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Estimate of the radiative effect of brown carbon using AERONET products

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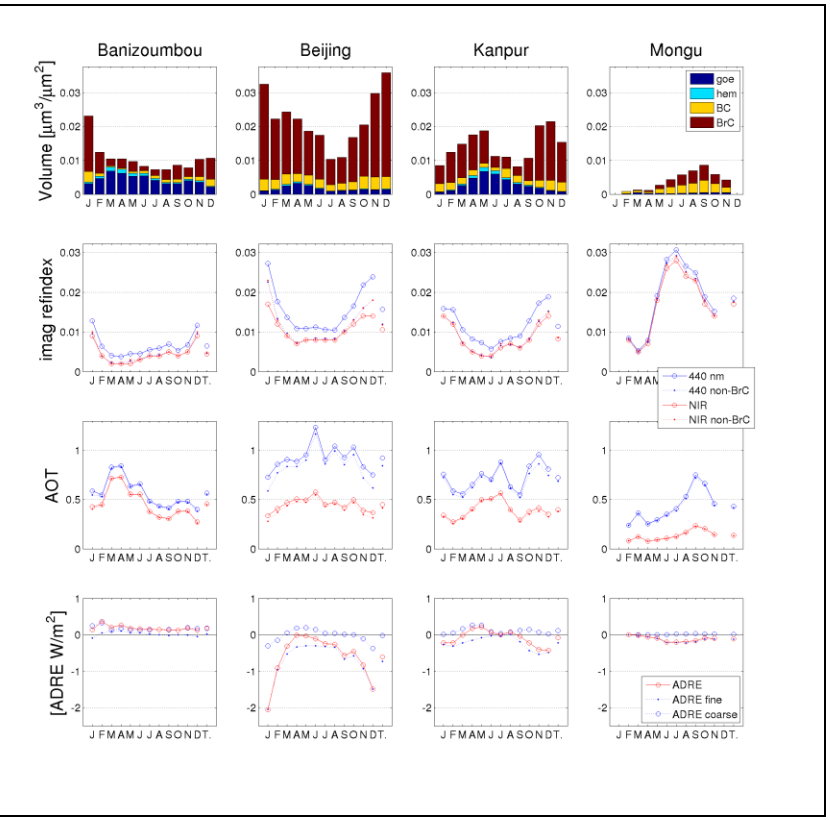

- New quantification of BrC (+ BC and dust) in AERONET inversion (Greg Schuster)
  - Based on spectral imaginary refr. index
- Preliminary on BrC ADRE using AERONET

