

The Arctic and Outer Space: The need for further discussion of a *lex specialis*

Judith S. Jahnke*

Introduction

The Arctic and space? Space and the Arctic? At first glance, these two areas of law, or even of existence, do not seem to have much in common. However, on closer inspection, it becomes clear that these two areas are increasingly overlapping in application. Arguably, activities in the Arctic are becoming increasingly dependent on space

capabilities.¹ This ranges from monitoring global warming, supported for example by Copernicus,² to general navigation using the Global Navigation Satellite System (GNSS),³ to the use of space systems in search and rescue operations,⁴ or to general communications and connectivity.⁵ The development of launch capabilities in the Arctic, in turn, supports these space capabilities.⁶ Sweden and Norway have both established spaceports

-
- Editor, *Annals of Air and Space Law*, Institute of Air and Space Law / Institut de droit aérien et spatial, McGill University / Université McGill, Canada and Doctoral Candidate, Institute of Air and Space Law, McGill University, Canada.

¹ See, for example, Michael Byers, “Outer Space and the Arctic: Connections, Opportunities, Challenges” (19 September 2024), CIGI Paper No. 303, online: <www.cigionline.org/publications/outer-space-and-the-arctic-connections-opportunities-challenges/>.

² See, for example, “Copernicus Arctic Regional Reanalysis” (accessed 20 October 2025), online: <climate.copernicus.eu/copernicus-arctic-regional-reanalysis-service>.

³ See, for example, “GNSS: addressing the challenges of Arctic navigation” (accessed 20 October 2025), online: <www.gsc-europa.eu/news/gnss-addressing-the-challenges-of-arctic-navigation>.

⁴ See, for example, the test rescue missions supported by Cospas-Sarsat in the Arctic. “200 Rescued from Chilly Arctic in Galileo/Cospas-Sarsat Demo” (20 October 2021), Inside GNSS, online: <insidegnss.com/200-rescued-from-chilly-arctic-in-galileo-cospas-sarsat-demo/#:~:text=October 20,2021,out the ship's communication systems.>.

⁵ This is something that was especially highlighted in the Arctic Policies of the Nordic States considered below.

⁶ See, for example, Alla Pozdnakova, “Space Infrastructure for a Sustainable Arctic: Opportunities and Challenges of Spaceport Development in the High North” (31 May 2022), The Arctic Institute,

above the Arctic Circle,⁷ while the United States has one in Alaska, a bit below the Arctic Circle.⁸

As we will see in the first section of this article, the Nordic States have politically recognised the importance of developing space capabilities for the High North. However, these recognitions have not led to changes in legislation, as we will see in the second section. When examining recent developments in space law in the Nordic countries, it becomes clear that

“... recent developments in space law in the Nordic countries ... do not view the Arctic as a region distinct from other areas used in the space industry.”

space regulators do not view the Arctic as a region distinct from other areas used in the space industry. This raises the

question of whether the Arctic requires separate regulation. This article argues that the question should be considered further by the appropriate international body. Thus, the final section will place this in a global perspective. While again

highlighting the connection between the Arctic and the development of space capabilities by international organisations, either United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) or the Arctic Council, it will primarily focus on which of the two international bodies

—each focusing on either space or the Arctic, separate from the other — would be the most appropriate to raise this question.

online: <www.thearcticinstitute.org/space-infrastructure-sustainable-arctic-opportunities-and-challenges-spaceport-development-high-north/>.

⁷ Swedish Space Corporation, “Esrang Space Center” (2021), online: <sscspace.com/esrange/>; “Andøya Spaceport” (2025), online: <andoyaspace.no/spaceport/>; Please note that currently, only Andøya is being used to attempt to launch rockets into orbit, with Isar Aerospace's first launch attempt taking place on 30 March 2025, but failing to reach orbit. Esrange, meanwhile, is currently focusing on launching suborbital rockets. “First Test Flight Updates” (15 September 2025), Isar Aerospace, online: <isaraerospace.com/newsroom-first-test-flight>.

⁸ “Alaska Spaceports” (2025), online: <akaerospace.com/spaceports/>.

