

# Threats to the Kujataa UNESCO World Heritage Site

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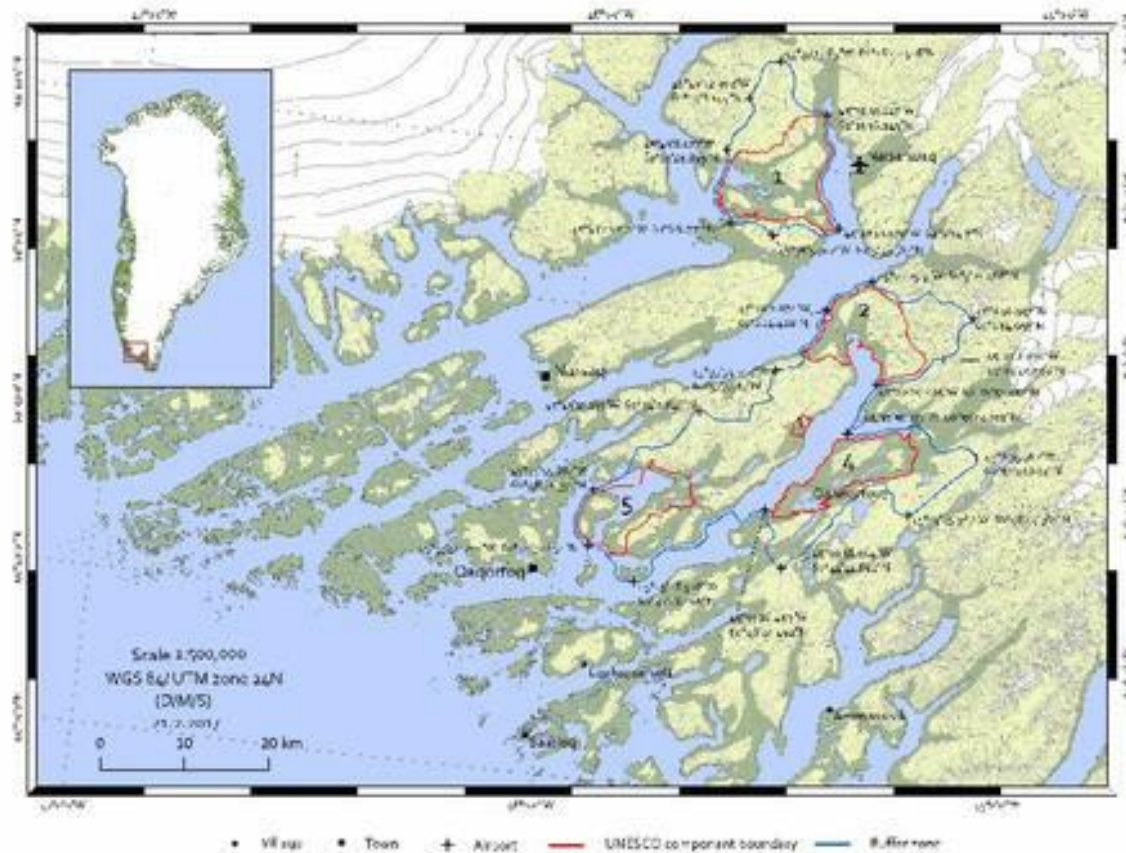
# The site

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- **One of three WHS** in Greenland.
- Inscribed on UNESCO's world heritage list in **2017** under **Criterion V** in the WH Convention as *“an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change”*.
- It comprises a **sub-arctic farming landscape consisting of five components** representing key elements of the Norse Greenlandic and modern Inuit farming cultures. They are both distinct and both pastoral farming cultures located on the climatic edges of viable agriculture, depending on a combination of farming, pastoralism and marine mammal hunting.
- It is the **earliest introduction of farming to the Arctic**.
- *Source:* UNESCO, Kujataa Greenland: Norse and Inuit Farming at the Edge of the Ice Cap (2017), <https://whc.unesco.org/en/list/1536/>

# The site

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*Source:* UNESCO World Heritage Centre

# The site

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Kujataa Greenland: Norse and Inuit Farming at the Edge of the Ice Cap. *Photo:* Kommune Kujalleq, Birger Lilja Kristoffersen