$$ADRE = F_{TOA}(\text{all aerosols}) - F_{TOA}(\text{non-BrC})$$

- Toward assessing the climatic effects of carbonaceous aerosols

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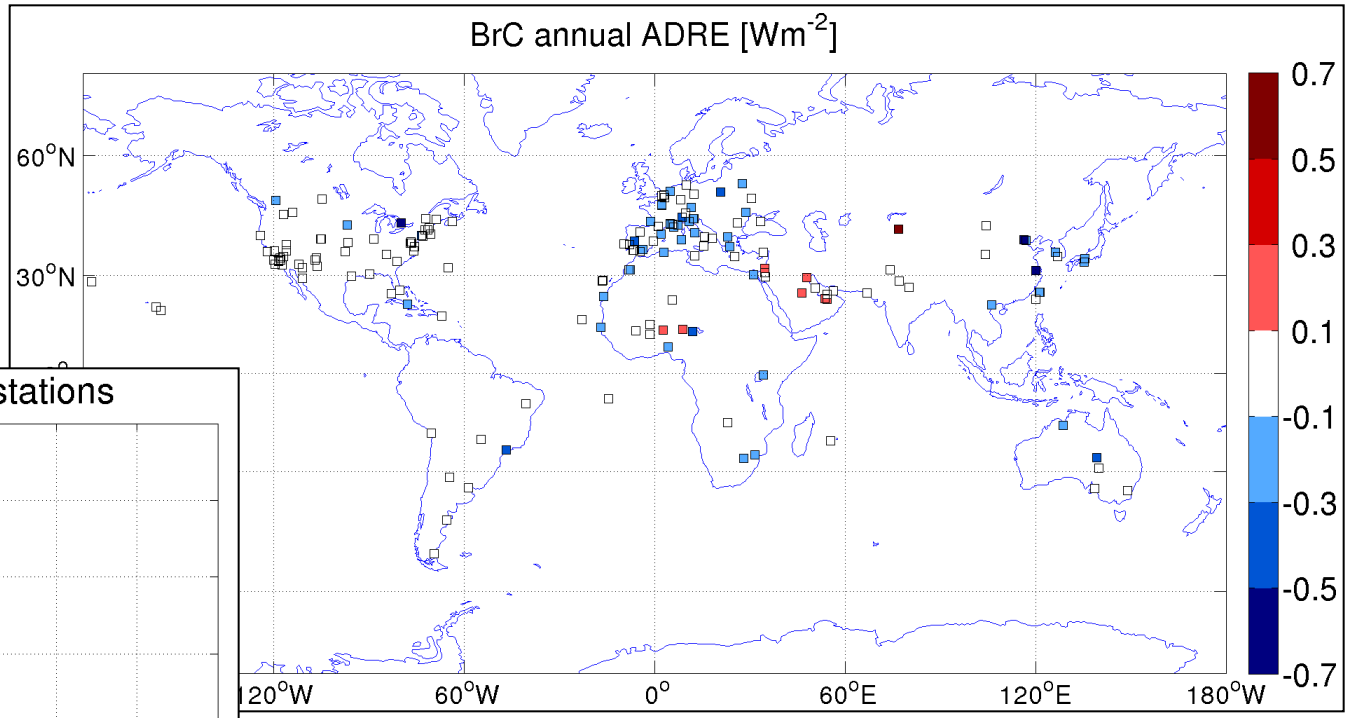

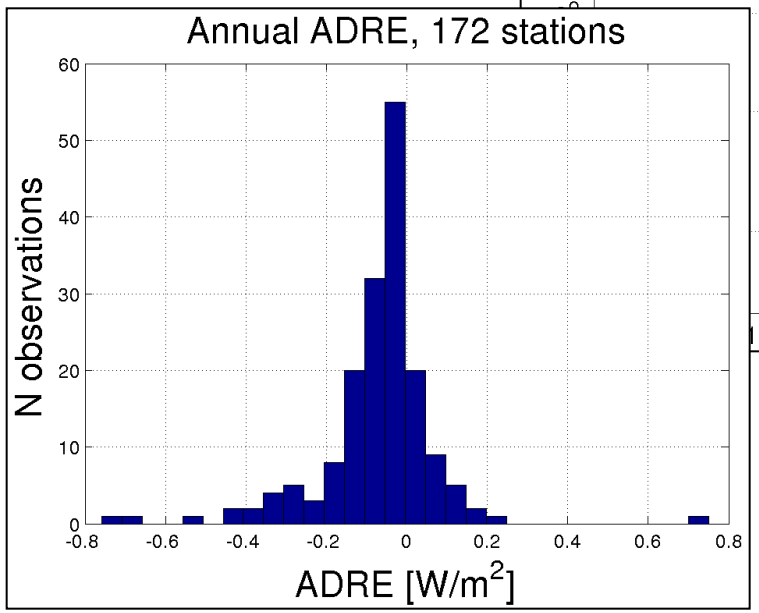

Future work:

- Take dust non-sphericity into account
- Maxwell-Garnett mixing rule for mixing refractive indices
- In addition to BrC, estimate ADRE for black carbon
- Estimate global radiative effects of carbonaceous aerosols based on climate model data constrained with AERONET retrievals