

BUILDING RESILIENCE AND PREPAREDNESS IN ARCTIC COOPERATION?

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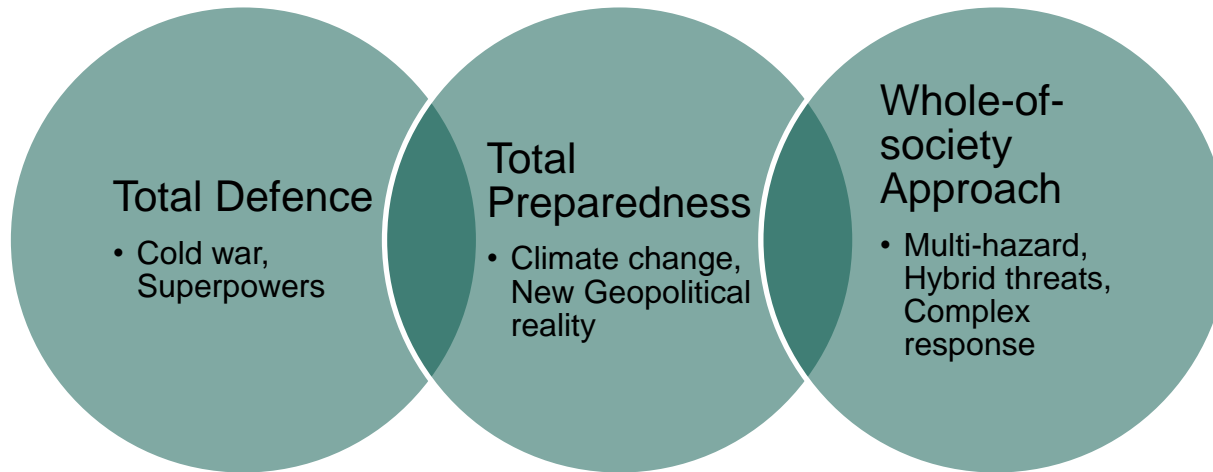
The Danish approach to emergency
response in Greenland

Civil defence in the Arctic – the
Greenlandic reality

Examples of local preparedness
governance in Greenland and Svalbard

Nordic collaboration in the Arctic –
Future prospects 'Samfundssikkerhed'

A changing reality – Business as usual in the Arctic?



Societal security - 'Samfundssikkerhed'

The Copenhagen School (Buzan, Wæver, de Wilde 1998)

- Threat towards 'the state' and its circumscribed territory (Region)
- Threat towards what was 'inside the state'; social, cultural and psychological formations. The referent object is referred to as communities
- Threat towards identity. The set of ideas and practises that identify individuals as members of a social group.
- Threat to lifegiving functions: 'It is not the national territory that is primarily at stake, but the ability of the government and civil society to function, the necessity to maintain critical infrastructure, for democratic governance to manifest certain basic values (Sundelius 2006).'

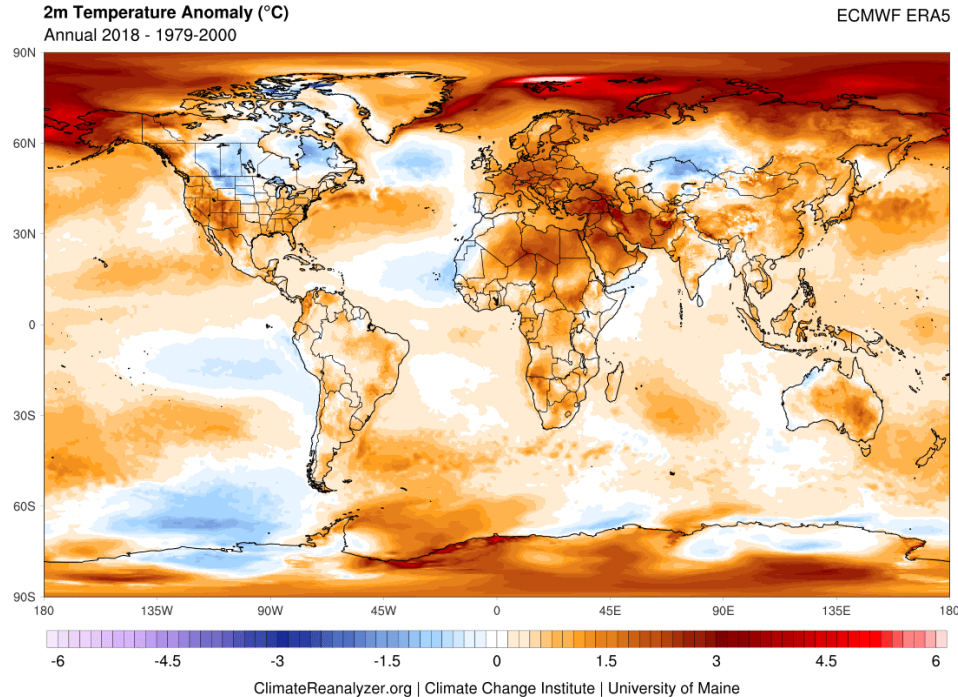
The Construction of Societal Safety & Security

