Greenland:
Security Perspectives

Jørgen Taagholt
Jens Claus Hansen

translated by Daniel Lufkin

The Atlantic Treaty Association was established in 1950 as a group of former Opposition Members and politicians from parties backing NATO membership: Social Democrats, Conservative People's Party and the Left Party. The goal of the Atlantic Treaty Association is to foster understanding of Danish membership in NATO and to advocate political, economic and cultural cooperation among the member nations. Primary emphasis in the activities of the Atlantic Treaty Association is on:

- Cooperation with the Baltic states and the Central and Eastern European nations
- Activities with young people interested in Danish security policy
- Seminars and study tours for teachers from high schools and other educational institutions
- Publication of timely articles.

In informational and educational activities, we emphasize:

- European security—including the expansion of the EU in depth and breadth;
- The role of the United States in European security policy;
- The work of NATO and the EU—looking into the future.

The Atlantic Treaty Association is a private, voluntary organization whose work is financed from public and private funds.

Greenland:
Security Perspectives

Jørgen Taagholt
Jens Claus Hansen

translated by Daniel Lufkin

Translated from the Danish by Daniel Lufkin.

This book may be cited as:

Taagholt, Jørgen, and Hansen, Jens Claus. 2001. *Greenland: Security Perspectives*. Trans. Daniel Lufkin. Fairbanks, Alaska: Arctic Research Consortium of the United States.

This report is published by ARCUS with funding provided by the National Science Foundation (NSF) Arctic Social Sciences Program under cooperative agreement OPP-9727899. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF.

ARCUS, 3535 College Road, Suite 101, Fairbanks, Alaska, USA
99709 • 907/474-1600 • fax 907/474-1604 •
arcus@arcus.org • www.arcus.org

Table of Contents

Foreword

Introduction

Following the end of the Cold War, Greenland has played a limited role in global security policy. Nevertheless, an intensive debate has taken place in the Danish media about Greenland's role in the Cold War, with a significant polarization of opinion concerning the American presence in Greenland. This debate and the discussion about openness in the existing sources on the subject gave rise to the preparation of a 1997 report from the nongovernmental Danish Institute of International Affairs, *Greenland During the Cold War,* on U.S. overflights of Greenland with atomic weapons and the role of Thule Air Base during the period from 1945 to 1968.

Based upon *Greenland and the Polar Region* (H.C. Bach and Jørgen Taagholt, 1982) and *Greenland During the Cold War* (Danish Foreign Policy Institute, 1997) the Danish Atlantic Treaty Association took steps to prepare a study under the Danish title *Grønland i et Sikkerhedspolitisk Perspektiv (Greenland in a Security Policy Perspective)* for a broader readership among those who are interested in security policy as it pertains to Greenland. Emphasis was placed upon two topics: Greenland's role during the Cold War and the future security policy implications of Greenland. The status of the Danish defense role in Greenland is considered only to a limited extent.

This book is an English translation of that study, with modifications by the authors. The Danish study appeared as part of the Danish Atlantic Treaty Association's series *Den Nye Sikkerhed (The New Security).*

Outline

A treatment of Greenland from the security policy perspective falls naturally in a chronological arrangement, beginning with a description of the circumstances that have characterized the evolution of security policy in Greenland.

The period before World War II up until the Greenland treaty of 1941 is only of limited interest since Greenland had no geopolitical significance.

The period during World War II and the beginning of the Cold War at the end of the 1940s through the Greenland agreement of 1951 marks a decisive shift in Danish security policy from neutrality to alliance, a shift that in many ways characterizes the situation in Greenland.

During the first phase of the Cold War through 1968, the security policy situation was locked into East-West antagonism with its well defined security policy balances. During this period Danish security policy was characterized by a certain reticence in its dealings with American involvement in the Greenland area.

The 1970s saw increasing detente and cooperation between East and West. In contrast, the 1980s—which we might call Cold War II—saw the final arms race between the U.S. and the Soviet Union, the fall of the Berlin Wall, and the final end of the Cold War.

This last period deals with the time after the Cold War and the security policy considerations that are significant for Greenland in the long haul.

Documentation and Sources

The publicly available material dealing with security policy in Greenland used in the preparation of this publication consisted of the following:

Dansk sikkerhedspolitik gennem tyve år [Twenty Years of Danish Security Policy], Foreign Ministry Grey Book, 1969.

Problemer omkring dansk sikkerhedspolitik [Problems Concerning Danish Security Policy], The Seidenfaden Report, 1970.

Studier i dansk udenrigspolitik [Studies in Danish Foreign Policy], N. Amstrup, I. Faurby, 1978.

Flådestrategier og nordisk sikkerhedspolitik [Naval Strategies and Nordic Security Policy], Security and Disarmament Policy Committee, 1986.

Grønland i global sikkerhedspolitik [Greenland in Global Security Policy], N. Petersen, Security and Disarmament Policy Committee, 1992.

Allieret med forbehold. Danmark, NATO og Den Kolde Krig [Allied, with Reservations. Denmark, NATO and the Cold War], P. Villaume, 1995.

I kongens navn [In the Name of the King], Henrik Kauffmann in Danish Diplomacy 1919–1958, B. Lidegaard, 1996.
Grønland under Den Kolde Krig. Dansk og amerikansk sikkerhedspolotik 1945–1968 [Greenland During the Cold War. Danish and American Security Policy 1945–1968], Danish Institute of International Affairs, 1997.

---

1. "The DUPI Report" (see bibliography), 1997, pp. 15–16, p. 38.

Evolution of the Concept of Security

General

The following is a short review by way of introduction to the evolution of the concept of security with emphasis on the formulation of the broad security policies that have characterized Danish security policy since the end of the 1980s.

Trends in Danish Security Policy

Danish security policy changed during the 1970s and 1980s as a reaction to changes in security policy values, changes in the cast of the people involved in security policy, and changes in the process by which security policy is formulated. In addition, we must consider the roles played by the individual Danish political parties within the political process.

Security policy underwent simultaneous politicalization and polarization. The politicalization brought about an increased interest in security policy by the public; security policy therefore became a significant part of total national policy, that is, a part of the political play for power and influence. The polarization of security policy brought about an increase in the distance between the attitudes of the individual parties.

Together these conditions brought about changes in the way security policy is formulated.[1]

Deepening the Concept of Security Levels

In its traditional form, the concept of security is closely tied to the national state with its emphasis on defense against military threats in order to secure national survival.

In this respect, security policy can be defined as "a comprehensive designation for the political activities that a primary actor in the inter-

national system performs for the purpose of being able to realize its goals in those situations in which the state is placed under a threat from other actors in the international system."[2]

Erik Beukel has formulated the goals of Danish security policy in the following way: "the securing of the nation's continued existence and territorial integrity, . . . maintenance of national sovereignty, . . . achievement of a certain degree of autonomy or national freedom of action relative to its surroundings."[3]

However, levels other than the national state can be involved in the concept of security: the individual level, the regional level, and the international level.[4]

The following levels are generally recognized in international policy:

- **The international system:** The world
- **The international subsystem:** For example, ASEAN (Association of Southeast Asian Nations) and OECD (Organization for Economic Cooperation and Development)
- **Entities:** States, nations, and transnational firms
- **Subunits:** Bureaucracies and lobbyists
- **Individuals**

In setting the goals for Danish defense after the Cold War, emphasis was placed on the use of more levels than the traditional national state level.

Under the 1993 legislation on the goals, tasks, and organization of Danish defense, the aim of defense is to:

- Prevent conflicts and wars
- Maintain Denmark's sovereignty and ensure the continued existence and integrity of the nation
- Promote peaceful furtherance of human rights throughout the world

The general goals express the broadened concept of security on different levels. Prevention of conflicts and war refers to the global level. Maintenance of national existence refers to the nation state while promoting peaceful furtherance of human rights refers to the individual. This enumeration implies a priority to the global and individual levels; it is assumed that the existence and integrity of the national state are not threatened.

Broadening the Scope of the Concept of Security Sectors

This softening in the interpretation of security policy toward a broader concept of security intensified during the detente of the '70s. The softer, broader concept of security soon came to include the environment, human rights, conflicts between rich and poor, natural catastrophes, and the utilization of resources.

During the 1980s—during Cold War II—the harder interpretation of security (the balance between the military capacities of the superpowers) once again became dominant, while the softer concept of security moved into the background—although it did not disappear.

During the 1990s, the boundaries of soft security were enlarged even beyond those of the 1970s to include problems of identity, cross-boundary pollution, and criminality as well as refugee problems.

Based upon these broad considerations, we can define a security complex in the following way:

> A security complex is defined as a set of units whose major processes of securitization, desecuritization or both are so interlocked that their security problems cannot reasonably be analyzed or resolved apart from one another.[5]

It is now not only the state (levels) and the political and military aspects (sectors) that are involved. Just as a deepening of the concept by levels is taking place, there is now a broadening of the sectors involved, including the economic, social, and environmental aspects.

Security can now be divided into the following sectors:

- The military sector: Relationships involving the interplay between the offensive and defensive capacities of states and their perception of each other's intentions.
- The political sector: The state's capability of guiding and maintaining stability with respect to the maintenance of legitimacy.
- The economic sector: The state's access to resources, markets, and financing that makes it possible for the state to attain power and maintain an acceptable level of welfare.
- The social sector: The preservation of language within acceptable bounds, culture, religion, and national identity.

- The environmental sector: The maintenance of the biosphere as the system upon which human activity depends.

The transition from hard to soft security also characterizes events in Greenland. Hard security dominated from the beginning of World War II through the end of the Cold War, during which period several American installations in Greenland were established. Soft security gradually came into the picture as Greenland's significance to military strategy weakened.

Greenland security policy—beyond strategic location and military relationships—principally concentrates upon the environment, natural resources, and human concerns. In the environmental area, Greenland plays an important role partly because knowledge of meteorological conditions in Greenland have great practical importance for weather forecasting in Europe and partly because the Inland Ice contains frozen information about the environment and climatic conditions for thousands of years. With regard to resources, there is a possibility of utilizing strategic resources in Greenland and on the continental shelf. Information on these conditions can have decisive importance for setting up international rules on pollution and environmental protection. Research in Greenland therefore has a security policy dimension. Finally the human concerns—concerns for the survival of Greenland culture—play an important role in the consciousness of Greenland's people.

---

1. The Battle for Security, *I. Faurby, et al., 1986, p. 14.*
2. The Battle for Security, *pp. 11–12. Definition used by the Swedish researcher Nils Andræn.*
3. *"Security policy" was first used as a phrase in Denmark at the end of the 1960s; previously one spoke of foreign policy and defense policy.* Allied With Reservations, *P. Villaume, p. 25.*
4. *"Security: A New Framework for Analysis," B. Buzan, O. Wæver, J. de Wilde, 1997, p. 5.*
5. *"Security," B. Buzan, O. Wæver, J. de Wilde, 1997, p. 6, 201.*

Greenland's Strategic Position

Geostrategic Situation

Greenland is the world's largest island. It spans more than 24 degrees of latitude—2670 kilometers from north to south—and 60 degrees of longitude (at its broadest)—1200 kilometers from east to west. It covers a land area of 2,186,000 square kilometers, about 50 times the size of Denmark, with a total of about 56,000 inhabitants. The Inland Ice constitutes about 80% of the total area. There are ice-free land areas along the coasts, including southwest Greenland from Cape Farvel to Upernavik, the Thule area, uninhabited Peary Land, northeast Greenland areas north of Scoresbysund, and the Ammassalik District.

The seas around Greenland can be divided naturally into the following regions: (1) the Arctic Ocean beyond northern Greenland, (2) the Greenland Sea and Strait of Denmark off the east coast and (3) Davis Strait, Baffin Bay, and the northern straits—collectively called the Nares Straits—northwest of Greenland. The seas of the southeast and west coasts, because of their relatively warm currents, have a favorable effect on the coastal climates and the economy of the region. The remainder of Greenland is difficult to access and is nearly uninhabited.

Off the coast of southern Greenland lies Davis Strait with a number of fishing banks at depths of 50–100 meters. Beyond the banks of southwest Greenland, the seafloor drops steeply down to 300 meters in the southern part of Davis Strait. Toward the north, the most northerly bank—Great Halibut Bank—becomes a ridge at 700 meters that extends toward Canada, dividing the bottom of Davis Strait from the more than 2000-meter basin of Baffin Bay.

The climate of the North Atlantic and therefore the climate of Europe is determined by the interaction between the cold polar air from the Arctic Ocean, the dry air masses from Siberia, and the warm moist air from the Atlantic. The temperature differences between the coastal regions and the Inland Ice, under the right weather conditions,

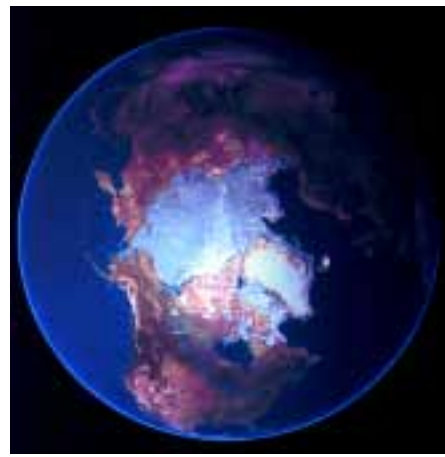
can produce the so-called "phase" winds with strengths comparable to a hurricane.

Greenland's continental shelf is relatively narrow off Peary Land. Off east Greenland it is broad and clearly differentiated from the continental shelves of Iceland and Spitzbergen. The west Greenland continental shelf is also separate from the Canadian shelf. The continental shelf areas north and northeast of Greenland have not yet been explored.

Military Strategic Situation

It was during World War II that Greenland first came into serious consideration in great-power warfare. Its strategic location meant—in the threatening security situation leading up to World War II—that Greenland was involved in the American sphere of security. Greenland lies close to the North American continent, and its southern part lies nearly half way on the direct air route from the United States to Western Europe, while its northerly part similarly lies approximately half way on the direct air route across the polar regions to the former Soviet Union. Technological developments during the subsequent years presented various possibilities for the defense of the American continent, a fact that came to characterize the course of American strategy.

After World War II, the United States at first depended upon a strategy (the perimeter strategy) that assumes a retaliatory attack from bases along the boundary of the Soviet Union, with the bases in southern Greenland, particularly Narsarsuaq, serving as stepping stones between the United States and Great Britain. The same stepping-stone concept was also used during World War II in maintaining lines of communication across the Atlantic. With the development of intercontinental aircraft, the United States later shifted to a polar strategy in which



Greenland's strategic location between the United States and Russia.

the deterrent forces are located at bases in the U.S. or at advanced Arctic locations in order to have the shortest distance between the U.S. and the Soviet Union—across the Arctic Ocean.[1]

Data from Greenland forms the basis for forecasting weather conditions in the North Atlantic and Europe, which is vital for shipping and air traffic across the North Atlantic.

Greenland is also an area that contains important strategic resources, resources that will eventually be exploited through the use of modern technology.

---

1. *The first concepts of the polar strategy were developed in 1946–1947 in the U.S. Air Force, while the USAF was still organized under the Army. For technological and economic reasons, such a strategy was not practical. The strategy first became a definite goal toward the end of 1950.*

Greenland's History

Greenland first became associated with the Scandinavian region with the colonization of southwest Greenland by the Northmen about 1000 years ago. The Northmen survived for 400–500 years as farmers and sheep raisers. There are still today clear traces of the Northmen's farms, churches, and dwellings.

During the 1400s, conditions became less favorable for the Northmen's domestic animals. Contact between Scandinavia and Greenland gradually became less frequent and new waves of Eskimos came from Canada to Greenland; the changes in climatic conditions brought more favorable conditions for the Eskimo hunters.

Around 1420–1440, the Dane Claudius Clavus drew the first map showing the presence of Greenland or Engroenelant. Greenland appeared on the world map with Martin Waldseemüller's map of 1507, but not until Gerardus Mercator's map in the Mercator projection of 1569 did Greenland appear in approximately the correct location and size.[1]

In the 1500s, various Portuguese, German, English, and Danish expeditions sailed the waters east of Greenland, but not until the Englishman John Davis's expedition in 1585–1587 was contact established between the Greenlanders in west Greenland and Europeans.

In the summers of 1605–1607, King Christian IV of Denmark sent expeditions to west Greenland. For the first time Greenlanders came to Copenhagen when the Danish expedition brought several back as proof of their contact with the local inhabitants.

After the Europeans exterminated most of the whales in the North Atlantic during the 1600s in their search for whale oil for lighting, European whale hunting increased significantly in west Greenland waters. By the end of the 1600s and into the 1700s, the population of Greenland had continually more frequent contact with European whalers, primarily from Holland and Denmark.

In 1721, the Greenlanders experienced the activities of the Norwegian missionary Hans Egede[2] in the area around Nuuk, an activity that was followed by the establishment of a series of missions and trading posts under Danish administration in west Greenland. A Danish mili-

tary unit was stationed in Greenland during the period 1728–1731.[3] Even under Danish administration, the original hunter culture was maintained and Greenlanders lived largely isolated from the rest of the world.

In 1732, the Greenland Trading Company was established, which came to have pervasive influence on the living conditions of the Greenlanders. Like Hans Egede, some of the company's representatives carried out exploring expeditions.

In the period 1806–1814, German geologist Carl Ludwig Giesecke collected information on minerals, botany, and climatic conditions from Upernavik in the northwest to southeast Greenland. Among other things, he discovered the occurrence of cryolite at Ivigtut.

