



Correction to: Heat stress morbidity among US military personnel: daily exposure and lagged response (1998–2019)

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Following publication, we discovered a data processing error that misassigned North American Land Data Assimilation System 2 (NLDAS-2)-derived temperature index values, affecting a subset of locations over the assessed time period. Upon correcting this error and repeating the analysis, the findings remained fundamentally unchanged, although the partial misassignment had biased risk estimates towards the null. The corrected odds ratios increased marginally for

heat index and WBGT indices, and by a larger magnitude for ambient temperature and minimum/early morning indices, relative to case-day median index values, which also increased upon re-analysis. The shapes of the response curves for the multiple indices remained consistent with the exceptions of minimum temperature, morning (0600 local) temperature, and morning WBGT, presented in the electronic supplementary material.

The abstract findings are amended to “Responses were positive, monotonic, and exponential in nature, except for maximum daily WBGT, which showed decreasing risk for the highest heat category days. The risk for heat stress illness on a day with a maximum WBGT of 32.2 °C (90.0 °F) was 2.08 (95% CI, 1.93–2.23) times greater than on a day with a maximum WBGT of 29.9 °C (85.8 °F) (*prior: OR = 1.93, relative to 28.6 °C*). The risk was 3.15 (2.92–3.41) times greater on days with a maximum heat index of 40.6 °C (105 °F) compared to 34.7 °C (94.4 °F) (*prior: OR = 2.53, relative to 32.8 °C*).”

Figures 2, 3 4 are updated below:

The original article can be found online at <https://doi.org/10.1007/s00484-022-02269-3>.

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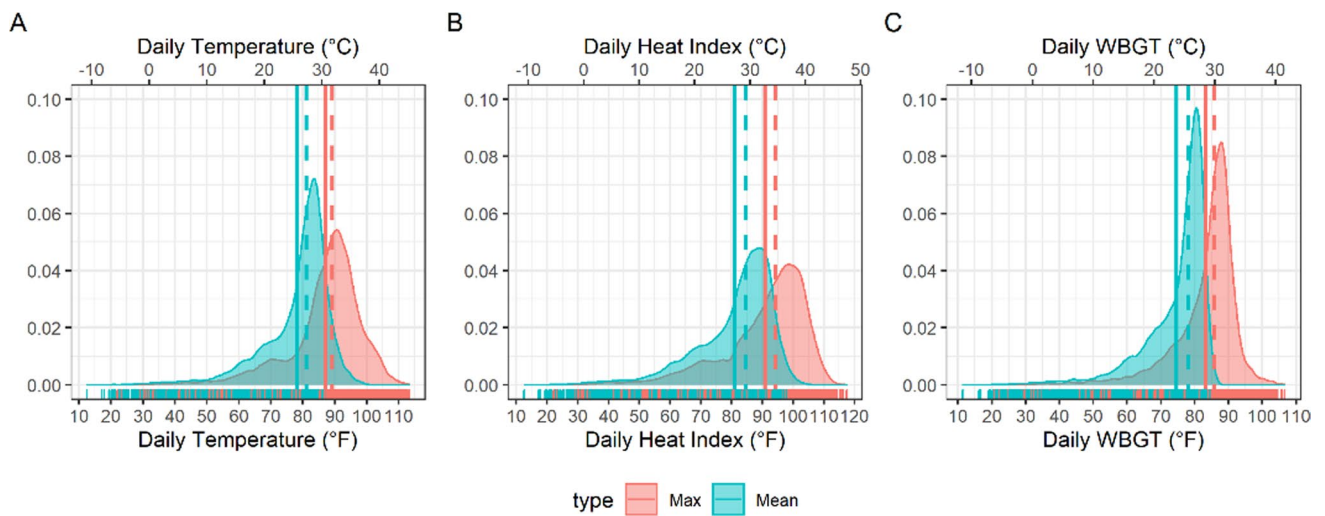


Fig. 2 Density plots of maximum (orange) and mean (teal) daily temperature (A), heat index (B), and WBGT (C) on days with HSI case-definition encounters occurring at 24 US military installations from

