

## **Nordic Perspectives on Climate Change Crisis and Tourism**

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### **Current state of tourism and the climate crisis research in a Nordic context**

At the end of July, 2019, all-time temperature records were broken in northern Europe when a short heatwave travelled across the continent and Arctic Sea before reaching Greenland, where it led to record surface melting of the Greenland Ice Sheet (European Commission, 2020). The loss of ice as a result of global heating is so substantial that, in August 2019, international media focussed on the ceremonial monument installed at Borgarfjörður, Iceland, for the Okjökull glacier (known as OK). The “Letter to the Future” written on the metal plaque in Icelandic and English reads, ““Ok is the first Icelandic glacier to lose its status as a glacier. In the next 200 years, all our glaciers are expected to follow the same path. This monument is to acknowledge that we know what is happening and know what needs to be done. Only you know if we did it” (Kaur, 2019).

The publicity surrounding the Okjökull memorial highlights some of the paradoxes and challenges surrounding the relationships between climate change and tourism in the Nordic context (Saarinen, 2014). On one hand, climate change is a major driver for both ‘last chance tourism’ (Hall & Saarinen, 2010a; Lemelin, Dawson, Stewart, Maher, & Lueck, 2010) and the growth of cruising and tourist visitation, while on the other the climate crisis is leading to dramatic changes in the environment that may challenge the various notions of what even constitutes Nordicity (Hall, 2013; Saarinen & Varnajot, 2019). It is therefore not surprising that given the environmental, economic and social sensitivities of the Nordic region that the climate crisis has been a major focal point of Nordic tourism researchers both within the region (Saarinen, 2014), in the wider Arctic (Hall & Saarinen, 2010b; Stewart, Liggett, & Dawson,

2017), and at a global scale (Demiroglu & Hall, 2020). As a result, climate change and tourism research has visibly increased and diversified in the past two decades in the region.

A substantial body of research has focused on the actual and potential implications of climate change for winter-oriented tourism businesses (Brouder & Lundmark, 2011) as well as specific products, including skiing (Haanpää, Juhola, & Landauer, 2014; Landauer, Sievänen, & Neuvonen, 2015; Neuvonen, Sievänen, Fronzek, Lahtinen, Veijalainen, & Carter, 2015; Falk & Hagsten, 2017, 2019; Falk & Vieru, 2017; Demiroglu, Dannevig, & Aall, 2018; Demiroglu, Lundmark, Saarinen, & Müller, 2019; Schrot, Christensen, & Formayer, 2019; Scott, Steiger, Dannevig, & Aall, 2019; Steiger, Scott, Abegg, Pons, & Aall, 2019), glacier tourism (Furunes & Mykletun, 2012), Christmas tourism (Hall, 2014), cruising (Palma, Varnajot, Dalen, Basaran, Brunette, Bystrowska, Korablina, Nowicki, & Ronge, 2019), geotourism (Hall & Saarinen, 2010c), rural tourism (Nicholls & Amelung, 2015), and nature-based tourism (Tervo, 2008; Sæþórsdóttir, Hall, & Stefánsson, 2019; Tervo-Kankare, 2019). One of the interesting aspects of such research has been the shifts over time in the perceptions of tourism stakeholders as to the implications of climate change for business and destination planning (Fay & Karlsdóttir, 2011; Tervo-Kankare, 2011, 2019; Kietäväinen & Tuulentie, 2013; Lepy et al., 2014; Bjørst & Ren, 2015; Tervo-Kankare, Kaján, & Saarinen, 2018; Welling, Ólafsdóttir, Árnason, & Guðmundsson, 2019), as well as visitor perceptions (Tervo-Kankare, Hall, & Saarinen, 2013) and processes of adaptation (Kaján, 2013, 2014a, 2014b; Kaltenborn, Østreg, & Hovelsrud, 2020).

Although the impacts of climate change on the Nordic environment are increasingly clear (Boy et al., 2019), there has been relatively little systematic attention given to the effects of the physical environmental aspects of climate change on tourism. Research topics that have been covered, and which have clear significance for future research, include the impacts of sea ice on

cruise tourism (Bystrowska, 2019), weather preferences of tourists (Jacobsen, Denstadli, Lohmann, & Fjørland, 2011), and biodiversity conservation (Hall, 2010; Hall, James, & Wilson, 2010; Tolvanen & Kangas, 2016).

