Air pollution in Shanghai

Aerosol absorption

AeroCom Phase III

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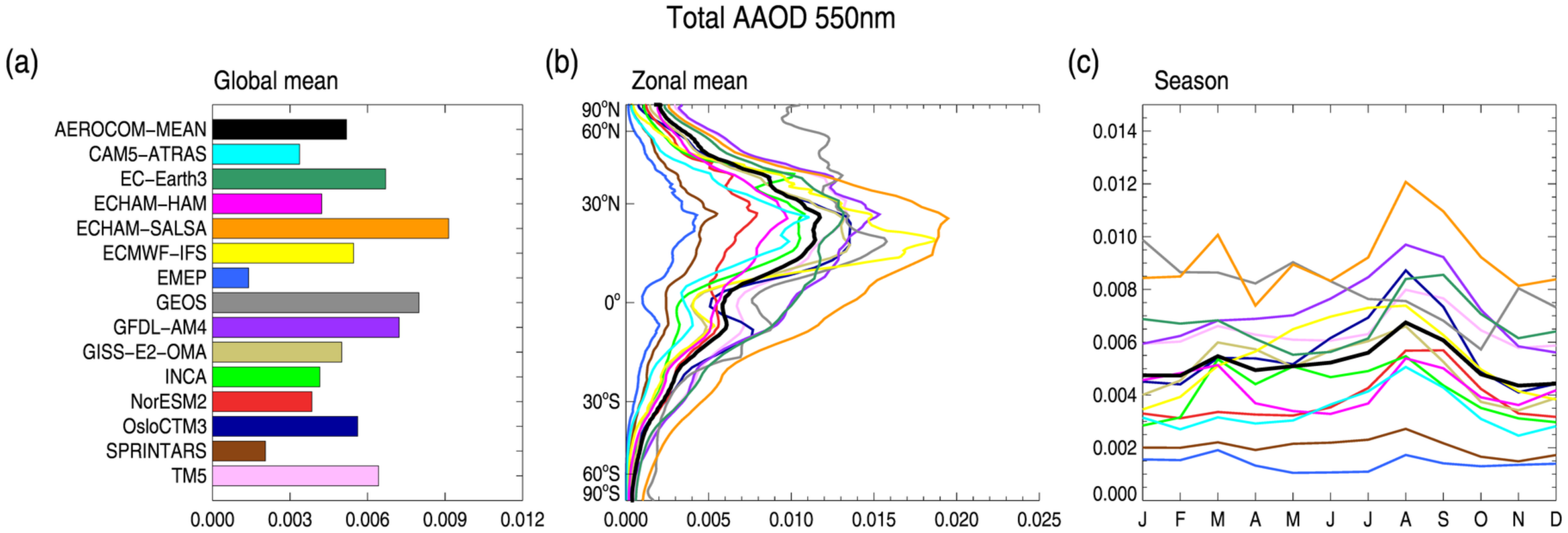
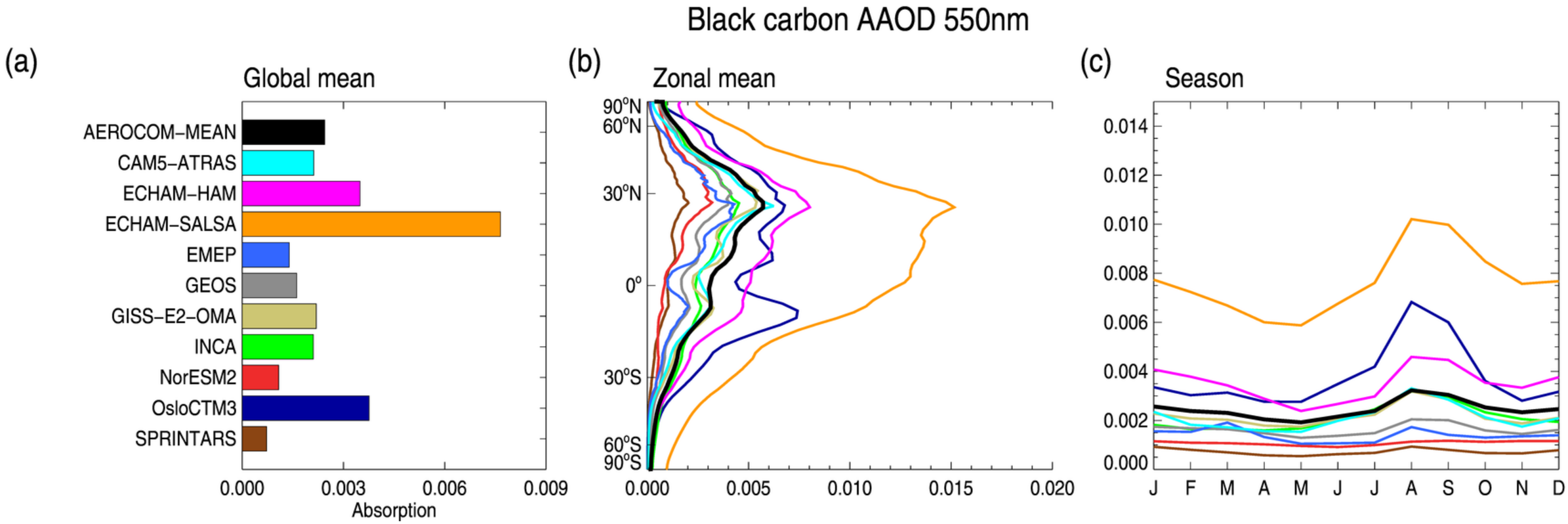
Total Aerosol Absorbtion Optical Depth (AAOD) at λ = 550 nm