1998 to 2019. Dashed lines indicate median values and solid lines indicate mean values ($n = 31,642$)

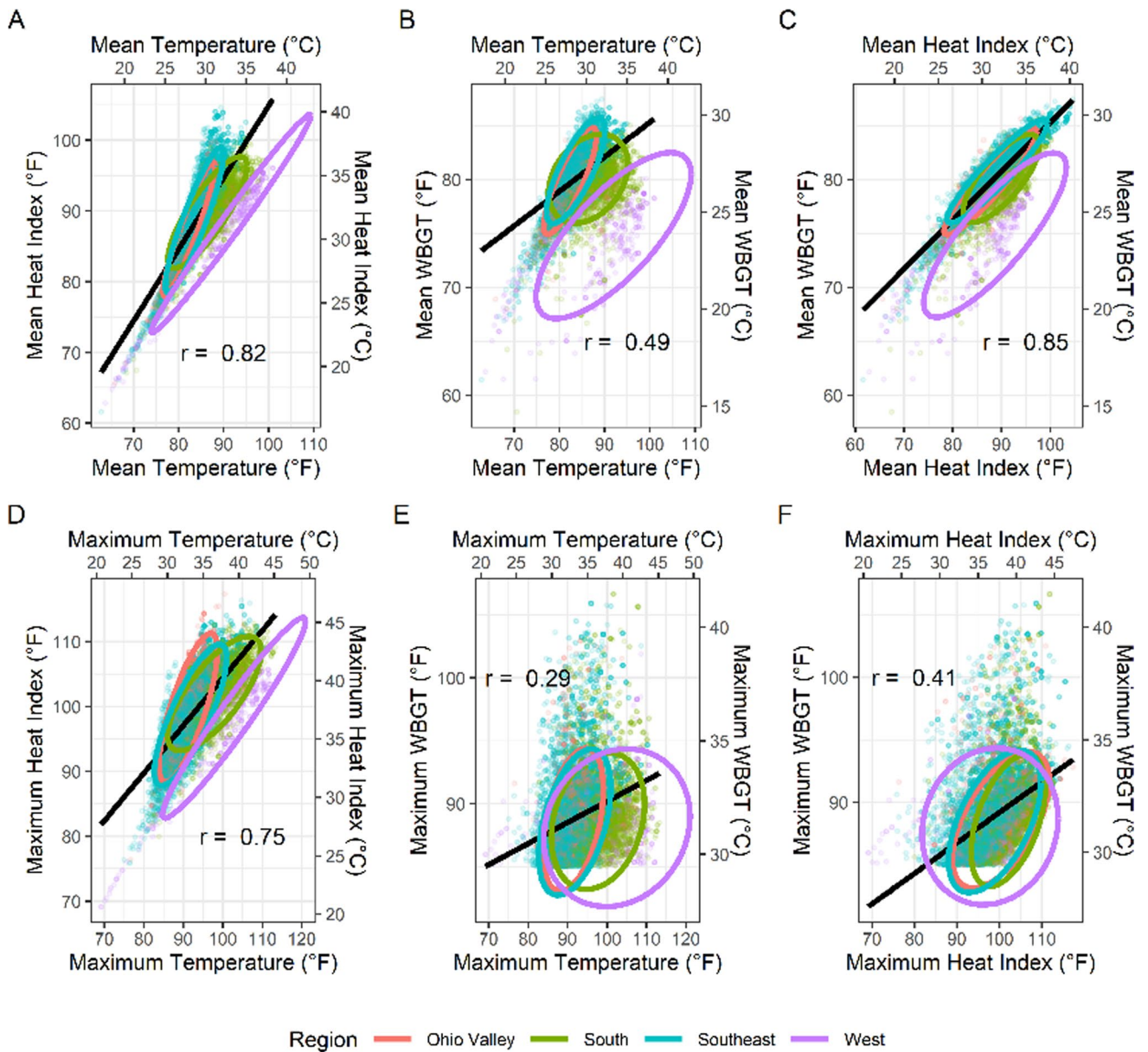


Fig. 3 Pairwise mean (A–C) and maximum (D–F) daily indices on HSI case days with maximum WBGT > 85 °F ($n = 12,865$). Pearson correlations (all $p < 0.001$), linear model fit (all regions), and multivariate t -distribution data ellipses by climate region are depicted

