

**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**)