Realists vs. constructivists vs. practitioners (Rhinar 2022)

- Nordic actors have contributed to shifting the meaning of societal safety and security from 'identity of society' to 'resilience'
- Links to risk, risk management and risk governance

This version has been adopted by the policymakers in some of the Nordic countries (samfunnssikkerhet, samhällsakerhet)

Climate challenges in the Arctic



28 October, 2024

<https://climatereanalyzer.org/>

1. marts 2018 blev professionshøjskolerne UCC og Metropol til Københavns Professionshøjskole.

Societal security - Climate



	Greenland	Svalbard
Average temperature increase	+ 1,7 to 4,4 °C since 1991	+ 4.8 °C since 1971
Sea ice	Decreasing	Decreasing
Permafrost	Melting	Melting
Precipitation	Increasing	Increasing
Severe weather	Increasing	Increasing

WARMER – WETTER – WILDER

Greenland

Greenland



2 million km² Total landmass (400'000 km² ice-free land)

56'000 inhabitants and around 70 towns and settlements (almost 20'000 in the capital - Nuuk)

5 Municipalities - Kommune Kujalleq, Kommuneqarfik Sermersooq, Qeqqata Kommunia og Kommune Qeqertalik og Avannaata Kommunia.

Svalbard



62'050 km² Total landmass

Approx 3'000 inhabitants, mainly in Longyearbyen, Barentsburg and Ny Ålesund

Under one jurisdiction – The Governor of Svalbard

Danish approach to civil defence

2007 reform of the municipalities from 271 to 98, which also included the introduction of risk-based dimensioning in preparedness

There were 87 emergency response organisations in 2016, which transformed into 32 in 2024.

Cost of emergency response:

Danish	375 kr (50Euro) kr/capita
Sweden	1009 (135Euro) kr/capita
Norway	1775 (238Euro) kr/capita
Greenland	1176 (157Euro) kr/capita

Several large climate/ weather-related incidents have tested and shown gaps in the current approach to Danish preparedness.

In 2024 a new ministry for 'Samfundssikkerhed og Beredskab' is to strengthen the robustness of Danish preparedness infrastructure.

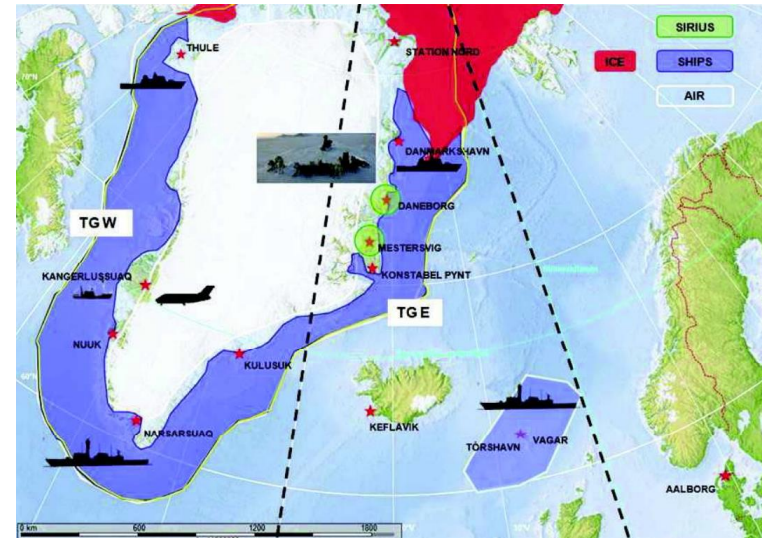
Danish Security and Safety in the Arctic