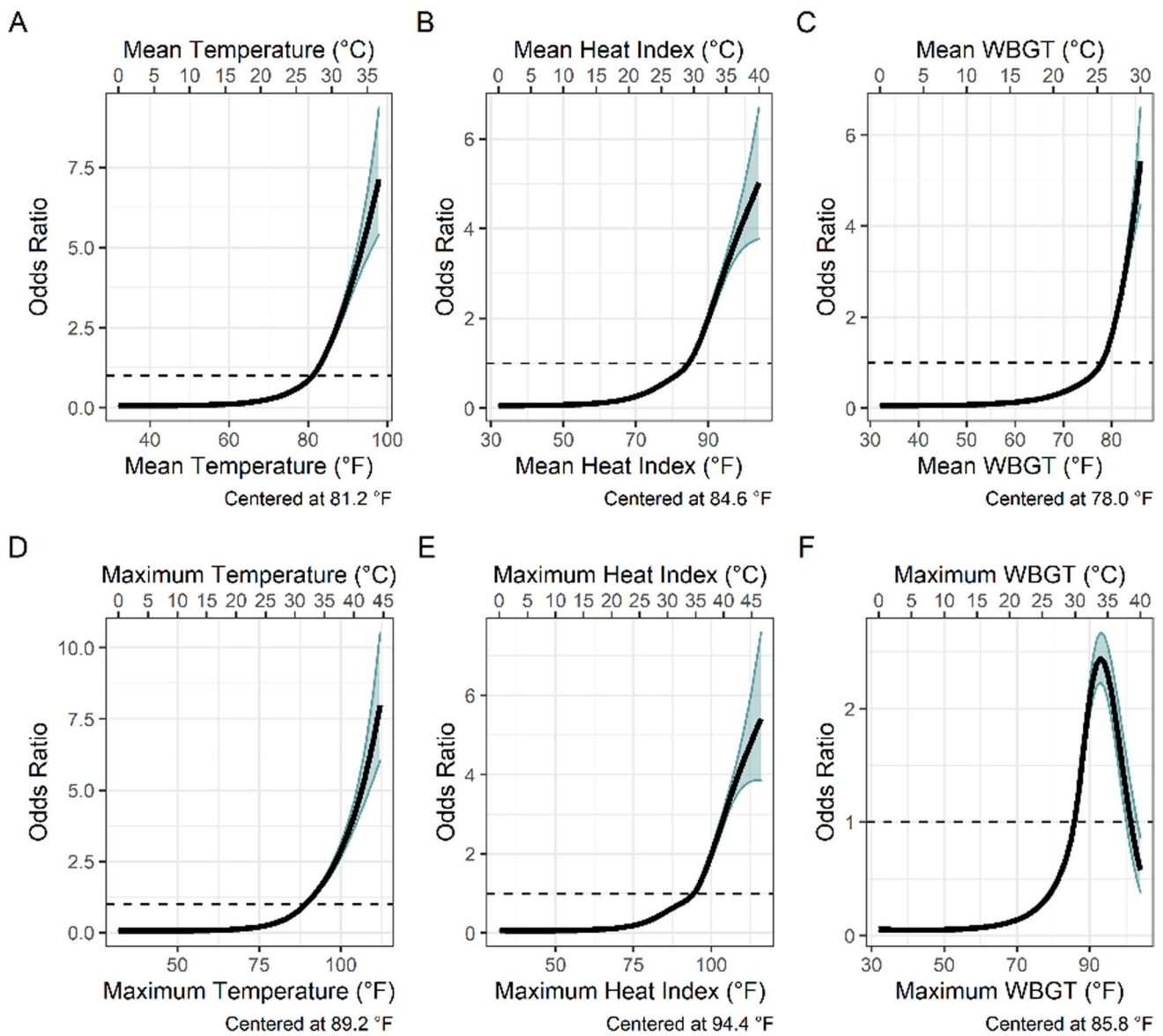


Fig. 4 Overall HSI odds ratios and 95% confidence intervals for mean (A–C) and maximum (D–F) daily indices (1998–2019). ORs are cumulative over 0–5 days lag, relative to the median value on case days for each index in °F, from time-stratified case-crossover distrib-