MODEL MEAN: 0.0052



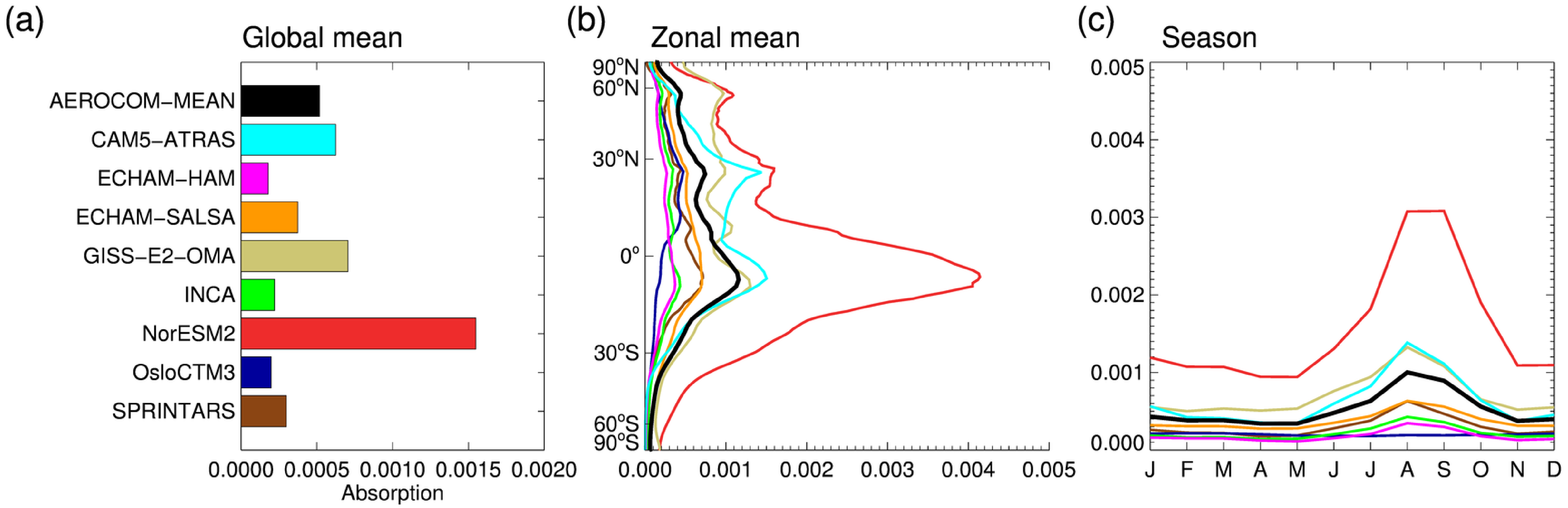
Black Carbon Absorbtion Optical Depth at λ = 550 nm