### **Nordic climate change research in international perspective**

In addition to responding to the effects of the climate crisis, studies have been conducted on tourism's contribution to climate change both within the Nordic region (Gössling & Hall, 2008; Gössling, 2013; Adamiak, Hall, Hiltunen, & Pitkänen, 2016; Sharp, Grundius, & Heinonen, 2016; Larsson, Kamb, Nässén, & Åkerman, 2018), and internationally (Gössling, Scott & Hall, 2013). Nordic research also shares common ground with international approaches on the study of interventions by which tourism's emissions contribution could be decreased (Gössling, Haglund, Kallgren, Revahl, & Hultman, 2009; Gössling, Hall, Ekström, Engeset, & Aall, 2012; Gössling, Scott, & Hall, 2015, 2018; Strandell & Hall, 2015; Aall, Hall, & Groven, 2016; Gössling & Buckley, 2016; Gössling, Ring, Dwyer, Andersson, & Hall, 2016; Scott, Gössling, Hall, & Peeters, 2016; Gössling, 2018; Simonsen, Gössling, & Walnum, 2019) and attitudes towards long-distance travel and climate change (Higham & Cohen, 2011; Jacobson, Åkerman, Giusti, & Bhowmik, 2020).

Tourism and climate change research is uneven in space and time (Hall, 2008; Scott, Hall & Gössling, 2016). Nevertheless, Nordic researchers have been internationally influential and positioned at the forefront of theoretical and conceptual understanding of tourism's contribution and response to the climate crisis (Fang, Yin, & Wu, 2018; Demiroglu & Hall, 2020). Nordic researchers have made substantial contributions to understanding international tourism and climate change policy (Gössling & Scott, 2018), vulnerability (Scott, Hall, & Gössling, 2019), and adaptation (Kaján & Saarinen, 2013). The focus on Nordic researchers on the implications of

climate change on winter tourism, indices and metrics, and sustainability mirrors international interest in the subject (Fang et al., 2018). However, Nordic research does not have such a strong coastal and marine focus as the international literature, whether this changes in the future as sea level rise and warming Baltic and North Seas become more problematic remains to be seen.

### **The Future of Nordic Climate Change and Tourism Research**

The world's high latitudes are at the forefront of global heating and climate disaster. The IPCC (2019) highlights that, with 66%–100% probability, the increase in Arctic surface air temperature of the last two decades is double that of the global average. Permafrost thaw has accelerated, which has only added to emissions, while snow cover period has reduced along with the ice sheets of Greenland and Iceland (Boy et al., 2019; IPCC, 2019). Increased warming events have implications for extreme weather events, winter tourism, tourist activities, the tourism landscape, ecosystem services, and biodiversity (Boy et al., 2019; IPCC, 2019; Malinauskaite, Cook, Davíðsdóttir, Ögmundardóttir, & Roman, 2019).

All these changes will define the future of tourism and climate change research in the Nordic region. Nordic tourism researchers have long sought to track the changing social construction of the Nordic landscape and the representations of place and people (Sæþórsdóttir, Hall, & Saarinen, 2011; Sæþórsdóttir & Saarinen, 2015), but also physical changes to the Nordic environment and their implications for tourism will need to be monitored within the context of climate change, along with the impacts of tourist behaviour and visitation (Hale, 2018; Runge, Daigle, & Hausner, 2020), in order to improve management practices and reduce tourism's impacts (Hall, 2010). This is especially the case given the development of new gateways and tourist routes (Hall, 2015). As a result, future research will need to build on assessments of the effects of climate change on tourism in the region (Falk & Lin, 2019; Falk & Vieru, 2019), to

suggest ways in which business and destinations may adapt (Saarinen & Tervo, 2006; Kaján, Tervo-Kankare, & Saarinen, 2015; Landauer, Goodsite, & Juhola, 2017; Tervo-Kankare et al., 2018; Welling & Abegg, 2019), especially in more peripheral areas in which tourism remains a cornerstone of the economy together with other extractive industries.

In this respect, Nordic researchers need to focus on wider socio-spatial, economic and policy contexts of tourism and climate change relations. As tourism is often promoted as a tool for development for local communities and regional economies, the impacts of climate change to increasingly tourism dependent communities are essential to understand and analyse. As such, future research should also pay greater attention to the factors that improve the resilience of individuals, communities, businesses, government and destinations to climate change and its related impacts (Kaltenborn, Linnell, Thomassen, & Lindhjem, 2017; Van Well, van der Keur, Harjanne, Pagneux, Perrels, & Henriksen, 2018). Nevertheless, in order to provide more sustainable responses to the climate crisis, a major challenge that needs to overcome is the development of a better understanding of the ways in which tourism is integrated with other economic sectors, that are also being affected by climate change and other dimensions of global change, including COVID-19 (Gössling, Scott & Hall, 2020). In doing so tourism may be more appropriately recognised in national and regional adaptation and mitigation strategies (Landauer, Goodsite, & Juhola, 2017), than has hitherto been the case.

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