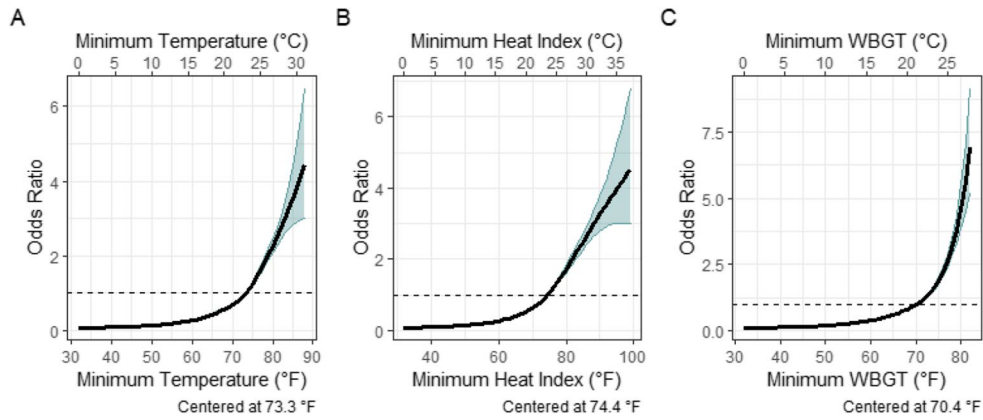
uted lag, non-linear models applying natural splines with 5 degrees of freedom (df) on the functional form of dose–response, and 4 df on the functional form of the lags

Changes to the electronic supplementary material are below:

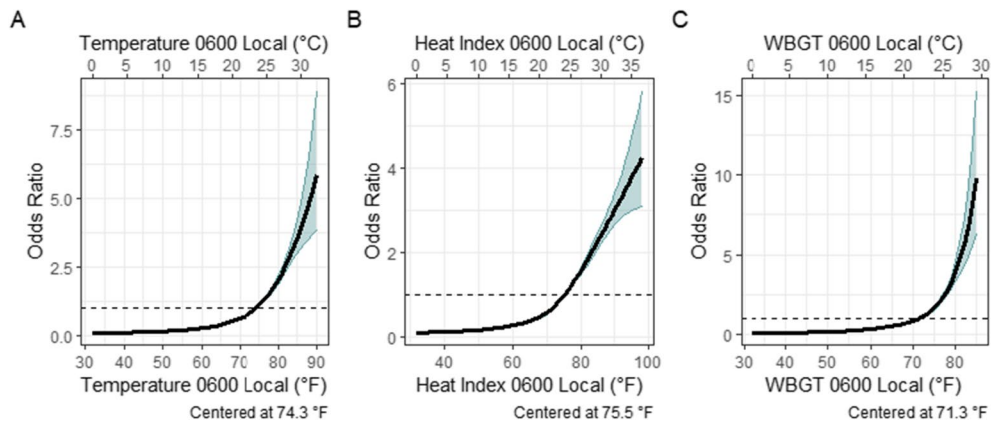
Table S1. HSI odds ratios and 95% confidence intervals relative to median index values (index values > 25 °C)