Municipal Emergency Preparedness
(Towns and settlements)

Volunteers

Arctic Command

International cooperation



Crisis management organisation in Greenland

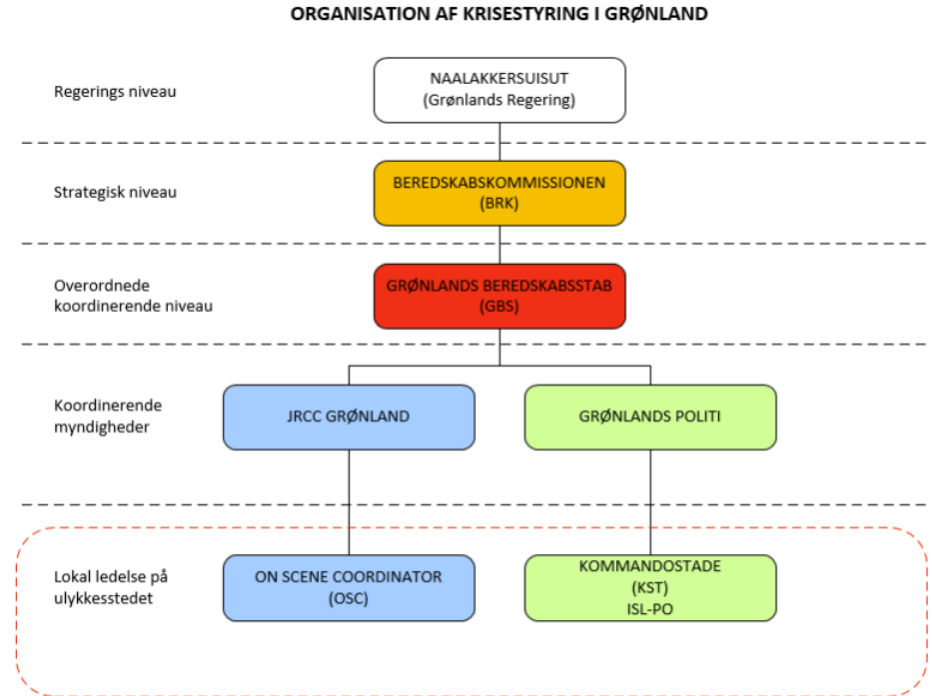
Government level (Political)

Strategic level (BRK)

Upper Coordination level (GBS)

Coordinating Authority (JRCC and Police)

Onsite command (OCS and KST)



Arctic command capacity

Two inspection ships, including a ship-based.

Three inspection vessels/cutters.

A frigate. All ships are on 1-hour alert when they are deployed in Greenland.

A surveillance aircraft on 11 hours standby

The Sirius Patrol with six sled teams ready for deployment in the National Park. The Sirius Patrol is not on any actual readiness, but will be ready to solve tasks all year round.



Greenlandic crisis governance

Establishment of a commission in case of large-scale emergencies (GBS) located in Nuuk

- Head of the secretariat (Chair), Police, Fire, Health, Arctic command, KANUKOKA (municipalities, ombudsman), + invited members (other sectorians)
1. Create and maintain a common overview of the overall situation
 2. Clarify political priorities and/or major financial dispositions
 3. Coordinate the external crisis communication to the population, media etc.



