Supplementary Information

Observation of secondary ice production in clouds at low temperatures.

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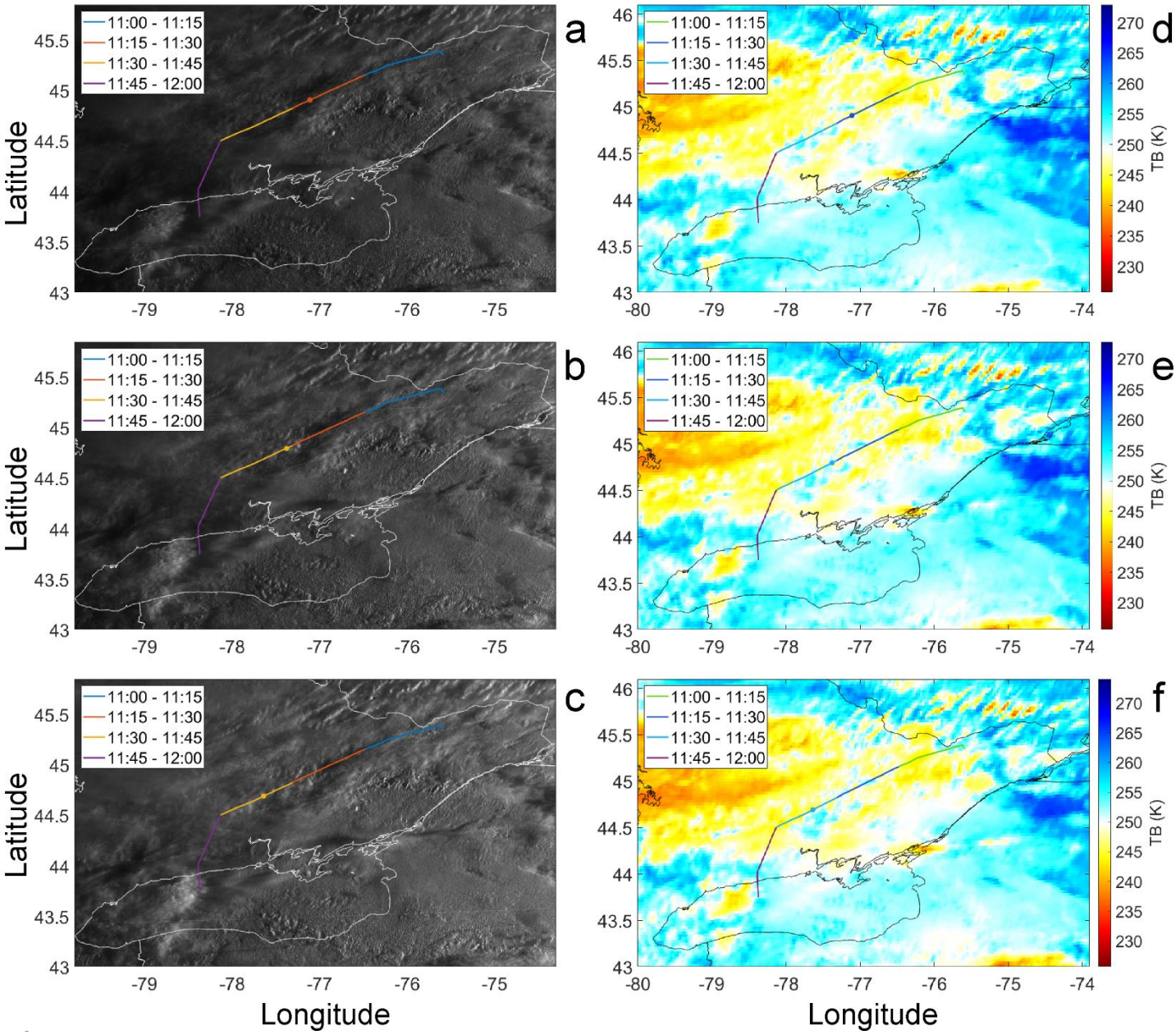

Figure S1. Satellite GOES-16 visible (a,b,c) and infrared (band 13, 10.8μm) (d,e,f) images corresponding to 11:27 UTC (a,d), 11:32 UTC (b,e) and 11:37 UTC (c,f) on 25 March 2017 . Color lines indicate the flight track of the NRCC Convair-580. The dots indicate the positioning of the aircraft corresponding to the satellite imagery times.