During the first half of the 1800s, expeditions were sent out into the North Atlantic region to search for the Northwest Passage, a new way to the riches of the Orient. With more modest goals, a Danish expedition under Wilhelm August Graah mapped the region of southeast Greenland in 1828–1831. French and German expeditions gave their names to the east Greenland coast from the rugged Blosville Coast to the high arctic Store Koldewey Island.

Increased foreign exploration in the Greenland region prompted the Danish Interior Ministry to establish a Commission for Scientific Research in Greenland in 1878, partly in order to ensure Danish control over foreign research activity and partly to foster a more systematic exploration of Greenland.

The many expeditions in the far north fueled interest in using north Greenland as a jumping-off point for expeditions to the North Pole itself. Robert Peary's activity in Thule district helped to increase Danish interest in the area.

Knud Rasmussen from Ilulissat visited northwest Greenland for the first time with the Danish Literary Expedition in 1903–1904. The Greenland Board of Missions founded a Danish mission station at the settlement of Umanaq in 1909. Here Knud Rasmussen founded a private trading post in 1910, giving it the name Thule—the Greek name for the farthest corner of the world.

---

1. *"The Early Exploration of Greenland" by Jørgen Taagholt,* Earth Sciences History, *10/2: 1991, p. 250.*

2. *Norway was a part of the Kingdom of Denmark until 1814.*

3. *"Forsvaret og forskningen i Grønland" [Defense and Research in Greenland], Jørgen Taagholt,* Forskning i Grønland, Tusaat [Research in Greenland], *2/1991, p. 13.*

Greenland Before World War II

American Interests

The U.S. has presumably had a foreign policy interest in the Greenland area since the middle of the previous century. The secretary of state in the late 1860s, William Seward, argued for American purchase of Greenland and Iceland since that would give the U.S. influence in the North Atlantic in the same way that the purchase of Alaska in 1867 bought influence in the North Pacific. United States policy has been shaped by the Monroe Doctrine,[1] in which the U.S. actually reserves the right to seek hegemony over the American continents and which was applied in connection with both Denmark's relinquishing the Virgin Islands and with recognition of Danish sovereignty over Greenland.

As a condition for the sale of the Virgin Islands in 1916–1917, Denmark demanded U.S. acceptance of Danish sovereignty over all of Greenland. On August 4, 1916, the American government declared that it would not oppose extension of the political and economic interests of the Danish government.

Robert Lansing, the American secretary of state, wanted a reduction in the Danish demands. The American polar explorer Robert Peary made the matter public when he announced that it was his view that the U.S. should reject all claims in Greenland, which in his opinion belonged to the United States. He also maintained—backed by the Monroe Doctrine—that an American occupation of Greenland would eliminate future security problems in the region since there would be a requirement for a base in south Greenland.[2]

Danish Isolation Policy

Denmark subsequently followed a strict policy of isolation, and with its out-of-the-way location Greenland remained relatively far outside the spheres of interest of the great powers. The primary goal of the security policy was to maintain Danish sovereignty over Greenland.

Around 1920, Denmark succeeded in getting a number of countries to issue declarations concerning Denmark's right to sovereignty in Greenland similar to the one the U.S. had previously issued. Since Great Britain wanted a right of first refusal in the event Greenland should ever be sold, the U.S. government announced "that it was not agreeable to the recognition of any third-party power's purchase rights to Danish interests in Greenland because of the importance of its geographical location."[3] This reference to a "third-party power" could have indicated the desire to limit both European and Canadian influence in Greenland in accordance with the Monroe Doctrine.

In 1929, the East Greenland hunting company Nanok was formed, which involved disagreements between Danish and Norwegian interests. Norwegian hunters had established themselves in 1906 in uninhabited northeast Greenland. In June 1930, Norwegian hunters occupied parts of east Greenland between 71° 30' and 75° 40' north latitude. The Norwegian government supported the occupation in a note of July 10, 1931. Denmark took the case to the International Court of Justice in The Hague, which led the Norwegian hunters to occupy the region of east Greenland from 60° to 65° north.[4]

This conflict was not settled by the Court in The Hague until April 5, 1933, when it recognized Danish sovereignty over all of Greenland.[5]

In summary, one can say that before World War II, Greenland had no important strategic significance, but there were regional interests in the area that could give rise to political disagreements.

---

1. *Doctrine formulated in 1823 by President James Monroe. The U.S. opposed intervention by European nations to change power relationships in the Western Hemisphere. This should be viewed against the background of Russian expansion on the American West Coast and against the fear of European intervention in South America in order to re-establish the former Spanish republics. "The Monroe Doctrine," A. Rappaport,* American Problem Studies, *R. E. Krieger Pub., Huntington NY, 1976, pp. 11–22.*

2. *"Thule Air Base" by Major Paul E. Ancker,* Tidsskrift for Søvæsen [Naval Affairs Magazine], *special issue distributed by Søløjtnantselskabet [Society of Danish Naval Lieutenants], November-December 1997, Vol. 148, pp. 451–452.*

3. *Ibid. p. 453.*

4. *"Kampen om Erik Raudes Land" [The Battle for Erik the Red's Land], Ida Blom, Pressgruppepolitikk i grønlandsspørgsmålet 1921–1931 [Press-group Politics in the Greenland Question 1921–1931], Gyldendal, Oslo, 1973, pp. 47–56.*

5. *The concept of sovereignty includes, beyond legal independence, a body of duties with reference to international treaties. A nation exercises sovereignty over an area by exercising the rights and duties the nation has with respect to international law. In Greenland, sovereignty is maintained by guarding the territory and repelling intrusions.*

Greenland During World War II

General

The politically unstable situation in Europe at the end of the 1930s prompted the Greenland administration to send up extra supplies to Greenland in the spring and fall of 1939. It was feared that shipping connections between Denmark and Greenland could be temporarily interrupted because of the tense situation in Europe. District Governor Aksel Svane in Godthåb headed the Danish administration in the South Greenland district and District Governor Eske Brun in Godhavn was responsible for the North Greenland district. The Administration Act of 1925 gave a governor full authority to make all provisions necessary if connection between his district and Denmark should be interrupted. The two district governors, Aksel Svane and Eske Brun, therefore had the formal basis already in place to act as the representatives of the Danish state in Greenland.

The German Occupation

When Germany occupied Denmark on April 9, 1940, the Danish ambassador in Washington, Henrik Kauffmann, took the position that he—and not the Danish government—represented Danish interests in North America.

After Kauffmann's appeal to the American government on April 9, 1940, the U.S. announced a hands-off policy on April 12, 1940, in which reference is made to the earlier declarations of 1916 and 1920 concerning Danish sovereignty in Greenland.

As early as April 25, 1940, Kauffmann established a Greenland Commission to coordinate purchase and shipment of vital goods to Greenland as well as the sale of Greenland products.

After the announcement of the German occupation of Denmark, the two District Councils in Greenland decided, at a joint meeting on May 3, 1940, that the two district governors could make all necessary

decisions required by circumstances. A resolution was adopted in which the councils, in the name of the Greenlandic people, expressed hope that the United States would remember the exposed position in which Greenland found itself after the German occupation. At the same time the councils voted to hold joint meetings every other year as long as the situation required it. The district governors set up a unified administration in Godthåb that also included the Thule District and east Greenland. It was further decided that Eske Brun should travel to the United States with a delegation.

Before the war, a Canadian aluminum company had bought a portion of the cryolite production, and since aluminum was sure to become a desirable commodity during the war, Canada and England considered in April 1940 an occupation of Greenland to assure a continued supply of cryolite. However, the American government did not want a Canadian engagement in Greenland and decided in May 1940 to send ships from the U.S. Coast Guard to Greenland for inspection and transportation duty. American and Canadian consulates were established in Greenland. In the fall of 1940, the U.S. Army and Coast

Narsarsuaq, winter picture, 1961. Photo: Jørgen Taagholt.

Guard cooperated in aerial reconnaissance of all of southwest Greenland.

After the first winter of the war, District Governor Aksel Svane traveled to the U.S., where he remained during the rest of the war while District Governor Eske Brun took over administrative duties in Godthåb, including the protection of Greenland interests in the cryolite quarry in Ivigtut.

Germany carried out reconnaissance flights over east Greenland during February and March 1941. At the same time there were intelligence reports that Germany was preparing to station a squadron of long-range aircraft on the east coast of Greenland, so there was apprehension about a military occupation.

In accordance with agreements reached between Churchill and Roosevelt, the Lend-Lease Act came into effect on March 11, 1941. This authorized the American president to loan and lease American war materiel to Britain, among other countries.

As the critical situation continued, Germany declared Greenland waters to be a war zone in March 1941, in an attempt to break the lines of communication to England across the North Atlantic.

Talks were begun between the American Department of State and Ambassador Kauffmann on the establishment of bases and other support facilities in Greenland.

The Greenland Treaty of 1941

On April 9, 1941, Ambassador Kauffmann signed in Washington the Greenland Treaty: "The Agreement Relating to the Defense of Greenland." While recognizing Danish sovereignty over Greenland the treaty gave the U.S. the right to establish and operate defense areas or military bases on Greenland.

The district governors of Greenland, who had not been involved in the treaty negotiations, accepted the treaty under the circumstances. The Danish government, on the other hand, declared itself "not bound" by the treaty and fired Ambassador Kauffmann. Erik Scavenius, the foreign minister at the time, declared that Kauffmann had exceeded his authority. Nevertheless, Kauffmann stayed at work—with an understanding with the American government—and enjoyed great recognition, which was significant for Greenland during the war years.

The treaty was put into effect in tandem with the American Havana Treaty of July 30, 1940, which politically paved the way for an effective American intervention in Greenland.[1]

In reality the treaty gave the U.S. the right to establish, maintain, and operate bases in the defense areas on Greenland that were required for "maintenance of the current status of Greenland," since the U.S. received full internal jurisdiction over the areas. The decisive point in the treaty was the establishment of a schedule for termination of the treaty under Article 10.[2] The treaty was to remain in effect until agreement was reached that the present threats against the American continent had disappeared. In other words, unanimity was required that the reasons for the treaty were no longer present before the treaty could be revised. In this way the U.S. retained a veto on the termination of the Greenland Treaty of 1941.[3]

On June 19, 1941—just a few months after the signing of the Greenland Treaty—a convoy of ships sailed from Brooklyn to "Bluie West One," Narsarsuaq, where a large base and airstrip were to be built. In order to provide safe alternates, "Bluie West Eight" was built at the bottom of Søndre Strømfjord and "Bluie East Two" at Ikateq near Ammassalik in east Greenland, locations so geographically dispersed that it was reasonably certain that satisfactory meteorological conditions for flight operations would exist at one of the bases at least.

In addition to the three air bases mentioned above, the following military installations were established in Greenland during the period 1941–1945:

Bluie East One: Prins Christianssund (radio and weather station)
Bluie East Three: Cape Tobin, Walrus Bay (radio and weather station)
Bluie East Four: Ella Ø Island (radio, weather, and patrol station)
Bluie East Five: Eskimonæs (radio and weather station)
Bluie West Two: Kipisako (alternate for Bluie West One)
Bluie West Four: Teague Field, Marraq Point (radio and weather station)
Bluie West Five: Egedesminde (radio and weather station)
Bluie West Six: Thule (radio and weather station)
Bluie West Seven: Grønnedal Naval Base (radio and weather station)
Bluie West Nine: Cruncher Island (defensive position for approaches to Søndre Strømfjord radio and weather station)[4]

A Danish sledge patrol (The Northeast Greenland Sledge Group) was established in northeast Greenland with support from the U.S. Coast Guard. This group later became the SIRIUS Sledge Patrol. District Governor Eske Brun arranged military status for the Northeast Greenland Sledge Group. It became involved in several episodes with the Germans in east Greenland. In August 1942, a German weather station was set up on Sabine Island. It was discovered by the sledge patrol in March 1943 and the station was destroyed by American aircraft in May 1943. In 1943, the Germans set up a weather station on Shannon Island that was attacked by the sledge patrol in June 1944.

However, it was not only the Germans who were interested in meteorological data from Greenland. The weather in the North Atlantic and on the fighting fronts in Europe could be forecast only with the aid of meteorological data from Greenland.[5] Weather information from Greenland was of vital importance to the Allies, particularly in connection with the choice of a date for the invasion of Normandy in June 1944.

Narsarsuaq came to play a vital role in "Operation Bolero," which involved ferrying aircraft from North America to Europe. In 1942, only one single type of airplane could fly from Newfoundland to Ireland without landing to refuel, while many thousands of aircraft flew via Narsarsuaq to Europe during the war years.

Narsarsuaq lies so close to Cape Farvel, the southern tip of Greenland, that the air base also served many of the aircraft that supported the ship convoys across the North Atlantic against attacks from German U-boats.

In order to support the American military personnel at Greenland during the war—in 1943 approximately 5,500 personnel—the Americans set up a large military hospital on the eastern side of Narsarsuaq, where patients also could be accommodated on their way back to the U.S. from the European front.

While Greenland had previously occupied a spot on the outskirts of the spheres of influence of the great powers, World War II thrust Greenland for the first time in its history into a strategically important situation as a stepping stone for airborne supplies from the U.S. to the European front and as a logistical support point for air cover for the ship convoys across the North Atlantic.

1. *The Havana Treaty provided that non-American areas that were in danger of being subjected to "exchange of territory or change in sovereignty" could be placed under provisional American administration. The object was to strengthen the defense of the American continent and to develop the areas affected economically, politically, and socially. "Det danske Gesandtskab i Washington 1940–1942 [Danish Diplomacy in Washington 1940–1942]", Finn Løkkegaard, p. 159.*
2. *"DUPI Report," Attachment pp. 13–23.*
3. *Nikolaj Petersen: G*rønland i global sikkerhedspolitik" [Greenland in Global Security Policy], *p. 12 and "DUPI Report," Attachment pp. 13–23.*
4. Thule Air Base, *P. E. Anker, p. 464*
5. *With encouragement from the United States, the Danish/Greenlandic Administration established about twenty-two new meteorological stations in the period 1940–1945, so that by the end of the war there were more than thirty stations in Greenland.*

Greenland at the Beginning of the Cold War

The Security Policy Situation in Greenland 1945–1949

After World War II, Denmark was determined to continue its traditional policy of Danish neutrality, which specifically implied the desire for America to remove itself from Greenland. Denmark even considered taking over and maintaining the American bases in Greenland, even though questions could be raised about Denmark's actual capability to carry such a burden.[1] In 1946, the Greenland Naval District was established with headquarters at Grønnedal and Nuuk/Godthåb to provide a more permanent Danish military presence in Greenland.[2] However, the United States expressed no desire to leave the bases, even though the basis for the Greenland Treaty of 1941 had apparently disappeared. In 1947, Denmark initiated negotiations for an eventual termination of the Greenland Treaty of 1941. Denmark feared that an agreement for American bases in Greenland would be met by corresponding Soviet demands for bases in other places, on the island of Bornholm in the Baltic Sea, for example. Denmark therefore wished to contribute to a more equal status between the United States and the Soviet Union as the Cold War began.

During the early years after the war, the United States had essentially the same concept of the strategic importance of Greenland as it did during World War II. Primarily Greenland would be used as a stepping stone—like Iceland and the Azores—for American sea and air routes across the Atlantic. A secondary consideration was to prevent the Soviet Union from securing control over Greenland as a prelude to an attack on the American continent. Control of Greenland could limit Soviet operations in the North Atlantic, including Soviet submarine activity in the North Atlantic area. The American reluctance to pull out of the defense areas can be understood as partly due to the state of tension that existed between the previously allied great powers

and partly from the perception that the arctic regions would become important for the defense of the United States in any possible global war, given the pace of technical developments.

At the end of 1948, the United States still retained two air bases (Narsarsuaq and Søndre Strømfjord), two direction-finder stations, and one depot station (Grønnedal). All of the American installations on the east coast of Greenland were closed.

The foreign policy considerations that resulted from the continued polarization between the superpowers and from the Soviet invasion of Czechoslovakia in March 1948 brought about a modification in Danish security policy away from one of neutrality and toward one of cooperative alliance. Against the background of the failed negotiations for a Scandinavian defense alliance at the end of the 1940s, Denmark opted for membership in NATO in 1949. In this way the question of Greenland could, in some contexts, be viewed within a more multilateral framework than had been the case before.

The Security Policy Situation in Greenland, 1949–1951

The defense of Greenland was planned within NATO by a special planning group for the North Atlantic—the Ocean Group—that, in addition to Denmark and the United States, included Belgium, the Netherlands, France, Iceland, Norway, Portugal, and Great Britain. The planning group encouraged Denmark and the United States, who under the plans would contribute the most to the collective defense efforts in Greenland, to establish an agreement concerning the necessary defense installations in Greenland.

The Danish position was still that it was possible for Denmark to take over all facilities in peacetime with a view toward their use by the other NATO countries in a wartime situation. The economic consequences of such a takeover would require contributions from other member nations. Denmark did not want the Greenland question discussed in the American-Canadian planning group, but rather in the Ocean Group in order to emphasize the multilateral aspects. It was important for Denmark to clarify the overall defense role of Greenland, and not only with regard to relationships with the Soviet Union. Furthermore, there were the beginnings of a tendency to couple the Greenland question to the defense of the southern part of Denmark.

The United States desired a continued military presence in Greenland and considered, among other things, the construction of a major base at Thule.[3] There were considerations of a change in top-level operational strategy with regard to the Soviet Union away from the perimeter strategy discussed earlier to a polar strategy, based on the longer range of the new bomber aircraft. Nevertheless, there was a certain amount of uncertainty in the American viewpoint with respect to the use of Greenland, an uncertainty which could be seen in the American evacuation of the base at Søndre Strømfjord in October 1950.

