# Ireland's Arctic Strategy: Building Bridges to the North

Elena Kavanagh

The Arctic region is of global importance due to the escalating impact of climate change, emerging economic opportunities and geopolitical dynamics. These changes in the Arctic affect Ireland because of its proximity to the region and its location in the North Atlantic. Despite being on a Northern periphery, Ireland lacks a transparent model for its involvement in Arctic governance. Irish interest in the Arctic is growing due to the country's rich polar tradition and strong research base on oceanography, biodiversity, and climate change impact. There is a clear "gap in Ireland's engagement in the Arctic, and successful stewarding of the Arctic is in Ireland's best interest" (Cronin, 2021). Therefore, two research questions arise. Firstly, given Ireland's experience as a proactive "global actor and bridge builder" (Government of Ireland, 2020) in the international arena, what role could it play, and what can it contribute to the Arctic? Secondly, as the Global Ireland multi-year Strategy to 2025 (Government of Ireland, 2023) comes to an end, should Ireland develop its Arctic regional Strategy? The main strategic Arctic themes for Ireland are ripe for exploration. The political landscape of the Arctic region is rapidly changing and being reimagined (Koivurova et al., 2022). It is, therefore, important to review Ireland's position in this context. This paper serves as an initial step towards a more comprehensive policy analysis of Ireland's role in the Arctic. The main findings of the paper highlight the growing significance of the Arctic region due to climate change and geopolitical dynamics, emphasising Ireland's strategic interest in the area. The paper also underscores the need for Ireland to eliminate the current fragmented approach to Arctic policy and formulate a comprehensive Arctic Strategy to proactively engage with the evolving Arctic political landscape, environmental protection and economic opportunities.

#### Introduction

The Arctic region is experiencing significant and rapid transformations, driven by rapid climate change, economic activities, and shifting geopolitical dynamics. These include a rate of climate warming that is four times faster than the global average (Rantanen et al., 2022) so that the extent of Arctic sea ice is declining and thinning (IPCC, 2019). In recent years, the effects of abrupt climate change have become increasingly apparent, profoundly affecting Arctic residents and dramatically altering marine and land ecosystems (Jansen et al., 2020). The diminishing ice cover in the Arctic Ocean has heightened economic activities in the Arctic (Alvarez et al., 2020).

For the Republic of Ireland, the consequences of Arctic changes are becoming increasingly significant. The country is located at the same latitudes as Hudson Bay in Canada, the Kamchatka Peninsula in Russia, and southern Alaska in the US. The potential weakening of the Atlantic Meridional Overturning Circulation (AMOC) throughout the 21st century is expected to bring cooler temperatures to Ireland, which could edge the country even closer to the Arctic region (Noone et al., 2023). This scientific concern, combined with the need for preparedness and response, highlights Ireland's strategic interest in the region.

Moreover, as the Arctic is slowly losing its status as a "region of peace" (Gorbachev, 1987) and Arctic exceptionalism is being increasingly challenged (Spence et al., 2023; Shvets and Hossain, 2022; Devyatkin, 2023; Jensen, 2024), Ireland needs to develop a comprehensive approach to address the emerging geopolitical risks and opportunities. With its experience as a proactive "global actor and bridge builder," Ireland could play a crucial role in facilitating international cooperation and dialogue in the Arctic.

At the Arctic regional level, the Arctic Council, which serves as the principal platform for Arctic cooperation, is currently facing challenges in maintaining its normal operations. Russia's limited involvement in recent years (Koivurova & Shibata, 2023; Kavanagh, 2024) has complicated multilateral cooperation. Efforts to establish a formal Arctic treaty, akin to the Antarctic Treaty of 1959, have been unsuccessful due to national sovereignty issues, economic interests, and geopolitical strategies among the eight Arctic states (Koivurova, 2015). Additionally, there is a growing call for Ireland to sign the Antarctic Treaty (Hughes & Hughes, 2024), which underscores the importance of international cooperation in polar regions and highlights the contract between the established governance of Antarctica and the current fragmented approach to Arctic governance. However, a soft-law framework continues to govern the Arctic region, which emphasises the need for external actors, such as Ireland, to formulate their own strategies. The lack of binding rules in soft-law frameworks in the Arctic requires Ireland to proactively craft its own approach, ensuring it can adapt to legal uncertainties.

Given these shifts, Ireland's response must be proactive. While it already has an existing Strategy for the Nordic Region to 2025 (Government of Ireland, 2021) and a separate Strategy for the US and Canada to 2025 (Government of Ireland, 2019), the approaching expiration of these policies calls for the formulation of a more focused Arctic Strategy. Ireland's rich history of polar exploration, combined with its scientific engagement in Arctic research, further validates the search for such a Strategy. Drawing inspiration from Scotland's approaches (Johnstone, 2012) and discussions around the UK's Arctic potential (Depledge & Dodds, 2011), Ireland now finds itself at a critical juncture. This is the time to formulate a comprehensive Strategy that addresses its unique interests and capacities in the Arctic, while also aligning with the approaches of the Observer states in the Arctic Council.

By crafting a proactive, ethical, and comprehensive dedicated Arctic Strategy, Ireland can position itself to address both the environmental and geopolitical challenges in the region. By demonstrating the historical connection with the Arctic region, dependency on the state of the Arctic environment, and scientific involvement in the Arctic region, this article aims to map the future Arctic Strategy for Ireland. It is probable that Ireland's Strategy will share some similarities with the strategies of similar-sized countries or the Observers in the Arctic Council; therefore, the role of non-Arctic states in the Arctic should be examined in this context. Despite this alignment,

Ireland's approach should have its own unique elements tailored to its specific interests and capabilities.

This paper adopts a multidisciplinary qualitative research approach, focusing on policy analysis and comparative case studies to explore Ireland's potential role in the Arctic and the development of its Arctic Strategy. The methodology begins with a historical analysis of Irish Arctic engagement. Next, a comparative case study approach examines how non-Arctic states have engaged with Arctic affairs. This allows for the identification of successful strategies that Ireland can adapt, particularly in terms of environmental, geopolitical, and economic interests. Special attention is given to Scotland's Arctic engagement, given its proximity and similar historical connections to polar regions.

Throughout the research, the Heininen's thematic analysis (Heininen et al., 2020) is applied to identify key themes for the Arctic strategy. The methodology also considers ethical research principles, ensuring that Ireland's potential Arctic Strategy respects Indigenous communities and avoids exploitative practices. Ireland's Arctic Strategy should include ethical considerations for research and collaboration with Indigenous groups, as some research has been harmful or unwelcome in the past (Doering at al., 2022).

Indigenous Peoples are distinct actors in Arctic international relations. Based on their right to self-determination, they have established unique relationships with the Arctic states, participating in the Arctic Council meetings around the same table as nation-states. Recognising and adhering to Indigenous protocols for ethical research can help Ireland avoid the pitfalls of a "white saviour" mentality, ensuring that any contributions by Irish universities and scholars are collaborative, respectful, and guided by the needs and desires of Arctic Indigenous communities (O'Brien et al., 2024).

