


PERSPECTIVE

An Arctic expedition: a supposedly useful thing I'll never do again

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Abstract

The aim of the second Scientific Expedition Edgeøya Spitsbergen (SEES), which took place from 13 to 22 July 2022, was to study the consequences of climate warming in the High Arctic, building on ecological data gathered by the Dutch Arctic Station on Edgeøya between 1968 and 1987 and the first SEES expedition in 2015. In this Perspective essay, I ponder the actual purpose of SEES 2022, in which I participated as an early-career research scientist. The research activities were very limited and climate change was named as the restricting factor. Fifty researchers were accompanied by 50 tourists, journalists and policymakers. The choice made by the expedition leaders and funders to go for a tourist vessel was mostly financial, and the difference in media output versus expected research output substantial, which points to paradoxes related to research, publicity, politics and tourism in the Arctic.

Introduction

The Arctic is warming four times as fast as the global average (Rantanen et al. 2022). Combined with technological improvements, this is making the Arctic more accessible (Stephen 2018). As a result, interest in the region has grown, particularly within non-Arctic nations (Smits et al. 2017) in terms of politics, research activity and tourism (Saville 2019), and attention in popular media (Stephen 2018). Drawing from my personal experience as a scientist aboard a research expedition to Svalbard, I describe how these different actors come together, sometimes harmoniously and occasionally with friction. The second SEES had been postponed twice because of the COVID-19 pandemic and it was not until July 2022 that I finally boarded the *Ortelius* in Longyearbyen. Since first signing up for the expedition, I had finished my PhD and changed institution and was lucky to still be able to participate.

The scientific aim of the expedition was to study the consequences of climate warming in the High Arctic, building on ecological data gathered around a Dutch Arctic Station on Edgeøya, Svalbard, between 1968 and 1987 and the first SEES expedition, in 2015. Fifty participating researchers were accompanied by 50 tourists, journalists and policymakers. The tourists, also referred to as science supporters or science ambassadors, had paid a minimum of 7000 EUR to be part of the expedition. Their journey was advertised as “the Arctic Academy,” a collaboration between SEES, the cruise company Oceanwide Expeditions and the

travel company SNP Natuurreizen that encouraged science supporters to partake in the collection of valuable data (Oceanwide Expeditions 2022). As science ambassadors, they would contribute towards raising public and political awareness for the expedition, the need for Arctic research and the consequences of climate change (University of Groningen 2022a). The combination of scientists and tourists was considered a promising experimental setting for citizen science projects (University of Groningen 2022b). After nine days at sea, the expedition ended with a seminar day at the University Centre in Svalbard, where the first findings were shared with other scientists, students and the public. The Netherlands' Ambassador in Norway and the Arctic Ambassador of the Netherlands were special guests.

The expedition

Sea ice retreated much further north around Svalbard during the summer of 2022 compared with 2015 (NASA Earth Observatory 2022; Norwegian Meteorological Institute 2022). This apparently contributed to worse swells, which made it unsafe for expedition participants to reach the shore in Zodiacs (SEES.nl). It also left many polar bears behind on the islands (SEES.nl 2022; see also Blanchet et al. 2020; Stempniewicz et al. 2021). It was also very foggy at times because of higher temperatures and humidity, which made it dangerous to go on land as polar bears could not be spotted.

Ironically, as we experienced the consequences of the climate warming that we were supposed to be investigating,

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Abbreviation

SEES: Scientific Expedition Edgeøya Spitsbergen (Netherlands)

no one was able to go on land during the first three days of the expedition and research activities were restricted throughout the rest of the expedition as well. Having to stay on board the ship was a mental challenge for many participants, not least the researchers whose much-needed time on land for their data collection was sharply curtailed. Because of the environmental conditions and the limited number of guides and rifle-carriers, only a small group of scientists would go ashore where a landing was possible, which cut back on the opportunities for the non-scientist participants to collaborate with the scientists. Although some projects were not land-based and were therefore less hindered, the pressure on the expedition leaders increased to meet the overall aims and keep everyone happy. Knowledge was still being shared in the form of lectures, and Zodiac cruises were organized to bring participants closer to glaciers or shore, while maintaining a distance for our safety and to limit the disturbance to wildlife. Hence, pictures of polar bears remained pixelated.

An exception was made for the camera crew of the Netherlands national news and their shots were later sold to the press to illustrate stories about the expedition. Most Dutch newspapers featured the expedition and articles came out in popular science magazines as well. Several engaging items combined still pictures, videos, well-designed graphs and quotations. Ninety items were published by October, only a few months after the expedition. This had the benefit of helping people understand why scientists are devoted to working in such a difficult and vulnerable environment as the Arctic.

In contrast to the large popular media output, only one peer-reviewed paper has been published so far, seven years after the SEES in 2015. Being less limited by natural forces, the first expedition was considered a success in terms of deepening our knowledge of Svalbard's ecology. Time will tell how many more published scientific articles will stem from the SEES 2015, 2022 or a combination of both.

