Supplement of

Technical Note: A High-Resolution Autonomous Record of Ice Nuclei Concentrations for Fall and Winter at Storm Peak Laboratory

Anna L. Hodshire¹, Ezra J. T. Levin¹, A. Gannet Hallar², Christopher N. Rapp³, Dan R. Gilchrist², Ian McCubbin², Gavin R. McMeeking¹

¹ Handix Scientific Inc., Fort Collins, CO, 80526, USA

² Department of Atmospheric Sciences, University of Utah, Salt Lake City, UT, 84112, USA
 ³ Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, West Lafayette, IN, 47907, USA

Correspondence to: Anna Hodshire (anna@handixscientific.com)

15

5

20

25



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). 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).



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.