# Historical Underpinnings and Ireland's Current Arctic Engagement

Historically, Ireland has experienced both sides of colonialism. On one hand, the historical colonisation of Ireland has shared experiences with Indigenous Peoples of the Arctic. On the other hand, Ireland has also made great advancements in polar exploration (Smith, 2010; McCannon, 2013). The Irish explorer Robert McClure was the first European explorer to discover the Arctic Northwest Passage (Cavell, 2018). The distinguished history of polar science is marked by contributions from many notable individuals. Ernest Shackleton, from County Kildare, remains one of the most celebrated polar explorers, known for his leadership during the Imperial Trans-Antarctic Expedition (Larson, 2011; Alexander, 1998). His contemporary, Tom Crean from County Kerry, also earned renown through his pivotal roles in three major Antarctic expeditions, including Shackleton's Endurance expedition (Smith, 2019).

Another key figure is Francis Crozier from County Down, a major contributor to Arctic and Antarctic voyages in the 19th century (Lloyd-Jones, 2005). Crozier was a captain of *Terror* in the Franklin Expedition, which aimed to traverse the last section of the Northwest Passage unnavigated by European explorers (Smith, 2021; Nugent, 2003). His efforts significantly advanced the Western geographical and scientific knowledge of the polar regions during his time.

In modern times, the Network of Arctic Researchers in Ireland (NARI, 2019) plays a leading role in developing Ireland's scientific connection with the Arctic. It has been active at previous Arctic Circle events, organising sessions with the other Arctic networks. It is being involved in setting up

an Irish branch of the Association of Polar Early Career Scientists (APECS, 2024), which is due to be launched in the near future.

Since 2018, the Embassy of Ireland in Oslo and the Marine Institute have been sponsoring early career researchers to attend the Arctic Frontiers Emerging Leaders programme (Embassy of Ireland, 2024). Ireland's contributions to Arctic research are signified by numerous established scientists, including Dr Audrey Morley, an expert in marine geology who focuses on paleoceanography and understanding climate change, having conducted Arctic research aboard the Irish vessel, RV Celtic Explorer, a certified polar research vessel. Among other prominent Arctic scholars is Dr Mark Jessopp, a leading marine biologist from University College Cork.

Their work, along with that of many other dedicated Irish researchers, including scholars from social sciences and humanities such as Dr Tracey Skillington, Dr Elena Kavanagh, Michaela Louise-Coote and others, is critical for understanding the Peoples and communities of the Arctic (Skillington, 2023; Kavanagh, 2024; Coote, 2023) and global climate patterns and the impacts of climate change on Arctic ice and ecosystems (Afloat, 2020).

The importance of this research grows because the Arctic has emerged as a focal point of geopolitical interest and tension for both Arctic and non-Arctic states, partly due to environmental shifts and ongoing global conflicts. Therefore, while the Arctic requires Ireland's contributions, Ireland also has a moral imperative to develop a strong Arctic Strategy to engage with this critical region.

### **Non-Arctic States**

This section explores the policy approaches adopted by other non-Arctic states as their involvement in the Arctic has increased due to a combination of environmental, economic, and strategic factors (Steinveg et al, 2024). The policies of non-Arctic states usually have a somewhat different context and purpose that distinguishes them from those of the Arctic states who take their Arctic legitimacy for granted (Canova, 2023).

Non-Arctic states are keen to understand the processes behind climate change (Coates & Holroyd, 2017). As the fastest warming region on Earth, the Arctic region must affect the rate of sea level rise, biodiversity, and weather patterns worldwide. The wide economic opportunities for non-Arctic states are hard to underestimate. As the ice melts, untapped natural resources become more accessible, drawing interest from non-Arctic countries and multinational corporations which has led to increased geopolitical competition (Kieval, 2022: 46; Auersward, 2020).

Another opportunity for non-Arctic states, especially in Asia, is the opening of the Northern Sea Route (Lanteigne, 2022). As a strategically important route for international trade, this is planned to be the main artery for trade between Russia and China while excluding Europe due to geopolitical difficulties (Mikhailova & Tabata, 2024). Overall, apart from the obvious focus on geopolitics and general political anxiety about the future of Arctic cooperation, the main political trends among Arctic Council Observer States are self-identification of non-Arctic states as Arctic stakeholders; emphasis on biodiversity conservation and mapping the protected areas (Barry et al., 2023); focus on science (Heininen et al., 2020: 253); and more currently, focus on security (Varik, 2023).

By engaging with three "key players in the Arctic", such as the Arctic Council, Arctic Circle Assembly, and Arctic Frontiers, non-Arctic states are able to ensure that their strategic and economic interests are represented (Steinveg, 2024). However, the Arctic Council, the main Arctic forum for cooperation, has suffered a long pause in its operation starting March 3, 2022. Since then, the working groups have resumed their functions, but not to their full capacity (Arctic Council, 2024). Various Arctic symposiums and conferences are going ahead and becoming the main forums of cooperation at present. Ireland is primarily represented by Claire Buckley, the Ambassador of Ireland to Norway and Iceland, along with NARI, and Irish academic institutions.

Ireland's historical ties, close proximity to Arctic waters, scientific capabilities, and growing interest in Arctic affairs resulted in Ireland applying for Observer status to the Arctic Council back in 2020, highlighting Ireland's dedication to establishing credibility in the Arctic region (Government of Ireland, 2020). This move aimed to secure a seat at the table in Arctic affairs, reflecting its commitment to addressing global climate challenges. Ireland has been seeking Observer status in the Arctic Council to enhance its role in Arctic regional environmental governance and align with its "scientific capacity, expertise and commitment" (Government of Ireland, 2020: 3).

However, considering current geopolitical difficulties, the next ministerial meeting where Ireland's application could be approved is not expected to take place any time soon (Arctic Council, 2024). Ambassador Clair Buckley has stated that Ireland, as "an aspirant Observer", is interested in participating in projects under the working groups of the Arctic Council (Buckley, 2024). In this regard, Ireland can still engage in the activities of the Arctic Council's working groups due to its EU membership, even without Observer status. Therefore, the absence of this status is not an issue that should stop Ireland from intensifying cooperation and involvement in the work of the Arctic Council.

### The Role of Ireland in the Arctic

Contributing to environmental stewardship, scientific research and sustainable economic development, while fostering international cooperation and security, Ireland could play a multifaceted role in the Arctic. This includes collaborating with both nation-states and Indigenous Peoples. As Minister Simon Coveney, in his keynote address, put it: "We are an island nation at the edge of Europe in the North Atlantic, and we have a culture, heritage and identity intrinsically linked to the seas that surround us" (OCSI, 2020). This deep connection to the maritime world underpins Ireland's willingness to engage with the Arctic region, exemplified by its application for Observer status in the Arctic Council. Additionally, Ireland plays an active role in the European Union, which has a comprehensive Arctic policy (European Parliament, 2022).