The Defense Treaty of 1951

The new Defense Treaty was signed in Copenhagen on April 27, 1951, to go into effect on June 8, 1951. Under Article 12 of the treaty, the Greenland Treaty of 1941 was terminated.

In contrast to the 1941 agreement, joint American-Danish defense areas were established with Danish and American liaison officers who would maintain contact with the respective Danish and American authorities. The opportunities for the Americans to establish defense areas in Greenland were not unlimited. The sovereignty question played a central role in the Danish viewpoint expressed during the negotiations on the treaty. It could not appear that Greenland had been exclusively transferred to American defense interests. The joint defense areas would be placed at the disposal of ships and aircraft from other NATO countries in connection with the defense of Greenland. The agreement gave the United States broad authority for installations within the base areas and nearly unlimited authority to overfly Greenland's territory under Articles 2 and 3 of the agreement.[4] The broad scope of these articles was later brought into the discussion on basing and overflight of nuclear weapons.[5]

The inhabitants of Greenland had not been involved in the negotiations, but Americans were to respect Danish regulations affecting the resident population and Greenland's internal administration and to avoid unnecessary contact with Greenlanders.[6]

---

1. *Denmark did take over a number of the American installations (primarily the weather stations) in the spring of 1949.*
2. *Danish Coast Guard units had operated in Greenland from April through October before the war.*

3. *An agreement in principle was reached within the United States Defense Staff in December 1950 to recommend the construction of a major air base at Thule.*
4. *The DUPI report, Attachment, pp. 141–153.*
5. *The DUPI report, p. 161.*
6. *Narsarsuaq was transferred to Denmark in 1958, which reduced the capability of Greenland for being used as a stepping stone.*

Greenland During Cold War I: 1951–1980

Denmark in NATO

During the years following Denmark's entry into the Atlantic Pact, Greenland was organizationally assigned to CINCWESTLANT, the Commander-in-Chief for the Western Atlantic under SACLANT, the Supreme Allied Commander for the Atlantic, with a Danish commander—Island Commander Greenland—responsible for the defense of Greenland. In time of war, Island Commander Greenland would be under the operational command of CINCWESTLANT. The Danish Greenland Command (GLK) was established on August 1, 1951, with headquarters at Grønnedal Naval Station.[1]

The critical problem for Denmark in Greenland was the limited military resources in the area. According to NATO document MC 36/1 on division of responsibilities, an "Island Commander" was responsible to the national authorities on matters of defense of the island. Denmark was to handle such tasks as monitoring of sea routes, search and rescue, and fisheries inspection with a limited number of ships and aircraft, along with the SIRIUS Sledge Patrol. These forces were essential to maintain sovereignty under the government's Greenland policy, but they played no role in the defense of Greenland.

Greenland in the Danish Commonwealth

Adoption of the revised Danish constitution of 1953 meant that fundamental changes took place in the legal status of Greenland when Greenland went from being a colony to being an integral part of Denmark. This furnished yet another motive for Denmark to maintain, in the context of international relations, that Greenland had the same status as any other part of Denmark. Nevertheless, change in the legal

status of Greenland did not change the security aspects of Denmark's Greenland policy, just as it did not change the government's right to decide questions of foreign policy and defense policy. Nevertheless, there was a certain amount of attention paid to the opinions and views of the Greenlanders.

Thule Air Base

The United States had a requirement for base facilities that would make it possible to carry out strategic bombing missions inside the Soviet Union with only one airborne refueling per mission. A strategic bombing mission in the Soviet Union could be accomplished with Thule as a base from which the strategic bomber could be supported by tanker aircraft. Thule Air Base therefore became a support point for the U.S. Strategic Air Command (SAC) Airborne Alert forces.[2]

From 1952 to 1955, Thule Air Base began activity as a support facility for B-36 bombers during training missions. Individual reconnaissance flights were also made from Thule. The B-36 was limited because it lacked the capability for airborne refueling.

In the period 1955–1959, B-47 medium bombers and KC-97 tankers, which together became strategic twins, were stationed at Thule. During this period, Thule functioned primarily as a base for tankers. Thule Air Base had a tank farm with a fuel capacity of approximately 100 million gallons.

In 1958, the more advanced KC-135 tanker was stationed at Thule, while the KC-97s were transferred to Søndre Strømfjord.

In 1957–1959, reconnaissance aircraft were stationed in Thule as a vital component of United States intelligence-gathering activities on the strategic opposition in the Soviet Union.[3]

To support SAC operations, Denmark established an emergency landing site and weather station, Station Nord, in northeast Greenland in 1952–1953. The runway could also function as an emergency alternate landing site for American strategic aircraft operating in the polar region. Between 1952 and 1972, no passenger aircraft made any emergency landings at the station. In a note of April 23, 1971, the U.S. informed Denmark that they wished to discontinue uncompensated routine air transportation of goods and fuel from Thule Air Base to Station Nord. The Danish government therefore decided to close the station in the

summer of 1972. In August 1975, Danish defense forces reopened Station Nord as a support point for the SIRIUS Sledge Patrol.[4]

The development of the B-52 Strato-Fortress bomber at the end of the 1950s reduced SAC's requirement for advanced bases and tankers, since the aircraft, because of their long range, were not dependent upon refueling to reach strategic targets inside the Soviet Union. Thule was used as a safety and emergency landing base for B-52 patrols in the

Thule Air Base. During the past decade a comprehensive effort to clean up and rehabilitate the area has taken place, particularly at North Mountain and Camp Tuto. In 1995–1997, this concentrated on the base itself, which has adapted to the much smaller staff that currently handles operations. More than 100 of the old barracks buildings from 1952 were totally demolished and the area rehabilitated. In the background is seen Mount Dundas, at the foot of which lay the polar Eskimo settlement of Umanaq. It was here that Knud Rasmussen established the Thule trading post, the official name of which was Dundas; it now carries the Greenlandic name Pituffik. Photo: Jørgen Taagholt.

Arctic. This new use of aircraft changed Thule Air Base along with Greenland's strategic significance.

Relocation of the Thule Population in 1953

The Danish government's chief representative in Greenland, District Governor P. H. Lundsteen, visited the Thule region in May 1951 along with representatives of the local population in order to get an impression of the consequences that the establishment of Thule Air Base had had on the hunter population. Hunting conditions at the old settlement (Umanaq) had deteriorated because of restrictions on the hunting area on Wolstenholme Fjord and because of noise and other environmental effects from the base. In addition, neither the Danes nor the Americans wanted the hunters to scavenge in the base dump, a degrading activity that could be disastrous to the hunting economy. On the Danish side there were also public health considerations behind a strong desire for clear separation between base personnel and the Greenlanders. Experience has shown that diseases that were not dangerous for Danes could touch off deadly epidemics among the Greenlanders. The Americans also wanted to establish an antiaircraft missile battery near Umanaq as part of the base defense system.

Reports were prepared in 1951 with a description of the suitability of various localities with respect to hunting conditions, water supply, and the suitability of the ground for building.

Based on the preliminary investigations of 1951, it was decided in 1953 to establish a new settlement approximately 130 kilometers north of Thule at Qaanaaq on the southern tip of Red Cliff Peninsula. The new settlement would house the hunter population from the old Umanaq settlement at Thule.

However, the new settlement was not completed by the time the hunters were relocated in the beginning of 1953. The hunters' families therefore had to spend the first few months living in tents in Qaanaaq.

There has been a broad-ranging debate about this forced relocation. In 1985, the Thule Municipality filed a claim with the Ministry for Greenland for compensation for the relocation. This prompted the Ministry of Justice to appoint a committee of Danish and Greenlandic members in 1987 entrusted to conduct "an impartial and thorough investigation of the circumstances surrounding the relocation of the people of Thule in 1953."

The people of Thule received new houses in compensation for the turf huts that they had to leave. On the other hand, the people had their hunting grounds restricted as an uncompensated loss. The Ministry for Greenland therefore presented a proposal for the reduction of the defense area to the Thule Municipality in the fall of 1985. After discussions between the Americans and the Danish government, the proposal was carried out in September 1986 and the defense area around Thule Air Base was reduced.[5]

In December 1994, a "Report on investigation of the circumstances surrounding the relocation of the population of Thule in 1953 from the current defense area to Qaanaaq" was issued. The committee's task was not to take a position on the claim for compensation but only to determine the factual circumstances surrounding the relocation of the Thule people. The report concluded that during the entire process the authorities had made efforts to include the local Hunters Council representing the local population in the decision-making process. The Greenland Home Rule government has accepted the report but an association representing many hunters has filed a claim for compensation against the Danish government for damages incurred during the relocation as well as for the loss of hunting areas.

Strategic Warning Systems

In order to protect the U.S. and Canada from surprise attack by strategic long-range aircraft, Canada and the U.S. began in 1954 to build a strategic Distant Early Warning System—the DEW line—with twenty-six radar stations from Point Lay in Alaska to Cape Dyer on Baffin Island in Canada. Based on a 1958 agreement between the U.S. and Denmark, four DEW line radar stations were built in Greenland in 1960. Named after Cape Dyer, DYE-1 was located south of Sisimiut/Holsteinborg, DYE-2 and DYE-3 on the Inland Ice (with DYE-3 at 2700 meters above sea level), and DYE-4 on Kulusuk Island near the settlement of Ammassalik.[6] These stations were not only early warning stations but also, together with stations on Iceland and the Faeroes, formed a vital link in NATO's radio communication chain between Europe and the U.S. In this connection, Søndre Strømfjord was given the task of being the support base for the DEW line and supported Thule only to a minor extent.

With the development of missile technology, at the end of the 1950s it became possible to launch intercontinental ballistic missiles from

land or from submarines, which gave the Americans a strategic warning problem.

In 1958, the Americans therefore began building a radar early warning station at Thule, the Ballistic Missile Early Warning System, BMEWS, which, together with similar but smaller stations in Alaska (Cape Clear) and England (Fylingdales), would make it possible to detect intercontinental missiles launched from the Soviet Union toward the North American continent at a range of approximately 5000 kilometers. BMEWS would give a minimum of fifteen minutes warning in case of a Soviet surprise attack. The purpose was to secure for SAC the capability to become airborne before their bases were destroyed and to prevent a missile attack on the U.S. intercontinental missile forces.

The data processing time was later reduced to one or two minutes by connecting to the MIDAS early warning satellite system. BMEWS was further enlarged with advanced, electronically controlled, phased

DYE station on the Inland Ice. DEW line radar station DYE-3, located on the Inland Ice about 2700 meters above sea level. The other three DYE stations in Greenland were located (a) south of Holsteinsborg/Sisimiut (DYE-1), (b) on the Inland Ice east of Søndre Strømfjord (DYE-2), and (c) on Kulusuk Island on the east coast near Ammassalik (DYE-4).

array radars which were placed in the Aleutians and the continental U.S. Thule thus came to play a central role in American strategic planning.

Danish Reservations to NATO Policies[7]

Denmark has had certain reservations to NATO policies that have continually been the object of discussion, including reservations that affect American activities in Greenland.

Basing policies. With the exception of the American forces in the defense areas in Greenland, stationed there under the provisions of the 1951 agreement, Allied forces may not be stationed on Danish territory in peacetime. Denmark voted in 1952–1953 not to accept a proposal to station approximately 150 American tactical aircraft in Denmark.[8]

Nuclear weapons policies. Since 1957 it has been Danish policy that "under prevailing conditions" no nuclear weapons are allowed on Danish territory, including Greenland and the Greenland airspace.[9] The Danish position is that this policy contributes to stability in Northern Europe and forms a part of the Nordic Balance. If one of the countries in Scandinavia were to obtain nuclear weapons, the balance would be destroyed.[10] Danish reservations against nuclear weapons were taken up for discussion in the Alliance during the NATO ministerial conference meeting in April 1960.

Guidelines for Allied Maneuver Activities

Denmark has expressed certain reservations with regard to Allied maneuver activities on Danish territory or with Danish participation. One reservation is that maneuvers taking place on Danish territory or in which Danish forces participate must be approved by Danish political authorities.

The Danish reservations—which in principle are still in effect—should primarily be viewed against the background of the balance in Danish policy between the United States and the Soviet Union since the Soviet Union has occasionally, but effectively, brought pressure to bear on Denmark in connection with basing policy and American operations in Greenland. These reservations were also a way of taking into account the pressure of opinion among the Danish people.

The H. C. Hansen Letter of 1957

On November 13, 1957, Danish Prime Minister H. C. Hansen received a letter from American Ambassador Val Peterson requesting clarification on whether the Danish government should be advised in the event that the United States were to place nuclear weapons in Greenland.[11] H. C. Hansen did not respond to the question directly but expressed agreement in a way that closely paralleled the American assumption. In a highly classified, personal and informal letter he said, among other things: "I have the impression that your government did not see any problems with this matter. . . ." And in the next sentence: "I do not believe that your remarks require any comments from my side."

The letter has since been the object of various interpretations in an attempt to clarify whether or not the Americans acted in good faith, since such stockpiling could be viewed as a violation of Danish nuclear weapons policy.

The Danish government's report to Parliament on June 29, 1995, stated that H. C. Hansen's letter "could very properly be viewed as an authorization that stockpiling of nuclear weapons in Thule could take place. . . . [T]he United States may well, given this background, have acted in good faith."

The Danish Institute of International Affairs concludes in the report that the American forces, beginning in 1958, introduced nuclear weapons that approximately matched those with which other American forces were equipped with in the U.S. and in other European countries. During the period of eight months beginning in February 1958, four aircraft bombs (nuclear or hydrogen bombs) plus fifteen non-nuclear components (for more bombs) were deployed to Thule. The nuclear components for the additional bombs would probably be brought in from the U.S. In 1957, antiaircraft defenses in Thule were supplemented by four missile batteries, each equipped with six launching ramps for Nike-Hercules missiles. During the period from December 1959 through 1965, forty-eight nuclear warheads were probably brought to Thule for these missiles. In addition, the fighter squadron at Thule was equipped with FALCON nuclear air-to-air missiles with nuclear warheads. Finally, there were no indications of the presence of nuclear weapons at Thule after the removal of the air defense installation in 1965.

The approach to the Danish government in November 1957 can be viewed against the background of the Soviet Union's launch of Sputnik in October 1957, signifying that the Soviet Union had intercontinental missiles, which the United States did not have at that time. The United States wanted to compensate for the apparent Soviet advantage in the strategic area by increasing its airborne readiness of strategic bomber aircraft, by accelerating development of intercontinental missiles, and by attempting to establish medium-range missiles in Europe, from which they could hit the Soviet Union.[12] A general nuclearization of American defense and NATO forces also took place at the end of the 1950s.

The Greenland Card

The Danish-American relationship was assymmetrical because the United States was the dominant power in the international system and Denmark was a small nation with relatively narrow interests, primarily associated with its immediate surroundings. During the Cold War, the United States' interests in Greenland were connected to its security interests, while Denmark's interests in Greenland were focused on a different level.

Denmark's agreement with the Americans in Greenland was used as a card that could be played when questions arose concerning Denmark's total contribution to NATO defense, with the contention that Danish concessions in Greenland should be offset by American concessions to Denmark. In 1949–1950, the Hedtoft administration requested special security guarantees for southern Denmark as compensation for a permanent American presence in Greenland. Continued American weapons aid during the 1950s, aid that otherwise would have been stopped when Denmark did not meet NATO's strength goals, could here be seen as compensation for the American bases in Greenland. After the H. C. Hansen letter in 1957, there was greater understanding of Denmark's NATO policy. A confidential Pentagon report to President Eisenhower that fall stated that the Danish government "has been very cooperative in allowing the United States quite a free hand in Greenland" within the framework of the 1951 agreement.[13]

Research Activities in Greenland

Open Skies. In 1957, the American government requested the Danish government's approval of the arctic portion of Greenland eventually being included in a proposal for such an inspection zone; this was accepted by the Danish government that same year.[14]

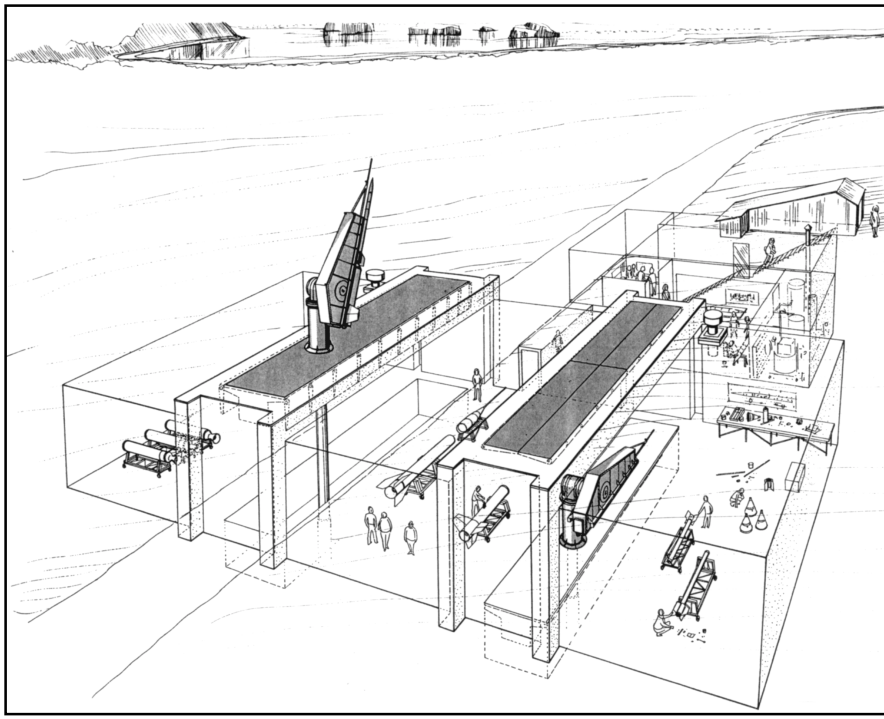
Camp Century. Based upon an American request in 1958 for permission to install a nuclear reactor on the Inland Ice, the diesel-electric generator at Camp Century was replaced in 1960—with Danish approval—with a small nuclear power plant (1.5 megawatts). The nuclear plant was removed after thirty-three months operation.