SAR Response effectiveness

Standard - Preparedness	Compliance in 2023
One inspection ship incl. Helicopter (365)	Not compliant
2-3 inspection vessels (882)	Not compliant
Surveillance aircraft for patrolling (365)	Not compliant
EC225 SAR helicopter (365)	Partial compliant
EC155 SAR helicopter (365) in the period 0800-1600.	Not compliant

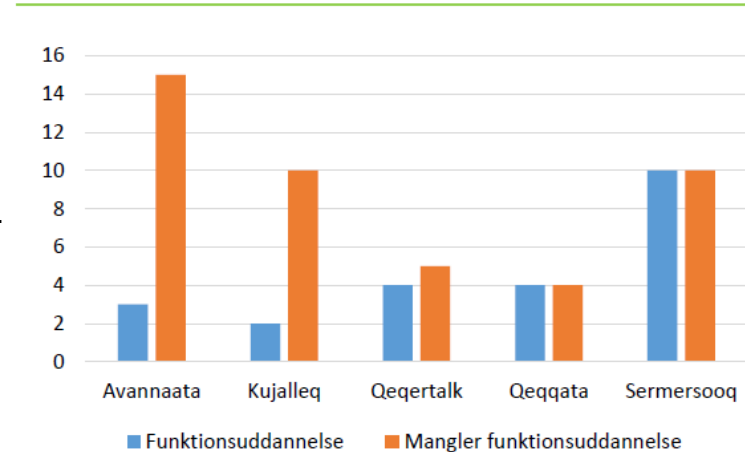
Redningsrådet, 2023



Greenlandic emergency response – current state

Functional training

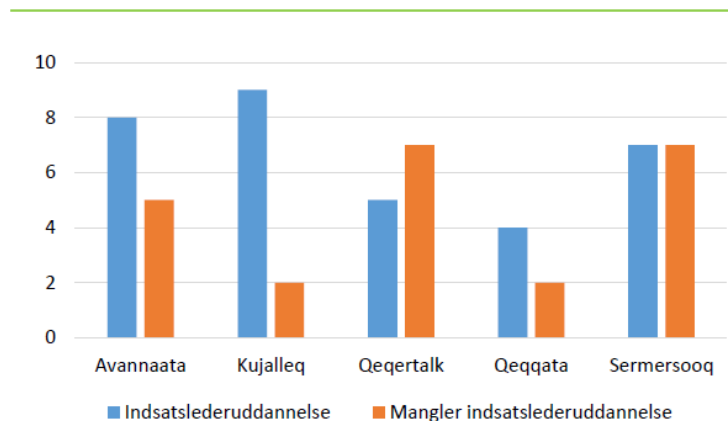
- 148 hours
- 1. Safety regulations in the rescue service
- 2. Breakthrough building materials, lift heavy loads and stiffen buildings.
- 3. Rescue people at height and depth
- 4. Responding to all types of accidents with different means of transport.
- 5. Rescue persons using the necessary technical and tactical equipment.
- 6. Solve the various CBRN tasks
- 7. Solve chemical rescue tasks
- 8. Use the pumps and provide a water supply.
- 9. Solve various firefighting and rescue tasks.
- 10. Solve firefighting tasks
- 11. Solve smoke diver tasks
- 12. Solve smoke diver tasks inside buildings



Greenlandic emergency response – current state

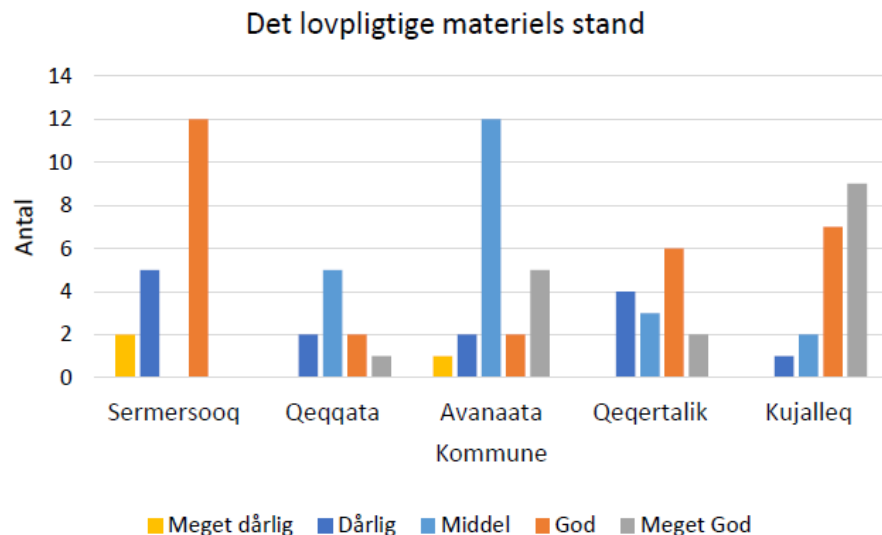
Incident commander training (done in Denmark)