The EU recognises the importance of this policy in promoting peace, sustainable development, and prosperity in the Arctic region (European Commission, 2021). The EU's Arctic policy aims to ensure a stable, safe, and sustainable Arctic region, while also promoting responsible resource use and protecting the environment. The EU's primary focus in the Arctic is on climate change, environmental protection, and research; furthermore, EU ratification of the Central Arctic Ocean Fisheries Agreement manifests the EU's focus on Arctic region fisheries (Council Decision (EU), 2019). As a key partner in this endeavour, Ireland is well-positioned to contribute meaningfully to the EU's Arctic policy objectives, especially the Green Deal and the EU Maritime Security Strategy. Interestingly, Ireland's application for Observer status in the Arctic Council does not mention its

EU membership, while Estonia used EU membership as an argument in its application (Canova, 2023).

Under the aegis of the EU's multiple engagements with youth initiatives and its efforts to empower them to influence policies, the new project "Youth Together for Arctic Futures" was launched in January 2024 (Youth Together for Arctic Futures, 2024). This provides opportunity for European youth, including Irish youth, to work together with Arctic youth towards implementing good climate and nature policies for the Arctic. As the Director of WWF Global Arctic Programme, Vicki Lee Wallgren, stated, "We are excited to work together with Arctic and European youth and with our partner organisations," reiterating the power of togetherness and cooperation for "sustainable, resilient and peaceful Arctic and European Future" (Youth Together for Arctic Futures, 2024).

Additionally, Ireland is the only non-Arctic State that is included among the seven partner countries-contributors to the EU-Interreg Northern Periphery and Arctic Programme that supports "cooperation between remote and sparsely populated communities in the northernmost part of Europe on matters of shared interest" (Interreg, 2024). The inclusion of Ireland in this program demonstrates the acknowledgement that Ireland, particularly the western parts, shares similarities with many areas of Arctic countries.

Regionally, established cooperation ties with Denmark, Finland, Sweden, Iceland and Norway are already being built through the "Global Ireland. A Strategy for the Nordic Region to 2025" (Government of Ireland, 2021). The strategic objectives announced in this Nordic Strategy could be applied to the entire Arctic region. These objectives include: (1) Advancing and Sharing Ireland's Arctic interests in the region, (2) Deepening trade, tourism and knowledge exchange, (3) Strengthening people-to-people links and links to the Global Irish community, (4) Growing Ireland's reputation through enhanced promotion of culture, heritage and linkages, (5) Strengthening the team Ireland approach in the region. Moreover, deepening these existing connections and expanding cooperation with the United States and Canada, as outlined in Ireland's Strategy for the US and Canada to 2025 (Government of Ireland, 2019), provides an ideal pathway for Ireland's involvement in Arctic affairs. This integrated approach underscores how Ireland can play a significant role in Arctic cooperation.

While these strategies lay a solid foundation, a consolidated Arctic Strategy would offer a more comprehensive and long-term approach. This is particularly important because the Arctic is a unique and complex region, requiring specialised attention and solutions.

# Indicators for the shared interests in the Arctic

To develop a comprehensive Arctic Strategy, Ireland must first identify key benchmark themes that align with the broader vision of the Arctic and other non-Arctic states. Identifying shared interests is the first step to securing future cooperation. The Arctic region is a region full of challenges and opportunities that "require cooperation not only within the Arctic Council, but also through other competent bodies and other countries," such as the UN, the EU and the OSPAR Convention (Cronin, 2021). By acknowledging shared interests, stakeholders can work together to develop solutions that benefit all parties involved.

Heininen's thematic analysis is a comprehensive report (Heininen et al., 2020) that identifies the priorities of the Arctic states through both the Arctic strategies of the individual states and their

participation within the Arctic Council. The report identified fourteen main indicators, or themes, reflecting shared Arctic interests. These themes are (re)defining and (re)mapping the Arctic, human dimensions, governance, international cooperation and international treaties, environmental protection, pollution, climate change, security, safety and search and rescue, economy, tourism, infrastructure, science and education, and implementation (Heininen et al., 2020: 25). These fourteen themes identified for Arctic cooperation are crucial for Ireland as a non-Arctic state as they may represent areas of shared interests. Challenges like climate change, biodiversity conservation and pollution originating from or affecting these regions almost inevitably mandate non-Arctic involvement.

Drawing inspiration from successful models like Scotland's Arctic Connections initiative, Ireland should pursue a community-centred approach in these discussions (Scottish Government, 2023). Practical implementations of the Arctic Strategy include knowledge sharing among Indigenous, local and coastal communities on rural repopulation, advancing circular economic practices, improving rural healthcare and connectivity, supporting Indigenous languages and strengthening climate resilience. Having mastered decolonising methodologies, Ireland has a wealth of knowledge in revitalising the Irish language and culture allowing them to thrive.

Consolidating strategic objectives from different policies, such as a Strategy for the Nordic Region to 2025, Ireland's Strategy for the US and Canada to 2025, and the EU's new Arctic policy, while taking inspiration from the Scotland's Arctic Policy Framework (Scottish Government, 2019), will help determine the objectives for the Arctic Strategy for Ireland. Additionally, analysis of different indicators elicited by scientific reports such as "Arctic Policies and Strategies – Analysis, Synthesis and Trends" (Heininen et al., 2020), and Arctic Strategies Round-up 2017 (Schulze, 2017) will support the objective-setting process.

To effectively address the complexities of the Arctic, Ireland's Arctic Strategy should build on and enhance both Nordic and North American strategies while incorporating Heininen's fourteen-part thematic analysis. This approach will ensure a comprehensive Arctic Strategy that avoids fragmentation into separate regional strategies. In the following subsection, we will explore the most urgent needs for Ireland's Arctic cooperation, namely environmental concerns, the pressing need for scientific collaboration, and economic engagement in the Arctic.

### Environmental Concerns, Science Diplomacy and Economic Opportunities

Ireland's geographical position and scientific achievements in oceanography and climate research uniquely position it to take on a leadership role in Arctic environmental and scientific initiatives, especially in the area of renewable energies and decarbonisation as per the Climate Action and Low Carbon Development (Amendment) Act 2021 (ISB, 2021). However, Ireland itself is on the frontline of climate change consequences (Nolan at al., 2023). Therefore, combating climate change should be one of the most important elements in Ireland's Arctic Strategy.

Collaboration is essential in meeting the ambitious climate goals set forth by the United Nations. Implementing the targets set by the Kunming-Montreal Global Biodiversity Framework is an important focus for Ireland as demonstrated in Ireland's 4<sup>th</sup> National Biodiversity Action Plan 2023-2030 (NBAP) (Government of Ireland, 2023a). Objective 2 (Meet Urgent Conservation and Restoration Needs), Objective 4 (Enhance the Evidence Base for Action on Biodiversity) and Objective 5 (Strengthen Ireland's Contribution to International Biodiversity Initiatives) of the

NBAP are directly related to cooperation with the neighbouring Arctic region. Joint research and shared technology initiatives can enhance capabilities to reduce greenhouse gas emissions and promote sustainable practices through scientific-based diplomacy by Ireland as a stability-building and neutral state.