Iceworm. Around 1960, the Americans secretly considered—as a component of the balance of terror—to use the Inland Ice to cover launching ramps for up to 600 medium-range missiles with nuclear warheads. The missile batteries would be connected by a gigantic network of tunnels under the Inland Ice and went under the code name of ICEWORM. The project would require the building of several thousands of kilometers of tunnels under Greenland's Inland Ice to connect the many missile batteries with the American bases.

The detailed American investigation of the Inland Ice, including the establishment of experimental stations such as Camp Tuto and Camp Century, may be closely connected with Project ICEWORM. The American proposal at the end of the 1950s to build a road from Narsarsuaq up to and on the Inland Ice at Johan Dahl Land can probably be seen as part of Project ICEWORM. Project ICEWORM was never implemented, partly for geophysical reasons—the dynamic character of the Inland Ice—and partly on political grounds.

Overflights of Greenland

From 1958 through 1968, so-called Airborne Alert flights carrying nuclear weapons took place daily over Greenland. The agreement of 1951 gave the United States nearly unlimited overflight and landing rights in Greenland. However, no one had ever thought of flights with nuclear weapons at that time. In the beginning of the 1950s, American aircraft did not carry nuclear weapons during flights in peacetime and it was always the American Atomic Energy Commission that had physical control of nuclear weapons.[15]

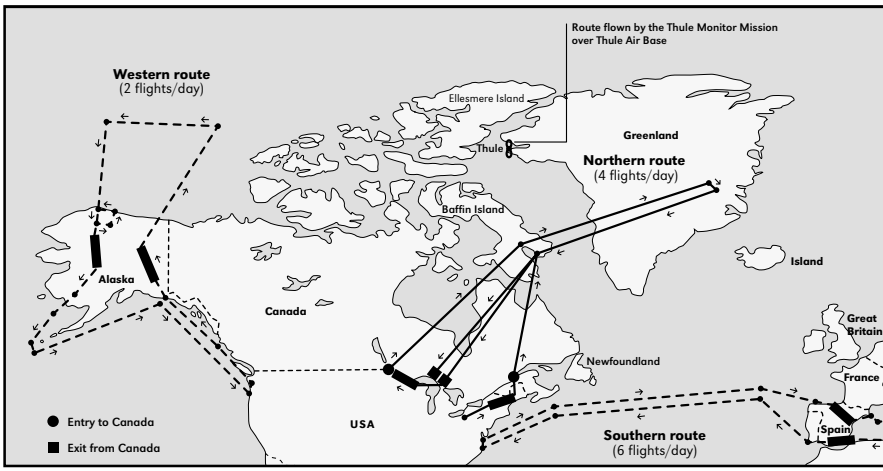


Drawing of missile batteries at Dundas (USAF). From 1958 to 1965, the U.S. Air Force maintained four Nike-Hercules missile batteries at Thule for defense of the base.

In 1961, the operations were supplemented with the so-called Thule Monitor Mission, in which a B-52 circled in the airspace over Thule with the purpose of assuring SAC's capability of contacting the BMEWS radar at Thule. The flights over Thule involved nuclear weapons so that they could be immediately ordered on offensive operations.

In the years between 1959 and 1968, exercises were conducted for security measures in connection with aircraft carrying nuclear weapons at the base (Broken Arrow exercises). In 1967, three American emergency landings involving nuclear weapon-carrying B-52 aircraft were recorded at Thule.

The Danish government was aware to a certain extent of the American overflights and emergency landings through its liaison officer at Thule, who reported monthly to the Ministry of Defense and Ministry of Foreign Affairs concerning American activities. In addition, Prime



Map of Airborne Alert routes for use by White House staff, 1966.

Minister J. O. Krag and a number of senior officials received briefings on the general overflight situation in Greenland at SAC headquarters in April 1966. However, there was no background for a separate Danish position on the matter even though the government was apparently willing to make a public defense of emergency landings by aircraft carrying nuclear weapons.[16]

The B-52 Accident

On January 21, 1968, fire broke out on board an American B-52 aircraft on the Thule Monitor Mission over Baffin Bay. The aircraft turned toward Thule, which was the nearest inhabited area, in order to improve the crew's chances of survival by parachute. The aircraft crashed on the ice a dozen kilometers west of Thule with four 1.1-megaton hydrogen bombs.

The crash resulted in a temporary political crisis in Danish-American relations.

The United States suspended Airborne Alert flights with nuclear weapons the day after the crash and canceled alert flights effective July 1, 1968.

The Danish Prime Minister issued the following explanation on January 22, 1968:

> It is known that in agreement with Government policies, there are no nuclear weapons within Danish territory. This also applies to Greenland and therefore overflight of Greenland by aircraft with nuclear bombs cannot take place. On the other hand it cannot be excluded that American aircraft may attempt to land in Greenland in an emergency situation.

The statement caused bitterness in Washington, evidenced by a note to Prime Minister Krag referring to the 1951 agreement, the H. C. Hansen letter, and a 1964 conversation in Greenland between Eske Brun, then a department head in the Greenland Ministry, and the then American ambassador. At the same time, the American government forwarded an overview concerning American nuclear activities in Greenland.

After consultations between the American and Danish governments, Prime Minister Krag could issue the following statement on January 29, 1968:

> With reference to the reports that have appeared concerning overflight of Greenland by aircraft with nuclear weapons, the Government has determined that there are no nuclear weapons in Greenland and that overflight of Greenland with nuclear weapons is not occurring.

In addition, a supplement to the 1951 agreement in the form of an exchange of notes between governments was signed on May 31, 1968, in which the United States assured Denmark that it would not stockpile nuclear weapons in Greenland or overfly Greenland with aircraft carrying nuclear weapons without the permission of the Danish government.

The 1968 crash marked a turning point in Danish ambiguity concerning nuclear weapons in Greenland. It now proved to be possible to combine opposite points of view—the alliance with United States vs. Danish public opinion—because the strategic situation had changed. The flights with nuclear weapons were no longer necessary and the land-based nuclear weapons for anti-aircraft defense had been pulled back in 1965. America's predominant interests in Greenland were now the early warning and communication installations, particularly the BMEWS radar.[17]

The Policy of Detente

The beginning of the 1970s saw a series of initiatives toward detente in the form of agreements and treaties between the American and the Soviet Union superpowers. Attempts were made to achieve approximate equality in strategic weapons systems, and various forms of political and economic cooperation were instituted.

The mutual recognition of superpower status and of legitimate global interests brought about by detente on the political and strategic levels unfortunately proved not to be stable in the long run. Soviet political behavior in connection with the developments in Vietnam and Cambodia, the Cuban intervention in the Angolan Civil War, military support to Ethiopia and, not least, the invasion of Afghanistan contributed to a gradual realization by the American administration that the United States was becoming continually weaker relative to the Soviet Union. Another contributing factor was that the Soviet Union—in the American view—embarked upon a massive rearmament program, particularly in nuclear weapons, with the modernization of its land-based intercontinental missiles, the deployment of SS-20 missiles, and an increase in the number of submarine-based missiles. There was also a buildup of conventional forces in the form of a major naval increase at the same time that a Soviet numerical military superiority was achieved in Europe. These developments in relations between the United States and the Soviet Union formed the background for a policy upon which the United States embarked in the 1980s.

Provisions for monitoring were an important part of the American-Soviet negotiations during the 1970s on the limitation of strategic weapons (SALT—Strategic Arms Limitation Talks). Promises were made from the Danish side concerning cooperation in the establishment of a seismic verification station in northeast Greenland to monitor and record any Soviet nuclear weapon tests in Siberia.

The Main Features of Security Policy 1951–1980

Denmark kept a low security policy profile relative to Greenland between 1951 and the beginning of the 1980s. This is attributable in part to limited public knowledge of and interest in Greenland's role in American strategy.

Through the end of the 1970s there was a broad consensus on security policy. A strong argument at that time was that the American bases in Greenland represented Denmark's most important contribution to NATO, forming a balance to Danish reservations concerning basing, nuclear weapons questions, or the nation's total contribution to the Alliance.

There was a correspondingly low level of interest in the security policy aspects of the debate concerning Greenland until the Home Rule Act of 1979.

---

1. *Danish Foreign Ministry Grey Book:* Dansk Sikkerhedspolitik gennem tyve år [Twenty Years of Danish Security Policy], *Vinten, 1969, pp. 83–90.*
2. Thule Air Base, *P. E. Ancker, p. 491.*
3. *DUPI Report, p. 360.*
4. *The sledge patrol maintains Denmark's sovereignty in eastern and northern Greenland.*
5. Beretning om flytning af Thulebefolkningen i 1953 [Report on relocation of the Thule population in 1953], *(The Ziegler Report), p. 54.*
6. *The DEW line lay outside the defense areas agreed to in 1951 treaty.*
7. Seidenfadenrapporten [The Seidenfaden Report], *p. 234.*
8. *Danish Foreign Ministry Grey Book:* Dansk Sikkerhedspolitik gennem tyve år [Twenty Years of Danish Security Policy], *pp. 113–127.*
9. *Prime Minister Kampmann announced in July 1961 that the conditions applying to nuclear weapons on Danish territory also included Greenland.* Militært Tidskrift *No. 3, 1997: Petersen, N., "Kernevåben i Grønland [Nuclear Weapons in Greenland]," p. 258.*
10. *The Nordic Balance included the following elements: Denmark's and Norway's membership in NATO, but without the presence of foreign bases or stationing nuclear weapons on Danish or Norwegian territory; Swedish neutrality and Finland's neutrality policy based on a treaty of friendship and assistance with the Soviet Union.*
11. *DUPI Report, pp. 277–280.*
12. *DUPI Report, p. 554.*
13. *P. Villaume: "Allieret med forbehold [Allied with Reservations]," p. 851.*
14. *P. Villaume: "Allieret med forbehold [Allied with Reservations]," p. 601.*
15. *I. Faurby: "Skelettet i skabet [The Skeleton in the Closet],"* Udenrigs *1. 1997, p. 39.*
16. *DUPI Report, pp. 398–399.*
17. *DUPI Report, p. 573.*

Greenland During Cold War II: 1980–1989

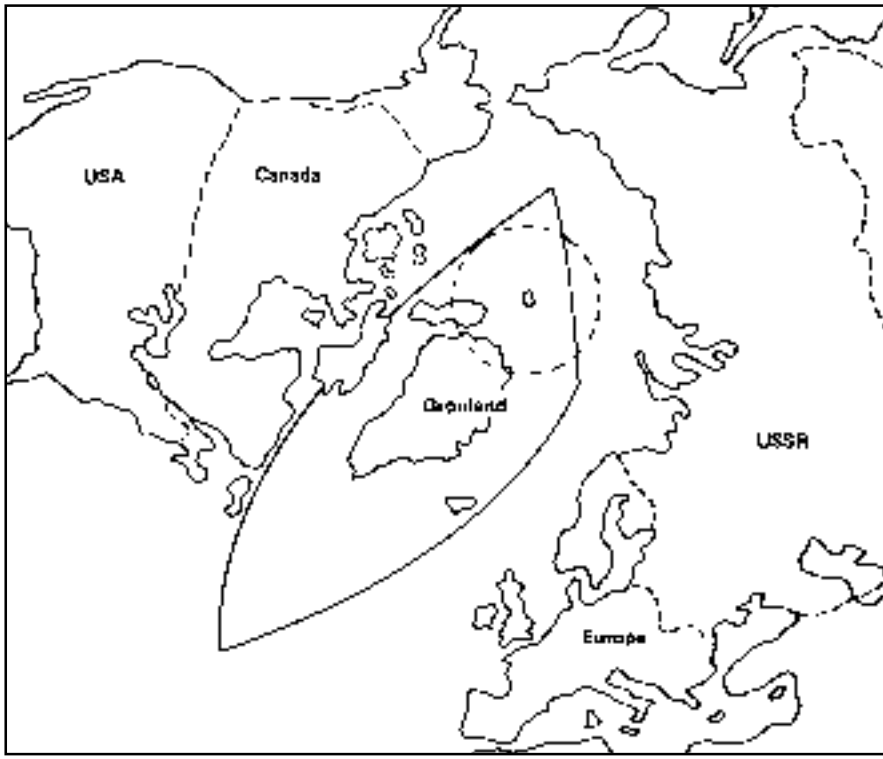
The Security Policy Situation in Greenland

The security policy situation in Greenland during the second Cold War was characterized by the following conditions. First, after the period of detente in the 1970s, the Cold War heated up, sharpening the antagonism between the two superpowers, the United States and the Soviet Union. This resulted in a revision of American strategies and higher priorities for resources for American defense, including the development of weapons technology. Second, Danish security policy became politicized and polarized, which shaped a different debate on security policy. Combined with the introduction of Home Rule for Greenland, this development in security policy acted to increase the sensitivity of the relationship between Denmark and Greenland.

The New American Strategy

Developments in American strategy included an increased interest in the ability of strategic forces to win a war and a more offensive naval strategy, which made the area bounded by a line from Greenland to Iceland to Great Britain and back to Greenland (the GIUK Gap) the primary operating area for the American fleet. This strategy was supported by the development of facilities for C3I (Command, Control, Communications, and Intelligence). Early warning functions received increased significance and were to a greater extent coupled with the American Strategic Defense Initiative (SDI). These developments fostered an increased interest in strengthening the strategic early warning system, including the installations in Greenland.

The maritime strategy considered the relationship with the Soviet Union to be a global conflict that was not associated with control of particular territories. The U.S. could therefore freely choose the battle-



The line drawn around Greenland shows the area from which Soviet submarines equipped with SSN-8 sea-launched ballistic missiles (range about 4100 nautical miles) could reach any target within NATO territory in North America and Western Europe. From Bach and Taagholt, 1982.

ground where the relative balance of power was most favorable. The goal was an offensive attack aimed at the defeat of the Soviet Navy and the eventual use of the U.S. Navy for direct exertion of force against the Soviet Union. The United States could threaten the Soviet Union far from those places where the Soviet Union might be expected to attack. The new American maritime strategy implied—assuming naval superiority—the possibility of establishing naval supremacy in the Norwegian Sea and anti-submarine operations against Soviet missile-carrying submarines in bastions under the polar ice.

During the 1980s, the Soviet Union developed submarine-based strategic missiles with a range of approximately 9000 kilometers that were deployed to northern ocean regions, the Greenland Sea, the Barents Sea, and the Arctic Ocean as an element of the bastion defense. With longer range missiles, the submarines were no longer forced to pass through the GIUK area to launch their strategic missiles.

Greenland was no longer directly involved in the American maritime strategy, but Thule and Station Nord were used as bases for American military ice and oceanographic research projects in the Arctic Ocean, projects which were connected with submarine operations and anti-submarine warfare.

The presence of strategic submarines in the Arctic Ocean together with advanced intercontinental ballistic missiles and aircraft altered Greenland's strategic importance as an area of confrontation.[1]

A Greenland Security Policy Perspective

Greenland's status in the Danish Commonwealth was altered in 1979 by the establishment of Home Rule for Greenland, bringing with it self-government in a number of administrative areas. During the negotiations leading to Home Rule, there was only limited discussion of the question of security policy, including the bases in Greenland. It was primarily membership in the EU and the utilization of Greenland's mineral resources that were on the agenda.[2]

Home Rule Act § 11 states that defense and security policy are matters in which the kingdom's highest authorities have, and naturally must have, the final decision. The situation was not opposed from the Greenland side, either during the discussions of the Home Rule Commission or later. On the other hand, there was a request that entry into treaties affecting Greenland's interests would be discussed with Greenland authorities. This resulted in the provision of § 13 in the Home Rule Act in which the government undertakes to submit such treaties to discussion before they are finalized.

Since the introduction of Home Rule, Denmark has not entered into any treaties with security policy content significant to Greenland. There has therefore not been any direct reason for more thorough discussion between government authorities and the Home Rule in this matter.

The Greenland security policy debates up through the 1980s dealt especially with the matters concerning the American bases, such as nuclear weapons problems, and use of the arctic region for military purposes.

During subsequent years, the Greenland security policy perspective has evolved on the basis of broad agreement that the Home Rule should be oriented to the Danish government in all relevant respects—even those not covered by the Home Rule Act.[3]

A second perspective is Inuit tradition and its opposition to various forms of conflict behavior. The Inuit viewpoint has been strengthened by the establishment in 1980 of a cooperative organization for Eskimos in Greenland, Canada, Alaska, and Siberia, the Inuit Circumpolar Conference (ICC). The organization has on many occasions taken a position on security policy questions with an attitude that reflects pacifism and respect for the environment.

The third perspective derives from the left-wing Danish security policy viewpoint, since politicization of Danish security policy has broken through to Greenland. In particular the left-wing Inuit Ataqatigiit party has presented demands for increased Greenland influence. The conservative Atassut party has maintained a status quo policy while Siumut remained in the middle with a more pragmatic line, at least through the 1980s.

