

Cold Air Outbreak Evolution

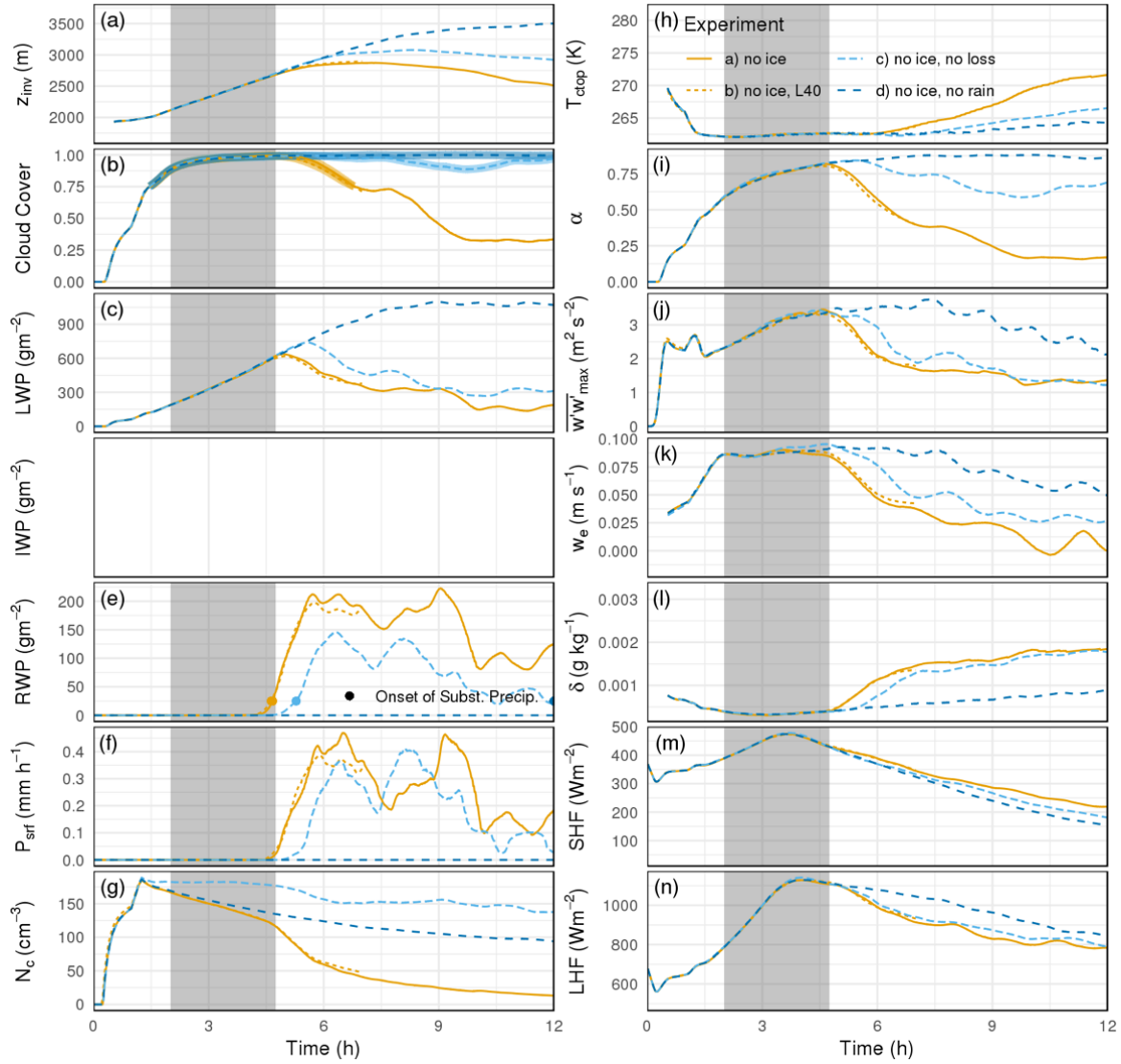


Fig. S1: Similar to Figure 2 in the manuscript (please see for details), we added here two ice0 simulations: “L40” refers to domain size of $(\sim 40\text{km})^2$, “no rain” refers to switched off autoconversion.

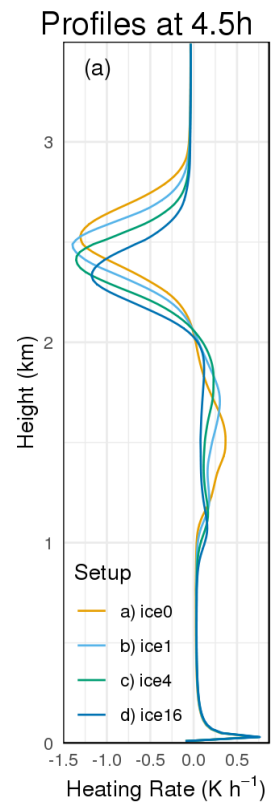


Fig. S2: Heating rate profiles at 4.5 h.

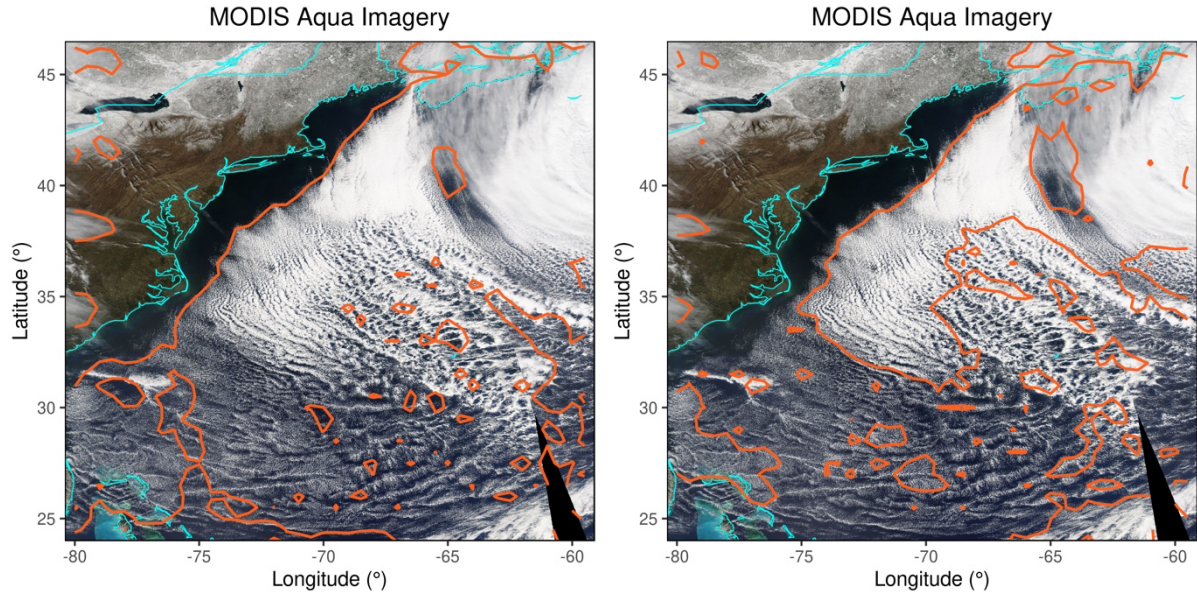


Fig. S3: Isolines of 50 % (left) and 75 % (right) cloud cover. From MYD06 data we determine cloud cover over regions of $(0.5^\circ)^2$, comparable to the extent of our large domain simulation seen in Fig. 4a. A $(1 \text{ km})^2$ pixel is categorized as cloudy if the cloud optical depth is greater than or equal 2.5.