Increasing storm frequency and intensity, along with erosion and flooding on Ireland's west coast, underscore the urgency of focusing on the Arctic amplification of climate change (Babila and Morley, 2020; Previdi et al., 2021). These changes, driven by rapid Arctic ice melt, demand a robust scientific response from Ireland, given the potentially profound impact on its climate system and coastal infrastructure.

Moreover, the anticipated shifts in atmospheric circulation patterns are expected to influence oceanic currents and change ocean properties significantly (Henderson et al, 2021). These shifts could alter the subpolar gyre circulation which "plays a crucial role in determining the regional ocean surface temperature" (Ghosh et al., 2023). Recent decades have seen a cooling trend linked to a decline of AMOC (McCarthy et al., 2023: 5). The ecological consequences of these changes are substantial as "temperature and salinity are key quantities for fisheries and benthic ecosystems" affecting the productivity of economically important fisheries (McCarthy et al., 2023: 7) and resulting in other severe ecological repercussions. Regarding human security, one of the most drastic consequences of climate change could be human displacement, which Ireland is currently unprepared to handle (Cubie, 2024: 2).

Recognising these environmental challenges, it is strategically imperative for Ireland to enhance its capacity to evaluate and forecast the climatic impacts stemming from the Arctic's rapid changes. This goes beyond environmental protection, touching on socio-economic development and national security. Ireland's initial steps in increasing cooperation with Nordic states represent a positive development in this direction. Nevertheless, to fully address these challenges, it is critical for Ireland to deepen engagements with other Arctic nations through the "web of relations" (Hansen-Magnusson, 2019: 132) of the Arctic Governance system. Enhanced cooperation through different forms of science diplomacy is essential to effectively address and adapt to the evolving Arctic environmental dynamics.

A key area of focus for this strategic partnership should be the prevention of biodiversity loss. Ireland and the Arctic countries can work together on conservation efforts that protect Arctic flora and fauna, supporting initiatives that combat the adverse effects of climate change and human activity on Arctic biodiversity (Cronin, 2021). This particularly relates, firstly, to the shared migratory bird flyways as the seabird colonies extend from Ireland's Skelligs up to the Arctic and "birds are very responsive to changes in the environment, being dependent for feeding on fish stocks which are in turn being affected by plankton and changing ocean temperatures" (MaRei, 2024) and, secondly, fish migratory pathways in the Arctic where Irish salmon migrates every year (Rikardsen et al., 2021).

Furthermore, the impact of climate change on the oceans is most significant for Ireland as an island nation (Nolan at al., 2023). Sharing concerns about ocean acidification, rising sea level temperatures, pollution, marine litter, and melting Arctic ice with all Arctic states is a reason for Ireland to develop cooperative research and action plans with Arctic states. Through its chairmanship of the OSPAR (Convention for the Protection of the Marine Environment of the North-East Atlantic) Commission in 2018-2022 and active participation in conducting the

OSPAR's Quality Status Report 2023 (OSPAR, 2023), Ireland has expertise in the areas of marine biodiversity, pollution and climate change that continue to affect the Arctic part of the North-East Atlantic. This includes the Arctic waters of Iceland and Norway as OSPAR's mandate covers parts of the North-East Atlantic that extend into the Arctic Circle, making OSPAR essential for Arctic marine protection. Ireland and Finland are co-conveners of the OSPAR Arctic Outcomes Working Group which focuses their work on the protection of the Arctic marine environment in the OSPAR Maritime Area. The Arctic region is particularly sensitive to changes in the marine environment, making OSPAR's role and Irish expertise crucial in mitigating these impacts.

As new Arctic sea routes open for trade and economic activities and the Arctic Ocean ice recedes, there are major opportunities for Ireland to develop more economic interests in the Arctic. There are various investment prospects in sectors such as green technology, fisheries, and shipping. Regarding the 'blue economy', by fostering sustainable maritime industries via implementing the National Marine Planning Framework and Maritime Area Planning Act 2021, both Ireland and the Arctic States can mutually benefit economically while ensuring environmental protection.

Another area of economic opportunity is the development of marine cables. Leveraging its existing infrastructure, Ireland is a potential "Gateway to Europe" location that is attractive for further development of the Far North Fiber project with Cinia Oy (Finland), ARTERIA Networks (Japan), Far North Digital (US), in cooperation with Alcatel Submarine Networks, fully owned by Nokia (Finland) (Murray, 2024). However, the raised security concerns need to be addressed prior to going ahead with such developments (Shvets, 2023).

Ireland and the Arctic countries would benefit from further collaboration on improving navigational safety measures, search and rescue operations, and emergency response strategies, especially considering that Ireland is not a NATO member. The current Far North Cable project is making Ireland the first point of reach in Europe. It requires additional safety measures and cooperation with all the countries of the Arctic region, as the system will comprise 15,000 km of cable running from Japan via the Northwest Passage to Europe with a landing in Alaska and with European landings in Norway adjacent to Finland and Ireland. The Irish Government has backed up the project by welcoming the Far North Fibre to land in Galway, the "the ideal landing spot" (Murray, 2024). Although policy-level measures are underway to strengthen maritime security capabilities in relation to the new underwater cable, further research and investment are needed to understand the various types of maritime security threats Ireland faces and how these might evolve in the future (McCabe et al., 2023).

Lessons from Scotland's Arctic Connections initiative are examined in the next subsection highlighting the importance of community-centred approaches, which Ireland can adapt to strengthen ties with Arctic stakeholders and promote sustainable development.

# Learning from the Scottish-Arctic Collaboration

Different non-Arctic states have different visions of the Arctic, from positioning themselves as a leading polar nation to having a more limited approach and less ambitious Arctic Strategy. Scotland, even though it is not an independent state, is the most appropriate example for comparing Ireland with similar-sized states or Observers in the Arctic Council to identify best practices and strategies. The Scottish Government adopted Scotland's first Arctic policy framework in 2019 (Scottish Government, 2019). The main emphasis of the policy framework is a strong focus on cooperation, sharing knowledge and community focus.

Among the approaches that could be applied in Ireland is the Scottish focus on offering and sharing rather than simply taking from the Arctic: "Scotland's offer to the Arctic" (Scottish Government, 2019). For example, the expertise in Irish language protection and revitalisation is a valuable input for Indigenous Peoples in the Arctic as most Indigenous languages in the Arctic are endangered. Close cooperation with the Saami Council on language revitalisation and promotion of Indigenous languages has already been a priority in the Action plan of Ireland's Strategy for the Nordic Region (Department of Foreign Affairs, 2021).

As the world embarks on UNESCO's International Decade of Indigenous Languages 2022-2032, Ireland will have an opportunity to engage in collaborative projects with Indigenous Peoples in the Arctic. This presents a valuable chance to contribute to the revitalisation and preservation of Indigenous languages while supporting the cultural resilience and self-determination of Arctic Indigenous communities.