In 1982, the American government asked to build two new radar stations on the west coast of Greenland at Nuuk and Nanortalik. The reason for this was that the DEW line was not designed for warning of Soviet cruise missiles launched from aircraft or submarines, which were considered a rising threat in the beginning of the 1980s. The Danish government briefed the Greenland Home Rule authorities in 1983 on its preliminary conclusions. In the fall of 1983, there was a debate in the Greenland Parliament in which the plan was approved while at the same time disagreement was expressed in principle on the use of Greenland for military objectives. The desire was expressed that the Parliament receive continual information from the Danish government concerning defense questions of relevance to Greenland. This was the first time that the Greenland Parliament had taken an official position on a security policy question. However, the project was never carried out because of waning American interest in installing new facilities in

Greenland and also because Canada offered financial cooperation in a more advanced DEW line, which would also give better warning.

In the summer of 1984, the Siumut party's conference adopted a resolution requesting that Greenland become a nuclear-free zone. The motion was probably inspired by the Scandinavian peace movement's demand to make Scandinavia a nuclear-free zone and a similar demand from the left wing in Denmark. At the meeting of Parliament in the fall of 1984, Speaker Jonathan Motzfeldt moved:

> . . . [t]hat Greenland should be nuclear-free and therefore should oppose to the utmost granting permission for stationing nuclear weapons or nuclear weapons carriers on Greenland territory. Overflight or sea passage through Greenland airspace or territorial waters of nuclear weapons carriers in both peacetime and wartime should be forbidden. Parliament nevertheless recognizes that such an expression must be coordinated with rest of foreign policy and security policy within the Danish Commonwealth, but it still can be recommended to the Danish government so that the attitude of Parliament can be taken into account in such matters.

The question of the presence of nuclear weapons in Greenland was raised in the Danish Parliament by the socialist People's Party on November 22, 1984: "Does the government intend to state at the coming ministerial meeting of NATO that nuclear weapons may not be present in the Faeroes or Greenland in peacetime, crisis or wartime?"

The Prime Minister answered: "Denmark's position on nuclear weapons on Danish territory has been known to our Alliance since 1957 and has been taken into account. It has also always been clear that Danish nuclear policy has included and includes all parts of the Danish Commonwealth."

Even though foreign policy and security policy is not covered by the Home Rule Act, these questions received increased emphasis in Greenland politics and the relationship between Denmark and Greenland became more sensitive during the 1980s.

In summary, security policy is primarily a balance between observance of the Danish reservations regarding nuclear weapons—sometimes strictly observed by the majority for alternative security policy—

and the belief on the other side that Denmark's security—with NATO membership—is built upon American nuclear strategic deterrence.

Modernization of BMEWS at Thule Air Base

In the beginning of the 1980s, technological developments prompted the need for modernizing the BMEWS facility at Thule Air Base. The mechanically steered radar was replaced by an electronically steered phased array radar, which provided significantly improved precision in tracking and increased the number of objects that could be tracked simultaneously. In 1983, Thule was placed under the Space Command.[4] The modernization of BMEWS was completed in 1987.

The Soviet Union protested to Denmark in a memorandum of February 4, 1987, claiming that the modernization was a direct violation of the Antiballistic Missile Treaty (ABM Treaty) of 1972.

The Soviet Union had on previous occasions (in 1985, among others) criticized the United States in a similar way for modernizing its radars. The Soviet Union suggested that the United States should cease modernization as a response to the decommissioning of the warning facility at Krasnoyarsk, a facility that the United States had claimed was in violation of the ABM treaty.[5]

The modernization was also closely linked with the United States Strategic Defense Initiative (SDI). It could not be excluded that the radars would be used in connection with calculation of impact sites and to guide the missiles that would intercept intercontinental missiles.

The matter gave rise to a debate that resulted in 1988 in the Danish Parliament establishing a permanent Greenland Committee for review of reports and investigations concerning foreign policy and security policy questions. Even though foreign policy and defense policy were a Commonwealth responsibility, there was in Denmark a clear sympathy for Greenland's interest in being briefed by Danish officials on all relevant foreign policy matters, whether or not the subject matter was covered by the Home Rule Act.

Establishment of the North Warning System

In 1985, an American-Canadian agreement was signed for the establishment of a new strategic warning system—the North Warning System—as a replacement for the Canadian portion of the DEW line.

The system, which was to become operational in 1992, had stations in Alaska, Canada, and Labrador. In contrast to the DEW line, the new system would be able to warn of cruise missiles (aircraft- and submarine-based) launched from southern and western positions in the Denmark Strait, the Davis Strait, and the Labrador Sea.

With the establishment of the North Warning System and the installation of an advanced over-the-horizon backscatter radar in Maine in 1990, the importance of the DYE stations in Greenland was reduced.[6]

In 1958, the BMEWS radar facility was considered highly advanced and was equipped with four very large antenna reflectors, each 130 x 55 meters. The task of BMEWS was to detect intercontinental ballistic missiles and give a fifteen-minute warning of any attack against the U.S.

Rapid developments, especially in computer technology, made BMEWS obsolescent in the 1980s, and it was even difficult to procure spare parts. The entire system was therefore upgraded to modern electronics in 1987, including the more advanced phased-array antenna system, shown here in the photograph. Photo: Per Herholdt Jensen.

Since the DYE-2 on the Inland Ice had to be evacuated in 1988, the decommissioning of the DYE sites in Greenland began.

In May 1991, an agreement was signed with the Americans on decommissioning the DEW line and leaving the airfield at Kulusuk in east Greenland, which had supported DYE-4, on September 30, 1991. Evacuation of Søndre Strømfjord followed on September 30, 1992. The installations were turned over to the Danish government with the understanding that the United States could have access to them by previous agreement in special situations. In addition, a permanent Danish-American commission was established to deal with questions of American presence in Greenland, i.e., Thule.

---

1. *Centre Piece 7: "Greenland and the Atlantic Alliance," C. Archer, p. 48.*
2. *"Den grønlandske sikkerhedspolitiske debat [The Greenland security policy debate]," S. Adsersen, "Flådestrategier og Nordisk Sikkerhedspolitik [Naval strategies and Nordic security policy]," SNU, pp. 25–39.*
3. *"Grønland i global sikkerhedspolitik [Greenland in global security policy]," SNU, N. Petersen, pp. 44–45.*
4. *Centre Piece 7: "Greenland and the Atlantic Alliance," C. Archer, p. 7.*
5. *At a meeting between Secretary of State Baker and Foreign Minister Shevardnadze in September 1989, the Soviet Union announced that Krasnoyarsk would be decommissioned. In response the United States was asked to consider the Soviet Union's concerns about the facilities in Thule and Fylingsdales.*
6. *Over-the-horizon backscatter radar is a radar that uses the ionosphere to reflect its signals, increasing its range.*

Greenland After the Cold War

The Military, Political, and Economic Situation

Greenland's Changed Strategic Significance

A notable change in the global security policy situation took place at the end of the 1980s with the fall of the Berlin Wall and beginning of the collapse of the Soviet Union. The stable geopolitical conditions of the Cold War were replaced by instability, crises, and conflicts.

As far as security policy is concerned, Greenland was regionalized and placed in a peripheral position, which means in a new setting more on its own terms and to a lesser degree global.[1] The evolution of security policy in Greenland was subsequently affected to a greater degree by economic, environmental, and ethnic interests than by global concerns.

The fact that the geostrategic interests that dominated during the East-West conflict no longer need to be considered probably implies that the traditional conflicts of interest in the arctic region may well be more difficult to resolve in the future. One example that may be mentioned is the Danish-Norwegian disagreement about the location of the boundary between Jan Mayen Island and east Greenland, a disagreement that was settled by a compromise solution by the International Court in The Hague in 1993. Similar disagreements in other areas are still pending: the conflict in the arctic region between Norway and the signatories to the Spitzbergen treaty of 1920, for example.

New Politicalization of Security Policy in Greenland

In general, the political ramifications of Greenland policy decreased after the Thule affair of 1987 through the American declaration of 1995 concerning stockpiling of nuclear weapons in Greenland.

In Denmark, the politicalization decreased after the breakup of the majority favoring an alternative security policy with the Parliamentary

election of May 1988. In Greenland, the politicalization decreased because the Danish government kept the Home Rule Administration informed to a greater degree than before and consulted it on foreign policy and security policy matters affecting Greenland. The fact that the American presence in Thule also has its economic aspects that are of greater interest in Greenland also plays a role.[2] In 1990, a permanent committee was established as a result of the agreement between the United States government, the Danish government, and Greenland's Home Rule Administration. The committee functions as a high-level channel for consultation and exchange of information among representatives of the two national governments and the Home Rule regarding the American military presence in Greenland, including questions concerning the defense area in Thule and the former defense areas.

On June 29, 1995, the Danish government presented a report to Parliament on "certain aspects of the Thule matter" that had been prompted by two events. First, the Ministry of Foreign Affairs had been presented with clear indications that during the 1960s Greenland had been overflown on a daily basis by American bombers carrying hydrogen bombs. Second, the H. C. Hansen letter of 1957 had just been discovered in the Ministry of Foreign Affairs and the letter could be interpreted as an acceptance of placing American nuclear weapons on American bases in Greenland.[3]

The report dealt with the question of Danish nuclear policy, overflight and emergency landings of B-52 aircraft in Greenland and the crash of the B-52 aircraft in 1968, the American approach to Prime Minister H. C. Hansen in 1957, the Danish-American negotiations after the crash in 1968, and the Danish-American exchange of notes on May 31, 1968.

On July 13, 1995, the Danish government received a definitive statement from the American government concerning the stockpiling of nuclear weapons in Greenland. The government then asked the Danish Institute of International Affairs (DUPI) to prepare a historical study of U.S. nuclear overflights of Greenland and of Thule Air Base's role in this regard.[4]

In the fall of 1995, a permanent Danish-Greenland group was established under the leadership of the administrative director of the Greenland Home Rule Administration and the director of the Danish

Foreign Ministry. The task of the group is to discuss all foreign policy and security policy questions relating to Greenland.

The publication of the DUPI report on January 17, 1997, was awaited with great anticipation. However, the political debate quickly turned to the period after 1968 in Greenland. This was primarily due to the desire of some of the political parties to take up the question of port visits in Denmark by U.S. Navy vessels, a topic that had no immediate connection with Greenland. American policy was neither to confirm nor deny that the vessels carried nuclear weapons on board. It was therefore doubtful what the investigation of the situation after 1968 would produce in the way of new information.[5]

The question of whether visiting naval vessels should be informed of Danish nuclear weapons reservations was finally settled by the 1988 election in the lower house—the "security policy election." The port-visit matter was settled by informing all diplomatic representatives in Denmark of the nuclear weapons reservation.[6]

Then-Speaker of the Greenland Parliament Lars Emil Johansen had stated, before the DUPI report, that it was "also important for Greenland to cast light upon the period after 1968 so that the whole truth about Danish double-dealing relating to nuclear weapons in Greenland and Denmark would come out."

In a joint statement on January 31, 1997, Danish Prime Minister Poul Nyrup Rasmussen and Lars Emil Johansen said, "A satisfactory solution to all outstanding questions regarding the Thule affair has been reached between the Danish government and the Greenland government."[7] On the other hand, the future build-up of the U.S. National Missile Defense may again focus the strategic importance of Greenland.

New Role for Thule Air Base

Current activities at Thule Air Base have not only military aims but are also of major civilian significance.

The BMEWS radar, as a part of its monitoring work, also has an important function as a space control center. Just as the Danish Civil Aviation Authority exercises control over the airspace above Denmark and Greenland as a part of its task of air traffic control,[8] BMEWS monitors all man-made objects in orbit around the earth. This includes operational as well as inoperative satellites, rocket engines, and other space

debris that constitute a risk for new satellites or spacecraft. They can also be dangerous if they do not burn up in the atmosphere upon reentry and impact the surface of the earth.

It thus cannot be excluded that BMEWS may someday be operated cooperatively by military and civilian organizations such as NASA, the European Space Agency, or parallel Russian or Japanese organizations. It also cannot be excluded that NATO and Russia are interested in cooperating in establishing a joint missile defense system against attack from third parties. This latter possibility was discussed at the American-Russian summit conference in Washington in July 1992.

Within the defense area at Thule there is also located an advanced military satellite telemetry facility that gathers information from polar-orbiting satellites. The Thule station is today one of the world's most advanced satellite receiving stations. (Thule Air Base is no longer a part of the Strategic Air Command, but is administratively under the U.S. Air Force Space Command, reflecting a fundamental change in mission.)

Greenland Home Rule government and the Danish government are working together toward solutions that would result in greater civilian utilization of Thule Air Base. It has been decided to build a short airstrip at Qanaaq for use by civilian traffic between the Thule area and the rest of Greenland with Thule Air Base as an alternative landing site.

The Tasks of the Danish Defense

Under the 1951 agreement between Denmark and the United States, the defense of Greenland falls within the framework of Denmark's NATO membership. Responsibility for defense activities in Greenland thus principally rests with the government in the same way that it does for the other parts of the Commonwealth.

The chief of the Greenland Command reports directly to the chief of Defense. His area of responsibility covers Greenland and the surrounding waters out to 200 nautical miles or to other agreed-upon boundaries where the distance is less than 400 nautical miles to the nearest land. Danish defense forces are assigned the following tasks in Greenland:

- Patrol of Greenland's territorial land, sea, and air;
- Maintenance of sovereignty;
- Fisheries inspection;

- Search and rescue services; and
- Base services, including:
  - towing assistance,
  - medical evacuation,
  - environmental monitoring,
  - pollution countermeasures,
  - transportation,
  - ice-breaking, and
  - medical assistance.

The headquarters of the Greenland Command is at Grønnedal and in peacetime controls the following units to carry out its mission:

- One or two inspection ships with helicopters and two inspection cutters,
- Air Group West, Kangerlussuaq: G-III aircraft, C-130 aircraft when required,
- SIRIUS Sledge Patrol,
- Station Nord, and
- Coastal survey vessel *Grønland*.

The inspection vessel Triton *in Greenland.*

The defense forces offer assistance to a number of civilian authorities, including ice reconnaissance for the Narsarsuaq Ice Center and logistics support for scientific investigations. Defense vessels and aircraft are used as platforms for scientific measurements as required—for oceanographic observations from inspection vessels or for remote sensing with advanced radar systems from aircraft.

As a part of its role in monitoring and maintaining sovereignty in Greenland, the defense forces carry out a long list of quasi-civilian tasks, which may change over time.

First, the evolution of the fisheries—with fewer fish stocks and a greater interest in utilizing them—will likely present requirements for intensified fisheries monitoring in the long run.

Second, the possibility of the presence of oil in Greenland will be the object of increased political attention; one of the inspection vessels has carried out a series of marine seismic prospecting studies in ice-filled waters during recent years.

Fulfilling defense forces missions in Greenland requires both modern aircraft and dog sledges. Here is a meeting between dog sleds from the SIRIUS Sledge Patrol and a C-130 Hercules transport at Station Nord in the dark time at the end of February, when twilight in the middle of the day makes it just possible to land without artificial lights.

Third, there is an increasing interest in protecting the marine environment in Greenland waters for the purpose of securing ecologically sustainable development; this will present requirements for many activities.[9]

In summary, economic development in Greenland may affect some of the tasks of the defense forces as other requirements arise for monitoring, presence, environmental preparedness, and rescue missions in Greenland.

The Community Situation

Nongovernmental Organizations (NGOs)

A number of environmental organizations are aimed at creating a debate and a completely new green attitude towards industrial development for the benefit of both the environment and humans. During the past decades, Greenland has experienced how emotional arguments can quickly set their mark upon the agenda. Private international environmental organizations—the so-called NGO groups—can in some cases bring about a change in the economic life of arctic population groups on the basis of a simplistic view of hunting sea mammals, for example, and the utilization of such raw materials as skins and bone.

A U.N. statement of 1966 declared the right of aboriginal populations to control their natural sources of wealth and resources.[10] The Brundtland Report "Our Common Future," presented to the U.N. in 1987 by the World Commission on Environment and Development, emphasized the need for continued economic growth to combat poverty and suffering in a large part of the world. The report also stated that the starting point for a just and humane policy towards vulnerable local communities is the recognition and protection of their traditional rights. The report defines these rights in a way that perhaps does not fit comfortably within the normal juridical system. These local communities must be given decisive influence on decisions concerning the use of resources in their areas.

Some organizations have carried on a global campaign against the use of sealskin that has hindered Greenland's export of sealskin for clothing or making handbags, for example, despite the fact that seals are by no means an endangered species. In the same way, conservation organizations have made it difficult—or in some countries impossible—to import handicrafts or art objects made from animals that form part

of the traditional Eskimo diet, which Greenlanders, in agreement with international conservation provisions, have the right to hunt.

These organizations' campaigns have to some extent damaged hunter communities like that of Greenland. The limited information available to politically oriented consumers can relatively quickly arouse serious economic and political tensions. The Greenland of the future will have to find a compromise in such conflicts of interest between the community and the nongovernmental organizations; at the same time it is important for hunter communities to be sensitive to criticism, to support ethical hunting, and to obey conservation regulations.

Inuit Cooperation in the Polar Regions

Through Inuit cooperation in the Inuit Circumpolar Conference (ICC), which began in 1980, Greenland made contact with population groups of the same ethnic origin in North America and Russia. In this way Greenlanders were able to widen their horizons and gained an opportunity to evaluate their own situation in a broader international perspective. Greenland came to be a strong force in ICC cooperation, and Greenland's approach to problems became a model for other arctic regions.

In Greenland, there has developed an understanding that American defense installations also protected the interests of North American Inuits, and a relatively pragmatic attitude toward security policy has characterized the political debate for a number of years. Greenland's politicians have to an increasing extent become involved in the rights of native population groups, and after having been nominated by the Greenland Parliament, a former member has been employed as an expert by the U.N. Center for Human Rights in Geneva.

