.033 \pm 0.024$

Base:  $0.026 \pm 0.021$

BrCabs:  $0.027 \pm 0.022$

AAE (440, 870nm)

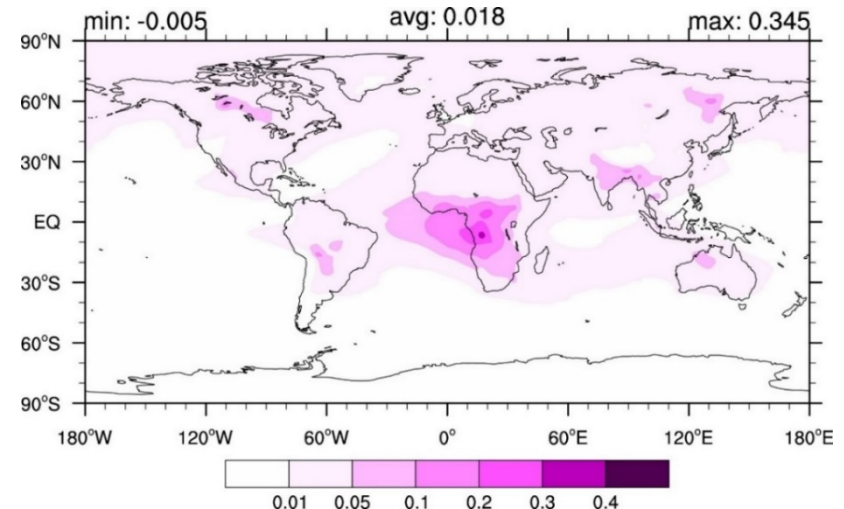


“Base” is the default CAM5.3; “BrCabs” includes BrC absorption from POM, which improves:

- averaged AAOD at 550nm by 2%;
- correlation with obs from 0.45 to 0.47
- spectral dependence significantly

(Feng et al., in prep; Brown et al., 2018)

AAOD (550nm) by BrC abs



*Ongoing and next steps: tar balls; BrC in SOA; bleaching*



# Evaluation of Modeled BB Aerosols using the LASIC Observations