General Considerations

In asserting that there is a link between these two areas, which States have highlighted, this article has focused primarily on the Arctic policies of the Nordic States and their respective counterparts. A clear trend emerges from these policies. All of them, except for the 2019 Sami Council policy, make specific reference to space capabilities.⁹ For example, Finland mentions in its introduction the importance of improving telecommunications for all citizens living in the Arctic, which can be easily achieved by developing a more extensive telecommunications satellite network.¹⁰ This is clearly evident later in the policy when “Finland's aim is to emphasise the importance of the EU space programme and other European space infrastructure for the Arctic, especially in terms of telecommunication, climate change and

environmental monitoring as well as Arctic transport.”¹¹

Similarly, Sweden, while emphasising the importance of combating climate change and preserving Arctic flora and fauna, notes that in order to “get a better understanding of the complex relationships that affect weather and climate, it is necessary to large-scale data series from *satellite observations*, local data in the form of continuous series from fixed measuring stations, and detailed studies from ship-based observations collected for all seasons in the Arctic.”¹² They add that the Swedish satellite Odin has been collecting polar meteorological data since 2001 and that plans are underway to launch another meteorological satellite to support this research.¹³

Even the policies of Greenland and the Faroe Islands specifically refer to space capabilities. Greenland notes that its

⁹ “The Sámi Arctic Strategy” (2019), online(pdf): <static1.squarespace.com/static/5dfb35a66f00d54ab0729b75/t/5e71ebcc8554fb16d61009bc/1584524293838/Sameradet+arctic+strategies+Web.pdf>.

¹⁰ “Finland’s Strategy for Arctic Policy” (2021), Publication of the Finnish Government 2021:55, online(pdf): <library.arcticportal.org/2813/1/Finlands_Strategy_for_Arctic_Policy.pdf>.

¹¹ *Ibid* at 52.

¹² “Sveriges strategi för den arktiska regionen” (2020), online(pdf): <www.regeringen.se/informationsmaterial/2020/11/sveriges-strategi-for-den-arktiska-regionen/> at 38 (translated by author).

¹³ *Ibid* at 40.

objective of improving communication capabilities can be achieved through “submarine cables and via satellite,” which are becoming “vital for Greenland and will create new opportunities for potential investors.”¹⁴ In comparison, the Faroe Islands note that:

“Satellite and space technology are of steadily growing importance. In the Arctic context space and satellite technology could play a significant role in several areas including digitalisation, monitoring, and research. The Faroe Islands are monitoring these trends, with the view to identifying opportunities for collaboration.”¹⁵

It can therefore be said that the Faroe Islands have a broader view of space capabilities than other States considered, which focus more on specific aspects. However, by being broader, they

emphasise the importance of the connection between the Arctic and outer space more clearly than arguably other States.

A similar overlap can be seen in the space policies of the other Scandinavian States. Denmark, for example, makes several references to the Arctic in its 2021 space strategy.¹⁶ These references are similar to those already mentioned in the introduction, such as the use of space capabilities for climate and weather monitoring in the High North.¹⁷ But the strategy also includes a greater recognition of the importance of space capabilities for national security. Denmark notes, for example, that:

“Especially in the Arctic, the Danish Defence meets an increasing need for satellite data to be able to monitor movements in the air and at sea in the large and very thinly populated area, thereby

¹⁴ “Greenland in the World: Nothing without us” (2024), online(pdf): <paartoq.gl/wp-content/uploads/2024/03/Greenlands_Foreign_-Security_and_Defense_Policy_2024_2033.pdf>

¹⁵ “Arctic Policy of the Faroe Islands 2024” (2024), online(pdf): <landsstyri.cdn.fo/savn/tmzdxak/arctic-policy-of-the-faroe-islands-2024.pdf?s=Q-X8KWKu-VWuD6ALEjAHDhxXq_8> at 35.

¹⁶ “Denmark’s national space strategy: Update of strategic objectives” (2021), online: <www.unoosa.org/documents/pdf/spacelaw/national/Denmarks_National_Space_Strategy_English.pdf>.