Circumpolar international contact was not limited to increased Inuit political cooperation. There was interest in cooperation even before attempts to form a community had begun, which as early as 1967 had prompted the establishment of the International Union for Circumpolar Health (IUCH) and the later formation of the International Arctic Social Science Association (IASSA). In 1989, the International Arctic Science Committee (IASC) was set up to facilitate cooperation among the eight arctic nations and other countries with arctic research interests (Norway, Sweden, Finland, Russia, USA, Canada, Denmark, Iceland).[11]

But for the arctic community, it was not only research, but general environmental problems that were becoming pressing. This led to ministers from the eight arctic nations in Rovaniemi, Finland in 1991 ratifying the Arctic Environmental Protection Strategy (AEPS), later known as the Finnish Initiative. This involved the formulation of the AEPS, consisting of the establishment of two comprehensive international circumpolar environmental programs: Conservation of Flora and Fauna, (CAFF) and the Arctic Monitoring Assessment Program (AMAP).

Acting upon a Canadian proposal, the arctic community agreed in 1996 to set up an Arctic Council, which today is composed of representatives at a high administrative level from the eight arctic nations, in order to have a forum for discussion of common arctic problems. Environmental questions are a central subject, but problems concerning improved employment, jurisdiction, and the rights of local populations are also topics for discussion. The ICC represents the arctic Inuit community in the Arctic Council. The creation of the Arctic Council can certainly have an impact on security policy, since the arctic community will thereby have increased influence on conditions that are important to the development of their society.

The Environmental Situation

In General

Every year there are at least 100 scientific projects or investigations in Greenland, about one third of which are Greenlandic or Danish, one third American, and the remainder from other countries with arctic research interests and traditions. This research activity benefits the Greenland community in the long run and contributes greatly to keeping Greenland in the international focus. The major Danish-American and European ice-drilling projects have aroused great interest internationally because analysis of the ice samples has made it possible to reconstruct the historical sequence of climatic and environmental conditions over the Northern Hemisphere through more than 100,000 years.

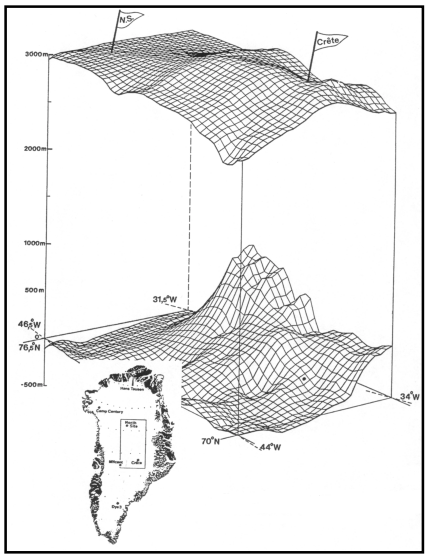
Environmental Measurements in the Ice

There is currently great interest internationally in tracing the history of natural and man-made pollution and in research on the risk that pollution from the industrial world may affect global climatic condi-

tions. Such research must be conducted where local pollution does not distort the picture.

By measuring the ratio between two isotopes of oxygen in the ice it is possible to determine relative temperatures that prevailed when the precipitation that formed the ice fell. By analysis of the drill cores, it has been possible to determine temperature or climatic variations for more than 250,000 years.

Analyses of the drill cores can furnish a wealth of historic information on environmental conditions through the millennia. The ice also contains traces of heavy metal pollutants (lead, zinc, cadmium, and copper, for example). Lead pollution has been steadily rising for about 2000 years, but



Topography of the surface of the Inland Ice and of the mountains under the ice in an area of central Greenland, based on measurements by ice-penetrating radar.

The first drilling through the Inland Ice took place at Camp Century in 1966. A subsequent penetration near the DYE-3 radar station was completed in 1981 and analyses of the 2038-meter-long ice core gave valuable historical information on environmental conditions such as climate and pollution through thousands of years. These drillings were made at locations chosen on logistical and not geophysical grounds. Thanks to radar measurements of the topography under the Inland Ice, new penetrations could later be made in more ideal locations in the 1980s. Two full penetrations of the Inland Ice were made at Summit in the 1990s, one American and one European. The 3029-meter cores contain information extending back more than 250,000 years.

The photograph shows a small section of the core that is in total more than 3 kilometers long. Photo: Jørgen Taagholt.

the pollution changed dramatically around 1950 as lead began to be used as an additive to gasoline. After the transition to unleaded gasoline, this pollution is now decreasing. Analyses of the ice drill cores also show that the use of toxins such as DDT rapidly contributed to global pollution.

By measuring the electrical conductivity of the ice in layers formed by acidic precipitation caused by volcanic outbreaks, scientists find in the upper levels traces of historically recorded volcanic eruptions: Vesuvius in Italy in 79, Laki in Iceland in 1783, and the Indonesian volcano Tambora in 1815.

The results of this research in Greenland have been not only of scientific interest but also of practical importance for the environment. They likewise play a role in security policy, since the effects of the 1963 Nuclear Test Ban Treaty between the Soviet Union, Great Britain, and the United States can be seen in the Inland Ice. Analyses of the ice cores show that radioactive fallout decreased by a factor of one thousand between 1963 and 1973 after the cessation of atmospheric testing. If we examine the upper annual layers in the ice, we find in 1987 traces of the accident at the Soviet nuclear power plant in Chernobyl.

Analyses of the drill cores from penetrations of the Inland Ice have thus yielded important information on climatic and other environmental conditions through the millenia. For example, scientific data from Greenland today plays a vital role in guiding international conferences to determine limits for release of CO^2. Changes in global climate and subsequent local changes in food production and rises in sea level have major impacts on society and possibly on security policy as well.

In Greenland's Northeast National Park, the largest national park in the world, there are unique opportunities for conducting ecological studies to gain knowledge about the effects of human pollution on the natural environment. The Danish Polar Center, in cooperation with the Greenland Home Rule Administration, supported the establishment of a High Arctic research station at Zackenberg in northeast Greenland in 1995–1997 for the monitoring and research activities in the national park.

The DYE-1 and DYE-2 radar stations on the Inland Ice were once routinely supplied from American C-130 Hercules transport aircraft equipped with skis for landing and takeoff on the Inland Ice and Antarctica. The 109th Air Wing of the New York Air National Guard is today the only unit in the world that operates ski-equipped Hercules

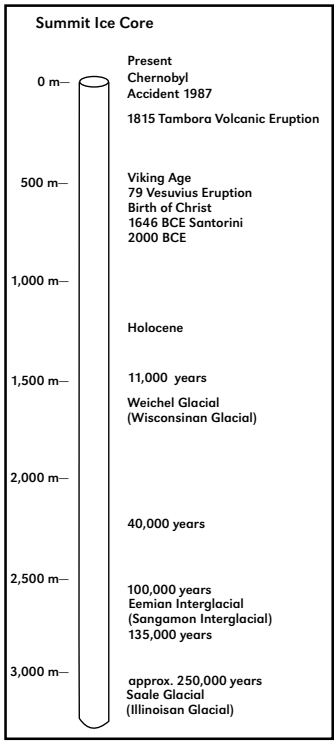


Diagram of the connection between the ice core and the environment. On the peak of the Inland Ice at Summit at 3200 meters above sea level, the annual precipitation varies between 30 and 50 cm of snow, corresponding to about 8–12 cm of water or ice. As the old snow is covered by new, it is squeezed into thinner and thinner layers with increasing depth, not only by the pressure alone but also by sliding as the layers spread over a larger and larger area. The individual annual layers can be distinguished, much like the annual rings in a tree, with an accuracy of a single year, thanks to the contrast between summer and winter precipitation, for the first 8000 years. At the end of the Ice Ages, the annual layer is about 10 cm, but the oldest layer at the bottom, about 250,000 years old, is only about one cm thick.

aircraft. These aircraft have been indispensable in the conduct of scientific research activities on the Inland Ice, since these are the only aircraft that can not only land, but also take off loaded from Summit at the peak of the Inland Ice at 3200 meters above sea level. The 109th Air Wing carries out its training program for the C-130 crews at primitive facilities on the Inland Ice east of Søndre Strømfjord. It is an advantage that training flights take place in Greenland, since aircraft

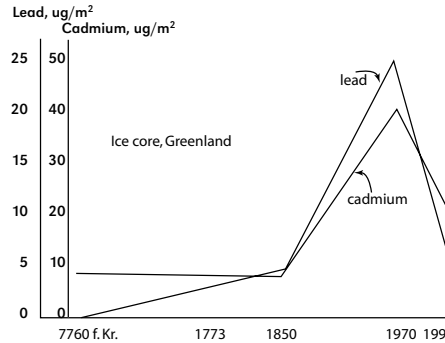


Diagram derived from 52 ice core analyses, showing the effect of restrictions on the use of lead and cadmium. (Illustration by Prof. Preben Gudmandsen, Technical University of Denmark.)

are then often available for scientific projects and for rescue services in Greenland. Danish Defense Forces do not at present have ski-equipped C-130 aircraft available.

Nuclear Fallout

Even though disarmament has brought about a significant reduction in nuclear weapons, the number of nuclear weapons on the Kola Peninsula is almost the same.

The map shows where radioactive fall-out from tests, accidents, and dumping of radioactive waste has taken place in the Polar regions. The rectangular boxes indicate areas in which radioactive liquid waste was dumped in the ocean west of Novaya Zemlya.

The Kola region in Russia has for years had the world's largest concentration of nuclear installations, primarily submarines. During the Cold War, about sixteen nuclear power units, six of which had fuel, plus more than 10,000 containers of radioactive waste were dumped in the Barents Sea and Arctic Ocean. As a result of the START II disarmament treaty, Russia will scrap about 150 nuclear submarines with approximately 250 nuclear reactors. The heavy use of nuclear power in Russia has brought about great environmental destruction, especially in arctic Russia. Disposal of nuclear waste in the Barents and Kara seas poses a long-term risk for Greenland's society. Even though American investigations in 1993 showed that the waste disposed of was properly sealed and does not offer an immediate threat, later release or merely rumors of release could, because of the flow of the prevailing ocean currents, play a decisive role in Greenland's export of living marine resources.

1. *DUPI, Fokus No. 5, 1997: "Dansk forsvarspolitik [Danish defense policy]," p. 6, Bertel Heurlin.*
2. *Nikolai Petersen, "Grønland i global sikkerhedspolitik [Greenland in the global security policy]," SNU, pp. 47–50.*
3. *Nikolai Petersen,* Militært Tidsskrift *3/97: "Kernevåben i Grønland [Atomic weapons in Greenland]," p. 254.*
4. *DUPI did not have the American statement of July 13, 1995, at its disposal.*
5. *I. Faurby, "Skelettet i skabet [The skeleton in the closet]," Udenrigs 1, 1997, p. 48.*
6. *In 1991, the Americans decided to remove all tactical nuclear weapons from naval vessels, partly as a result of the end of the East-West conflict.*
7. *Grønlandsposten, No. 6, 1997: "The DUPI report will be translated into Greenlandic."*
8. *Radar coverage extends 250 nautical miles and up 10 kilometers around Kangerlussuaq and Thule Air Base.*
9. *"Det danske forsvar i Grønland [Danish defense forces in Greenland]," Speaker Jonathan Motzfeldt, pp. 111–113,* Tidsskrift for Søvæsen [Naval Magazine], *No. 3, June 1998, Vol. 169.*
10. *U.N. Convention of December 16, 1966, on economic, social, and cultural rights.*
11. *"International Cooperation in Arctic Science" by Jørgen Taagholt, NARF 1994, p. 7–20.*

Two Royal Danish Air Force C-130 Hercules aircraft at Mestersvig, east Greenland. Photo by Jørgen Taagholt.

Future Security Policy Relationships in Greenland

The Military Situation

Strategic Significance

In the current global security policy situation, the military aspect of security policy in Greenland will continue to dwindle, as it has since the end of the 1980s. There will therefore be increased emphasis upon the political and economic aspects, including the desire for a greater degree of independence and the possibilities of using Greenland's mineral resources.

However, strategic significance continues to be important and basically unchanged from an evaluation that was published in the beginning of the 1990s:[1]

> The Danish Commonwealth with the Faeroes and Greenland lends a particular Atlantic dimension to Danish security policy. The military significance of the Faeroes and Greenland territories has diminished, although the surrounding waters continue to constitute important strategic areas. In the case of Greenland, technological developments coupled with changes in the great powers' relationship has led to a comprehensive reduction in the American presence. Thule Air Base still retains a monitoring function in defense against missile attack, but the other defense areas have been transferred to the Greenland authorities although the land facilities still may be utilized by American defense forces in case of an overseas crisis situation.

International Disarmament

In the summer of 1997, then-Speaker Lars Emil Johansen stated:

> Greenland would be happy to contribute to world peace. Greenland's strategic location had great significance when the great powers armed themselves and its location can have just as much importance in a period of disarmament.[2]

The speaker's remarks were directed at the controversial proposal to use Thule Air Base as a "nuclear prison" for storage of nuclear warheads, as the Rand Corporation, a quasi-governmental consultant to the American Department of Defense, proposed in the spring of 1997.

Storage of nuclear warheads requires a desolate, uninhabited area with intensive monitoring. From the point of view of environmental safety, storage should be in a location in which no earthquakes would be expected and where the rock for storage is physically and geologically homogeneous and stable with the lowest possible permeability to water. The Rand Corporation's proposal was more in the nature of a catalog of ideas and apparently was not based on any geological, geophysical, or hydrological investigations. Denmark also did not take any official notice of the Rand Corporation's proposal. Nevertheless, the speaker's statement is an expression of the fact that there are many in Greenland who desire a more conspicuous foreign policy for Greenland and that Greenland feels the responsibility to contribute to the solution of international peaceful initiatives.

Measurements taken in Greenland may come to play a role in the international agreement on a total test ban on nuclear weapons that was debated in the U.N. Conference on Disarmament in the summer of 1996. As a result of the agreement, a Danish seismic verification station was installed in Søndre Strømfjord in the spring of 1996.[3]

This station records seismic noise across a very broad frequency spectrum, and the data is stored digitally on magnetic tape. This makes it possible to access data via the telephone network shortly after an earthquake or a man-made explosion has taken place. This station will be part of a scientific network, Incorporated Research Institutions for Seismology (IRIS), an important part of the international network of stations in the International Monitoring System (IMS), which monitors any possible violations of the ban on underground nuclear explosions. The IMS will use data from this station to localize and identify any violation of the treaty.

However, the total ban on nuclear test explosions brings with it an increased risk for violation of the ban on atmospheric explosions, which has been in effect for several years.

For nations that wish to carry out nuclear tests despite the treaty, it is relatively easy to determine the country and presumably also the organization that is responsible for an underground explosion. It is far more difficult, though, to determine who carried out an atmospheric test from an aircraft over an uninhabited ocean area—the Arctic Ocean, for example.

An atmospheric nuclear test generates powerful shock waves that propagate rapidly from the site of the explosion. An inaudible low-frequency component of the shock wave propagates through the earth's atmosphere over great distances—several thousand kilometers. The acoustic signal can be picked up with the help of a set of infra-sound microphones. An explosion from a kiloton bomb over the Arctic Ocean could be detected from Thule. As a ramification of the Comprehensive Test Ban Treaty, a working group in Geneva (the Ad Hoc Committee on Nuclear Test Ban, Working Group on Verification) has recommended that a chain of stations for detection of pressure waves in the atmosphere caused by atmospheric nuclear explosions should be installed, and Denmark has been asked to set up an infra-sound station at Thule Air Base/Qaanaaq in North Greenland.

At the end of the millennium, an international debate arose fueled by the American initiative to build a defense against missiles launched by terrorist groups or by so-called "rogue states." Plans for such a National Missile Defense (NMD) system include satellite-based heat sensors to detect missiles shortly after launch. The course of the missiles could then be determined by use of data from radar stations such as BMEWS at Thule, after which "killer missiles" could be launched from bases in the United States. In Danish and Greenlandic opinion, this would constitute a new use of BMEWS and thus of Thule Air Base and as such would require a renegotiation of the old ABM treaty between the United States and the former Soviet Union.

The Political and Social Situation

Introduction

The strategic situation during World War II fostered intensified technological development in the arctic region, and after the war the Green-

lander community wanted an open country, increased political influence, and the opportunity to use that technological development. In 1953, Greenland's status as a colony changed when Greenland became an equal part of the Danish Commonwealth. With Denmark's entry into the EEC in 1972, Greenland, as a part of the Danish Commonwealth, also became a member of the European Community. In 1979, Home Rule for Greenland within the Commonwealth was instituted and after having obtained freedom from Danish control, the Home Rule government felt the need to free itself from the restrictive bonds to the European Community in Brussels. In a referendum in 1982, 52 percent of Greenlanders voted to leave the EU, and this took place in 1984 when Greenland took on the status defined by the Overseas Land and Territory Agreement of the EEC.

The Independence Movement in Greenland

Minority groups in Greenland occasionally express the desire for Greenland to obtain the status of an independent state. But an independent Greenland, with what that would involve in international duties and responsibilities, appears to be a difficult task for a nation that has a limited population base and a weak economy.

In 1997, Speaker Jonathan Motzfeldt stated that the Home Rule Act of 1979 was a product of its time. Those specific aspects of government that the act made it possible to transfer to Greenland Home Rule have all been transferred, and Jonathan Motzfeldt expressed the feeling that the Home Rule Act may now be regarded as more of a barrier to development. In two fields especially, use of mineral resources and security policy, Greenland Home Rule wants more authority. Jonathan Motzfeldt also added that independence would be conditioned by Greenland's own capabilities to assure itself independent economic development and that a thoughtful balance between political and economic considerations would be required.

