



Sport Through the Lens of Climate: Executive Summary



Sport in the Era of a Changing Climate – The Vision of the Olympic Committee and the Purpose of the Guide

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Head of Innovation and Science, Olympic Committee of Israel

The Challenge:

Addressing the two-way relationship inherent in the climate crisis, whereby sporting events generate a carbon footprint on the one hand, while increasingly frequent extreme heat events reduce the window of opportunity for competitions and threaten the health and performance of elite athletes on the other.

Bottom Line:

The Olympic Committee of Israel promotes a science-based vision of sustainability and excellence and offers this guide as a practical "toolbox" for sports federations and coaches to safeguard athlete health, optimize performance, and foster a culture of responsible event management through mitigation and adaptation.

Administrative and Operational Preparedness

Prof. Adi Wolfson

Chair, Sustainability Commission, Olympic Committee of Israel

The Challenge:

Managing training sessions and competitions under conditions of prolonged and extreme temperature changes (heat waves), which threaten participants' health while also causing melting, cracking, and failures in physical infrastructure such as sports surfaces, electrical systems, and water systems.

Bottom Line:

A proactive preparedness framework should be implemented, including the appointment of a designated coordinator, risk mapping, establishment of a "traffic-light" system for activity modification or suspension, provision of shaded facilities, and development of training and real-time communication programs for athletes, staff, and spectators in coordination with emergency services.

Physiology and Heat Acclimation

Prof. Yoram Epstein

Climate Forum, Olympic Committee of Israel

The Challenge:

Enabling athletes to reach peak performance under conditions of significant heat stress without developing exertional heat illness – ranging from functional impairment to multi-system injury – or severe dehydration that disrupts thermoregulation and cardiovascular strain.

Bottom Line:

Prevention requires a controlled heat acclimation process lasting 10–14 days, adjustment of exercise intensity according to the Wet Bulb Globe Temperature (WBGT), longer rest periods in shaded or air-conditioned areas, the use of active cooling strategies (such as cooling vests or ice baths), and appropriate hydration according to individual needs.



Nutrition and Hydration in Extreme Heat

Dr. Ayelet Weinstein

Sports Dietitian, Olympic Committee of Israel



The Challenge:

Preventing dehydration caused by sweat losses exceeding fluid replacement, while also preventing the life-threatening condition of hyponatremia resulting from excessive water intake without adequate sodium replacement.

Bottom Line:

Athletes should adopt individualized and scheduled hydration plans rather than relying solely on thirst, ensure clear urine before exercise, estimate sweat losses through body-weight measurements, and incorporate sodium and carbohydrates into beverages (30–60 g carbohydrates per hour during prolonged exercise), while avoiding carbonated or overly concentrated drinks.

Cooling Technologies and Strategies

Dr. Rotem Kislev-Cohen

Sports Medicine and Research Center, Wingate Institute

The Challenge:

Delaying and attenuating the rise in core body temperature before, during, and after exercise while accounting for athlete characteristics (cold tolerance, sport-specific demands) and environmental factors (resource availability).

Bottom Line:

External cooling methods (cooling vests, cold towels) should be combined with internal cooling methods (ice slurries and cold beverages) before and during exercise, while avoiding pre-cooling before explosive power events due to potential reduction in power output. Post-exercise recovery should include immersion in cold water (10–20°C) for 10–15 minutes, following prior familiarization during training.

Medicine and Safety

Prof. Dan Nemet

Medical Director, Olympic Committee of Israel

The Challenge:

Preventing, recognizing, and treating Exertional Heat Stroke (EHS) – a critical medical emergency characterized by a core body temperature above 40°C and altered mental status, including confusion, aggression, or collapse.

Bottom Line:

In the event of collapse, the principle of "**Cool First, Transport Second**" should be followed. Diagnosis should rely exclusively on rectal temperature measurement, and the athlete should be immersed immediately in cold water (5–10°C) under continuous monitoring. Evacuation should occur only after a sustained decrease in core body temperature to below 39°C has been documented. Rapid cooling within the first 30 minutes is lifesaving. Symptomatic athletes should never be left unattended, and athletes suspected of heat illness should not return to activity without a comprehensive medical evaluation.