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INTRODUCTION



## Environmental matters in sport: sustainable research in the academy

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### ABSTRACT

**Research Question:** Climate change continues to be a critical issue that impacts the ways we produce and consume sport. The extent to which sport responds to climate change (e.g. minimizing carbon emissions, adapting to climate impacts) will become more dire. Thus, it is crucial for sport to respond now to address current and emerging sustainability challenges. The popularity of sport can create opportunities to promote and influence individual behaviour change and drive organizational efforts to be environmentally sustainable.

**Research Methods:** The sport management academy is currently limited in its efforts to highlight, examine, and educate industry and students on the issues raised due to changes in the natural environment and the impact on the sport sector. The five articles included in this special issue aim to begin to bridge this gap.

**Results and Findings:** Sport is not inherently sustainable or unsustainable. We introduce this special issue to provide an overview of the current and future environmental challenges in sport management.

**Implications:** We encourage sport researchers to critically assess existing practices and enhance the management knowledge that not only influences the world of sport and sport managers, but also policymakers and sport fans on mitigating the impacts of climate change. We hope the following articles spark ideas, discussions, and further research projects.

### ARTICLE HISTORY

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### KEYWORDS

Ecology; environmental sustainability; climate change; global warming; sport management

All parts of society are challenged by, and pressured to respond to, environmental, climate and resource problems with bold, effective, and rather swift action (IPCC, 2022). The sport sector is no different – and not immune either. The survival of certain recreational activities and sports relies heavily on immediate climate action. There is little doubt about climate change's increased pace and complexity and its impact on civilization (Kosanic et al., 2019; Loarie et al., 2009; Oreskes, 2004; Tol, 1996). Today, the median temperature of the planet has increased by over 1.1°Celsius

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since the preindustrial era, causing ice caps to melt, water levels to rise, biomes to shift geographically, and an increase in the frequency and severity of storm activity (Dantas & Pausas, 2022) – all of which impact human life almost anywhere on the planet and, subsequently, any sport-related activity. In 2015, signatories of the Paris Agreement on climate change pledged to keep global temperatures ‘well below’ 2°C above preindustrial levels and to ‘pursue efforts to limit the temperature increase even further to 1.5°C’ (IPCC, 2018). However, in his opening statement at COP27 in Egypt, United Nations Secretary-General António Guterres stated that the stretch 1.5°C goal of the Paris Agreement ‘is on life support – and the machines are rattling. We are getting dangerously close to the point of no return’ (Guterres, 2022, 3:20).

Sport is threatened by global climate change – from sporting events being cancelled due to traditionally unseasonable weather and temperatures to decreases in physical activity as air pollution increases, all to which sport organizations are forced to adapt to global climate change (Cunningham et al., 2020; Orr & Inoue, 2019). The severity of climate change on winter sport, for example, has reached the point of serious speculation about whether the Winter Olympics Games can be staged in 20 years (International Olympic Committee, 2022). In essence, we face the possible extinction of a range of sports as we currently know them. While environmental matters in sport pale in comparison to broader global issues resulting from climate change (i.e. lack of natural resources, forced migration, armed conflict), it is nonetheless vital to consider how the sport sector and academy respond.

However, environmental advancements and literacy within sport management research are much less than the broader economic and social contexts. The sport sector should seek to advance its literacy on environmental issues, questioning its environmental impact, and accelerating positive climate action. Recent announcements of sport organizations signing the UN Sports for Climate Action Framework and the recent Sport for Nature Framework for biodiversity might be seen as stepping-stones for the sector to explicitly acknowledge its responsibility for environmental impacts and its potential to act as climate action ambassadors. These initial steps are highlighted by exemplar organizations (e.g. signatories of the framework), but more collective action and understanding are needed to engage the entirety of the global sport sector.

From an academic perspective, there is limited sport management literature studying, describing, and scrutinizing sports’ impact on the natural environment (Breitbarth et al., 2015; McCullough et al., 2020b). Researchers have examined individual sports and sport tourism (e.g. Collins et al., 2012). Yet, there is very limited research on regular, especially grassroots sport-related events, participation, and mobility (Breitbarth et al., 2019; Bunds & Casper, 2018; Cooper & McCullough, 2021; Herold et al., 2019; Wicker, 2019). Consequently, there are gaps in research dealing with organizational and managerial motivation/resistance to accept ecological responsibilities and to address (negative) environmental impacts (Breitbarth & Herold, 2018; Schaltegger & Burritt, 2018). Moreover, the effects of climate change on sport require that it adapt (Orr & Inoue, 2019). Yet, this need for adaptation amplifies common issues within sport of injustice and power, lack of accessibility to sport participation, and sportwashing of social issues (Breitbarth & Harris, 2008; Miller, 2017; Sartore-Baldwin & McCullough, 2018).