The slim research output—as measured by publications—compared with the roaring media stories made me wonder what the main purpose of the expedition was. The choice of the expedition leaders and funders to go for a tourist vessel was mostly financial since (Arctic) research is expensive. For the amount it cost for nine days on the tourist vessel *Ortelius*, the *Polarstern*, a German research vessel, could not be rented for even three days. A storage facility and laboratory were constructed on deck so that equipment and samples could be kept on board for the duration of the tourist season, which lasted until September, when the ship sailed to the Netherlands. This reduced the financial and environmental cost of transporting the samples and research gear back to continental Europe.

Moreover, the cheaper option of a tourist ship freed up funds for a group of 50 scientists to participate, including several early-career researchers with very small budgets. SEES was a floating conference and it provided opportunities for networking, which is valuable for young researchers' careers. There was ample time for informal discussions, presentations, meetings and friendly conversations. Probably even more important were the long-lasting personal bonds formed through shared experience.

The Arctic traveller

The relatively untouched Arctic is often referred to as a natural laboratory (e.g., Powell 2007; Finger 2016). Its environments contain valuable information that can be examined through multiple temporal and spatial scales and are worthwhile studying across scientific disciplines. Not all research questions can be answered with remote sensing techniques, which is one justification for travelling to vulnerable regions for scientific purposes. However, in remote areas, the environmental impact of research might be the single most important direct anthropogenic influence and should therefore be minimized by making the right choices in relation to logistics and science activities (Freundrup et al. 2021).

Unforeseen circumstances threw off the balance between science and luxury during the SEES, leaving me and others with an uncomfortable feeling of guilt. Someone framed the expedition as “an expedition for researchers whose travel was funded by taxpayers” and, at the same time, “a cruise for tourists paying for hotel service.” I wasn't sure whether I identified most with the tourists or the researchers in this characterization. Each generous meal was catered to every taste. I can only hope that some of the leftovers went into the next day's soup. With a shower and toilet in every cabin, and staff continuously cleaning the ship, the quantity of wastewater produced must have been considerable. It was cringe-inducing to think about the pollution and waste created by an expedition that had the theme of sustainability and climate change.

There is an emotional component attached to the opportunity to do fieldwork and travelling for work can add value to daily life (Duveau 2021). While often treated differently in terms of access to, and the right to be in, (parts of) Svalbard, scientists and tourists are likely to be attracted to the area by similar motivations, both groups seeking to learn more about the features of Svalbard that interest them (Saville 2019). The SEES scientist participants were given blue expedition jackets, easily identifiable and distinguished from the tourists, who did not have such jackets (Fig. 1). Moreover, the tourists were not allowed to go ashore without a guide from the tourist company, whereas at least a few scientists had more freedom to roam around as long as they carried, and knew



Fig. 1 The author collects soil samples in Rosenbergdalen, on the island of Edgøya, Svalbard, on one of the occasions that she was able to do field-work during the 2022 SEES expedition. (Photo: Dagmara Wojtanowicz.)

how to use, a rifle. But, overall, scientists and tourists visited the same places, took part in Zodiac excursions, and mingled in the ship's dining room and bar.

Adventure tourism and luxury cruises are both on the rise (Kerber 2022). 'Last chance tourism' arises from the wish to see vulnerable features and places, like the Arctic, before they disappear or change irreversibly, even though—paradoxically—travelling further alters the attractions being visited (Dawson et al. 2011). Eijgelaar et al. (2010) found that daily per capita greenhouse gas emissions by cruise ship tourists can be as much as eight-fold that of the average international tourist. There is no evidence that the so-called 'ambassadors' for conservation who populated these cruise ship tours developed greater environmental awareness, changed attitudes or encouraged more sustainable travel choices after their cruise (Eijgelaar et al. 2010). Kerber (2022) provided an interesting examination of polar cruise promotion and reveals the discord between the visitors' hopes and the cultural geophysical realities in a changing environment.

I experienced first-hand how the Arctic traveller expects, and is expected, to come home with engaging stories and dazzling pictures of a white landscape. The disappointment was striking when some tourists on the SEES expedition realized that only about half of Svalbard is ice-covered in the summer and the sea ice had withdrawn to the north of the archipelago. The need to fulfil the expectations of the paying customer could drive tourism operators further towards the North Pole, which could put both the environment and the tourism industry at risk.

Storytelling and the value of publicity

Starving polar bears have become emblematic of a changing Arctic, although population numbers tell a different

story (Aars et al. 2017). The abundance of polar bears on land was framed by the expedition leaders as a consequence of climate change, in line with the research aim of the expedition. However, the good news that the Svalbard's polar bear population appears to be stable, and may even still be rebounding following the 1973 ban on hunting (Aars et al. 2017), was barely mentioned. The regulations that protect polar bears from human disturbance in Svalbard (Hovelsrud et al. 2021) impacted the expedition but were not mentioned, and I assume this was because they sounded less urgent and less interesting than climate change.