¹⁷ *Ibid.*

enforcing the sovereignty of the Kingdom.”¹⁸

monitored areas of interest,” with many of the solutions being space-based.¹⁹

The importance of space capabilities for the defence of their Arctic territory will also be seen in the last section, where NATO, for example, makes specific references to this link.

These links between the Arctic and space capabilities are not something unique to the Nordic States. Similar considerations have also been expressed, for example, in Canada, which organised a competition for “innovative solutions for locating adversaries outside of commonly

National Legal Side of the Arctic Space

While the previous section clearly highlighted the overlap between the space industry and the Arctic across the various strategies of the Nordic countries, this overlap appears to have its limits in terms of legislation in these countries. Over the past decade, there has been a movement to either adopt new space legislation or repeal existing regulations.²⁰ However, none of these new laws specifically mentions the Arctic.²¹ This does not mean

¹⁸ *Ibid* at 42.

¹⁹ “The needle in the haystack: Space-Based Intelligence, Surveillance and Reconnaissance (SB-ISR) imagery for decision making” (3 October 2025), online: <www.canada.ca/en/departement-national-defence/programs/defence-ideas/element/competitive-projects/challenges/the-needle-in-the-haystack-space-based-intelligence-surveillance-and-reconnaissance-sb-isr-imagery-for-decision-making.html>.

²⁰ Note that both Sweden and Norway had space legislation from earlier (1969 for Norway and 1982 for Sweden), but both decided to update their legislation (Norway published a draft in 2025 and Sweden published a study in 2021). Denmark and Finland, in comparison, adopted their space legislation in 2016 and 2018, respectively. Norway, *Lov om oppskyting av gjenstander fra norsk territorium m.m. ut i verdensrommet*, 1969; Sweden, *Förordning om rymdverksamhet* 1982/1069; Sweden, *Lag om rymdverksamhet*, 1982:963; Finland, *Act on Space Activities* (63/2018), Denmark, *Outer Space Act*, Act no. 409 of 11 May 2016, “En ny rymdlag” (2021), SOU 2021:91, online: <www.regeringen.se/rattsliga-dokument/statens-offentliga-utredningar/2021/11/sou-202191/>; “Lov om aktiviteter i verdensrommet (romloven)” (2025), Prop. 155 L, online(pdf): <www.regjeringen.no/contentassets/e2457ee65e744746954c9b07bef2c49b/no/pdfs/prp202420250155000dddpdfs.pdf> [Norwegian Proposal].

²¹ *Ibid*.

there is no consideration for geographical extensions, such as Norway's new proposal to extend the law to Jan Mayen and Svalbard;²² rather, it indicates there are no considerations for specific regulations for the Arctic. For example, none of the laws take into account the specific environmental requirements for space activities launched from an Arctic spaceport, despite the importance these States attach to the Arctic climate and biodiversity.²³ There is also no mention of specific licensing considerations for space capabilities supporting the development of objectives set for the High North.²⁴ Of course, these issues could be covered by the law's general provisions; still, it is nevertheless worth considering whether this area deserves special attention compared to other Nordic space activities.

This discrepancy between Arctic and space law becomes particularly evident when examining Norway's new space law proposal published in the summer of 2025.²⁵ In the debate preceding

the proposal, Norway specifically mentions the Arctic in relation to, for example, national security and telecommunications.²⁶ Nevertheless, the only references to the Arctic in the text of the proposed law concern the extension of the law to Svalbard and Jan Mayen, as already mentioned.²⁷ Of course, it can be argued that the lack of detail, for example, with regard to the requirement for "not cause disproportionate damage to the environment", could extend to considerations in the Arctic being different from further south.²⁸ For example, while the law itself does not define what is "disproportionate," the commentary notes that this may vary across regions and with changes in environmental standards.²⁹ It could therefore be argued that this includes a different standard for Arctic launches than for launches from a foreign launch site, such as Cape Canaveral; however, this is not entirely clear.

²² Norwegian Proposal, *supra* note 20.

²³ See the Arctic Strategies in *supra* notes 10, 12, 14, 15; *Supra* note 20.

²⁴ *Supra* note 20.

²⁵ Norwegian Proposal, *supra* note 20.

²⁶ *Ibid* at 18.

