

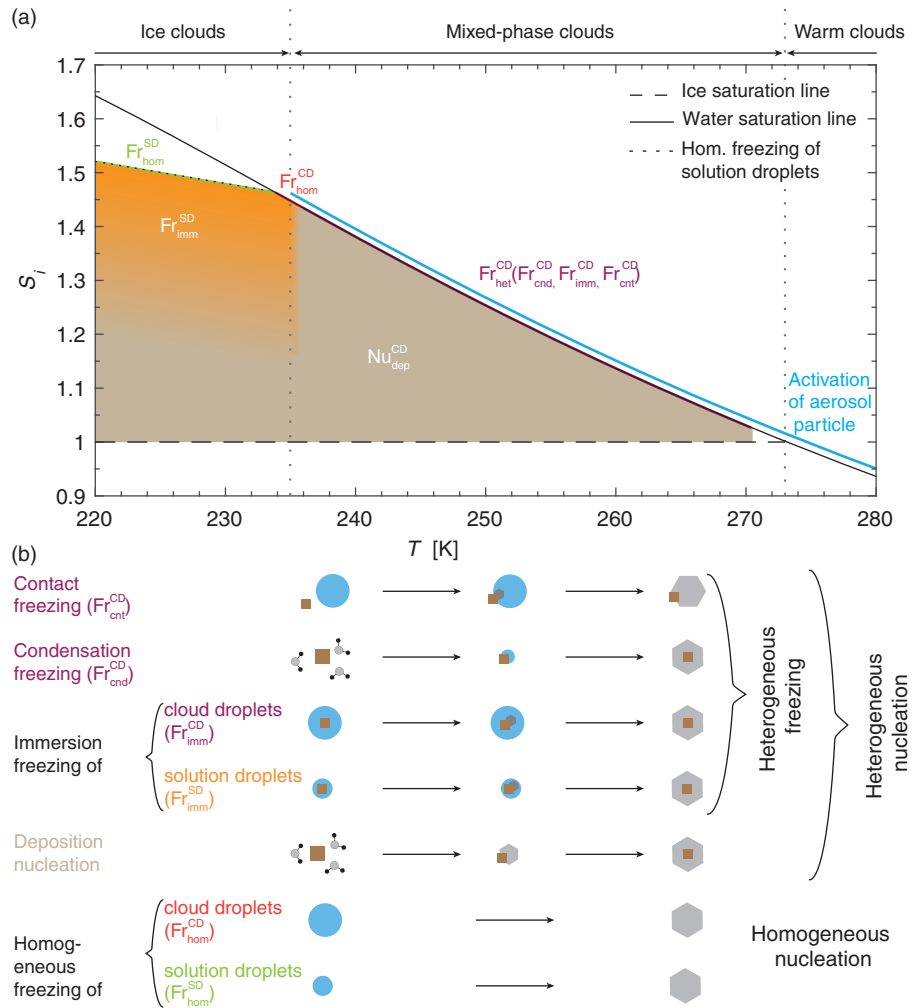


Fig. 8.4

(a) Schematic of the main freezing pathways as a function of temperature T and saturation ratio S_i with respect to ice [%], along with the cloud types in which these processes occur. The sloping dotted line that starts at 235 K denotes the minimum saturation ratio for solution droplets to freeze homogeneously, according to Koop *et al.* (2000). Colored areas denote the regions where the individual nucleation types occur. The superscripts CD and SD refer to cloud droplets and solution droplets respectively. (b) Schematic of the mechanisms associated with the individual processes. The cubes represent INPs, the spheres droplets, the hexagons ice crystals.