Other issues that reflect the rural way of life, especially in the West of Scotland and Gaeltacht in Ireland, are being shared with the Arctic rural and coastal communities. The past North Atlantic Forum 2024 in Connemara, Ireland, demonstrated the scope of the themes relevant to the rural communities in the West of Ireland (North Atlantic Forum, 2024). Following the Scottish example (Scottish Rural Network, 2020), shared concerns of rural mental health challenges and rural repopulation could be possible future projects of knowledge sharing projects between Ireland and the Arctic States.

Scotland is active in the network of Arctic universities – UArctic. For Ireland, membership of institutions of higher education in the UArctic network can have funding implications. Membership comes with a yearly fee but gives access to various supports for students, such as the North2North exchange programme and other research cooperation opportunities, such as an array of Thematic Networks (UArctic, 2024). Inclusion of the membership fee in the Strategy could encourage smaller research centres in Ireland to join UArctic. At present, there are three UArctic members in Ireland: (1) the Trinity Centre for the Environment (TCE), a teaching and research centre within the School of Natural Sciences, Trinity College Dublin (UArctic, 2024a); (2) the Halpin research Centre, a research entity for the National Maritime College of Ireland (UArctic, 2024b); and (3) the NARI (UArctic 2024c).

The strongest comparison between Scotland and Ireland lies within the academic sphere. Ireland and Scotland have networks (NARI, 2024; ScAN, 2024) of Arctic researchers bringing together scholars with expertise in the Arctic. The Scottish Arctic Network (ScaN) is a UArctic Regional Centre for Scotland, composed of UArctic members – higher education institutions in Scotland. With more Irish universities joining the UArctic network, new research cooperation opportunities will open up for Irish scholars, thus helping to attract more scholars to research Arctic topics.

Building on this academic foundation, it is reasonable to suggest that Ireland should establish a dedicated Arctic unit within the Department of Foreign Affairs, similar to the proposal made for Scotland (Johnstone, 2012). This unit would bring together expertise and resources and help Ireland take advantage of opportunities while managing the environmental, economic, and geopolitical challenges that come with Arctic engagement. By aligning national interests with the broader goals of Arctic stewardship and cooperation, such a unit would help create a coherent Strategy.

# Summary

Ireland's role as a proactive "global actor and bridge builder," combined with its experience as a post-colonial society, positions it as a unique contributor to Arctic governance, possibly being a contributor to promoting cooperation in the region. Moreover, Ireland understands the complexities of historical and cultural legacies, which can be valuable in addressing similar issues concerning Indigenous Peoples in the Arctic region. Additionally, Ireland's strong research base on Arctic studies equips it to contribute valuable insights and expertise to the international Arctic community. This combination of historical perspective and scientific input makes Ireland a potential key player in promoting sustainable development and governance in the Arctic.

Ireland, despite facing the Arctic, has not fully incorporated Arctic considerations into its political agenda. However, it is crucial to recognise that a combination of environmental and geopolitical challenges emphasises the need to broaden the focus beyond specific Arctic areas, such as the Nordic region and North America. A fragmented Strategy for the Arctic is not an optimal solution for Ireland. As one of the last countries in North-Western Europe without a clear Arctic policy, Ireland should prioritise developing a comprehensive approach to the region.

Ireland's recent application for Observer State status within the Arctic Council represents a strategic shift and advancement in its international relations, particularly with the Arctic nation-states. Unfortunately, it is unlikely that this status will be approved any time soon due to geopolitical tensions and a pause in the Official Arctic Council Meetings. This makes it even more relevant to adopt an Arctic Strategy for Ireland, thus making a stronger statement of Ireland's Arctic connection and commitment, particularly as the absence of Observer status is not a significant obstacle to continuing scientific and research cooperation in the Arctic region with Indigenous Peoples, Arctic nation-states and non-Arctic nation-states. Even without the official status of Observer, Ireland remains an Arctic-facing state enhanced by Ireland's existing diplomatic and economic ties with Nordic states, US and Canada. The continuation and intensification of these partnerships are essential, particularly in addressing global challenges such as climate change, maritime security, and sustainable development which are significant in the Arctic region.

Ireland's role as a critical "Gateway to Europe," exemplified by initiatives such as the Far North Fiber project, is becoming more evident. It should be further strengthened by a clear Arctic Strategy.

The debate on Ireland's Arctic Strategy must be pursued with urgency and in ethical cooperation with Arctic stakeholders, such as Arctic States, Indigenous Peoples, local communities and industries. As climate change increasingly impacts Arctic geopolitics and economics, the window for establishing a significant and beneficial role for Ireland is narrowing. Timely action is required to ensure that Ireland does not miss the opportunity to contribute to and benefit from the evolving dynamics of the Arctic.

In the near term, it is essential to undertake comprehensive research on the discourses and public perceptions of the Arctic as presented across various media platforms in Ireland. To ensure the future Arctic Strategy for Ireland is well-received by the public, it should be in harmony with broader discourses surrounding this topic. Furthermore, effectively communicating scientific information and research related to the Arctic is of utmost importance. The national audiences and decision-makers should stay informed about the Arctic's relevance to Ireland, particularly in

terms of geopolitical, economic, and environmental considerations. The goal of this article is to initiate a debate on Ireland's involvement in the Arctic. It is important that policymakers, academics, and stakeholders expand upon this discussion, developing an Arctic Strategy that reflects Ireland's strategic position, diplomatic capabilities, and commitment to international cooperation while being mindful of the colonial past of the Indigenous Peoples in the region. The future of Ireland's engagement in the Arctic holds promising prospects for national growth, economic development and international collaboration.