Index Value (°C / °F)	Mean Temperature	Mean Heat Index	Mean WBGT	Maximum Temperature	Maximum Heat Index	Maximum WBGT
Centered (median) value (°C / °F)	26.6 79.9	27.6 81.6	24.0 75.2	31.0 87.8	32.8 91.0	28.56 83.4
25.00	77 0.58 (0.54, 0.61)	0.52 (0.48, 0.56)	0.83 (0.82, 0.84)	0.24 (0.22, 0.26)	0.23 (0.21, 0.25)	0.29 (0.26, 0.31)
25.56	78 0.65 (0.62, 0.68)	0.57 (0.53, 0.61)	0.99 (0.99, 0.99)	0.26 (0.24, 0.29)	0.25 (0.23, 0.27)	0.32 (0.29, 0.35)
26.11	79 0.74 (0.72, 0.76)	0.62 (0.58, 0.66)	1.24 (1.21, 1.27)	0.29 (0.27, 0.32)	0.28 (0.25, 0.30)	0.37 (0.33, 0.40)
26.67	80 0.84 (0.83, 0.85)	0.67 (0.64, 0.70)	1.58 (1.51, 1.66)	0.33 (0.30, 0.36)	0.31 (0.28, 0.34)	0.42 (0.38, 0.45)
27.22	81 0.97 (0.96, 0.97)	0.72 (0.70, 0.75)	2.01 (1.88, 2.15)	0.37 (0.34, 0.40)	0.34 (0.31, 0.37)	0.48 (0.44, 0.51)
27.78	82 1.13 (1.12, 1.14)	0.78 (0.76, 0.80)	2.51 (2.34, 2.70)	0.41 (0.38, 0.45)	0.38 (0.35, 0.41)	0.55 (0.51, 0.58)
28.33	83 1.32 (1.29, 1.35)	0.85 (0.84, 0.86)	3.10 (2.87, 3.34)	0.47 (0.43, 0.50)	0.42 (0.39, 0.46)	0.63 (0.60, 0.66)
28.89	84 1.55 (1.49, 1.62)	0.94 (0.93, 0.94)	3.77 (3.42, 4.16)	0.53 (0.49, 0.57)	0.46 (0.43, 0.51)	0.73 (0.71, 0.75)
29.44	85 1.82 (1.72, 1.92)	1.05 (1.05, 1.05)	4.54 (3.95, 5.22)	0.60 (0.56, 0.63)	0.51 (0.47, 0.55)	0.86 (0.85, 0.87)
30.00	86 2.10 (1.97, 2.25)	1.19 (1.17, 1.21)	5.43 (4.46, 6.60)	0.68 (0.65, 0.71)	0.56 (0.51, 0.60)	1.03 (1.03, 1.04)
30.56	87 2.41 (2.24, 2.60)	1.36 (1.32, 1.40)	6.45 (4.96, 8.38)	0.76 (0.74, 0.79)	0.60 (0.56, 0.65)	1.27 (1.24, 1.29)
31.11	88 2.74 (2.53, 2.97)	1.56 (1.49, 1.62)	7.64 (5.47, 10.68)	0.86 (0.85, 0.88)	0.65 (0.61, 0.69)	1.54 (1.48, 1.61)
31.67	89 3.09 (2.84, 3.37)	1.77 (1.68, 1.87)	9.04 (6.00, 13.61)	0.97 (0.97, 0.97)	0.69 (0.65, 0.73)	1.83 (1.72, 1.94)
32.22	90 3.47 (3.16, 3.80)	2.00 (1.88, 2.13)	10.70 (6.59, 17.37)	1.09 (1.08, 1.10)	0.73 (0.70, 0.76)	2.08 (1.93, 2.23)
32.78	91 3.86 (3.48, 4.27)	2.23 (2.08, 2.39)	NA	1.21 (1.19, 1.23)	0.77 (0.75, 0.80)	2.27 (2.10, 2.46)
33.33	92 4.27 (3.80, 4.79)	2.47 (2.30, 2.65)	NA	1.35 (1.31, 1.39)	0.82 (0.81, 0.84)	2.40 (2.20, 2.61)
33.89	93 4.69 (4.11, 5.36)	2.70 (2.51, 2.91)	NA	1.49 (1.43, 1.56)	0.88 (0.87, 0.89)	2.44 (2.23, 2.67)
34.44	94 5.14 (4.40, 6.00)	2.94 (2.72, 3.17)	NA	1.64 (1.55, 1.74)	0.96 (0.96, 0.96)	2.41 (2.19, 2.65)
35.00	95 5.60 (4.67, 6.71)	3.17 (2.92, 3.43)	NA	1.81 (1.69, 1.94)	1.06 (1.06, 1.07)	2.31 (2.08, 2.55)
35.56	96 6.08 (4.93, 7.50)	3.39 (3.11, 3.71)	NA	1.99 (1.85, 2.15)	1.19 (1.17, 1.21)	2.15 (1.91, 2.41)
36.11	97 6.59 (5.18, 8.39)	3.61 (3.26, 4.00)	NA	2.19 (2.02, 2.38)	1.35 (1.31, 1.40)	1.95 (1.70, 2.23)
36.67	98 7.12 (5.41, 9.37)	3.83 (3.40, 4.31)	NA	2.40 (2.20, 2.62)	1.54 (1.48, 1.61)	1.73 (1.47, 2.03)
37.22	99 7.68 (5.63, 10.47)	4.04 (3.50, 4.65)	NA	2.63 (2.40, 2.88)	1.75 (1.66, 1.85)	1.50 (1.24, 1.82)
37.78	100 8.27 (5.85, 11.70)	4.24 (3.59, 5.01)	NA	2.88 (2.62, 3.16)	1.97 (1.85, 2.11)	1.28 (1.02, 1.60)
38.33	101 8.91 (6.07, 13.07)	4.44 (3.65, 5.39)	NA	3.15 (2.86, 3.47)	2.20 (2.05, 2.37)	1.07 (0.82, 1.39)
38.89	102 9.59 (6.30, 14.61)	4.63 (3.70, 5.79)	NA	3.44 (3.10, 3.81)	2.44 (2.27, 2.63)	0.88 (0.64, 1.20)
39.44	103 10.33 (6.53, 16.33)	4.83 (3.74, 6.23)	NA	3.75 (3.36, 4.18)	2.68 (2.49, 2.89)	0.72 (0.50, 1.02)
40.00	104 11.12 (6.77, 18.26)	5.02 (3.77, 6.70)	NA	4.09 (3.63, 4.61)	2.92 (2.71, 3.14)	0.58 (0.38, 0.87)
40.56	105 11.97 (7.01, 20.43)	5.23 (3.79, 7.20)	NA	4.45 (3.90, 5.08)	3.15 (2.92, 3.41)	0.46 (0.29, 0.73)
41.11	106 NA	5.44 (3.82, 7.74)	NA	4.85 (4.18, 5.61)	3.39 (3.12, 3.68)	0.36 (0.22, 0.61)
41.67	107 NA	5.66 (3.84, 8.33)	NA	5.27 (4.47, 6.21)	3.62 (3.30, 3.96)	0.29 (0.16, 0.51)
42.22	108 NA	5.88 (3.86, 8.96)	NA	5.73 (4.77, 6.89)	3.84 (3.45, 4.27)	0.23 (0.12, 0.42)
42.78	109 NA	6.12 (3.89, 9.64)	NA	6.23 (5.07, 7.65)	4.06 (3.58, 4.60)	0.18 (0.09, 0.35)
43.33	110 NA	6.37 (3.91, 10.37)	NA	6.76 (5.38, 8.50)	4.27 (3.68, 4.95)	0.14 (0.07, 0.29)
43.89	111 NA	NA	NA	7.35 (5.71, 9.46)	4.47 (3.75, 5.32)	NA
44.44	112 NA	NA	NA	7.98 (6.04, 10.53)	4.66 (3.80, 5.72)	NA
45.00	113 NA	NA	NA	8.66 (6.39, 11.73)	4.85 (3.83, 6.14)	NA
45.56	114 NA	NA	NA	9.40 (6.76, 13.07)	5.04 (3.85, 6.59)	NA
46.11	115 NA	NA	NA	10.21 (7.15, 14.57)	5.22 (3.86, 7.07)	NA
46.67	116 NA	NA	NA	11.08 (7.55, 16.25)	5.41 (3.85, 7.58)	NA
47.22	117 NA	NA	NA	12.03 (7.98, 18.13)	5.59 (3.85, 8.13)	NA
47.78	118 NA	NA	NA	13.06 (8.44, 20.22)	5.78 (3.84, 8.72)	NA
48.33	119 NA	NA	NA	14.18 (8.91, 22.56)	5.98 (3.83, 9.35)	NA
48.89	120 NA	NA	NA	15.39 (9.41, 25.17)	6.19 (3.81, 10.03)	NA

