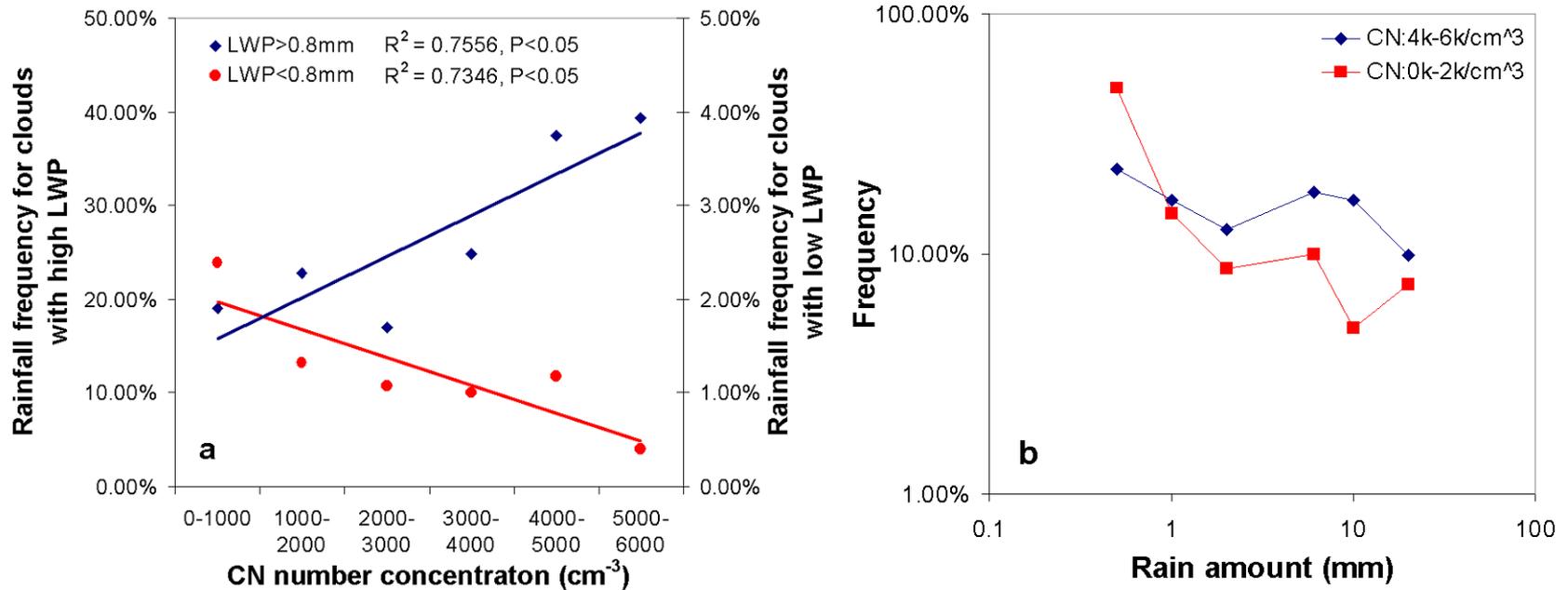


Li et al.

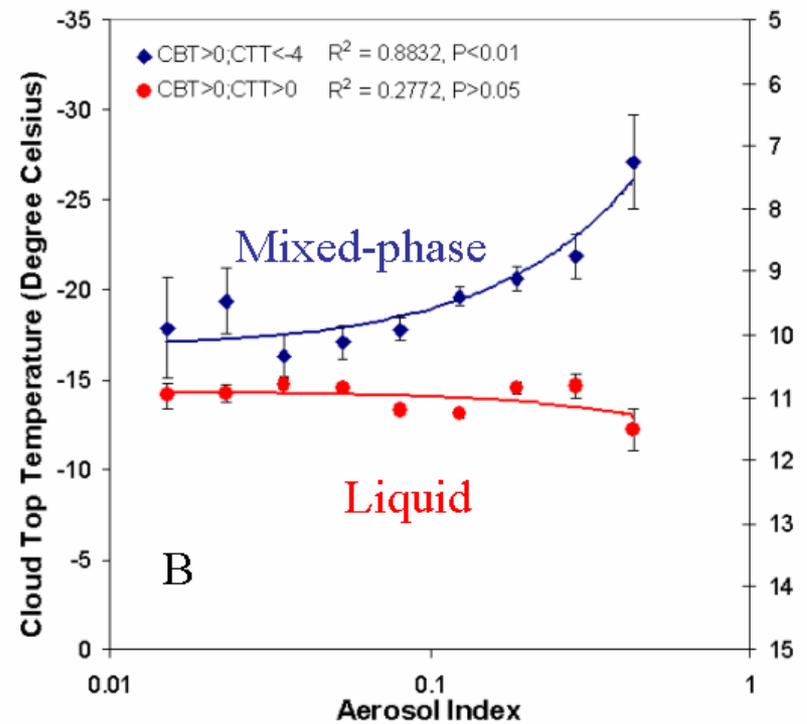
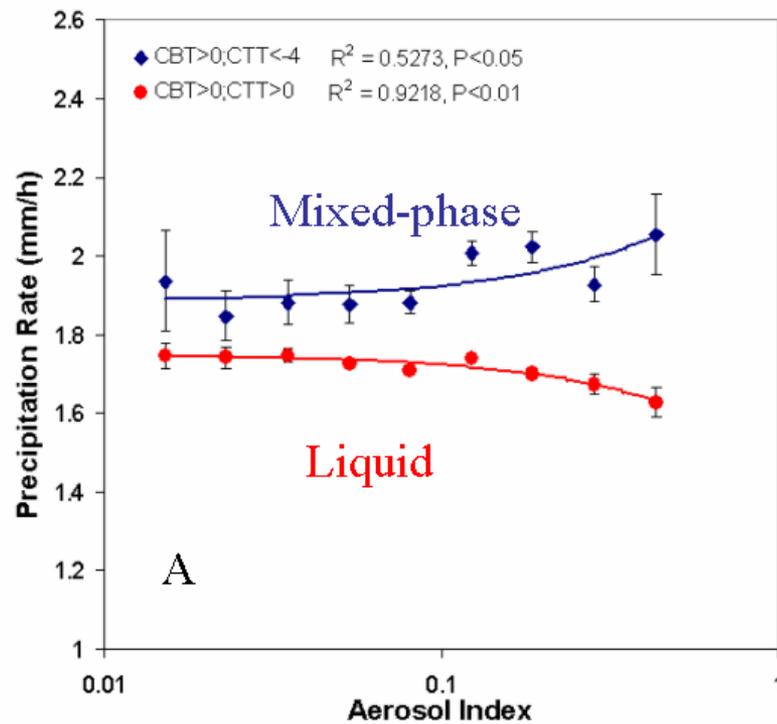
Aerosol induced invigoration of
deep convective clouds

Detected two dominant modes of Aerosol Indirect Effects from 10-Year ARM

Influences on rainfall frequency and rain rate distribution



Detected two dominant modes of Aerosol Indirect Effects from A-Train Satellite



Tasks/Challenges for Modelers and Observers to Tackle the AIE

For modelers:

- Reproduce observed patterns for large ensemble simulations
 - Go beyond case-by-case studies
- Relative importance & frequency of occurrence for various mechanisms proposed
 - Go beyond isolated mechanism

For observers:

Critical measurements required to test various mechanisms

- Profiles of cloud phase
- Profiles LWC/IWC & latent heat
- Profiles of vertical wind
- Profiles of aerosol optical properties
- Profiles of cloud particle size