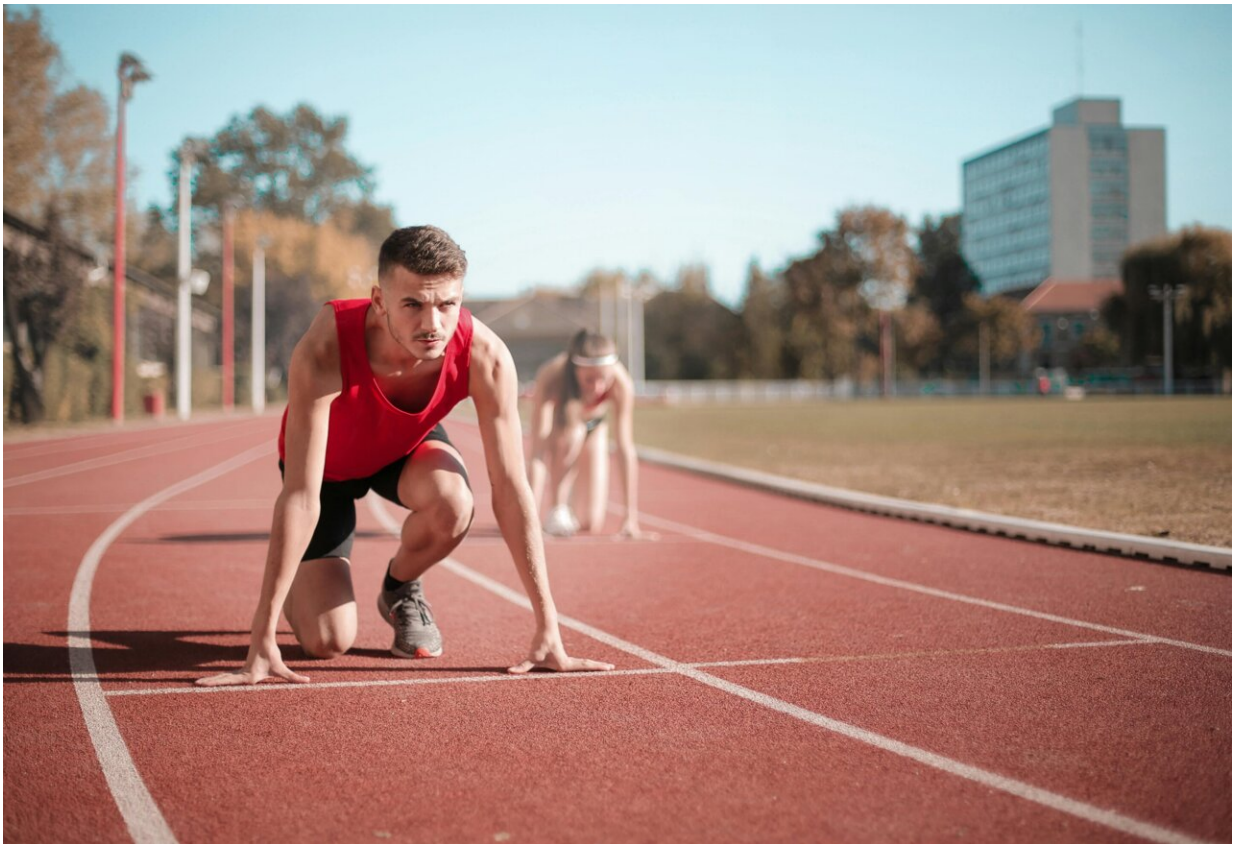


# The heat is on for future Olympic Games, say researchers

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Credit: Andrea Piacquadio from Pexels

James Cook University researchers say increasing heat is putting competitors, staff and the public at risk at big sporting events such as the Brisbane Olympic Games, and could see health systems being

overwhelmed.

Hannah Mason is a lecturer at JCU's College of Public Health, Medical & Veterinary Sciences. She was the lead author of a study that analyzed research on the impact of heat on people at mass sporting events. The research is [published](#) in the *Journal of Science and Medicine in Sport*.

"As temperatures increase across the globe due to [climate change](#), [human exposure](#) to [extreme heat](#) becomes more of a public health challenge. Our objective was to explore the impact of heat on health and the wider health system and discuss implications for outdoor mass-gathering [sporting events](#) in Australia," said Ms. Mason.

She said the team found that incidences of heat-related illness had a direct relationship with increasing environmental heat, with those participating in [endurance sports](#) such as running and cycling, and athletes with multiple [medical conditions](#) and abilities, at higher risk.

"Participants and spectators experienced elevated risks in events with higher wet bulb globe temperature—a measure of environmental heat as it affects humans—leading to race cancellations, mass casualty incidents and medical tent utilization," said Ms. Mason.

She said the impacts extended beyond the events to include emergency transfers due to heat illness.

"A significant heat event, combined with a mass-gathering event, can have a profound impact on local health services such as hospitals, potentially causing them to be overrun," said Ms. Mason.

She said the team found that many heat-related illnesses could be managed by medical teams at the event and prevent overloading of external health services, but only if the planning is in place beforehand.

"The 2032 Summer Olympics and Paralympics will be held in Brisbane, but the publicly released master plan contains no considerations for exposure to extreme heat, and mitigation strategies have not been mentioned," said Ms. Mason.

She said the Olympics will happen over winter, but unseasonable weather and/or visitors unused to heat may lead to problems.

"The northernmost Games location is Cairns, where average maximum temperatures during the Olympics in July and August mirror summertime temperatures in many European and North American regions. Athletes may take measures to acclimatize to the Australian heat, but this is unlikely for spectators and others attending," said Ms. Mason.

She said organizers and policymakers must not become complacent about the potential risks to health and safety.

"For the Olympics, and really any mass outdoor event these days, we want to emphasize the importance of adequate preparation in terms of mitigation strategies to reduce heat exposure and the recognition of the need for medical personnel and resourcing."

**More information:** Hannah M. Mason et al, The impact of extreme heat on mass-gathering sporting events: Implications for Australia and other countries, *Journal of Science and Medicine in Sport* (2024). [DOI: 10.1016/j.jsams.2024.04.015](https://doi.org/10.1016/j.jsams.2024.04.015)

Provided by James Cook University

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