

Can the Olympics survive the climate crisis?

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The 2024 Olympic Games opened on the same week Earth recorded its hottest day ever.

A different kind of record-breaking will be animating competitors in Paris, but the climate crisis is making it hard for [organizers](#) to keep the

tournament on track. A deluge that dumped a month's worth of rain on the opening ceremony and its aftermath strained the city's 200-year old combined sewer system. The resulting discharge of untreated sewage delayed the triathlon event, which includes a swimming race in the river Seine.

For athletes, fans and organizers, the challenge is twofold: sport in its modern form is both a hostage to and an accelerant of global heating.

The heavy rain in the French capital over the weekend was swiftly replaced with stifling heat. Such a violent swing between two [weather extremes](#) is typical of Earth's altered climate according to a new study.

Extreme weather, extreme sports

Scientists have warned for a long time that warmer air holds more moisture. Earth has warmed roughly 1.5°C since the organized burning of fossil fuels began, adding 10% more water vapor to the lower atmosphere and making storms rainier.

What has remained less clear is how all that extra moisture will be distributed. A new analysis suggests it will be much more uneven, with torrential downpours following droughts in quick succession and more of a year's rain falling in a given place over fewer days.

This is what happened in Paris, and the city's wastewater treatment system—built in a largely pre-industrial climate—was ill-prepared. If infrastructure is increasingly outmoded by the weather, so are the rituals and events we rely on for collective joy and meaning.

"It is now hard to imagine any sport in the world that isn't facing the prospect of making serious concessions to [extreme weather](#), either now or in the future," says Mark Charlton, a lecturer in public policy at De

Montfort University.

In his review of *Warming Up: How Climate Change is Changing Sport*, [a new book](#) by sport ecologist Madeleine Orr, Charlton highlighted several ways that sport is changing. Marathons now run at midnight, cycle races have been shortened and ski seasons are dwindling.

In fact, winter sports face a particularly dubious future. The International Olympic Committee [delayed](#) its decision to select a [host city](#) for the 2030 Winter Olympic Games because of the woeful outlook for snowy weather.

Melting snow leaves a residue of despair Charlton says, noting an uptick in alcoholism among employees on ski slopes:

"The resulting reduction in ski training times is literally driving staff to drink."

83 bottles of wine per person

The modern Olympic Games erodes the conditions for its own survival by emitting so much greenhouse gas. London 2012 and Rio 2016 were among the worst offenders, each spewing the equivalent of more than 3 million tonnes of CO₂. Tokyo 2020 managed just under 2 million tonnes—but that was without spectators flying in, as the tournament was held in 2021 during the COVID pandemic.

The organizers of Paris 2024 are aiming for 1.6 million tonnes. Spread across 13 to 16 million anticipated visitors, that equates to 100 to 125 kg CO₂ per person, or the emissions involved in consuming 31 beef burgers—or 83 bottles of wine.

How do Olympic organizers in Paris hope to emit less than the previous

tournament with significantly more international tourists (typically one of the biggest sources of emissions at a major sports event)?

"The first resolution has been to limit construction," says Anne de Bortoli, a carbon neutrality researcher at École des Ponts ParisTech.

"Of the infrastructure at the 26 competition venues 95% either already existed or is temporary. Any new building has also been designed to emit less CO₂ than the average edifice."

The aquatics center, which will host diving and water polo, is a good model for the ecological design of sports venues according to de Bortoli, boasting wooden frames, rooftop solar panels and seating made from recycled materials.

Supposedly, this ethos extends to the Olympic village on the northern outskirts of Paris where athletes are not provided with [air-conditioning](#). A commendable decision given the climate cost of artificial cooling, but it hasn't stopped competitors from richer nations paying to reserve their own units and reproducing an essential quality of the [climate crisis](#): its unfairness.

Authorities will also have permanently raised the city's emissions by opening a new motorway [junction](#) to accommodate (and probably [encourage](#)) more road traffic de Bortoli says. She argues that new infrastructure like this could have been avoided if the Games were made smaller and staged in multiple cities. Radical changes will be necessary if the tournament is to endure, she says.

For Brian P. McCullough, an associate professor of sport management at the University of Michigan, the spirit of the tournament offers hope and inspiration in abundance.

"In essence, the Olympic Games, the largest sporting event in the world, is a sport sustainability world's fair," he enthused.

"[It's] an example of what large sporting events can do to reduce their impact on the environment and promote sustainability solutions to a global audience."

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