Former Speaker Lars Emil Johansen has also emphasized that a united populace and economic independence would have to be the basis of any realistic debate on independence.

In a debate in the Parliament's spring meeting in May 1998, there was broad agreement on the desire for independence, but also a recognition of Greenland's presently limited economic resources. Some Greenlander politicians have stated that the question of independence

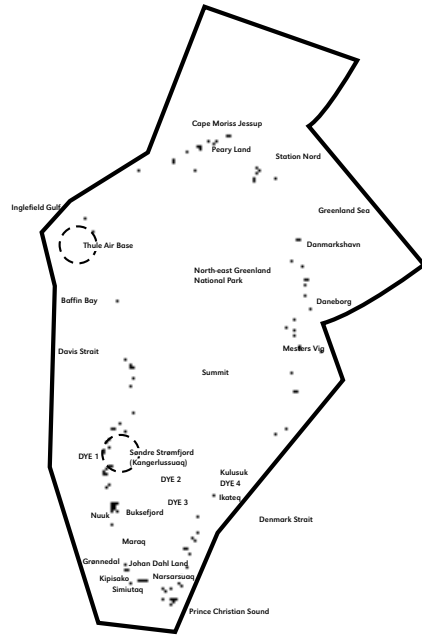
is not especially relevant. Greenlanders want to be able to choose between dependency on Europe, the USA, possibly on Canada, or on continued cooperation with Denmark. One Greenlander politician has characterized part of the problem as follows: "In North America Greenlanders have their ethnic kinsmen, but in Denmark their family."[4]

As a hypothetical example, one could suppose that use of undiscovered, but possibly major, mineral resources in Greenland would bring a sizeable income that would foster Greenlanders' desires to establish a self-sufficient, independent Greenland. Use of Greenland's resources, however, would require enormous investments, economic as well as in personnel and knowledge, and Greenland would thus become strongly dependent upon foreign capital interests. Such development in an independent Greenland could, under some circumstances, bring the country into a difficult security policy situation.

Perspectives for Expanded Independence

Some Greenlanders want a self-sufficient Greenland—independent of Denmark. Self-sufficiency, however, would mean that the standard of living in Greenland would have to drop significantly. Aside from the annual block grant, Denmark also covers expenses for defense and police activities in Greenland, and in addition, an independent state today must necessarily in one way or another participate in international cooperation; in many of the U.N.'s specialized organizations, for example.

In 1994, the Greenland Home Rule government issued an internal report "Greenland Home Rule's International Relations," which reported on many—more



Map: Danish Search and Rescue Area. If Greenland were independent, this would be its own area of responsibililty.

than fifty—international conventions or organizations that deal with matters affecting Greenland's interests (see Attachment 4). A fully self-governing Greenland probably could not afford to be independently represented in the many organizations that will probably in the future deal with matters significant to Greenland. Negotiations on close cooperation with Denmark will thus obviously be necessary and advantageous if desires for greater independence are one day to be fulfilled.[5]

Greenland encompasses a land area of two million square kilometers and is surrounded by a correspondingly large economic ocean zone. It would be difficult to maintain sovereignty over such an area with the resources available to Greenland alone. A balanced development including continued cooperation with Denmark and use of both Danish and international expertise therefore seems more probable.

Nevertheless, more income from possible oil and natural gas production and perhaps export of electricity could make Greenland more independent of economic support from Denmark and give Greenland Home Rule and the Danish government more equitable conditions. Closer economic cooperation between the Western Scandinavian countries, Norway, the Faeroes, Iceland, and Greenland, also cannot be excluded.

In matters of foreign policy, too, Greenland is becoming stronger and more independent in matters of understanding and cooperation with Denmark, particularly with respect to its own trade interests. Under a mutual agreement, the Danish Foreign Minister now holds annual meetings with the Greenland Parliament, and in the fall of 1995 the Danish-Greenland foreign policy and security policy group was established.

Speaker Jonathan Motzfeldt took the initiative in the spring of 1998 to form a working group to investigate opportunities to amend the Home Rule Act to suit the "anorak of the times," a move that could express the desire for greater independence of Greenland in the foreign policy and security policy area, including attitudes toward a renegotiation of the defense agreement of 1951.

Since 1984, Greenland has had two seats in the Danish delegation to the Nordic Council. Greenland Home Rule can assign attachés to Danish embassies abroad, and since 1992 the Home Rule has been represented at the Danish embassy in Brussels in order to deal with Greenland's interests in the EU, particularly in relation to fisheries

agreements and the use of marine living resources. Currently Canada, Iceland, Norway, Great Britain, and Sweden have honorary consulates in Greenland.

Increased interest in the environment and in nature as well as a desire for a balanced economic development are the central topics for cooperation in the Arctic Council. The future will see increased international attention to environmental and resource issues in the Arctic and Greenland and this interest will to an increased extent contribute to putting Greenland on the world map—in matters of security policy as well.

The Economic Situation

During World War II, Greenland's economy was to a great extent self-sustaining. Limited imports were financed by income from the cryolite mine. Industrial development in Greenland after World War II brought about a total change in Greenland society. Hunters became fishermen and industrial workers and the fishing industry grew up around the expanding cod fisheries. Greenland's economy today is primarily based on fisheries and hunting, which currently constitute the only real export-oriented business in Greenland. After more than one hundred years of activity, mining has come to a halt until new mining activities can someday be started.

In accordance with the U.N. Law of the Sea Convention, Greenland has established a fisheries zone extending 200 nautical miles and is currently working to extend its territorial waters from three to twelve nautical miles and to change the fisheries zone to an exclusive economic zone.

Fisheries and processing of fish products employ approximately 25 percent of the Greenland workforce. Environmental and climatic changes have meant that cod, which for many years was the most important fish, is today losing ground to shrimp, flounder, plaice, and capelin as well as crabs as the main assets of the fisheries. The fishing industry cannot currently be economic without subsidies. The annual block grant of approximately USD 300 million from the Danish treasury is extremely important to the economy of Greenland.[6]

For many years the economy of Greenland has been primarily controlled by public enterprises, but in recent years there has been a rising debate on economic development and several public companies

have changed to stock corporations, but corporations in which the Home Rule government is sole owner. The market mechanism does not actually function in Greenland, and the publicly owned companies pursue a unique price policy, one in which the same price is charged for goods in the larger towns as in the smallest settlement. Only when a genuine free price structure is created can the desired development of private business be expected. In its 1999 report on the economy of Greenland, the Organization for Economic Cooperation and Development (OECD) pointed out that Greenland's economy in constant prices has not grown in the period 1986–1996, while the economy of the OECD nations grew by 30 percent during the same period.

Utilization of Minerals

The Greenland Home Rule government is currently working to foster a more differentiated business climate in Greenland. Greenland is rich in mineral raw materials and for centuries mining operations have been carried on in Greenland. Since 1990, however, when lead and zinc resources were worked out in Maarmorilik, there have been no mining operations in Greenland. Nevertheless, there are currently comprehensive investigation programs for oil and natural gas as well as for metals and rare earths, but the problem is to find economically feasible deposits. With high costs in Greenland, the discoveries should preferably be of rare or noble minerals and of either very large scale or very high grade.

In 1991, the Greenland Home Rule government adopted new mining legislation that improved protection of rights of prospecting firms and set down conditions, regulations, and requirements for extraction of raw materials. Within a few years there may well be new mining activities in operation extracting mineral resources that prove to be economically feasible to use.

In many countries participation in polar research is based upon industrial interests. The new Antarctic Treaty of 1991 does not allow commercial exploitation of Antarctic resources during the next fifty years. This has meant that industrial interests have shifted from Antarctica to the arctic regions. The collapse of the Soviet Union has increased the interest of international prospectors and industrialists for involvement there since there are demonstrated natural resources and a partially

built infrastructure. In addition, Russia has an enormous need for Western technological expertise and capital.

Use of arctic resources places a requirement for much greater economic investment in facilities and transportation. For an oil or mining company to decide to become involved in new facilities, the political and economic stability of an area must be evaluated very carefully. The unstable political and economic situation in Russia has contributed to increased interest in other arctic regions, among them Greenland, where much more stable conditions prevail.

Prospecting companies began in the mid 1990s to consider promising opportunities for mining operations in Peary Land. Experience from such localities as Thule Air Base show that it is possible to build an advanced industrial society in a high arctic area, thanks to modern technologies such as chiller units to keep the earth under large buildings such as hangers, power plants, and the like frozen so that the permafrost can retain its load-bearing capability. The crisis in Asia in 1998 unfortunately depressed the price of zinc so that the project in Peary Land has temporarily been suspended.

Utilization of Oil

If the geological conditions in northeast Greenland should show structures that indicate the possibility of oil resources, test drillings would involve very great engineering challenges. It would scarcely be possible to drill from the surface of the ocean on the heavy sea ice. Researchers in Germany and Denmark found in the summer of 1998 a series of ridges consisting of moraine material (stone and gravel) and a series of more or less distinct bulges in the sea ice that indicated underlying islands or reefs about 75 kilometers from the coast of northeast Greenland at about 79 degrees north latitude. The drilling will probably have to be accomplished from installations on the ocean bottom or in tunnels through the bottom out from land. Such subsea technology is found today only on the drawing board and has never been tested in action, although recent projects in offshore oil technology in Norway may well show the way. Realistically this technology cannot be expected to be ripe for application until well into this century.

In both Davis Strait and Melville Bay, as well as on the continental shelf off northeast Greenland, seismic investigations were carried out during the 1990s with a view toward oil exploration.

A Boeing 727 unloads on fjord ice in northern Greenland. At Frederick E. Hyde Fjord in Peary Land, the Platinova A/S firm is prospecting with a view toward establishing a zinc and lead mine in this high arctic area. Transportation of drilling equipment, fuel, and other supplies to the location was done with large jet cargo aircraft, which can land on the fjord ice in the summer months. Photo: Platinova, Nuuk.

If the current search for oil in Greenland should result in natural gas or oil production in the distant future, it is clear that production under harsh Greenland conditions will require a very large investment.

Utilization of Water

Greenland is rich in water, mostly bound up in ice, but in a world in which pure drinking water is increasingly becoming a scarce commodity, Greenland's water resources may someday become economically valuable. Melting from the Inland Ice gives a significant potential for hydroelectric power. In 1993, Greenland's first hydroelectric plant—30 megawatts—went into operation in Buksefjord. The power plant provides Nuuk with electricity for light, power, and heat. In recent years several investigations have been carried out to find further industrial uses for the potentially great hydroelectric resources of Greenland.

Locating power-hungry industries for the production of such products as aluminum or synthetic fertilizer or metal refineries in Greenland has been considered, and studies have been made of the possibility of exporting energy in the form of such energy-carriers as liquid hydrogen. During recent years studies have also been made of the possibility of exporting electric current via cables carrying high-voltage direct current.

The results of an Icelandic-Dutch project investigating the possibility of exporting electricity from Iceland to the Netherlands as one component in the Dutch effort to reduce CO^2 emissions may have considerable significance for the international utilization of the very considerable hydroelectric resources of Greenland.

Exploration of the Continental Shelf

General

On December 10, 1982, 119 nations, including Denmark, signed the U.N. Convention on the Law of the Sea. The United States and certain other leading industrial nations refused to sign because of the convention's rules on international control of the resources of the deep sea floor. The Law of the Sea Convention went into force November 16, 1994. However, it applied only to the sixty nations that had ratified the convention in November 1993. Denmark has not ratified the convention, but the convention is generally seen as an expression of valid international law.

The convention opens an opportunity for expansion of territorial waters to twelve nautical miles and the establishment of exclusive economic zones (EEZ) of 200 nautical miles from the baseline from which the territorial waters are also defined, zones in which coastal states have exclusive rights to the use of all living and non-living resources as well as authority relative to exploration and marine pollution.

The Juridical Continental Shelf

The convention also gives coastal states rights to the continental shelf extending out over 200 nautical miles if the coastal states can document that the portion of the shelf that extends out over 200 nautical miles has a natural geological association with the continental shelf closer to shore.[7]

The new determination gives an opportunity to extend Greenland's continental shelf beyond the 200 nautical miles that had previously been the limit of a nation's continental shelf. The opportunity for Greenland lies in the region north and northeast of Greenland. In order to take advantage of this opportunity, it is necessary to collect and analyze hydrographic, geological, geophysical, and geodetic data.

As a consequence of the Convention on the Law of the Sea—when Denmark has ratified it—the Danish Commonwealth will have ten years to lay out demands and documentation of Danish claims for expanded continental shelf in the Arctic Ocean north and northeast of Greenland. It therefore behooves the country to use this time to collect knowledge concerning sea-bottom conditions in this area.

Any future Danish demands are to be reviewed and approved by the U.N.'s Continental Shelf Commission, set up in 1997. Decisions of the commission are binding. Since the commission undoubtedly will have strict criteria for the quality of the scientific investigations, it is extremely important that investigations to support any eventual demands should be put into action as soon as possible.

The continental shelf north and northeast of Greenland—which has been explored only to a very small extent—may well have the same geological structures that are found in Peary Land and that correspond to structures in the Canadian high Arctic, where the occurrence of both oil and natural gas has been demonstrated. There are thus possibilities that the northern Greenland continental shelf may contain valuable mineral resources. Even though we do not currently have the capability to carry out research in the ice-covered ocean areas, technological development continues, and in this century we may expect that subsea exploration and subsequent production will become possible. However, it is not only the prospect of resources that motivates Greenland's desire for control over an expanded continental shelf. By administering the area itself, paths are open for direct influence on any future activities, including prospecting. That is, one could either permit or prevent an activity as well as lay down rules for environmental protection. If the area is not under Danish-Greenland administration, they will have only limited and indirect influence.

The responsibility is on our generation to make best use of the existing opportunities for exploration of this continental shelf by interdisciplinary cooperation among oceanographers, marine geologists, and

geodeticists so that Greenland and Denmark will be assured of the best foundation for making the proper decisions with regard to jurisdiction over the North Greenland continental shelf.[8]

Exclusive Economic Zones

In 1996, Denmark established an exclusive economic zone that preliminarily included only the waters around Denmark but not the waters around the Faeroes and Greenland.[9] Nevertheless, the law on exclusive economic zones can be put into force administratively for the Faeroes and Greenland. In a note to the law it is stated that Denmark, in addition to the already valid rights to the continental shelf and fisheries territory, receives new rights to the use of natural resources in the sea and overlying airspace. Securing control over the marine environment, however, is the most important factor.

Exclusive economic zones are defined as "special zones in which the coastal states alone determine both the total quantity of the fisheries catch and their own catching capacity and thereby solely determine who will have access to use any excess catch." As early as 1964, Denmark established a fishing territory, and the introduction of exclusive economic zones therefore does not affect Denmark's fishing territory. Furthermore, the coastal states have sole right to use of such resources as wave, current, and wind energy. Coastal states also exercise authority over marine pollution prevention and maritime exploration. In ice-covered waters such as the waters around Greenland, the convention also makes special provision in the form of the right to promulgate and enforce laws and regulations for the protection of the marine environment within the exclusive economic zone.

---

1. Dansk og Europæisk Sikkerhed [Danish and European Security]. *Security and Disarmament Committee, p. 22.*
2. *Grønlandsposten, No. 49/97, "Brevet fra udenrigsministeren [Letter from the Minister of Foreign Affairs]."*
3. *In this context verification means assurance that the test ban is being observed.*
4. *"Tanker i et bulldozerspor [Thoughts on a bulldozer trail]," Finn Lynge, Det Grønlandske Forlag, Nuuk, 1977.*
5. *Finn Lynge: "Selvstændighed for Grønland? [Independence for Greenland?]," 1998.*

6. *"Greenland: Its Economy and Resources," by Lise Lyck and Jørgen Taagholt,* Arctic, *40(1): 1987, p. 50–59.*

7. *Jørgen Taagholt, Den "juridiske kontinentalsokkel, et nyt begreb i international ret [The juridical continental shelf, a new concept in international law],"* Grønland, *No. 6-7, 1998, pp. 247–257.*

8. *Rene Forsberg & Jørgen Taagholt: "Planer for Ny Dansk Forskningsindsats i Polhavet [Plans for a new Danish research initiative in the Arctic Ocean],"* Grønland, *No. 6–7, 1998, pp. 258–272.*

9. *Danish Ministry of Foreign Affairs Announcement No. 584 of June 24, 1996.*

Summary

The role of Greenland in security policy is essentially controlled by conditions in the international security policy system, in particular, by relations between the previous Soviet Union and the United States.

Until the beginning of World War II, Greenland was a part of the American sphere of interest without this producing any real security policy consequences.

During World War II, Greenland's strategic location became a central issue in Allied warfare, particularly in maintaining lines of communication across the Atlantic. The treaty of April 9, 1941, on the right of the United States to establish and operate defense areas or military bases in Greenland underlined Greenland's strategic significance. Denmark's security policy changed gradually during the course of the 1940s from the traditional policy of neutrality to one of alliance, culminating with membership in NATO in 1949.

The treaty of 1951 between the United States and Denmark emphasized—in contrast to the 1941 treaty's bilateral character—the more multilateral alliance perspective. During the Cold War, Greenland played a decisive role in the security of the Western world. During Cold War I, the security policy agenda became more focused and advanced technology was developed continually. Beginning at the end of the 1960s and through the 1970s, Greenland's security policy role gradually dwindled, only to increase again—if only to a limited extent—with the outbreak of Cold War II from the arms race of the 1980s until the fall of the Berlin Wall and collapse of the former Soviet Union.