MODEL MEAN: 0.0026



Organic Aerosols Absorbtion Optical Depth at λ = 550 nm

MODEL MEAN: 0.00052



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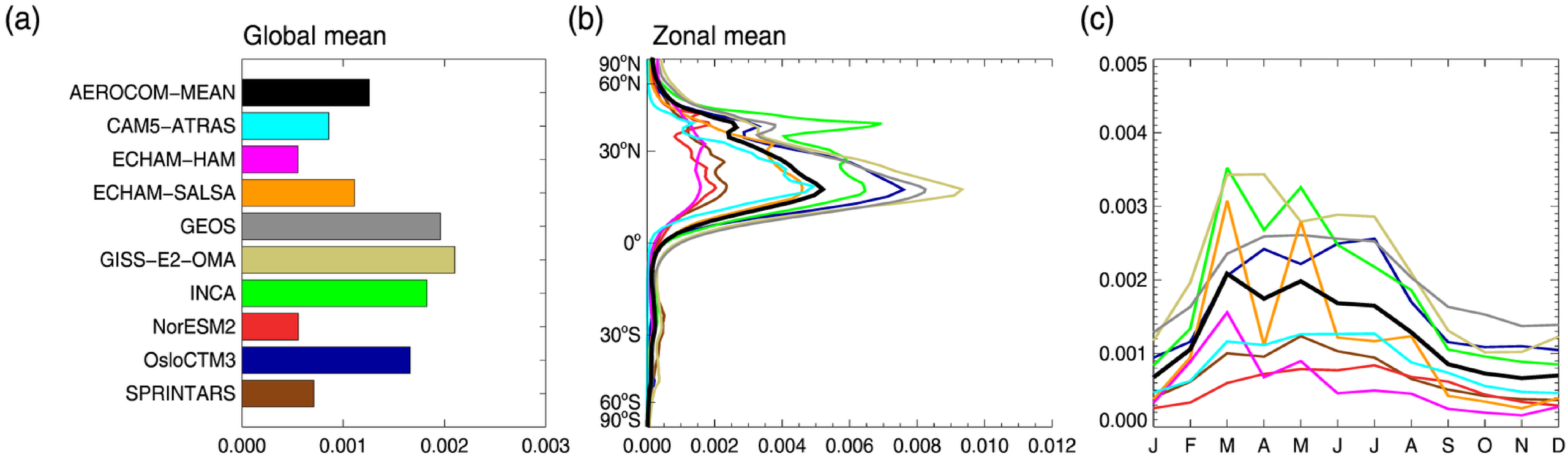
Dust Absorbtion Optical Depth at λ = 550 nm