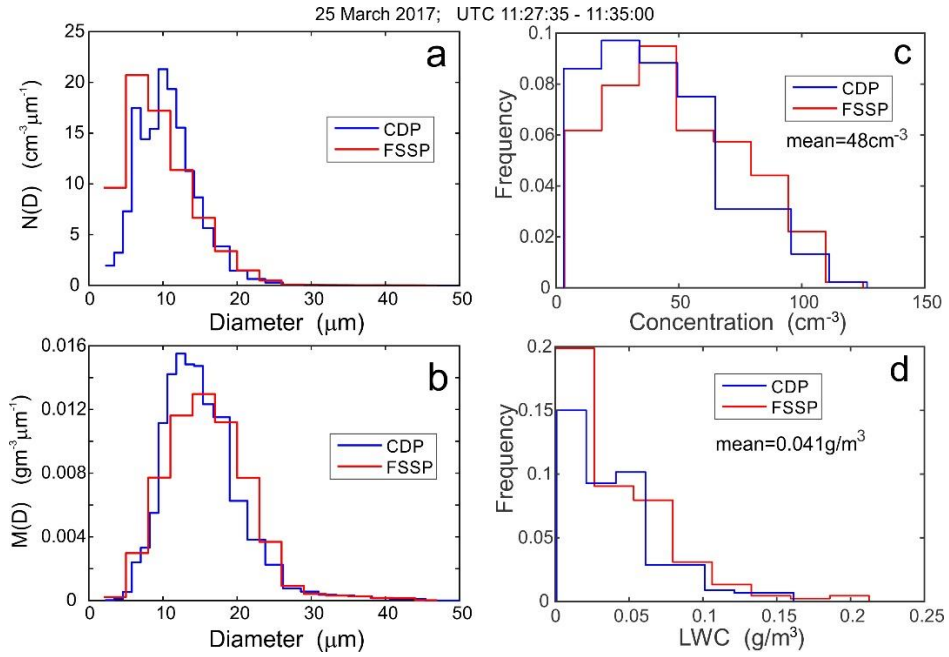

Figure S2. Average cloud droplet distributions of concentration (a) and mass (b), probability density functions of cloud droplet concentration (c) and LWC (d) measured by FSSP and CDP averaged over the cloud domain shown in Fig.1. The cloud segments with droplet number concentration N_{dr}<3cm^{-3} were not included in the statistics. The total length of mixed phase cloud is approximately 21.5km (192 one-second average points)

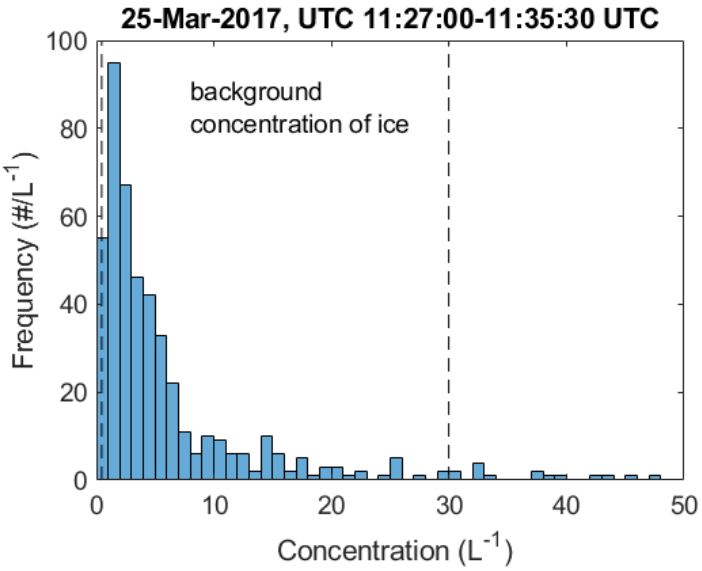

Figure S3. Probability density function of ice particle concentration measured by 2DS in the cloud segment shown in Fig.1 excluding cloud segments 1-3 (Fig.1a). Clouds with ice particle concentration with N<10-3L-1 were not considered. The vertical dashed lines indicate 5 (left) and 95 (right) percentiles of the particle concentration.