The expedition was partly justified by the science knowledge that was going to be passed on to the general public and the awareness of environmental issues that this would raise. However, the scientific findings, as conveyed by the media, were sometimes distorted and oversimplified. One SEES researcher, who studies creatures that are thriving in a warmer climate, observed that a journalist had twisted this participant's words to make them less incongruous with the overall message of climate doom and gloom.

Storytelling is extremely important to inform and engage the public. Scientists are motivated to participate in public communication partly by a desire to improve public engagement and understanding (Horst 2013). Public visibility also helps attract funding. As securing resources becomes more competitive and the focus on hot topics that engage the public and the commercialization of research increases, publicity can be seen as branding to attract funding for future projects (Horst 2013).

The value of publicity was recognized by the early-day polar explorers who invited photographers on their journeys. Upon their return, the explorers were received as heroes and there was great interest in their stories of the polar regions (Lewis-Jones 2017). A portfolio of pictures boosted visibility, influence and, ultimately, profits. The three most famous examples—Robert Falcon Scott, Roald Amundsen and Ernest Shackleton—were businessmen who travelled thousands of miles more to sell their stories compared with the distance of their polar explorations. Scott was driven by science (Larson 2011), and the expeditions of all three men resulted in the collection of important scientific data (Barnes et al. 2011; Harrowfield 2014; Blix 2016). Contracted by publishers and brands to deliver or promote exclusive products, the men used the money to fund later expeditions, as well as to maintain their fame and luxurious lifestyles. The polar explorers active during the heroic 19th and early 20th century contributed to longstanding national histories and heritages in the Arctic and Antarctic, initiating current-day geopolitical positioning in these regions (Elzinga 2012).

Science and politics

Longyearbyen, the largest settlement in Svalbard and its administrative centre, was crowded with people in those blue jackets prior to and after the SEES expedition. The jackets were emblazoned with funders' logos and the Dutch national flag. The Netherlands is one of the few countries that keep referring to Svalbard as Spitsbergen, which means pointy mountains and is the name given to the archipelago by early Dutch explorers, even though this is currently the name of the main island only. These forms of national posturing are common practice in Svalbard (Pedersen 2021). Here, visibility is political impact. Political science and popular science publications about the Arctic are on the rise (Stephen 2018). Pedersen (2021) argues that the surge in polar research may be partly explained by nations seeking a strategic presence in polar regions as they position themselves to adopt new transport routes, explore more easily accessed offshore resources or take advantage of other new opportunities arising from climate change and technological developments: science raises the least public display of distrust compared with other politically motivated actions. In the context of Antarctica, Convey (2023) suggests that science may be a way to demonstrate national presence while also generating scientific knowledge.

For the modern research community, international collaboration and open access to knowledge and data are key, not least with regard to Arctic and climate research (IASC 2022). The politicization of knowledge and the geopolitical aims that influence national science programmes are likely to lead to certain scientific fields being prioritized over others and the failure to fund good research that is not linked, for example, to climate change (Chubb & Reed 2018; Convey 2023). (Geo)politics influence science via funding allocation and scientific impact increases the geopolitical position of a country as an Arctic stakeholder (Stephen 2018).

Research in the remote Arctic regions is expensive because of the logistics and limited facilities. Mallory et al. (2018) showed that similar research activities can be eight times more expensive in the Arctic compared with more easily accessed locations. Funding many small projects may have the advantage of making the research flexible and adaptable within short spans of time, whereas funding few large-scale, long-term projects may promote international collaboration and sustainability (Ibarguchi et al. 2018). SEES brought together a big group of people and generated lots of visibility, but it might not have been the most efficient vehicle for gathering environmental data. A smaller, targeted expedition would likely have been more flexible and successful in terms of data collection. For example, even with the safety considerations mentioned earlier, more of the scientific personnel of a

small expedition would have been able to go ashore and work on land, collecting the data they set out to collect, unrestricted by the working hours of the tourist staff. On the other hand, a small expedition would not have had the same media impact (and possibly, as a result, political impact) as a larger, mixed expedition like SEES.

Conclusion

As argued by Saville (2019) and Duveau (2021), scientists are just humans and they are drawn to the Arctic for a variety of reasons. I noticed during the expedition that many participants were trying to justify their presence in this vulnerable landscape in terms of contributing to research, while also allowing themselves occasionally to be amazed by what they experienced. The imbalance between science and luxury, between research output and media attention, made me wonder if the stated aims of the expedition were met. It also made me question the role of the researcher—and science as an institution—within the wider society. Drawing from my personal experience, this article touches on such issues as the politics of knowledge, the commercialization of science, how science is reported in the media, and the relationship between science and tourism. These topics were not discussed in a formal setting during the SEES expedition and were only voiced during private conversations among the participants. I believe that there is a need for an open debate, across the relevant disciplines, institutions and industries, to allow for the sustainable continuation of research and tourism in vulnerable areas. For me, SEES was useful in terms of building my CV, being introduced to a great professional and social network and, ultimately, giving me the opportunity to visit and study the exceptional environment of Svalbard. But I will never travel to the Arctic in similar circumstances again.

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