MODEL MEAN: 0.0013



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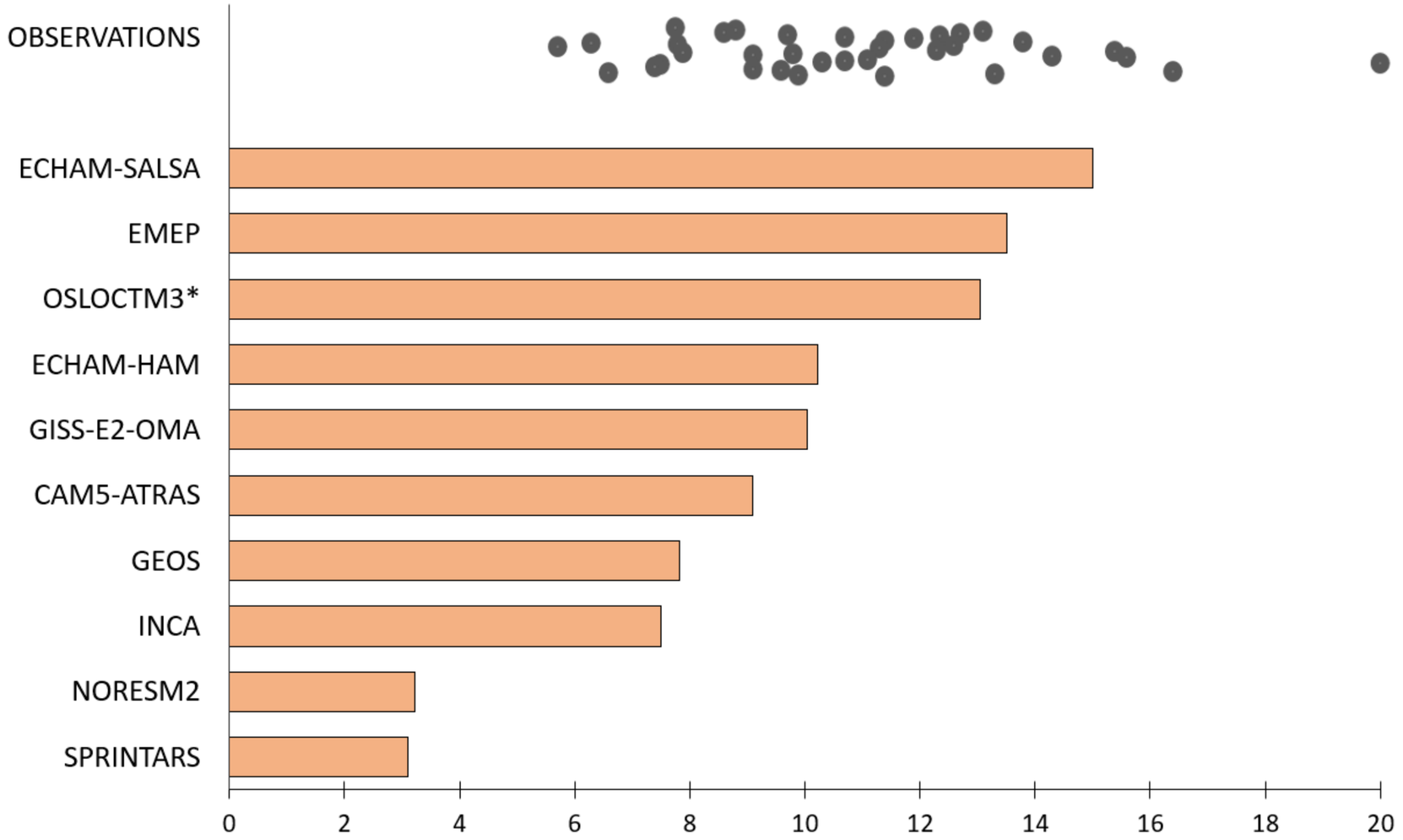
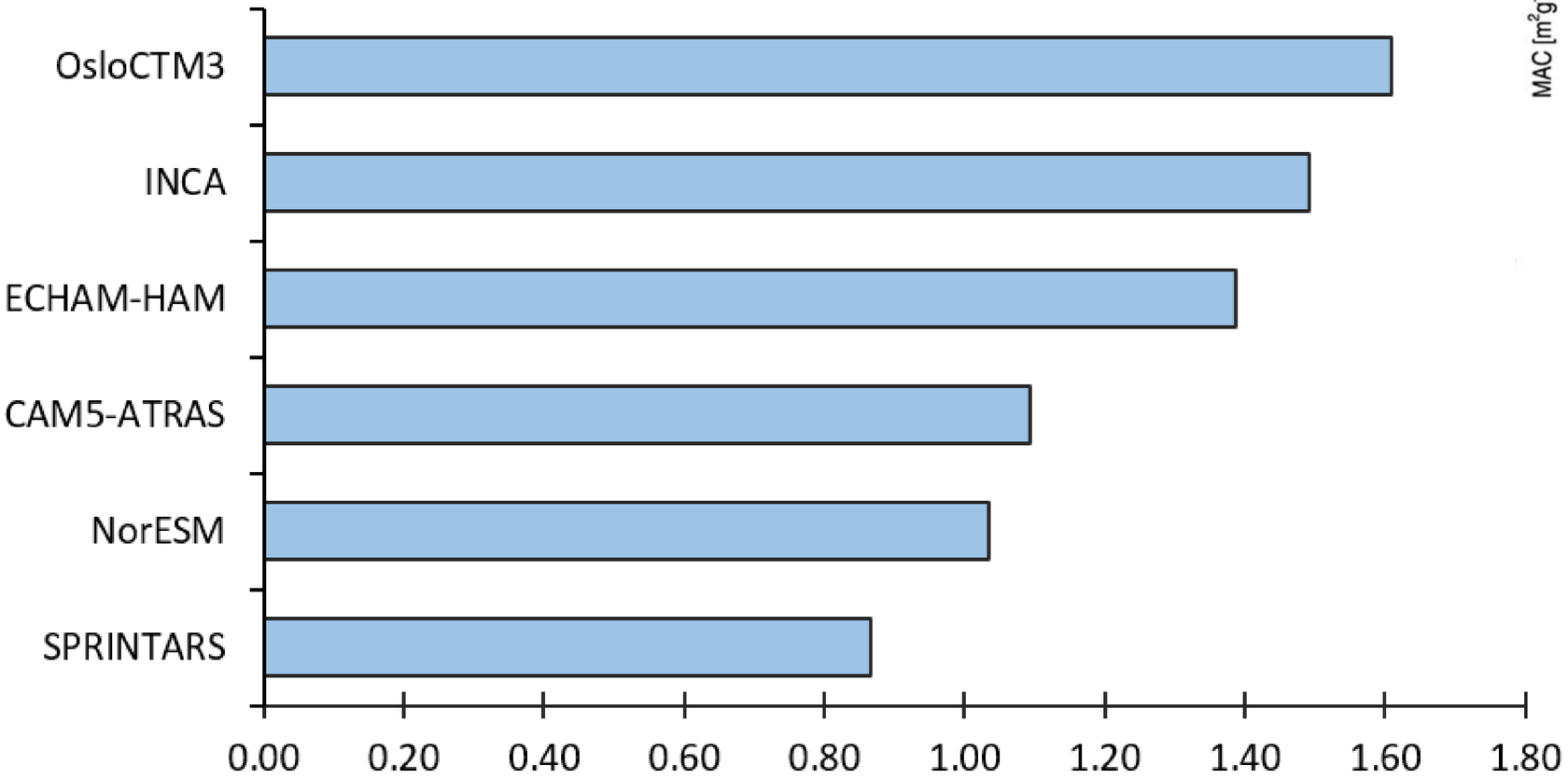
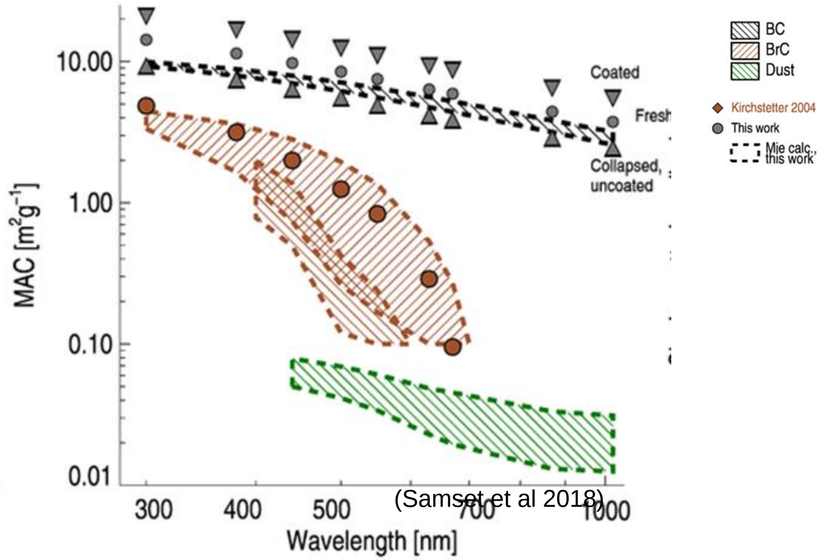
Black Carbon Mass Absorption Cross-section (MAC) at λ = 550 nm