²⁷ *Ibid* at 107, section 3.

²⁸ *Ibid* at 108, section 11(a) (translated by author).

²⁹ *Ibid* at 96–97.

Finally, it should be noted that none of these regulations take into account issues relating to the rights of indigenous communities, such as those concerning the night sky.³⁰ This is another aspect that should be clarified and discussed at both the national and international levels, as the majority of the Arctic population can be considered indigenous.

All these considerations lead to the conclusion that a debate should be held to determine whether the High North requires specific regulations for space activities or whether general regulations are sufficient to address these issues.

International Considerations

This article argues that a discussion should be initiated on regulating the Arctic night sky, separate from other areas of outer space. In that case, the question is where that discussion should take place. While national regulation certainly has

many advantages, this paper argues that national considerations should complement a broader international debate on whether the Arctic requires special consideration in regulating space activities.

Before examining the advantages and disadvantages of each choice, it should be noted that neither forum has given significant consideration to the relationship between the Arctic and outer space. That said, like the national Arctic policies discussed above, other international entities have considered this link. For example, the European Council in 2019 “adopted conclusions on the role of space-based services in ensuring a sustainable Arctic region.”³¹ Similarly, NATO's 2024 annual report includes a section on the importance of space

³⁰ See, for example, Tim Edensor & Nick Dunn on the importance of dark and quiet skies for indigenous communities in general. He, however, also makes specific reference to the significance of the night sky to the North Baffin Inuit in Northern Canada. Tim Edensor & Nick Dunn, “Dark skies: Meanings, challenges, and relationships” in Tim Edensor & Nick Dunn, *D A R K S K I E S: Places, Practices, Communities* (Abingdon; Routledge, 2023) 3 at 5.

³¹ “Space solutions for a sustainable Arctic : Council adopts conclusions” (2019), online: <[92 | Page](http://www.consilium.europa.eu/en/press/press-releases/2019/11/29/space-solutions-for-a-sustainable-arctic-council-adopts-conclusions/#:~:text=2019%2009:42-,Space%20solutions%20for%20a%20sustainable%20Arctic%3A%20Council%20adopts%20conclusions,solutions%20for%20a%20sustainable%20Arctic.>.”</p>
</div>
<div data-bbox=)

capabilities for the organisation's interests in the Arctic.³²

When it comes to space activities directly related to the Arctic, two international bodies have the necessary expertise to address these issues. If the focus is on space activities, UNCOPUOS would be the appropriate body. Created during the Cold War, COPUOS is the United Nations specialised body responsible for regulating space activities.³³ It is divided into two subcommittees, one technical and the other legal, which may create working groups under the auspices of either subcommittee.³⁴ One option would therefore be to examine the issue of regulating Arctic space capabilities as a

separate topic within a COPUOS legal subcommittee working group. However, this option would have two specific limitations that arguably make COPUOS less suitable than the Arctic Council. First, while this working group would have the necessary knowledge of space activities, it would lack particular knowledge of the Arctic, particularly of Arctic indigenous communities.³⁵ Second, discussions within COPUOS would necessarily include non-Arctic States with voting rights.³⁶

In contrast, this has advantages, given that the sky above the Arctic does not belong exclusively to Arctic States. However, to a certain extent, the same can be said for the general Arctic interests, as Canada, for example, notes that an

³² NATO, "Secretary General's Annual Report" (2024), online(pdf): <www.nato.int/nato_static_fl2014/assets/pdf/2025/4/pdf/sgar24-en.pdf>.

³³ "COPUOS History" (2025), online: <www.unoosa.org/oosa/en/ourwork/copuos/history.html>.

³⁴ "Committee on the Peaceful Uses of Outer Space" (2025), online: <www.unoosa.org/oosa/en/ourwork/copuos/index.html>; see also "Working Groups of the Committee and its Subcommittees" (2025), online: <www.unoosa.org/oosa/de/ourwork/copuos/working-groups.html> for a list of current working groups within UNCOPUOS.

³⁵ While the working group can invite interested parties to the discussions in a limited capacity, compared to the Arctic Council, where they have full consultation rights in connection with the Council's negotiations and decisions.