- 148 hours
- 111 hours cross-functional training
- 1. Plan for learning activity from central education.
- 2. Guidelines for Response Management.
- 3. Interdisciplinary collaboration in response management.
- 4. Collaboration with other sectoral actors.
- 5. Staff work and management support in your sector.
- 6. Staff work and management support in own emergency preparedness.
- 7. Effective firefighting and quality of efforts.



Greenlandic emergency response – current state

- Around 1/3 – of equipment is in poor or very poor condition.
- 3/4 of the equipment is less than 20 years old



Health sector

Key weaknesses of the **Health sector**

- Lack of competences and specialised training
- Lack of exercise experience
- Lack of support from other actors
- Lack of crisis preparedness in central logistics hubs
- Lack of standardisation of equipment
- Lack of local emergency plans



Volunteers and their role in Greenlandic response

Several attempts have been made to start volunteer response organisations

- The Red Cross (First aid training, local shops)
- Grønlandsvogterne (Arctic command),
- Greenland Winter Warning Association (Avalanch warning)



Kalaallit Røde Korsiat



Crisis management within the functional domain	Crisis management within the resilience domain	Crisis management within the adaptive capacity domain	Crisis management within the self-organised domain
<p>Perspective on crisis management</p> <ul style="list-style-type: none"> - Instrumental 	<p>Perspective on crisis management</p> <ul style="list-style-type: none"> - Reactive 	<p>Perspective on crisis management</p> <ul style="list-style-type: none"> - Adjustment 	<p>Perspective on crisis management</p> <ul style="list-style-type: none"> - Decision made at the lowest possible level
<ul style="list-style-type: none"> • End goal is to resolve the event and return to previous state • Decisions can be made directly to the executing agent • Decision making is linear • Few obstacles to communication between sender and receiver. 	<ul style="list-style-type: none"> • End goal is recovery of organisational processes • Decisions are made in corporation with different executing agents • Decision making are mainly linear but can include multiple receivers who can coordinate internally • Obstacles to communication are reduced by continuously improving processes where resources can be shared and communication needs to be aligned. 	<ul style="list-style-type: none"> • End goal is to utilise the available resources efficiently through adjustment of executive agents' objectives • Decisions are made in networks of organisations • Decision making is decentralised and resources are allocated based on executive agents ability to utilise them efficiently • Obstacles are overcome by surpassing command and control functions through a network approach 	<ul style="list-style-type: none"> • End goal is restore critical activities despite the lack of formal command and control structures • Decisions on what activities to engage in are made by individual executing agents based on predefined list of priorities • Decision making is decentralised and done with the resources available to each executing agent • Obstacles are overcome through experience with the context, competencies, and ability to utilise own resources.
<pre> graph LR D((D)) --> E((E)) </pre> <pre> graph LR D((D)) --> E1((E)) D --> E2((E)) </pre>	<pre> graph LR D((D)) --> E1((E)) D --> E2((E)) E1 <--> E2 </pre>	<pre> graph TD E1((E)) <--> E2((E)) E1 <--> E3((E)) E1 <--> E4((E)) E1 <--> E5((E)) E2 <--> E3 E2 <--> E4 E2 <--> E5 E3 <--> E4 E3 <--> E5 E4 <--> E5 </pre>	<pre> graph TD E1((E)) E2((E)) E3((E)) </pre>

Avalanch in Longyearbyen – Lessons Learned and Norwegian strategic response

2015 – Two fatalities, several injuries and significant material damage

2017 – Snow warning system in place, no fatalities, six houses totally damaged.

