Supplementary information:

**Table S1.** Linear regression of diurnal temperature ranges during gas flux measurement.

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| --- | --- | --- | --- |
|  |  | Linear regression | R2 |
| Winter | Air Temp | y = -13.0254-1.8494x+0.5806x2-0.0244x3 | R2 = 0.8115 |
| Soil Temp | y = -1.9877-0.4282x+0.0919x2-0.0035x3 | R2 = 0.4142 |
| Spring | Air Temp | y = -2.1519-0.8695x+0.3948x2-0.0172x3 | R2 = 0.8396 |
| Soil Temp | y = 2.1714-1.8049x+0.3404x2-0.0121x3 | R2 = 0.8319 |
| Summer | Air Temp | y = 12.2278-2.4517x+0.4303x2-0.0150x3 | R2 = 0.7421 |
| Soil Temp | y = 2.1714-1.8049x+0.6353x2-0.0251x3 | R2 = 0.8106 |