Supplement of

A High-Resolution Record of Ice Nuclei Concentrations Between -20 to -30 °C for Fall and Winter at Storm Peak Laboratory with the autonomous Continuous Flow Diffusion Chamber Ice Activation Spectrometer

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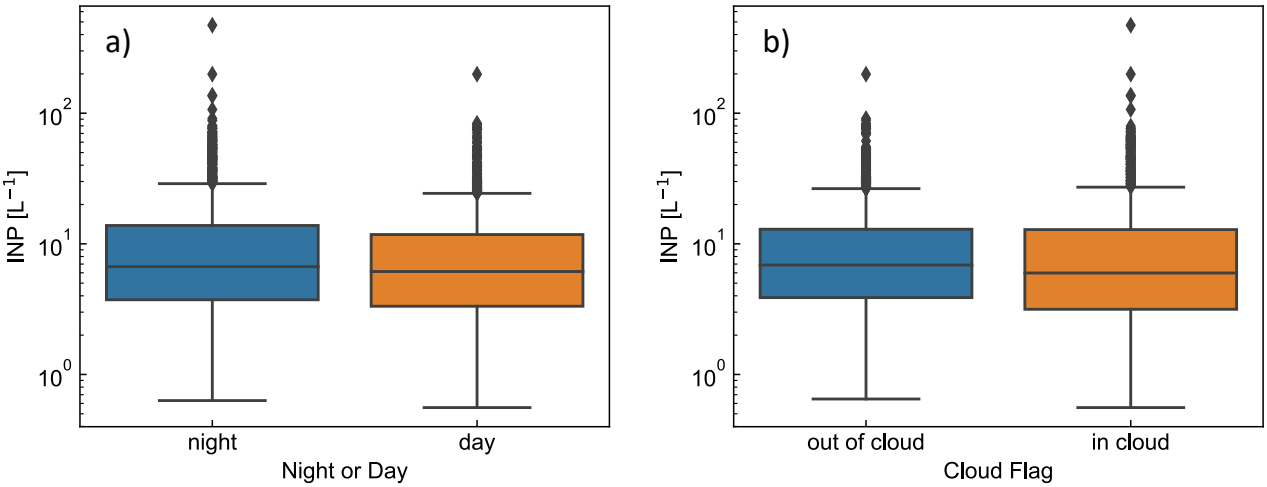

Figure S1. a) All statistically significant INP observed at Storm Peak Laboratory, separated by nighttime and daytime observations (daytime assumed to be between 7 am – 6 pm, MST). The number of samples (N) for each boxplot is N=1958 for night and N=1865 for day. b) All statistically significant INP observed at Storm Peak Laboratory, separated by whether or not the data was flagged to be out of cloud (<90% RH) or in cloud (>90% RH). The number of samples (N) for each boxplot is N=1941 for out of cloud and N=1882 for in cloud.

