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# Statistical properties of cloud lifecycles in cloud-resolving models

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Abstract. A new technique is described for the analysis of cloud-resolving model simulations, which allows one to investigate the statistics of the lifecycles of cumulus clouds. Clouds are tracked from timestep to timestep within the model run. This allows for a very simple method of tracking, but one which is both comprehensive and robust. An approach for handling cloud splits and mergers is described which allows clouds with simple and complicated time histories to be compared within a single framework. This is found to be important for the analysis of an idealized simulation of radiative-convective equilibrium, in which the moist, buoyant updrafts (i.e., the convective cores) were tracked. Around half of all such cores were subject to splits and mergers during their lifecycles. For cores without any such events, the average lifetime is 30 min, but events can lengthen the typical lifetime considerably.

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