# References

- Afloat. (3 March, 2020). Arctic Researchers Network for Ireland. Retrieved (08.11.2024) from <a href="https://afloat.ie/marine-environment/marine-science/item/45568-arctic-researchers-network-for-ireland">https://afloat.ie/marine-environment/marine-science/item/45568-arctic-researchers-network-for-ireland</a>.
- Alexander, C. (1998). The Endurance: Shackleton's Legendary Antarctic Expedition. (New York: Knopf).
- Alvarez, J., Yumashev, D. & Whiteman, G. (2020). A framework for assessing the economic impacts of Arctic change. In *Ambio* 49. Retrieved (08.11.2024) from <a href="https://doi.org/10.1007/s13280-019-01211-z">https://doi.org/10.1007/s13280-019-01211-z</a>.
- APECS. (2024). Association of Polar Early Career Scientists. Retrieved (08.11.2024) from <a href="https://www.apecs.is/">https://www.apecs.is/</a>.
- Arctic Council. (2024). Arctic Council Advances Resumption of Project-level Work. Retrieved (08.11.2024) from <a href="https://arctic-council.org/news/arctic-council-advances-resumption-of-project-level-work/">https://arctic-council.org/news/arctic-council-advances-resumption-of-project-level-work/</a>.
- Auerswald, D.P. (2020) Arctic narratives and geopolitical competition. In Handbook on Geopolitics and Security in the Arctic: The High North between Cooperation and Confrontation.
- Babila, T.L. and Morley, A. (2020). Navigating the changing seas of international paleoceanographic field research. Retrieved (08.11.2024) from <a href="https://ui.adsabs.harvard.edu/abs/2020AGUFMPP0180004B">https://ui.adsabs.harvard.edu/abs/2020AGUFMPP0180004B</a>.
- Barry T. et al. (2023). Status and trends for Arctic conservation measures. In *29 PARKS*. Retrieved (08.11.2024) from <a href="https://parksjournal.com/wp-content/uploads/2023/06/PARKS-29.1\_10.2305-IUCN.CH\_.2023.PARKS-29-1TB.en\_.pdf">https://parksjournal.com/wp-content/uploads/2023/06/PARKS-29.1\_10.2305-IUCN.CH\_.2023.PARKS-29-1TB.en\_.pdf</a>.
- Buckley, C. (May, 2024). Presentation at the Session: Non-Arctic European Countries: An Asset for the Arctic? At: Arctic Circle Berlin Forum. Retrieved (08.11.2024) from <a href="https://www.youtube.com/watch?v=XHU1VMGulNI&list=PLI0a77tmNMvSl3EwBMPBbRq00Kjwjm7tH&index=17&t=2630s">https://www.youtube.com/watch?v=XHU1VMGulNI&list=PLI0a77tmNMvSl3EwBMPBbRq00Kjwjm7tH&index=17&t=2630s</a>.
- Canova, E. (August 8, 2023). The European Union and its member states in the Arctic: Official complementarity but Underlying Rivalry? In *EU-Arctic Series 2023*. Retrieved (08.11.2024) from <a href="https://www.thearcticinstitute.org/european-union-member-states-arctic-official-complementarity-underlying-rivalry/">https://www.thearcticinstitute.org/european-union-member-states-arctic-official-complementarity-underlying-rivalry/</a>.

Cavell, J. (2018) Who Discovered the Northwest Passage? In 71 Arctic 3. Retrieved (08.11.2024) from https://www.jstor.org/stable/26503287. Accessed 13 May 2024.

- Coates, K., and Holroyd C. (2017). Non-Arctic states and their stake in Arctic sustainability. In *Governing Arctic Change: Global Perspectives*.
- Coote, Michaela Louise. (2023). The balance between critical thinking and paradigm thinking in the Arctic: Scientific cooperation across theoretical divides. In *Polar Record* 59.
- Council Decision (EU). (4 March 2019) On the conclusion of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (2019/407, OJ L 73, 15.3.2019, pp. 1-2).
- Cronin R. (2021). Public Webinar by IIEA and the Department of Foreign Affairs "Arctic and the Arctic Council". Retrieved (08.11.2024) from <a href="https://www.iiea.com/events/webinar-ireland-and-the-arctic-council">https://www.iiea.com/events/webinar-ireland-and-the-arctic-council</a>.
- Cubie, D. (2024). Sea-Level Rise and Human Mobility: The Legal Implications for Ireland's Foreign and Domestic Policies. *Irish Studies in International Affairs* (Preprint).
- Department of Foreign Affairs. (2021). Global Ireland: Ireland's Strategy for the Nordic Region to 2025 Action Plan. Retrieved (08.11.2024) from <a href="https://assets.ireland.ie/documents/Strategies-Nordic-Action-Plan.pdf">https://assets.ireland.ie/documents/Strategies-Nordic-Action-Plan.pdf</a>.
- Depledge, D. & Dodds, K. (2011). The UK and the Arctic: The Strategic Gap. In *The Rusi Journal*, 156(3).
- Devyatkin, P. (2023). Arctic exceptionalism: a narrative of cooperation and conflict from Gorbachev to Medvedev and Putin. In 13 The Polar Journal 2.
- Doering, N.N., Dudeck, S., Elverum, S., Fisher, C., Henriksen, J.E., Herrmann, T.M., Kramvig, B., Laptander, R., Milton, J., Omma, E.M. and Saxinger, G. (2022). Improving the relationships between Indigenous rights holders and researchers in the Arctic: An invitation for change in funding and collaboration. In *Environmental Research Letters*, 17(6).
- Embassy of Ireland. (2024). Ireland's 2024 Arctic Frontiers Emerging Leader. Retrieved (08.11.2024) from <a href="https://www.ireland.ie/en/norway/oslo/news-and-events/news-archive/irelands-2024-arctic-frontiers-emerging-leader/">https://www.ireland.ie/en/norway/oslo/news-and-events/news-archive/irelands-2024-arctic-frontiers-emerging-leader/</a>.
- European Commission. (13 October, 2021). Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Region. Retrieved (08.11.2024) from <a href="https://www.eeas.europa.eu/sites/default/files/documents/Joint%20Communication%20on%20a%20stronger%20EU%20engagement%20for%20a%20peaceful%2C%20sustainable%20and%20prosperous%20Arctic.pdf.pdf.">https://www.eeas.europa.eu/sites/default/files/documents/Joint%20Communication%20on%20a%20stronger%20EU%20engagement%20for%20a%20peaceful%2C%20sustainable%20and%20prosperous%20Arctic.pdf.pdf.</a>
- European Parliament. (2022). EU Regional Policy in the Arctic. Retrieved (08.11.2024) from <a href="https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/729464/EPRS\_BRI(202\_2)729464\_EN.pdf">https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/729464/EPRS\_BRI(202\_2)729464\_EN.pdf</a>.
- Ghosh, R., Putrasahan, D., Manzini, E., Lohmann, K., Keil, P., Hand, R., Bader, J., Matei, D., and Jungclaus, J.H. (2023) Two distinct phases of North Atlantic eastern subpolar gyre and warming hole evolution under global warming. In *36 Journal of Climate 6*.

Gorbachev, M. (1987). Murmansk Speech: Presentation of the Order of Lenin and the Gold Star to the City of Murmansk (translated October 1, 1987, Novosti Press Agency).

- Government of Ireland. (2019). Global Ireland. Ireland's Strategy of the US and Canada. Retrieved (08.11.2024) from <a href="https://www.dfa.ie/media/dfa/ourrolepolicies/ourwork/US-Canada-Strategy.pdf">https://www.dfa.ie/media/dfa/ourrolepolicies/ourwork/US-Canada-Strategy.pdf</a>
- Government of Ireland. (2020). Ireland's Application for Arctic Council Observer Status.

