This file describes one of two mistakes we discovered in the ACPD manuscript. Both mistakes are minor and neither affect the overall findings. The other mistake is discussed in the file titled "method_2_correction.pdf."

Subsequent to publication of the ACPD manuscript we discovered that measurements of static pressure made on 14 April, 2009 (20090414) were biased. The bias is substantial and leads to an inaccurate value of $n_{0.5}$ (aerosol particles per standard cubic centimeter) and N_{IC} (ice crystals per standard liter). The pressure bias affected only one of the 80 pairs of $n_{0.5}$ and N_{IC}. The pressure bias is the reason the left-most point in Fig. 3a, the two left-most points in Fig. 3b, and the bottom-most point in Fig. 4a are outliers. Using an unbiased static pressure measurement, available in the King Air data, we corrected the $n_{0.5}$ and N_{IC} values derived for 20090419. The correction is possible because only one of two redundant static pressure systems on the King Air was affected (http://flights.uwyo.edu/projects/waico09/).

Because of the pressure bias discussed in the previous paragraph, the following Figures and Tables were corrected:

1) The $n_{0.5}$ and N_{IC} values in the Supplement (note: only one streamline, the one analyzed using 20090414 flight data, is affected);

2) The 20090414 crystal concentration values (derived and fitted) in Fig. 3a, Fig. 3b and Fig. 4a;

3) The fit parameters describing $N_{IC}(T_{low})$ in Fig. 3a;

4) The fit parameters describing $N_{IC}(T_{low}, n_{0.5})$ in Fig. 3b (method #1);

5) The fit parameters in Table 2 (method #1 and method #2) (note: the revised Table 2 is attached below)

6) The fit parameters in the second row of Table 3 (note: the revised Table 3 is attached below)

Because of the pressure bias, two instances of text were also revised:

1) P26603 / L20 – L22

The square of the Pearson correlation coefficient (r^2), for this scatter plot, is relatively small and demonstrates that temperature alone, via the fit equation, can only explain 44% of the N_{IC} variability.

Author's Change of Manuscript: The square of the Pearson correlation coefficient (r^2), for this scatter plot, is relatively small and demonstrates that temperature alone, via the fit equation, can only explain 51% of the N_{IC} variability.

2) P26617Caption

Values of $N_{IC}(T_{low})$ ($\ln(N_{IC}(T_{low})) = k_1 - k_2 \cdot (T_{low} - T_o)$ with $k_1 = -3.93$ and $k_2 = 0.22\ ^oC^{-1}$)

Author's Change of Manuscript: Values of $N_{IC}(T_{low})$ ($\ln(N_{IC}(T_{low})) = k_1 + k_2 \cdot (T_o - T_{low})$ with $k_1 = -4.04$ and $k_2 = 0.22\ ^oC^{-1}$)

41 Tab. 2 - Eqn. 1 fit coefficients

Coefficients	[a] Fit D10	Fit Method #1	[b] Statistical Error Method #1	Fit Method #2	[c] Statistical Error Method #2
ln a	-9.73	-15.26	2.87	-15.03	4.11
b	3.33	4.94	0.88	4.86	1.30
c	0.0264	0.0028	0.0308	0.0038	0.034
d	0.0033	0.86	0.88	0.82	0.83

42

43 [a] Fit coefficients from D10

44 [b] The standard deviations for coefficients fitted via method #1

45 [c] The standard deviations for coefficients fitted via method #2

46

Tab. 3 - T_{low} subsets and the $ln(N_{IC})$ vs. $ln(t_{MP})$ correlations

T_{min}	T_{max}	$\overline{n_{0.5}}$	Number of samples	r [a]	p [b]
-34	-29	5.50	20	0.20	0.20
-29	-24	2.93	30	0.21	0.14
-24	-19	3.50	15	-0.05	0.57
-19	-14	2.57	15	0.06	0.44

[a] The Pearson correlation coefficient for the regression of $ln(N_{IC})$ versus $ln(t_{MP})$

[b] Level of significance, values of this parameter greater than $p = 0.05$ indicate an insignificant correlation