To classify and combine research themes, sport ecology has been proposed as the term for studying the bidirectional relationship between sport and the natural environment (McCullough et al., 2020a). That is, the natural environment impacts how we produce and consume sport and how we produce and consume sport impacts the natural environment. This perspective asks for all established lines of research in sport to contribute to the efforts to protect and preserve sport for future generations (e.g. law/governance, marketing/sponsorship, management/organizational behaviour, sociology environmental justice, event/facility management).

Generally, environmental sustainability research offers rich opportunities for intra- and extra-disciplinary collaborations, for example, to study the climate change effects on athletes, sport businesses, the sports goods and services industry, among other dynamics of the sport academy. Moreover, as described in the UN Sports for Climate Action Framework and in sustainability documents of sports governing bodies, sport can play a role in addressing and combating climate change to broad and global audiences, including participants and spectators.

## Acknowledgements

Before we proceed, it is important for the special issue editorial team to commend the *European Sport Management Quarterly's* editorial board for commissioning this special issue on an important global topic within our industry and academic discipline. The association and journal have exemplified leadership like the broader European continent to take up the mantle of climate action through research, policy, and efforts through and beyond sport.

As guest editors, we could not put together this special issue without the support of many people. First and foremost, we would like to thank ESMQ editor Paul Downward for offering us and the growing community of sport and sustainability researchers the platform of this renowned academic outlet to accommodate a selection of quality papers on a current topic. Also, we like to thank Caron Walpole for her editorial assistance throughout.

Of course, our editorial decisions on all submitted abstracts, as well as authors of papers included herein, much trusted the expertise and assistance of reviewers. By generously volunteering their time, they have helped the editors a great deal to shape the special issue at hand.

We are glad that the (virtual) EASM European Sport Management Conference 2020 allowed us to host an ESMQ special issue workshop, which served as a catalyst to attract and discuss work. Finally, we also like to thank those international colleagues who submitted manuscripts that we could not consider for this special issue for one reason or another. Still, their engagement with the topic will very likely contribute to this important and growing research agenda in the future.

In closing, the authors hope that this special issue will serve as a stimulus for becoming or continuing to be inspirational towards actively contributing to the international sustainability community in sport management research. After all, although climate change, sustainability, and ecology have now attracted a wider interest, it is critically important that much more action takes place.

## Overview of contributions

This special issue attracted many initial submissions, and we are encouraged by all submitting authors and their research. Whilst, not all submissions could be accommodated in this special issue, it nonetheless marks a significant step toward addressing environmental matters in sport. The special issue covers a range of topics, including the response of sport governance to address environmental sustainability (Gammelsæter & Loland, 2022; Hugaerts et al., 2022), climate adaptation (Dingle et al., 2022), stakeholder engagement (McCullough & Trail, 2022), and a review of environmental sustainability in sport (Cury et al., 2022).

Cury et al. (2022) open the special issue with a systematic review of literature that builds on prior reviews but bridges an important gap to identify the methodological and theoretical patterns of sport and the natural environment literature. Their findings suggest that there is a balanced methodological approach which shows the richness and balance to understanding the study of sport and the natural environment because ‘an over-reliance any one paradigm can skew how a construct or phenomenon is understood’ (Cunningham & Sagas, 2008, p. 6). However, more diverse perspectives are needed as the authors found the majority of literature stemmed from North America and European based scholars. Yet they suggest that more research needs to come from a broader global perspective to address the issues climate change presents to regions outside of North America and Europe as context area of sport and the natural environment expands. Specifically, they highlight the limited number of studies focusing on environmental sustainability, sport policy, and governance.

The second article in this special issue focusses on institutional behaviour. In particular, Hugaerts et al. (2022) investigated the role of sport federations and their associated environmental initiatives and strategies in a Belgian context. The authors performed a content analysis of sport federation’s websites. They found that sport federations have not institutionalized an environmentally sustainable approach and have a low commitment to initiatives and overarching strategies to tackle climate change. However, as a response to the rising social expectations from sport organizations to engage with the environment, the authors present and conclude with ways forward and discuss how political, social, and functional pressure can further be leveraged to drive environmental sustainability in sport federations.