  Retrieved (08.11.2024) from

  <a href="https://www.dfa.ie/media/dfa/newsmedia/pressrelease/Irelands-Application-to-the-Arctic-Council---Key-Messages.pdf">https://www.dfa.ie/media/dfa/newsmedia/pressrelease/Irelands-Application-to-the-Arctic-Council---Key-Messages.pdf</a>.
- Government of Ireland. (2021). Global Ireland. A Strategy for the Nordic Region Delivering for Ireland in the Nordic Region to 2025. Retrieved (08.11.2024) from <a href="https://assets.ireland.ie/documents/21-011-Nordic-Strategy Final digital.pdf">https://assets.ireland.ie/documents/21-011-Nordic-Strategy Final digital.pdf</a>.
- Government of Ireland. (2023). Global Ireland 2025. Retrieved (08.11.2024) from <a href="https://www.gov.ie/en/campaigns/globalireland/?referrer=https://www.gov.ie/globalireland/">https://www.gov.ie/en/campaigns/globalireland/?referrer=https://www.gov.ie/globalireland/</a>
- Government of Ireland. (2023a). Ireland's 4<sup>th</sup> National Biodiversity Action Plan 2023-2030. Retrieved (08.11.2024) from <a href="https://www.gov.ie/en/publication/93973-irelands-4th-national-biodiversity-action-plan-20232030/">https://www.gov.ie/en/publication/93973-irelands-4th-national-biodiversity-action-plan-20232030/</a>.
- Hansen-Magnusson, H. (2019) The web of responsibility in and for the Arctic', 32 Cambridge Review of International Affairs 2.
- Heininen, L. Everett, K., Padrtova, B., & Reissell, A. (2020). Arctic policies and strategies-analysis, synthesis, and trends. Retrieved (08.11.2024) from, <a href="https://pure.iiasa.ac.at/id/eprint/16175/1/ArticReport WEB new.pdf">https://pure.iiasa.ac.at/id/eprint/16175/1/ArticReport WEB new.pdf</a>.
- Henderson, G.R., Barrett, B.S., Wachowicz, L.J., Mattingly, K.S., Preece, J.R., and Mote, T.L. (2021). Local and remote atmospheric circulation drivers of Arctic change: A review. In *Frontiers in Earth Science 9*.
- Hughes, K.A. & Hughes, K.A. (2024). Ireland and the Antarctic Treaty System. Antarctic Science, 1-21. Retrieved (08.11.2024) from, https://doi.org/10.1017/S0954102024000312
- Interreg. (2024) Interreg Northern Periphery and Arctic. Retrieved (08.11.2024) from <a href="https://www.interreg-npa.eu/our-programme/">https://www.interreg-npa.eu/our-programme/</a>.
- IPCC (Intergovernmental Panel on Climate Change). (2019) Special Report on the Ocean and Cryosphere. Retrieved (08.11.2024) from <a href="https://www.ipcc.ch/srocc/">https://www.ipcc.ch/srocc/</a>.
- ISB (Irish Statute Book), (2021). Retrieved (08.11.2024) from <a href="https://www.irishstatutebook.ie/eli/2021/act/32/enacted/en/print.html">https://www.irishstatutebook.ie/eli/2021/act/32/enacted/en/print.html</a>.

Jansen, E., Christensen, J.H., Dokken, T. et al. (2020). Past perspectives on the present era of abrupt Arctic climate change. In *Nat. Clim. Chang.* 10. Retrieved (08.11.2024) from <a href="https://doi.org/10.1038/s41558-020-0860-7">https://doi.org/10.1038/s41558-020-0860-7</a>.

- Jensen, N.P. (2024). Arctic Exceptionalism or Ice Curtain? Collaboration and Conflict in the Arctic Amid Escalating Geopolitical Strains." In *Arctic, esthinktank.com*.
- Johnstone R. (2012). Arctic Strategy for Scotland. In Arctic Yearbook 2012.
- Kavanagh, E. (2024). Arctic governance: An analysis of a treaty-based cooperation hypothesis. In *Spanish Yearbook of International Law 27*.
- Kieval, M. (2022). Examining the Role of Think Tanks in Promoting Peace in the Arctic. Arctic Governance, Decision-Making and Non-state Actors. In Sellheim, N., and Menezes D.R. (eds.) Non-state Actors in the Arctic Region. (Cham: Springer International Publishing).
- Koivurova, T. (2015). Can We Conclude an Arctic Treaty? Historical Windows of Opportunity. In 7 The Yearbook of Polar Law Online 1.
- Koivurova T, Shibata A. (2023). After Russia's invasion of Ukraine in 2022: Can we still cooperate with Russia in the Arctic? In *Polar Record 59*.
- Koivurova, T., Heikkilä M., Ikävalko J., Kirchner S., Kopra S., Mikkola H., Pursiainen R., Sepponen S., Moisio M., and Stepien A. (2022) Arctic cooperation in a new situation: Analysis on the impacts of the Russian war of aggression. Finnish Institute of International Affairs. Government Report. Retrieved (08.11.2024) from <a href="https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/164521/VN\_Selvitys\_2022\_3.pdf?sequence=1&isAllowed=y.">https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/164521/VN\_Selvitys\_2022\_3.pdf?sequence=1&isAllowed=y.</a>
- Lanteigne, M. (2022). One of three roads: The role of the Northern Sea Route in evolving Sino-Russian strategic relations. (Norwegian Institute for International Affairs (NUPI)).
- Larson, E.J. (2011). An empire of ice: Scott, Shackleton, and the heroic age of Antarctic science. (Yale University Press).
- Lloyd-Jones, R. (2005) The men who sailed with Franklin. In 41 Polar Record 4.
- MaRei. (2024) MaRei scientist travels to the Arctic to monitor sea bird colonies. Retrieved (08.11.2024) from <a href="https://www.marei.ie/marei-scientist-travels-to-the-arctic-to-monitor-sea-bird-colonies/">https://www.marei.ie/marei-scientist-travels-to-the-arctic-to-monitor-sea-bird-colonies/</a>.
- McCabe, R., & Flynn, B. (2023). Under the radar: Ireland, maritime security capacity, and the governance of subsea infrastructure. In *European Security*, 33(2), 324–344. Retrieved (08.11.2024) from <a href="https://doi.org/10.1080/09662839.2023.2248001">https://doi.org/10.1080/09662839.2023.2248001</a>
- McCannon J., (2013). A History of the Arctic: Nature, Exploration and Exploitation. (Reaktion Books).
- McCarthy, G. D., Caesar, L., Ulthaman, A., & Daly, E. (2023). Marine Institute. Irish Ocean Climate Ecosystem Status Report. *Physical Oceanography*.
- Mikhailova, D., & Tabata, S. (2024). Prospects for the development of the northern sea route after February 2022: An analysis of Russia's policy in the new conditions. In *Polar Science*.

Murray. D. (2024). €1bn undersea data cable plan to link Galway to Asia. Retrieved (08.11.2024) from https://marine-ireland.ie/node/1323.

