

Step I

Track individual clouds in geostationary satellite observations
(*Seelig et al., 2021; 2023; Sec. 2.1*)

Step II

Intercepts of cloud tracks and CALIPSO observations
(*Bräuer & Tesche, 2022; Sec. 2.3*)

Development of position, size, and properties of individual clouds

Step III

Quality assurance: screen intercepted clouds for realistic development (**Sec. 2.4**)

Aerosol-type specific concentration of CCN and INP

Step IV

CCN and INP concentrations from CALIPSO observations
(*Choudhury & Tesche, 2022a; 2023; Sec. 2.2*)

To be added:
Meteorological and aerosol reanalysis data

Step V

Matched aerosol and cloud parameters
(**Sec. 2.6**)

Step VI

Investigate ACI for clouds in different regimes, of different phase, and at different height
(**Sec. 3**)