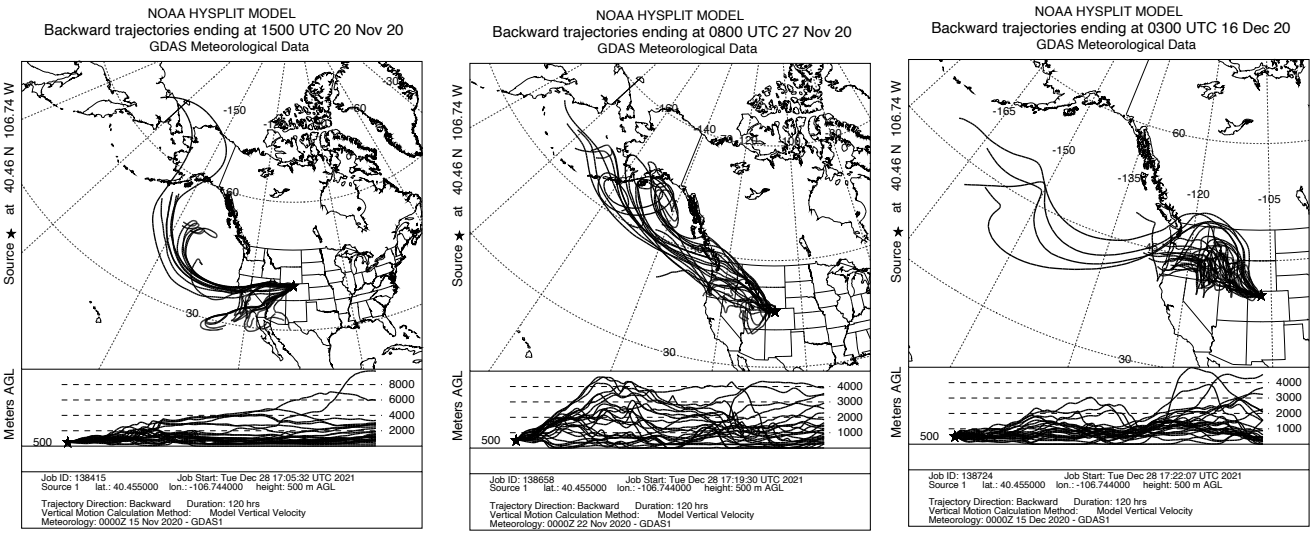

Figure S2. Five-day HYSPLIT back trajectories for three select days in 2020 ending at 15:00 November 20 UTC (08:00 November 20 MST), 08:00 November 27 UTC (01:00 November 27 MST), and 03:00 December 16 UTC (20:00 December 15 MST) during the campaign that experienced INP loadings >50 sL^{-1} . The back trajectories are timed to arrive at roughly the time of the first increase in INP loading for each day.

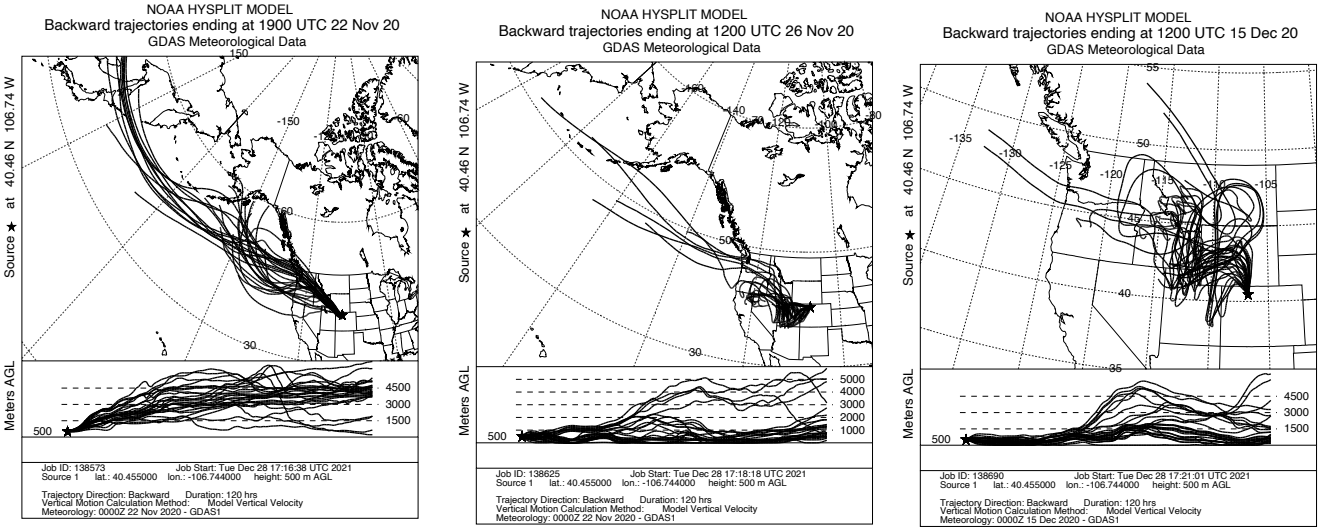

Figure S3. Five-day HYSPLIT back trajectories for three select days in 2020 ending at 19:00 November 22 UTC (12:00 November 22 MST), 12:00 November 26 UTC (05:00 November 26 MST), and 12:00 December 15 UTC (05:00 December 15 MST) during the campaign that did not experience INP loadings >50 sL^{-1} . The back trajectories for November 22 and December 15 are shown for times before a high (>50 sL^{-1}) INP loading event day. The back trajectory for November 26 is for a day in which high INP loading event days occurred before and after this day.