³⁶ Note that the UNCOPUOS has 104 members, including all Arctic States with the exception of Iceland, while the Arctic is composed of only eight States. "Committee on the Peaceful Uses of Outer Space: Membership Evolution" (accessed 20 October 2025), online: <www.unoosa.org/oosa/en/ourwork/copuos/members/evolution.html>.

increasing number of non-Arctic States are taking an interest in the Arctic.³⁷ Similarly, Andrew Charter's article from 2016 traces the increase of observer States in the Arctic Council.³⁸ That said, the question remains how beneficial it is for non-Arctic States to decide questions fundamentally related to the Arctic. This question is arguably increased by the geopolitical aspect of reaching consensus in a larger group of States.

The Arctic Council is another international body that could discuss whether Arctic-related space capabilities need their own regulations. Formally established in 1996 in Ottawa, the Arctic Council is an intergovernmental decision-making forum for all matters relating to the Arctic.³⁹ What would distinguish the Arctic Council, for example, from UNCOPUOS is the participation of non-State entities in the discussions. In addition to the eight Arctic countries, the

Arctic Council also includes six permanent participants representing different indigenous communities, such as the Sami Council or the Inuit Circumpolar Council.⁴⁰ In addition, the Arctic Council also consists of a list of observers, ranging from non-Arctic States such as France to international organisations such as the United Nations Development Programme (UNDP) and non-governmental organisations such as the University of the Arctic (UArctic).⁴¹ That said, the Arctic Council arguably lacks the specific knowledge of space systems and space law that UNCOPUOS has. Nevertheless, this article argues that, given the involvement of various participants and observers, especially indigenous participants, and the decision-making power held by the directly concerned States, creating a working group within the Arctic Council is a better choice than one within UNCOPUOS.

³⁷ "Canada's Arctic Foreign Policy" (2024), online: <www.international.gc.ca/gac-amc/publications/transparency-transparence/arctic-arctique/arctic-policy-politique-arctique.aspx?lang=eng>.

³⁸ Andrew Charter, "Explaining Non-Arctic States in the Arctic Council" (2016) 40:3 Strategic Analysis 173.

³⁹ "THE HISTORY OF THE ARCTIC COUNCIL" (2025), online: <arctic-council.org/about/timeline/>.

⁴⁰ "PERMANENT PARTICIPANTS" (2025), online: <arctic-council.org/about/permanent-participants/>; see also list of Arctic States, "ARCTIC STATES" (2025), online: <arctic-council.org/about/states/>.

⁴¹ "ARCTIC COUNCIL OBSERVERS" (2025), online: <arctic-council.org/about/observers/>.

The fact that the Arctic Council discusses and potentially regulates issues that generally fall within the competence of another body when they specifically relate to the Arctic is nothing new. One example is the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic,⁴² which examined the applicability of existing search and rescue regulations in the Arctic and frequently references the work of the International Civil Aviation Organisation and the International Maritime Organisation, the two international bodies that have taken on this responsibility.⁴³

that the question of whether space activities affecting the Arctic require special consideration should be debated at the international level within the Arctic Council.

Conclusion

As such, it can be concluded that there is a disconnect between the space laws we are currently seeing and the interests of the Arctic. This article shows that, while the Nordic countries attach great importance to the development of Arctic space capabilities, current space laws do not reflect this. The article, therefore, argues

⁴² *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic*, 2011, online: <oaarchive.arctic-council.org/items/9c343a3f-cc4b-4e75-bfd3-4b318137f8a2>.

⁴³ Arctic Search and Rescue Convention, SAR regulation in other areas falls almost exclusively internationally under ICAO and the IMO. ICAO, *Annex 12: Search And Rescue*, 9th ed (2024), online: <store.icao.int/en/annex-12-search-and-rescue>; IMO, “Search and Rescue” (accessed 20 October 2025), online: <www.imo.org/en/ourwork/safety/pages/searchandrescue-default.aspx>. See also the IAMSAR Volume I-III, “IAMSAR Manual” (accessed 20 October 2025), online: <www.imo.org/en/ourwork/safety/pages/iamsarmanual.aspx>.