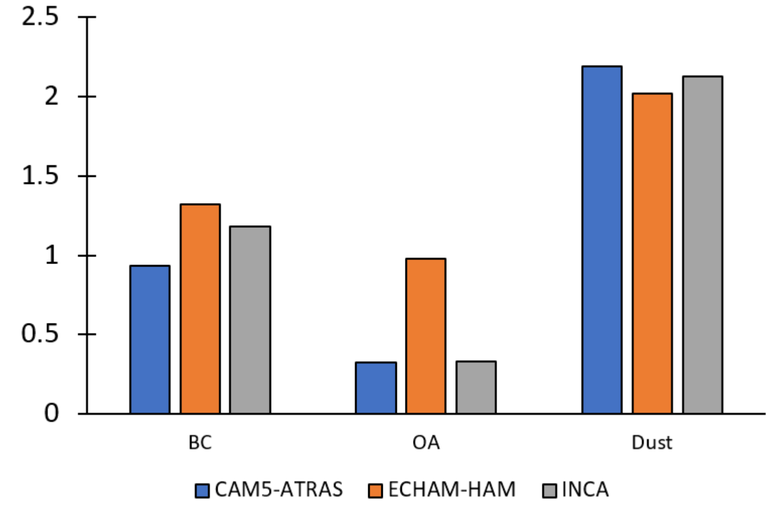
MODEL MEAN: 9.3 m^2 g^{-1}

Absorption Ångström Exponent (AAE) at λ = 440 and 870 nm





(Samset et al 2018)



Remaining issues

- MAC BC: some models outside observed range (global mean). Are there large regional differences in both observations and models?
- Compare with observed abs Ångstrøm in regions with high biomass burning, in dusty regions and in industrial regions.
- Why do models vary?

- – update models with new knowledge

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