

Altitude = 5km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.036	0.040	0.010	0.013
Std Deviation (1 reading)	0.265	0.219	0.304	0.372
Std Error (10 readings)	0.084	0.069	0.096	0.118
St Error (100 readings)	0.026	0.022	0.030	0.037
Altitude = 10km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.011	0.027	0.023	0.000
St Deviation (1 reading)	0.305	0.280	0.337	0.368
St Error (10 readings)	0.097	0.088	0.107	0.116
St Error (100 readings)	0.031	0.028	0.034	0.037
Altitude = 15km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.006	-0.005	0.004	-0.003
Std Deviation (1 reading)	0.182	0.191	0.215	0.235
Std Error (10 readings)	0.058	0.060	0.068	0.074
Std Error (100 readings)	0.018	0.019	0.021	0.023
Altitude = 20km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.031	-0.033	0.032	0.024
Std Deviation (1 reading)	0.199	0.175	0.202	0.270
Std Error (10 readings)	0.063	0.055	0.064	0.085
Std Error (100 readings)	0.020	0.017	0.020	0.027

Table 2a Lindenberg 1999 – 2008. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.

Altitude = 5km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.047	-0.038	0.017	0.047
Std Deviation (1 reading)	0.271	0.237	0.294	0.271
Std Error (10 readings)	0.086	0.075	0.093	0.086
St Error (100 readings)	0.027	0.024	0.029	0.027
Altitude = 10km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.010	0.073	-0.017	-0.011
St Deviation (1 reading)	0.286	0.268	0.295	0.293
St Error (10 readings)	0.091	0.085	0.093	0.093
St Error (100 readings)	0.029	0.027	0.030	0.029
Altitude = 15km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.020	0.035	0.011	-0.038
Std Deviation (1 reading)	0.167	0.190	0.192	0.210
Std Error (10 readings)	0.053	0.060	0.061	0.066
Std Error (100 readings)	0.017	0.019	0.019	0.021
Altitude = 20km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.020	0.023	0.009	-0.024
Std Deviation (1 reading)	0.183	0.176	0.209	0.243
Std Error (10 readings)	0.058	0.056	0.066	0.077
Std Error (100 readings)	0.018	0.018	0.021	0.024

Table 2b Lindenberg 2009 – 2012. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.

Altitude = 5km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.081	0.093	0.036	0.052
Std Deviation (1 reading)	0.316	0.326	0.285	0.425
Std Error (10 readings)	0.100	0.103	0.090	0.134
St Error (100 readings)	0.032	0.033	0.028	0.043
Altitude = 10km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	0.044	0.073	0.033	0.010
St Deviation (1 reading)	0.297	0.319	0.254	0.369
St Error (10 readings)	0.094	0.101	0.080	0.117
St Error (100 readings)	0.030	0.032	0.025	0.037
Altitude = 15km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	-0.046	0.001	-0.024	-0.038
Std Deviation (1 reading)	0.261	0.326	0.257	0.290
Std Error (10 readings)	0.082	0.103	0.081	0.092
Std Error (100 readings)	0.026	0.033	0.026	0.029
Altitude = 20km	Spring	Summer	Autumn	Winter
Mean rate of change, K / hour	-0.025	-0.047	-0.019	-0.015
Std Deviation (1 reading)	0.260	0.284	0.245	0.281
Std Error (10 readings)	0.082	0.090	0.077	0.089
Std Error (100 readings)	0.026	0.028	0.024	0.028

Table 2c Southern Great Plains 2006 – 2012. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.