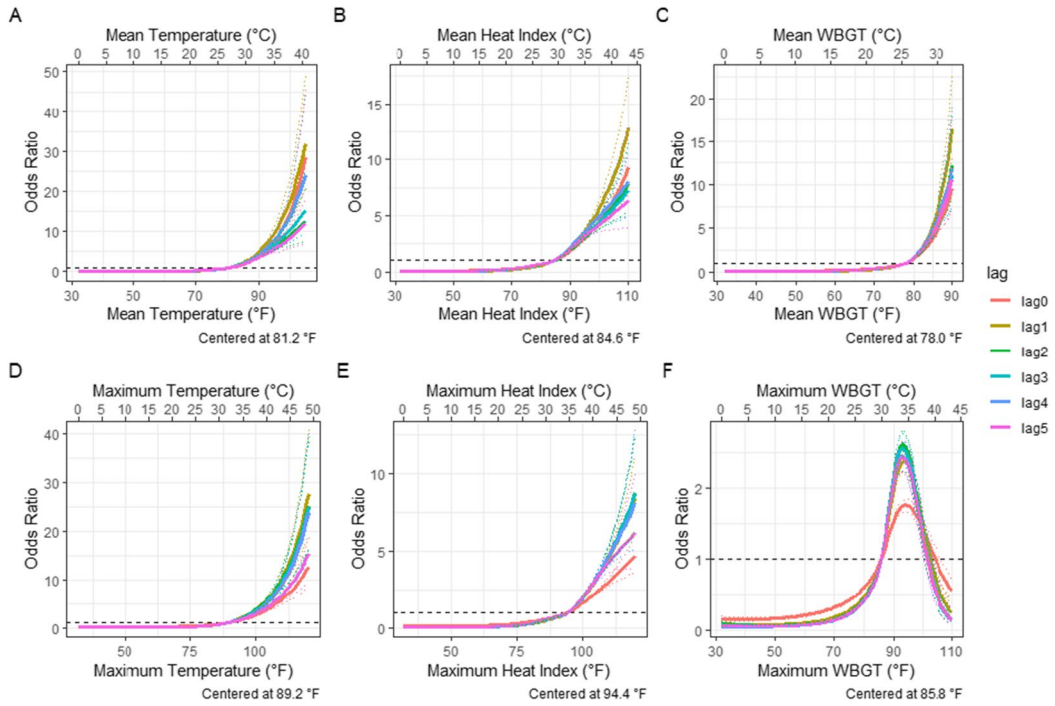
Figs S2a–c. Overall HSI odds ratios and 95% confidence intervals for minimum daily indices



