Table 1 Descriptive summary of focus variables across temperature–humidity index (THI)–based heat stress categories, stratified by season and diel phase (day/night). Heat stress was classified according to THI thresholds. For each combination we report the number of observations (n) and mean ± standard deviation for body temperature (°C), activity (%), and heart rate (beats per minute).

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Season | Phase | THI Range | Heat Stress | n obs | Body Temp (°C) | Activity (%) | Heart Rate (bpm) |
| Fall | day | < 68 | comfort | 244 | 39.05 ± 0.17 | 9.61 ± 3.48 | 61.82 ± 9.78 |
| night | 319 | 39.09 ± 0.19 | 8.90 ± 3.69 | 60.99 ± 10.33 |
| day | 68–71.9 | mild discomfort | 54 | 39.04 ± 0.16 | 10.69 ± 3.07 | 59.11 ± 9.56 |
| night | 16 | 39.22 ± 0.12 | 6.66 ± 4.19 | 62.35 ± 8.17 |
| day | 72–74.9 | discomfort | 27 | 39.06 ± 0.22 | 10.02 ± 4.41 | 58.27 ± 9.32 |
| night | 7 | 39.19 ± 0.10 | 3.07 ± 1.92 | 63.80 ± 5.40 |
| day | 75–78.9 | alert | 17 | 39.01 ± 0.18 | 10.96 ± 3.04 | 59.95 ± 9.57 |
| night | 2 | 39.28 ± 0.14 | 10.16 ± 0.80 | 62.49 ± 7.48 |
| day | 79–83.9 | danger | 12 | 39.06 ± 0.10 | 11.67 ± 4.16 | 64.21 ± 4.44 |
| day | ≥ 84 | emergency | 1 | 39.07 | 11.55 | 62.74 |
| Spring | day | < 68 | comfort | 426 | 39.09 ± 0.23 | 10.57 ± 4.21 | 55.10 ± 10.94 |
| night | 548 | 39.18 ± 0.28 | 8.70 ± 4.58 | 56.43 ± 11.06 |
| day | 68–71.9 | mild discomfort | 121 | 39.12 ± 0.24 | 10.69 ± 3.42 | 62.10 ± 9.49 |
| night | 4 | 39.39 ± 0.29 | 8.21 ± 4.58 | 69.63 ± 4.47 |
| day | 72–74.9 | discomfort | 58 | 39.13 ± 0.26 | 10.76 ± 3.95 | 60.94 ± 10.01 |
| night | 3 | 39.10 ± 0.19 | 10.53 ± 4.00 | 59.83 ± 5.36 |
| day | 75–78.9  79–83.9 | alert | 31 | 39.00 ± 0.19 | 9.93 ± 2.77 | 57.98 ± 8.94 |
| day | danger | 10 | 39.10 ± 0.23 | 11.34 ± 2.23 | 57.41 ± 10.78 |
| Summer | day | < 68 | comfort | 80 | 39.26 ± 0.24 | 9.73 ± 4.13 | 70.86 ± 7.58 |
| night | 319 | 39.31 ± 0.28 | 9.65 ± 4.27 | 64.02 ± 11.81 |
| day | 68–71.9 | mild discomfort | 115 | 39.23 ± 0.21 | 11.63 ± 3.50 | 64.51 ± 12.16 |
| night | 69 | 39.37 ± 0.28 | 7.54 ± 5.18 | 61.04 ± 10.54 |
| day | 72–74.9 | discomfort | 129 | 39.23 ± 0.21 | 11.95 ± 3.71 | 66.28 ± 10.71 |
| night | 37 | 39.31 ± 0.20 | 7.67 ± 4.24 | 66.41 ± 7.99 |
| day | 75–78.9 | alert | 173 | 39.18 ± 0.20 | 11.45 ± 3.93 | 64.70 ± 10.47 |
| night | 18 | 39.32 ± 0.14 | 6.99 ± 4.87 | 64.96 ± 7.42 |
| day | 79–83.9 | danger | 108 | 39.20 ± 0.20 | 11.27 ± 4.03 | 68.58 ± 8.71 |
| night | 2 | 39.25 ± 0.27 | 3.80 ± 1.27 | 67.30 ± 5.80 |
| day | ≥ 84 | emergency | 32 | 39.25 ± 0.33 | 13.58 ± 3.41 | 68.40 ± 10.97 |
| Winter | day | < 68 | comfort | 362 | 39.04 ± 0.25 | 10.81 ± 4.31 | 54.21 ± 11.28 |
| night | 460 | 39.10 ± 0.25 | 9.81 ± 4.91 | 54.12 ± 11.42 |
| day | 68–71.9 | mild discomfort | 10 | 38.88 ± 0.19 | 11.01 ± 4.17 | 49.14 ± 9.48 |
| day | 72–74.9 | discomfort | 3 | 38.93 ± 0.25 | 8.53 ± 6.16 | 43.71 ± 0.97 |
| day | 75–78.9 | alert | 3 | 39.04 ± 0.07 | 5.53 ± 2.17 | 45.11 ± 3.02 |
| day | 79–83.9 | danger | 1 | 39.04 | 10.44 | 50.12 |
| day | ≥ 84 | emergency | 1 | 39.12 | 16.90 | 42.20 |