- NARI (Network of Arctic Researchers in Ireland). (2019). Retrieved (08.11.2024) from <a href="https://www.nari.ie/">https://www.nari.ie/</a>.
- Nolan, G., Cusack, C., & Fitzhenry, D. (Eds.) (2023). Irish Ocean Climate & Ecosystem Status Report. Marine Institute, Galway, Ireland. Retrieved (08.11.2024) from <a href="https://oar.marine.ie/handle/10793/1844">https://oar.marine.ie/handle/10793/1844</a>.
- Noone, C., McClean D., Gallagher D., and Thorne P. (2024). Ireland's Climate Change
  Assessment 2023. Volume 1: Climate Science-Ireland in a Changing World. Summary of
  Policymakers. Retrieved (08.11.2024) from
  <a href="https://www.epa.ie/publications/monitoring--assessment/climate-change/irelands-climate-change-assessment-volume-1.php">https://www.epa.ie/publications/monitoring--assessment/climate-change/irelands-climate-change-assessment-volume-1.php</a>
- North Atlantic Forum. (2024). Retrieved (08.11.2024) from <a href="https://northatlanticforum.org/">https://northatlanticforum.org/</a>.
- Nugent F. (2003). Seek the Frozen Lands: Irish Polar Explorers 1740-1922. (Collins Press).
- O'Brien, Joy M., Nathan Blais, Carmen Butler, Natalie White, Ash Bustead, Collin Figler, McKenna Wells, George Anderson, Anna Yuhas, and Jessica Gilman Ernakovich. (2024) Ten "simple" rules for non-Indigenous researchers engaging Indigenous communities in Arctic research. In *PLOS Computational Biology* 20, no. 6.
- OCSI (Office of the Commissioner for Environmental Information) (2020). The keynote address delivered by the Minister for Foreign Affairs, Simon Coveney on the Ireland's application for observer status to the Arctic Council. Retrieved (08.11.2024) from <a href="https://data.ocei.ie/en/speech/882c5-irelands-bid-to-become-an-observer-to-the-arctic-council/">https://data.ocei.ie/en/speech/882c5-irelands-bid-to-become-an-observer-to-the-arctic-council/</a>.
- OSPAR. (2023) Quality Status Report 2023. Retrieved (08.11.2024) from <a href="https://www.ospar.org/work-areas/cross-cutting-issues/qsr2023">https://www.ospar.org/work-areas/cross-cutting-issues/qsr2023</a>.
- Previdi M., Smith K.L., and Polvani L.M. (2021). Arctic amplification of climate change: a review of underlying mechanisms. In *9 Environmental Research Letters 16*.
- Rantanen M., Karpechko A.Y., Lipponen A., Nordling K., Hyvärinen O., Ruosteenoja K., Vihma T., and A. Laaksonen. (2022) The Arctic has warmed nearly four times faster than the globe since 1979. In *3 Communications Earth & Environment*.
- Rikardsen, A.H., Righton, D., Strøm, J.F. *et al.* (2021). Redefining the oceanic distribution of Atlantic salmon. In *Sci Rep* 11. Retrieved (08.11.2024) from <a href="https://doi.org/10.1038/s41598-021-91137-y">https://doi.org/10.1038/s41598-021-91137-y</a>.
- ScAN. (2024). Scottish Arctic Network. Retrieved (08.11.2024) from https://arctic.scot/.
- Schulze, V.-G. (2017) Arctic Strategy Round-Up 2017. Retrieved (08.11.2024) from <a href="https://www.arctic-office.de/fileadmin/user-upload/www.arctic-office.de/PDF-uploads/Arctic Strategies EN 10.11.17.pdf">https://www.arctic-office.de/FDF-uploads/Arctic Strategies EN 10.11.17.pdf</a>.

Scottish Government. (2019). Arctic Connections: Scotland's Arctic policy framework. Retrieved (08.11.2024) from <a href="https://www.gov.scot/publications/arctic-connections-scotlands-arctic-policy-framework/">https://www.gov.scot/publications/arctic-connections-scotlands-arctic-policy-framework/</a>.

- Scottish Government. (2023). Arctic Connections. Retrieved (08.11.2024) from <a href="https://www.gov.scot/policies/international-relations/arctic-connections/">https://www.gov.scot/policies/international-relations/arctic-connections/</a>.
- Scottish Rural Network. (2020). Mental Wellbeing in Rural Communities: A Scottish Arctic Dialogue (Arctic Connections event). Retrieved (08.11.2024) from <a href="https://www.ruralnetwork.scot/mental-wellbeing-rural-communities-scottish-arctic-dialogue">https://www.ruralnetwork.scot/mental-wellbeing-rural-communities-scottish-arctic-dialogue</a>.
- Shvets, D. (2023). Questions of justice and sustainability: The case of submarine cables in the Arctic. In *Spanish Yearbook of International Law 27*.
- Shvets, D., and Hossain K. (2022). The Future of Arctic Governance: Broken hopes for Arctic exceptionalism? In *Current Developments in the Arctic law 2022*.
- Skillington, T. (2023). A relational view of responsibility for climate change effects on the territories and communities of the Arctic. In *Arctic justice: Environment, society and governance*: 36.
- Smith M. (2021) Icebound In The Arctic: The Mystery of Captain Francis Crozier and the Franklin Expedition. (Dublin: The O'Brien Press).
- Smith, M. (2010). Great Endeavour: Ireland's Antarctic Explorers. (Collins Press).
- Smith, M. (2019). An Unsung Hero: Tom Crean-Antarctic Survivor Updated 20th Anniversary Edition. (Gill & Macmillan Ltd.).
- Spence, J., Alexander, E., Rødven, R., & Harriger, S. (2023). What makes the Arctic and its governance exceptional? Stories of geopolitics, environments and homelands. In *Arctic Yearbook*.
- Steinveg B., Rottem S.V., Andreeva S. (2024). Soft institutions in Arctic governance who does what? In *60 Polar Record*.
- UArctic. (2024). Open\_Calls. Retrieved (08.11.2024) from https://research.uarctic.org/news/newstags?tag=Open\_Calls.
- UArctic. (2024a). Trinity Centre for the Environment. Retrieved (08.11.2024) from <a href="https://www.uarctic.org/members/member-profiles/non-arctic/43163/trinity-centre-for-the-environment">https://www.uarctic.org/members/member-profiles/non-arctic/43163/trinity-centre-for-the-environment</a>.
- UArctic. (2024b). Halpin Research Centre. Retrieved (08.11.2024) from <a href="https://www.uarctic.org/members/member-profiles/non-arctic/55232/halpin-research-centre">https://www.uarctic.org/members/member-profiles/non-arctic/55232/halpin-research-centre</a>.
- UArctic. (2024c). NARI. Retrieved (08.11.2024) from <a href="https://www.uarctic.org/members/member-profiles/non-arctic/57358/network-of-arctic-researchers-ireland-nari">https://www.uarctic.org/members/member-profiles/non-arctic/57358/network-of-arctic-researchers-ireland-nari</a>
- Varik, E. (August 29, 2023). Mapping Estonia's Arctic Vision: Call for an Influential European Union in Securing the Arctic. In *EU-Arctic Series 2023*. Retrieved (08.11.2024) from

https://www.thearcticinstitute.org/mapping-estonia-arctic-vision-call-influential-european-union-securing-arctic/.

Youth Together for Arctic Futures. (2024). Retrieved (08.11.2024) from <a href="https://www.eeas.europa.eu/eeas/youth-together-arctic-futures\_en.">https://www.eeas.europa.eu/eeas/youth-together-arctic-futures\_en.</a>