Atmospheric
Chemistry
and Physics

*Supplement of*

# Is positive correlation between cloud droplet effective radius and aerosol optical depth over land due to retrieval artifacts or real physical processes?

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**Figure List**

**Figure S1.** Cloud effective radius (CER) as a function of aerosol optical depth (AOD) over (a) EC, and (b) EU, (c) WE, and aerosol index (AI) over (d) ECO, (e) EUO, and (f) WEO. The dots show the mean CER at each AOD/AI bin of 0.02. The slopes on log-log scale and the least-square fits for AI < 0.3 (blue) and AI > 0.3 (red), respectively, are provided in panel (d), (e), and (f).

**Figure S2.** The number of samples for each LWP (x axis) and CF (y axis) bin over (a) EC, (b) EU, (c) WE, (d) ECO, (e) EUO, and (f) WEO.

**Figure S3.** The number of samples for each LWP bin over (a) EC, (b) EU, (c) WE, (d) ECO, (e) EUO, and (f) WEO.
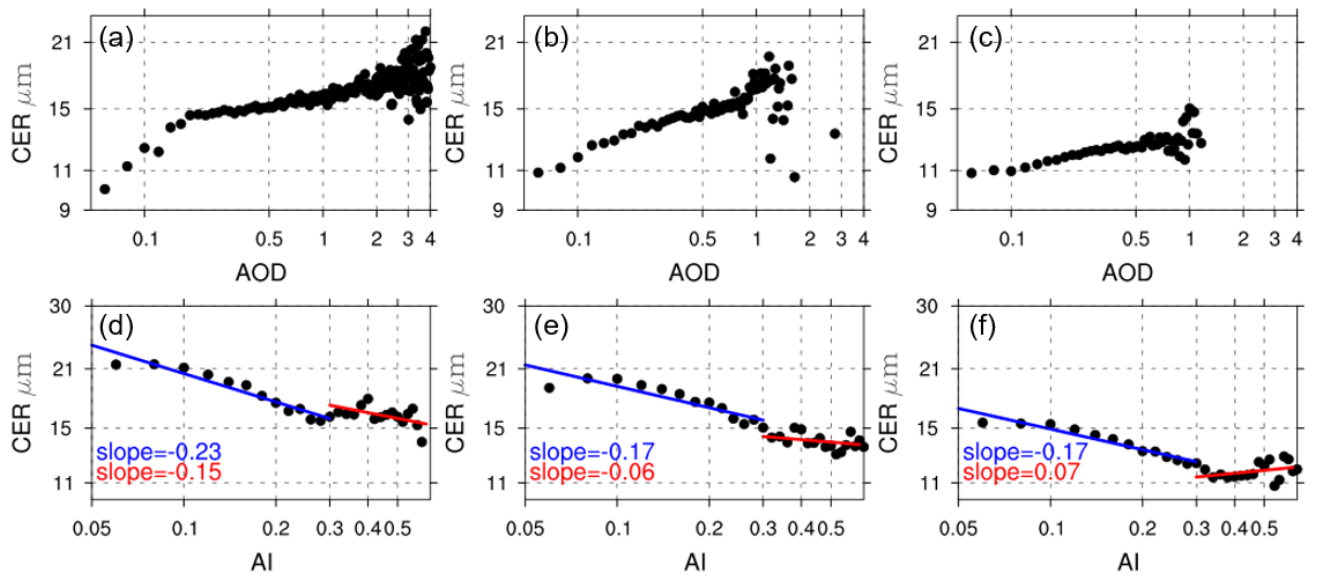
**Figure S1**
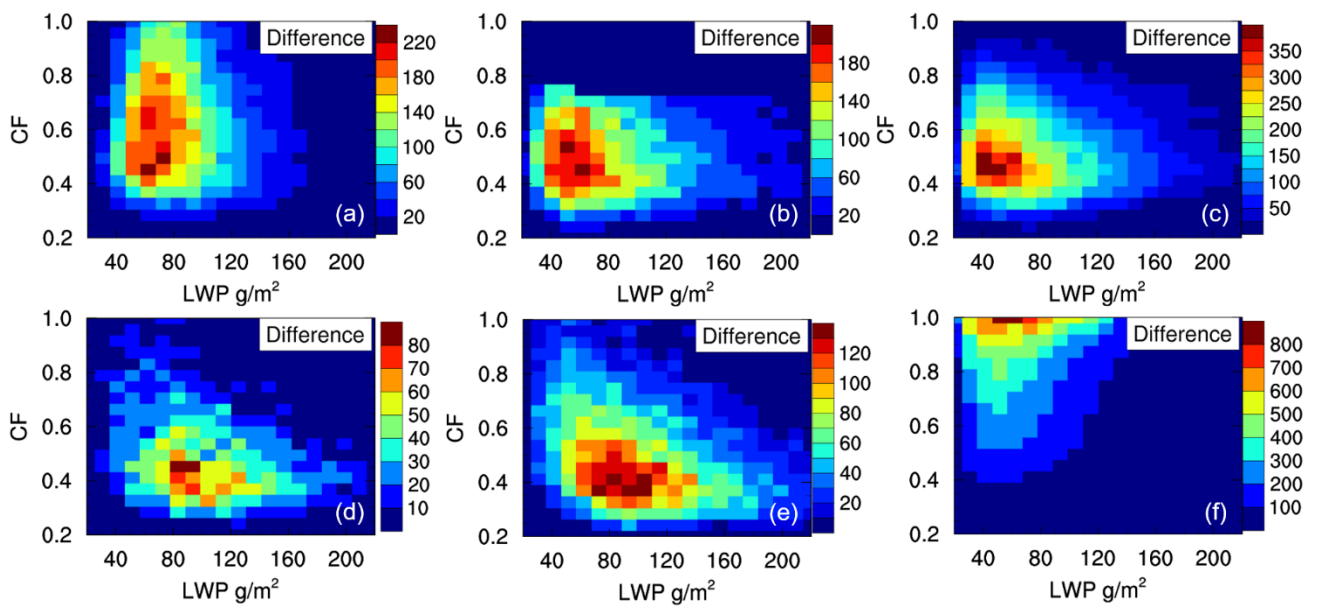


**Figure S2**

**Figure S3**