

Kusaka, H., Y. Nakamura, and Y. Asano, 2022: UV parasol, dry-mist spraying, and street trees as tools for heat stress mitigation. *J. Meteor. Soc. Japan*, **100**, 677-685.

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Plain Language Summary: Ultraviolet (UV) parasols are a reasonable countermeasure against heat stress. We observed the UTCI and WBGT under UV parasol, street trees, dry-mist spraying, and direct sunlight. UV parasol reduced heatstroke risk by one level. The observed UTCI under the UV parasol was lower than that in direct sunlight by 4.4°C. The street trees reduced the UTCI by 5.9°C. In contrast, dry-mist spraying did not mitigate heat stress in conditions with moderate winds ($\geq 2 \text{ m s}^{-1}$).

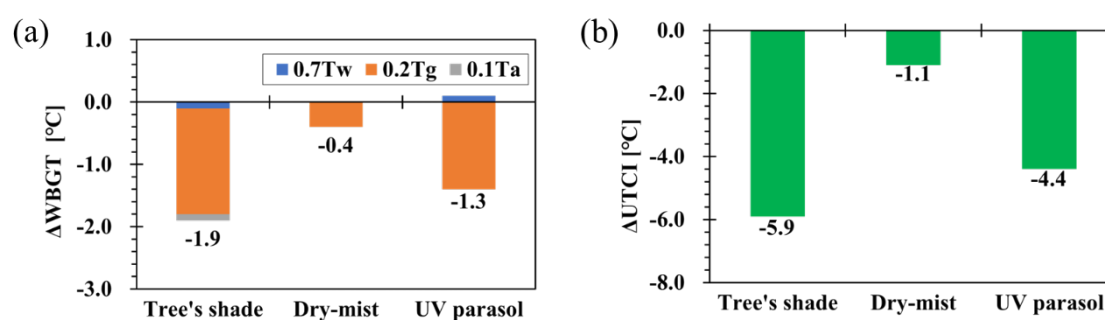


Figure 1. (a) The difference in WBGT under direct sunlight and the other three locations (under the street tree, dry-mist spraying, UV parasol) during the observation ($28 < \text{WBGT} < 31$). (b) The difference in UTCI under direct sunlight and the other three locations.

Highlights:

- ◆ Street trees were the best of all the countermeasures and decreased the UTCI and WBGT by 5.9°C and 1.9°C, respectively, as compared with that in direct sunlight.
- ◆ The thermal mitigation effect of the UV parasol was equivalent to 75 % of that of street trees. The UV parasol was able to decrease the UTCI by 4.4°C and WBGT by 1.3°C.
- ◆ Street trees and UV parasol reduced heatstroke risk by one level.
- ◆ Dry-mist spraying did not mitigate heat stress in conditions with moderate winds ($\geq 2 \text{ m s}^{-1}$).