In the article from Dingle et al. (2022), the authors explore the impact of climate change on major Australian sport stadia, particularly the vulnerability of water resources at these stadia to climate impacts. Based on qualitative data from semi-structured interviews with participants representing 12 of Australia’s 14 major sport stadiums, the study identified six climate change issues pertaining to water resources and presented three specific water management strategies, from water harvesting over water storage through to water recycling as a response to climate impacts. In this article, the authors not only provide insights into the interplay between the under-researched area of water resources and climate change in Australian sport stadia but also suggest how organizations can strategically adapt and build more resilient structures to climate impacts.

McCullough and Trail (2022) examine the key performance indicators of corporate social responsibility (CSR) initiatives in sport. Building on the established sport

sustainability campaign evaluation model (SSCEM), the authors investigate the initiatives of professional or college sport teams to advance the sophistication of the inquiry, design, and assessment of environmental sustainability campaigns. Specifically, the article incorporates ascription of responsibility, sport organization-sustainability initiative fit, and sponsorship evaluation into the extended SSCEM. The extended model collocates work in this space that evaluates environmental sustainability campaigns.

In the final article of this special issue, Gammelsæter and Loland (2022) critically examine elite sport and its environmental impacts. Given the relatively higher resource use, pollution and greenhouse gas emissions compared to local sports, the authors investigate possible cutbacks in the future of elite sports. Conceptually in nature, the article discusses the elite sport's extensive engagement with governments and commercial agents and how the related profit and prestige of these sports represent a threat to both sport's internal values and environmental sustainability. The authors conclude with a call for substantial sustainability reforms not only with regard to equipment, competitions, and mega-events, but also discuss the role of state and commercial financing of elite sport.

### **'Act as if your house is on fire'**

This special issue responds to calls of prior researchers to advance the integration of environmental sustainability into sport research. These calls for additional academic investigations seek to draw upon the wealth of knowledge and theoretical perspectives already developed in sport management – most pressingly to address the climate crisis (Cury et al., 2022). As the effects of climate change intensify (IPCC, 2022) and public opinions shift to encourage more action on behalf of governmental agencies, corporations, and non-governmental entities, transformative change towards a decarbonized society and economy is achievable. The sport sector should engage more deeply and proactively in environmental matters that positively address and alleviate the causes of climate change. After all, scientific communities were instrumental in building momentum and data baselines especially towards establishing a need for the UN Framework Convention on Climate Change (Breitbarth, 2021). Therefore, for sport researchers and educators, engagement with environmental matters does not end with this special issue. More research is needed in this space to fulfil the objectives outlined in this article and build upon the foundational research of scholars in this space.

Sport management journals and associations should actively consider their environmental performance to reduce their impacts and seek ways to better address these issues through generating knowledge and communicating that understanding to influence industry practices. This may include additional special issues on environmental topics in select journals and scholars with expertise in sport and environmental sustainability on editorial boards. We are encouraged that EASM, NASSM, and SMAANZ have begun classifying environmental sustainability, or sport ecology research as a category at their respective conferences to be represented in these important conversations and generation of knowledge, especially among researchers in countries that are most impacted by climate change.

Academics, in general, should go beyond providing the typical sport events and facilities programmes and look to offer more dedicated programmes on environmental topics

in sport. Similarly, the topic of environmental sustainability needs to be incorporated within programmes such as governance/law, marketing, sociology, and general management courses across sport management curricula. There is growing rationalization for the value of these programmes (Orr et al., 2020), teaching resources (e.g. Ross, 2022), and dedicated textbooks (Casper & Pfahl, 2015; Dingle & Mallen, 2020; McCullough & Kellison, 2017; McCullough et al., 2022; Triantafyllidis & Mallen, 2022) to support such efforts.

There is an important and urgent need for evidence-based and data-informed decisions in sport management and policy development. This focus and research line of enquiry lends itself well to cross-disciplinary research. Environmental sustainability is a multi-disciplinary field that draws upon hard science and social science to create new knowledge and communicate that to industry. The progress towards environmental sustainability research becoming mainstream is no different and will be resolved through rigorous methods, theoretical contributions, and strong practical applications.

Opportunities are ripe to advance research focusing on sport and the natural environment through contributions drawing upon academic disciplines like human geography, environmental planning, turfgrass sciences, urban design, public health, environmental psychology, oceanography, and climatology, as well as through sport management and its related disciplines like marketing, economics and sociology. It is important, however, to acknowledge who has so far authored research on sport and the natural environment and the contexts of published studies, recognizing the perspectives that are still missing – especially among those who are more greatly impacted by the effects of climate change.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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