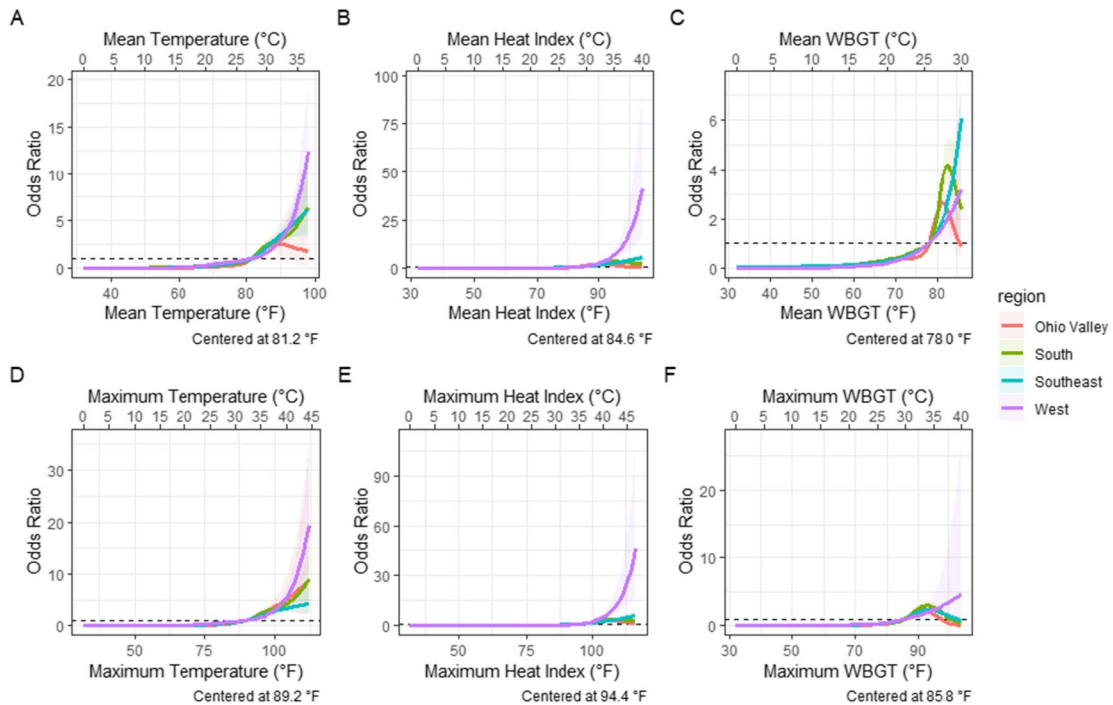
Figs S3a–c. Overall HSI odds ratios and 95% confidence intervals for 0600 h (local) daily indices