Improved training and utility of volunteers at the scene

A crisis management system in place

However, high turnover and lack of Arctic experience threaten to hollow out these capabilities



Lessons learned – Resilience domain

Competences can be created by involving private companies and volunteer organisations

Uniform principles and procedures make coordination easier

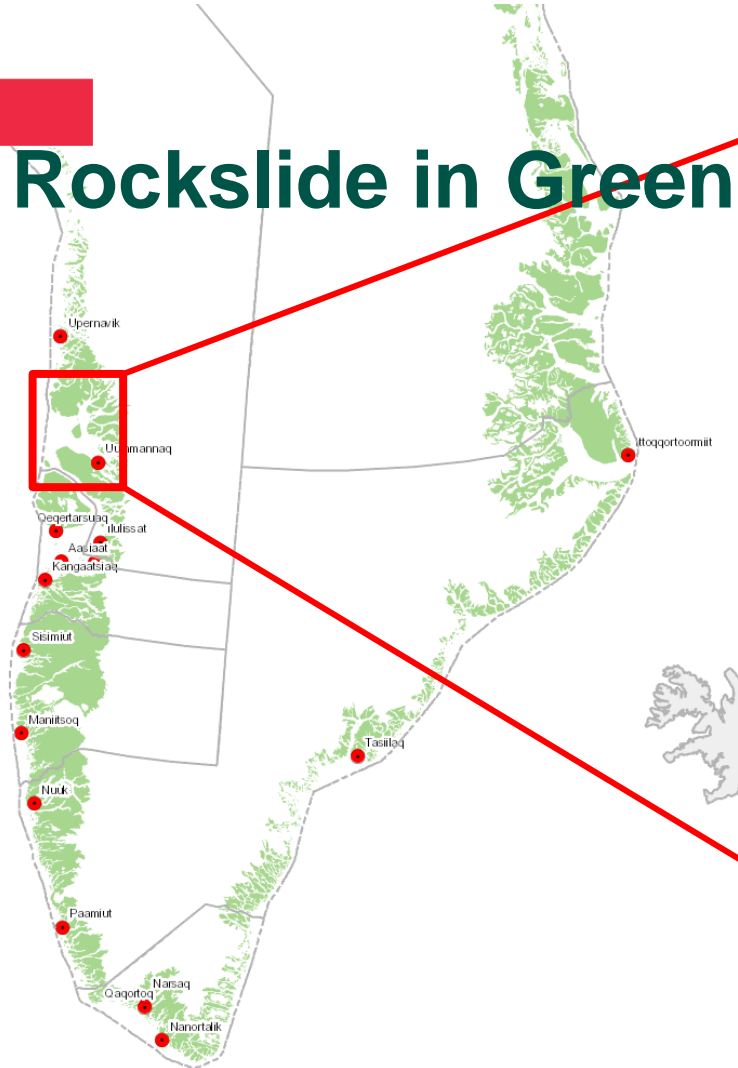
Capabilities were more important than sector responsibility

Changes to demographic mix can have a significant impact on the capacity to respond





Rockslide in Greenland



The adaptive domain - Rockslide in Karratfjord

The size - 38.5 million m³ and 48.5 million m³

Two local helicopters and an unknown number of small boats were utilised to provide support

Decisions were made locally by police and the fire inspector

Local networks of individuals organised rescue response

The Arctic command took 17 hours to get to the site (but got all the glory)

The GBS decisions did not affect the outcome



Lessons learned – Self-organised domain

Sector responsibility only works when sectors are present

Coordination has to be handled close to the event

Resources are scarce (What you bring is What you have)

Communication infrastructures are unreliable



Whole-of-Society approaches in the Arctic

Resilience as maintenance secures the existing social order and institutional setting.

Resilience as marginality stems from the premise that a threat cannot be checked or completely prevented.

Resilience as renewal considers disruption as an opportunity to bring out the transformative potential of a society by remodelling its structures.

Wigell, Mikkola and Juntunen, 2021



Way forward for Nordic cooperation in the Arctic – Whole of society

- Coordination into a governance structure approach (Joint training, standards and exercises)
- Resources can be shared and utilised across entities (For example, Viking Sky, Forrest fire in Mid-Sweden, Bogfires in Greenland)
- Keeping local initiatives afloat in national emergencies (adaptive capacity and self-organising)
- A Nordic model for Societal security and safety that encompasses both national and Nordic response capacities in support of existing infrastructures.



Thank you

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