Danish security policy during the Cold War must necessarily be viewed in the light of the dominant security policy agenda of the time, in which the possibility of a superpower confrontation was imminent. The Danish government of the time chose a balanced policy, which inwardly took account of the domestic political agenda and outwardly worked for a strengthening of Denmark's status as a dependable and loyal partner in the alliance.

The Greenland security policy debate sharpened during the 1980s in connection with the Thule affair. As a consequence, more cooperation in foreign policy and security policy was established between the Greenland Home Rule government and the Danish government, which contributed to clarify the common problem areas concerning the defense of Greenland.

After the Cold War, Greenland's security policy perspective changed with a clearer focus on political, economic, and environmental conditions, although the buildup of the U.S. National Missile Defense may give Greenland a new strategic role.

Greenland has important natural resources, which with effective use could improve the economic opportunities for the people of Greenland. In addition there are a range of political perspectives for increased independence of Greenland with an amendment of the current Home Rule Act. There are thus many future opportunities for the development of cooperation between Greenland and Denmark within the framework of the Danish Commonwealth.

Bibliography

Amstrup, Niels & Faurby, Ib. Studier i dansk udenrigspolitik [Studies in Danish foreign policy], Forlaget Politica, 1978.

Ancker, Paul E.: Narsarsuaq Air Base 1941–1958, Det grønlandske Selskab, 1993.

Ancker, Paul E. Thule Air Base, Særtryck af Tidsskrift for Søvæsen, Nov.-Dec. 1977, Vol. 148.

Archer, Clive. Greenland and the Atlantic Alliance, Centre Piece No. 7, 1985. Centre for Defence Studies, Aberdeen, Scotland.

Bach, H.C. & Taagholt, Jørgen. Grønland og Polarområdet—ressourcer og sikkerhedspolitik [Greenland and the Arctic Region—Resources and Security Policy], Forsvarets Oplysning of Velfærdstjeneste, 1982.

Brun, Eske. *Mit Grønlandsliv [My Life in Greenland],* Gyldendal, 1985.

Brøsted, Jens & Fægteborg, Mads. *Thule—fangerfolk og militæranlæg [Thule—A hunting people and a military installation],* Jurist- & Økonomiforbundets Forlag, 1985.

Buzan, Barry; Wæver, Ole; & de Jaap, Wilde. *Security, A New Framework for Analysis,* Lynne Rienner Publishers, 1997.

Dansk Udenrigspolitisk Institut. *Grønland under Den Kolde Krig. Dansk og amerikansk sikkerhedspolitik 1945–68 [Greenland during the Cold War. Danish and American security policy 1945–68],* Dansk Udenrigspolitisk Institut, 1997.

Det Sikkerheds- og Nedrustningspolitiske Udvalg. *Flådestrategier og nordisk sikkerhedspolitik [Naval strategies and Nordic security policy],* Copenhagen, 1986.

Det Sikkerheds- og Nedrustningspolitiske Udvalg. *Dansk og Europæisk Sikkerhed [Danish and European Security],* Copenhagen, 1995.

Faurby, Ib; Holm, Hans Henrik; & Petersen, Nikolaj. *Kampen om sikkerheden [The battle for security],* Forlaget Politica, 1986.

Foighel, Isi. The Home Rule in Greenland, Meddelelser om Grønland, *Man and Soc.,* 1, 1980.

Forsberg, Rene & Taagholt, Jørgen. Planer for ny dansk forskningsindsats i Polhavet [Plans for new Danish research initiative in the Arctic Ocean], *Grønland (Greenland Magazine),* No. 6–7, 1998.

Garde, Hans. *Det arktiske område—i sikkerhedspolitik belysning [The Arctic region—the security policy view],* Smafundsvidenskabelig Forlag, 1982.

Grønland-Kalaallit Nunaat, Statistik Årbog 1997 [Statistical Yearbook 1997], Grønlands Statistik.

Hækkerup, Per. *Danmarks udenrigspolitik [Denmark's foreign policy],* Copenhagen, Fremad, 1965.

Høyem, Tom. *Grønland—NATO—EF [Greenland—NATO—EEC],* Berlingske Tidende, kronik, Nov. 25, 1982.

Lidegaard, Bo. *I kongens navn. Henrik Kauffmann i dansk diplomati. [In the name of the King. Henrik Kauffmann in Danish diplomacy 1919–1958],* Samlerens Forlag, 1996.

Lyck, Lise & Taagholt, Jørgen. Greenland—Its Economy and Resources, *Arctic,* 40(1): 50–59, 1987.

Lynge, Finn. *Tanker i et bulldozerspor [Thoughts on a bulldozer trail],* Det grønlandske Forlag, Nuuk, 1997.

Lynge, Finn. Selvstændighed for Grønland? [Independence for Greenland?], *Arctic Information,* 1998.

Løkkegaard, Finn. *Det danske gesandskab i Washington 1940–1942 [The Danish delegation in Washington 1940–1942],* Copenhagen, Gyldendal, 1968.

NordREFO. *Constitutional and Economic Space of the Small Nordic Jurisdictions.* Edited by Lise Lyck, Nordiska Institutet för Regioinalpolitisk Forskning, Stockholm, 1997.

Petersen, Nikolaj. *Grønland i global sikkerhedspolitik [Greenland in global security policy],* SNU, 1992.

Petersen, Nikolaj. The H.C. Hansen Paper and Nuclear Weapons in Greenland, *DUPI Report* 1997/2.

Petersen, Nikolaj. Negotiation of the 1951 Greenland Defence Agreement, *DUPI Report* 1997/3.

"Økonomisk Bæredygtighed og Politisk Kultur: Grønland" ["Economic carrying capacity and political culture: Greenland."] *Tidskriftet Politica,* 32 Årg Nr. 1, 2000 [*Politica Magazine,* vol. 32, no. 1, 2000].

Seidenfaden rapporten: Problemer omkring dansk sikkerhedspolitik [Problems concerning Danish security policy], Copenhagen, 1970.

Sørensen, Axel Kjær. *Grønland i det 20. Århundrede [Greenland in the 20th Century],* Arnold Busk Nyt Nordisk Forlag, 1983.

Taagholt, Jørgen. Den "juridiske Kontinentalsokkel", et nyt begreb i international ret [The "juridical continental shelf," a new concept in international law], *Grønland (Greenland Magazine),* No. 6–7, 1998.

Taagholt, Jørgen. The Early Exploration of Greenland, *Earth Science History,* 10(2), 1991.

Taagholt, Jørgen. Grønland—Set Fra en Sikkerhetspolitik Synvinkel [Greenland—Seen from a Security Policy Point of View], *Grønland (Greenland Magazine),* No. 6, 1981.

Taagholt, Jørgen. "International law of the sea: An Arctic Perspective." In *Nordic Arctic Research on Contemporary Arctic Problems,* ed. Lise Lyck. Aalborg University Press, 1992, pp. 93–104.

Taagholt, Jørgen. "International cooperation in Arctic Research," in *The Internationalization Process and the Arctic,* Roskilde University, 1994, pp. 7–20.

Taagholt, Jørgen. "Arctic Resources Possible Part in Future Energy Politics," *European Security, Nuclear Weapons, and Public Confidence,* Macmillan, London, 1982, pp. 155–167.

Taagholt, Jørgen. "Greenland and the Faroes." *Northern Waters—Resources and Security Issues.* The Royal Institute of International Affairs, London, 1986, pp. 174–189.

Taagholt, Jørgen. "Greenland's Future Development: A Historical and Political Perspective." *Polar Record,* January 1982, pp. 23–32.

Udenrigsministeriets Gråbog. *Dansk sikkerhedspolitik gennem tyve år [Twenty years of Danish security policy],* Forlaget Vinten, 1969.

Undersøgelsesudvalget af 4. juni 1987. *Beretning om flytningen af Thulebefolkningen i 1953 [Account of the relocation of the population of Thule in 1953],* December 1994.

Vilaume, Poul. *Allieret med forbehold. Danmark, NATO og Den Kolde Krig [Allied with reservations. Denmark, NATO and the Cold War],* Eirene, 1995.

Abbreviations

AEPS:	Arctic Environmental Protection Strategy
AMAP:	Arctic Monitoring Assessment Program
BMEWS:	Ballistic Missile Early Warning System
CAFF:	Conservation of Flora and Fauna
CINCWEST:	Commander in Chief Western Europe
CTBT:	Comprehensive Test Ban Treaty
DEW:	Distant Early Warning
DUPI:	Danish Institute of International Affairs
EEC:	European Economic Community
ESA:	European Space Agency
EU:	European Union
IASC:	International Arctic Science Committee
IASSA:	International Arctic Social Science Association
ICAO:	International Civil Aviation Organization
ICC:	Inuit Circumpolar Conference
IMO:	International (formerly Intergovernmental) Maritime Organization
IMS:	International Monitoring System
IRIS:	Incorporated Research Institutions for Seismology
IUHC:	International Union for Circumpolar Health
NATO:	North Atlantic Treaty Organization
NASA:	National Aeronautics and Space Administration
NGO:	Nongovernmental Organization
NMD:	National Missile Defense
OECD:	Organization for Economic Cooperation and Development
SAC:	Strategic Air Command
SACLANT:	Supreme Allied Commander Atlantic
SALT:	Strategic Arms Limitation Talks

SDI:	Strategic Defense Initiative
SPADATS:	Space Detection and Tracking System
U.N.:	United Nations
VHF:	Very High Frequency
WMO:	World Meteorological Office

Attachment 1—Historical Overview

2000 BCE:	The first wave of Eskimo migration to north Greenland
982:	The first Scandinavian settlements in Greenland
1000:	Scandinavians reach North American mainland
1721:	Hans Egede arrives in Greenland, Danish colonization begins
1814:	Treaty of Kiel after the Napoleonic Wars, Denmark cedes Norway to Sweden but retains Faeroes and Greenland
1917:	Denmark sells Virgin Islands to United States, who recognize Danish sovereignty in Greenland
1933:	International Court in The Hague recognizes Danish sovereignty in east Greenland
1940:	Under treaty, United States agrees to supply Greenland after German occupation of Denmark
1941:	United States undertakes defense of Greenland and obtains rights to install military bases
1951:	Danish-American treaty on the defense of Greenland
1953:	New Danish constitution gives Greenland equal status in Danish Commonwealth
1968:	New treaty with United States on Greenland and nuclear weapons
1979:	Greenland gets Home Rule but foreign policy and defense policy remain Commonwealth matters
1985:	Greenland leaves EU after 1982 referendum in Greenland

Attachment 2—American Bases in Greenland

Narsarsuaq: Bluie West One, established in 1941 and closed as an American base in 1958. Reopened as a Greenland civilian airport in 1959.

Søndre Strømfjord: Bluie West Eight, established as an American base in 1942; transferred to Denmark in October 1950. Following the Danish-American defense treaty of 1951, Søndre Strømfjord was established as a Danish-American defense area. The base was expanded in 1952–1953 as a military base. The U.S. Air Force left Søndre Strømfjord in 1992, and it continues as Kangerlussuaq civil Greenland airport.

Thule: Bluie West Six, American weather station established in Pituffik Valley in 1943. Thule Air Base established 1952–1953.

- BMEWS installed 1958, modernized in 1987
- NIKE-HERCULES missile batteries installed 1958–1965 for defense of Thule Air Base
- American B-52 crashes near Thule in January 1968

Camp Century: 1959–1964, equipped with nuclear reactor in the period 1960–1963.

DEW stations: (DYE-1, DYE-2, DYE-3, and DYE-4, of which DYE-2 and DYE-3 were located on the Inland Ice) established in 1960 and closed 1989–1990.

Attachment 3—Danish Defense in Greenland

1728–1731:	Danish military garrison in Nuuk
1731–1946:	Occasional summer voyages by naval ships
1941:	Military sledge patrol established
1946:	Naval station established at Nuuk
1947:	First military aircraft (PBY Catalina) stationed permanently in Greenland
1950:	The current SIRIUS Sledge Patrol established
1951:	Danish Naval Station Grønnedal established as home port for Greenland Command
1975:	Danish Defense Ministry reopens Station Nord

Attachment 4—Greenland Home Rule's Primary International Relationships

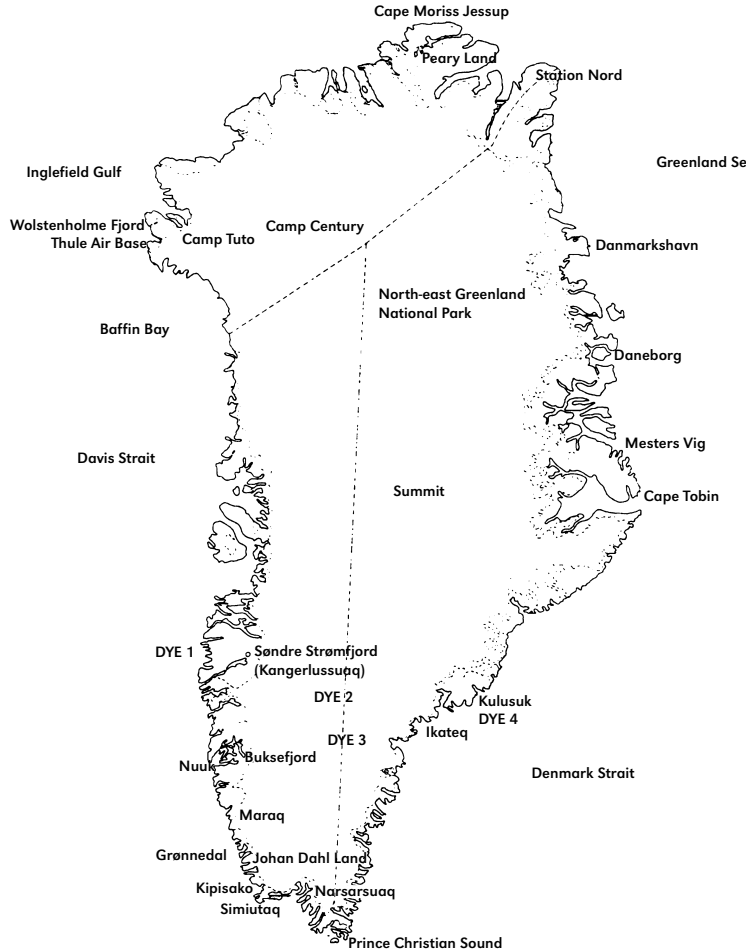
Organizations

- United Nations
  - Economic and the Social Council (ECOSOC)
  - Human Rights Commission
  - Working Group for Indigenous Populations (WGIP)
  - Convention on Law of the Sea (UNCLOS)
  - Conference on Environment and Development (UNCED)
- International Court at The Hague
- International Labor Organization (ILO)
- Council on Security and Cooperation in Europe (CSCE)
- Convention on International Trade in Endangered Species (CITES)
- International Maritime Organization (IMO)
- International Union for the Conservation of Nature and Natural Resources (IUCN)
- The Oslo Convention
- North Atlantic Fisheries Organization (NAFO)
- Northeast Atlantic Fisheries Commission (NEAFC)
- Arctic Environmental Protection Strategy (AEPS)
- Arctic Council
- Nordic Council
  - Council of Ministers
  - Western Scandinavia
  - Nordic Contact Committee for Fisheries Questions

Bilateral Cooperative Agreements

- Canada
  - Preparedness Agreement
  - Continental Shelf

- United States
  - Defense Agreement
  - Trade Agreement
- Russia
  - Fisheries Agreement


Cape Moriss Jessup
Peary Land
Station Nord
Greenland Sea
Inglefield Gulf
Wolstenholme Fjord
Thule Air Base
Camp Tuto
Camp Century
Danmarkshavn
North-east Greenland
National Park
Baffin Bay
Daneborg
Mesters Vig
Davis Strait
Summit
Cape Tobin
DYE 1
Søndre Strømfjord
(Kangerlussuaq)
DYE 2
Kulusuk
DYE 4
Ikateq
DYE 3
Buksefjord
Nuuk
Denmark Strait
Maraq
Grønnedal
Johan Dahl Land
Kipisako
Narsarsuaq
Simiutaq
Prince Christian Sound

Since the end of the Cold War, Greenland has played a less important role in military policy. Discussion in recent years has primarily focused on Greenland's role during the Cold War, with a significant politicization of the American presence in Greenland. Greenland is in a strategic location and affords the possibility for carrying out vital studies on the environment, together with the promise of prospecting for mineral resources in Greenland and the future role of the National Missile Defense.

JØRGEN TAAGHOLT (1934) graduated as an engineer from the Technical University of Denmark in 1961. He worked for a number of years in geophysical research in Greenland—from 1968 to 1983 as chief of the Ionospheric Laboratory—and later for the Ministry for Greenland and the Ministry of Research.

Since 1967, Jørgen Taagholt has held the post of Danish scientific liaison officer for Greenland as an adviser to the Ministries of Foreign Affairs, Defense, and Research, as well as to other ministries on matters concerning Greenland and the Arctic regions. Since 1989 he has been with the Danish Polar Center.

Jørgen Taagholt has written articles and books on Greenland and the Arctic regions: *Developmental Trends in Greenland*, 1976, and *Greenland and the Polar Regions: Resources and Security Policy*, 1982. He is an active lecturer at the Home Guard School and the Defense Academy.

JENS CLAUS HANSEN (1956) is commander, senior grade in the Danish Navy. He has had sea duty in submarines and staff duty with the Defense Staff and the Defense Academy. He was editor of the *Journal of Naval Affairs* of the Society of Danish Naval Lieutenants. Since 1998, he has been director of political science at the Defense Academy and in this capacity he has written articles and given lectures on security policy. Jens Claus Hansen is an examiner at the Center for Middle East Studies at the University of Odense.

Cover photo of Thule Air Base, Greenland, © Jack Stephens.