Figs S4a–f. Incremental cumulative HSI odds ratios and 95% confidence intervals for lags 0–5 days from mean daily indices



Figs S5a–f. Overall HSI odds ratios and 95% confidence intervals for daily indices by NOAA NCEI climate region



Figs S6a–f. Overall HSI odds ratios and 95% confidence intervals for daily indices by diagnosis type Fig S7. Pairwise mean (A–C) and maximum (D–F) daily indices on all HSI encounter days throughout full temperature/index ranges ($n = 31,642$) Fig S7. Pairwise mean (A–C) and maximum (D–F) daily indices on all HSI encounter days throughout full temperature/index ranges ($n = 31,642$) Fig S7. Pairwise mean (A–C) and maximum (D–F) daily indices on all HSI encounter days throughout full temperature/index ranges ($n = 31,642$) Fig S7.

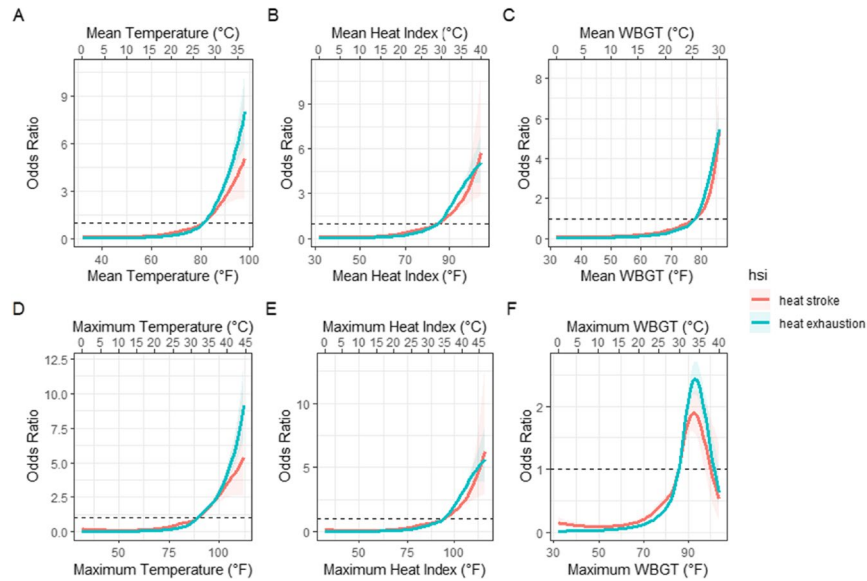


Fig S7. Pairwise mean (A-C) and maximum (D-F) daily indices on all HSI encounter days throughout full temperature/index ranges (n=31,642)