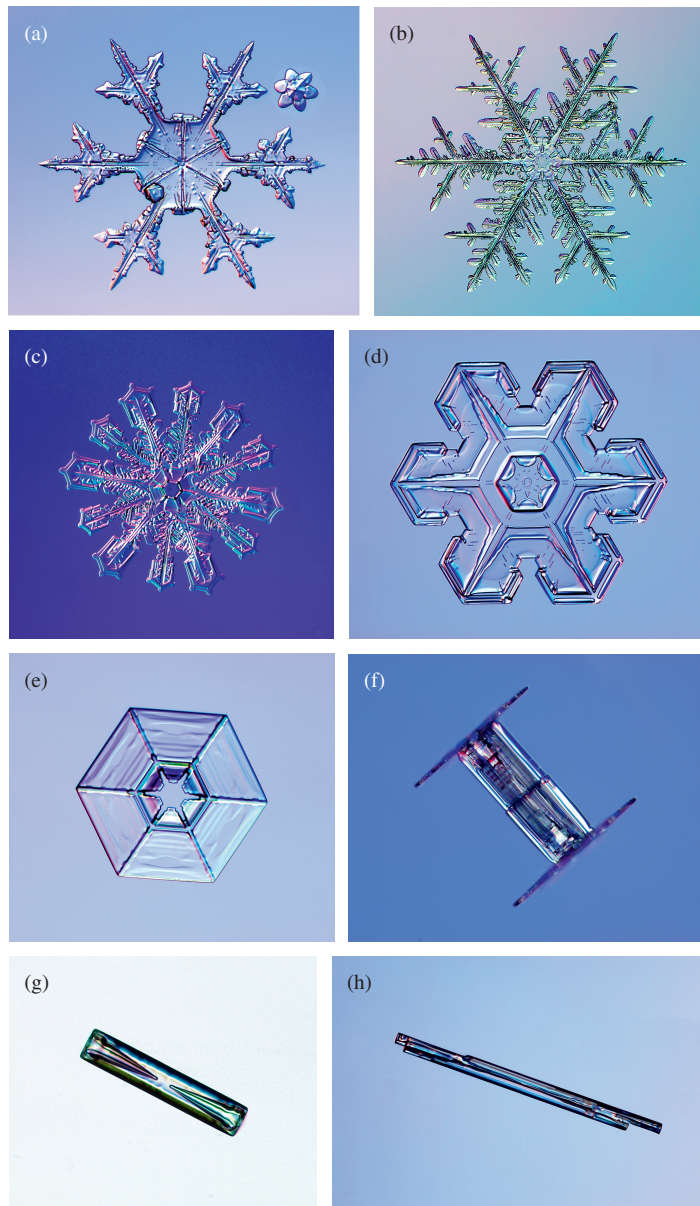


Fig. 8.14

Photographs showing (a) a stellar dendrite, (b) a fern-like stellar dendrite, (c) a 12-sided snowflake, (d) a stellar plate, (e) a plate, (f) a capped column, (g) a hollow column and (h) a needle. Photographs taken from www.snowcrystals.com and used by permission and courtesy of Kenneth Libbrecht.

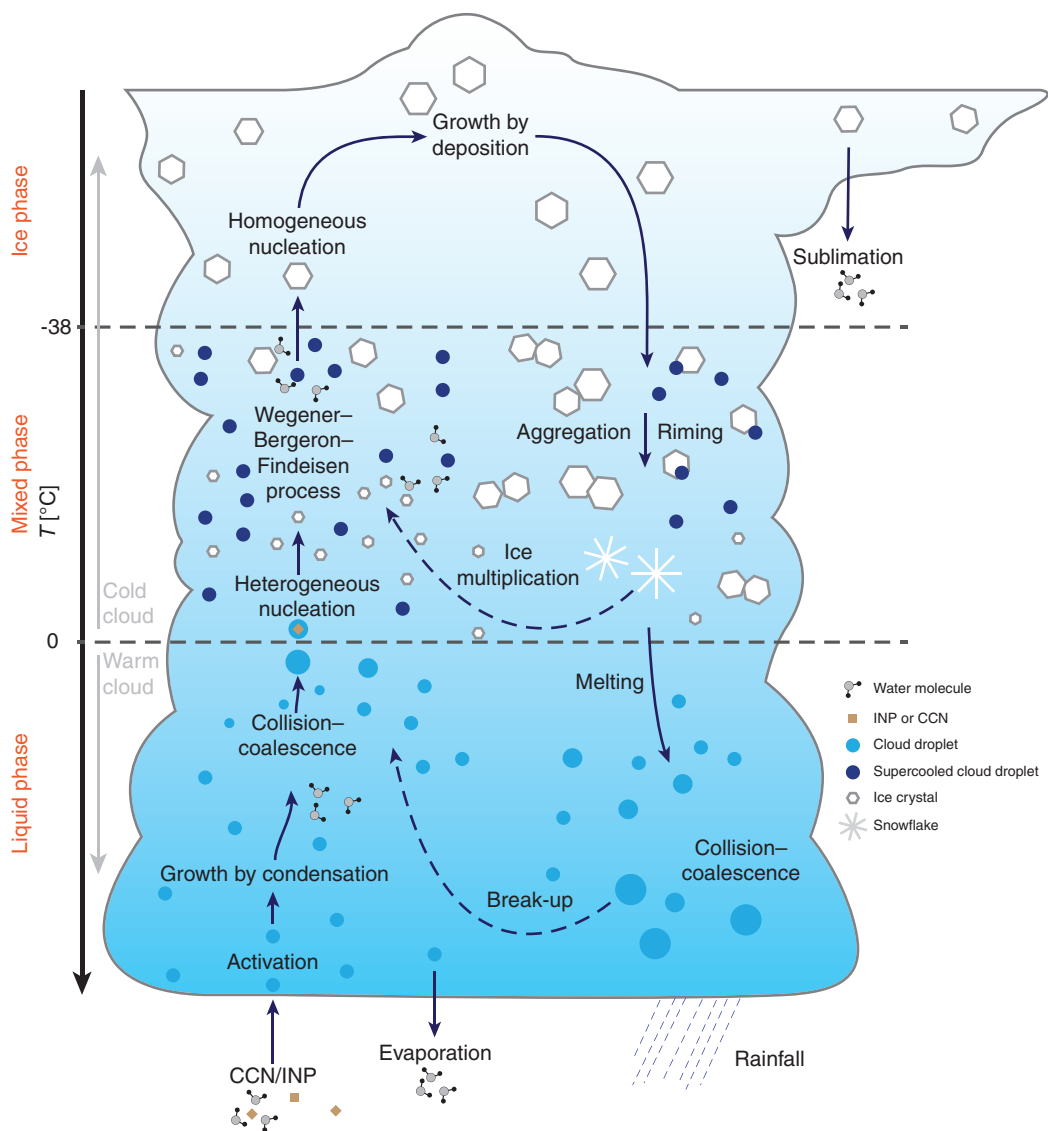


Fig. 8.19

Microphysical processes occurring in a convective cloud with a cloud base temperature higher than 0°C and a cloud top temperature lower than -38°C , so that warm-, mixed- and ice-phase processes take place. The small arrows show typical trajectories of a cloud particle.