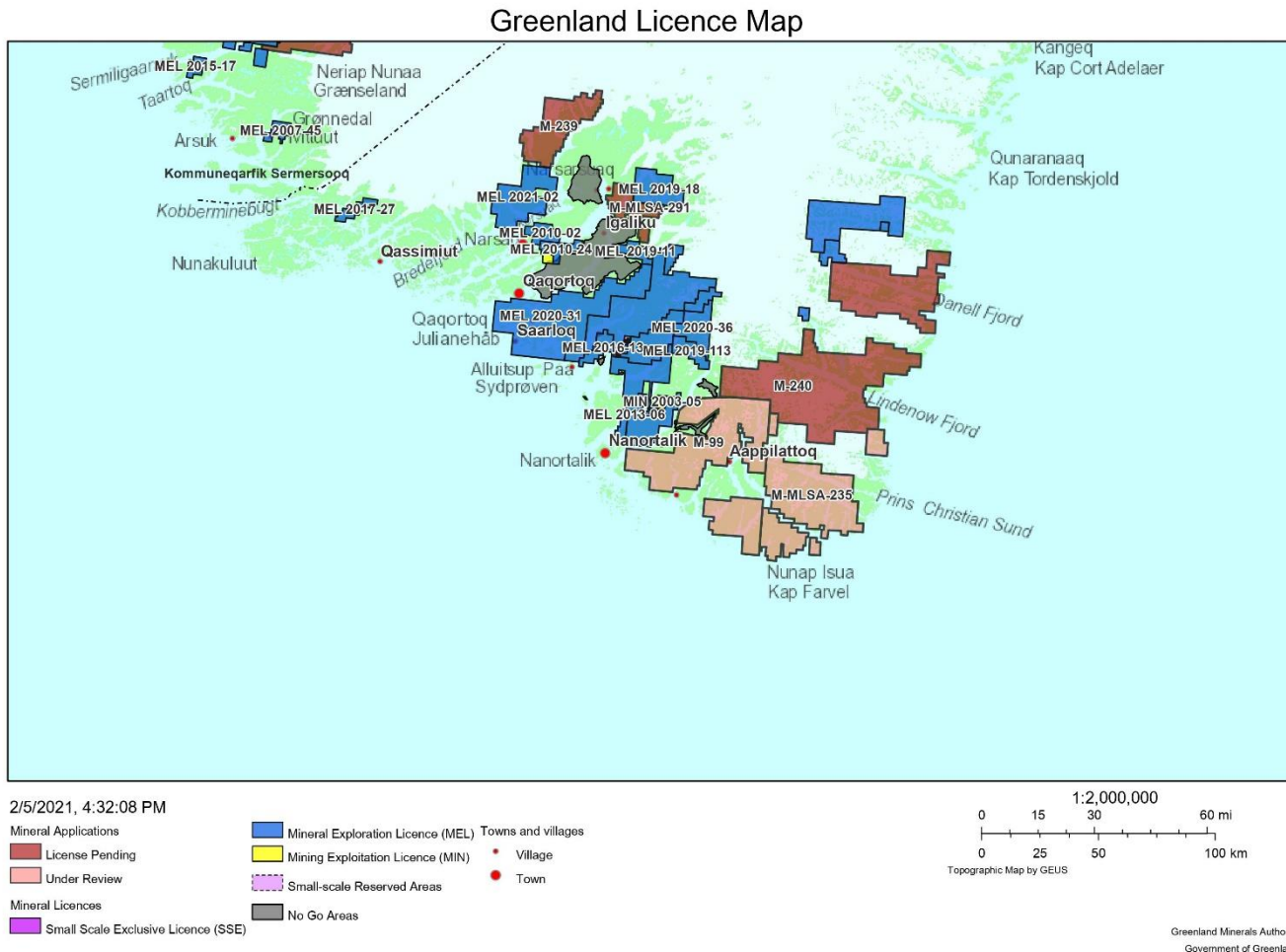
# General concerns

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- **Still less respect for environmental protection in Greenland**
- Greenland has some of the **largest undiscovered oil and gas resources** and some of the **largest mineral resources in the world**.
- Currently, there are about **70 active large-scale exploration and exploitation licenses** in Greenland, covering thousands of square kilometres.
- Almost all related to **surface mining projects**, often at high altitude.
- Most of them are located in **Southern Greenland**, which has the country's richest biodiversity and all of Greenland's farm land.
- The Arctic environment is particularly **vulnerable to pollution**, because it recovers very slowly.



# General concerns



License map of Southern Greenland, Greenland Minerals Authority, February 2021.

# General concerns

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- Greenland is **not party to the Aarhus Convention** and its environmental legislation does **not mandate strategic environmental impact assessments** for mineral exploration areas.
- Few areas in principle are excluded from being licensed and the public is not informed in advance on what areas could be designated.
- In its **new mineral and oil strategy**, the Greenlandic government has opened up for oil exploitation in the world's biggest national park in North Eastern Greenland.
- Since January, a mining project in Eastern Greenland, where a Canadian company plans to exploit **12.8 million tons ore annually**, is now in the pre-hearing phase. The entire exploration area is **located in Greenland's National Park**.
- For more information on Greenland's legislation in this field, see: Ellen Margrethe Basse, Juridisk responsum om den gældende grønlandske lovgivning vurderet i lyset af Århuskonventionen, Juridisk Institut, Business and Social Sciences, Aarhus Universitet (June 2014), <http://kortlink.dk/naalakkersuisut/pk6q>

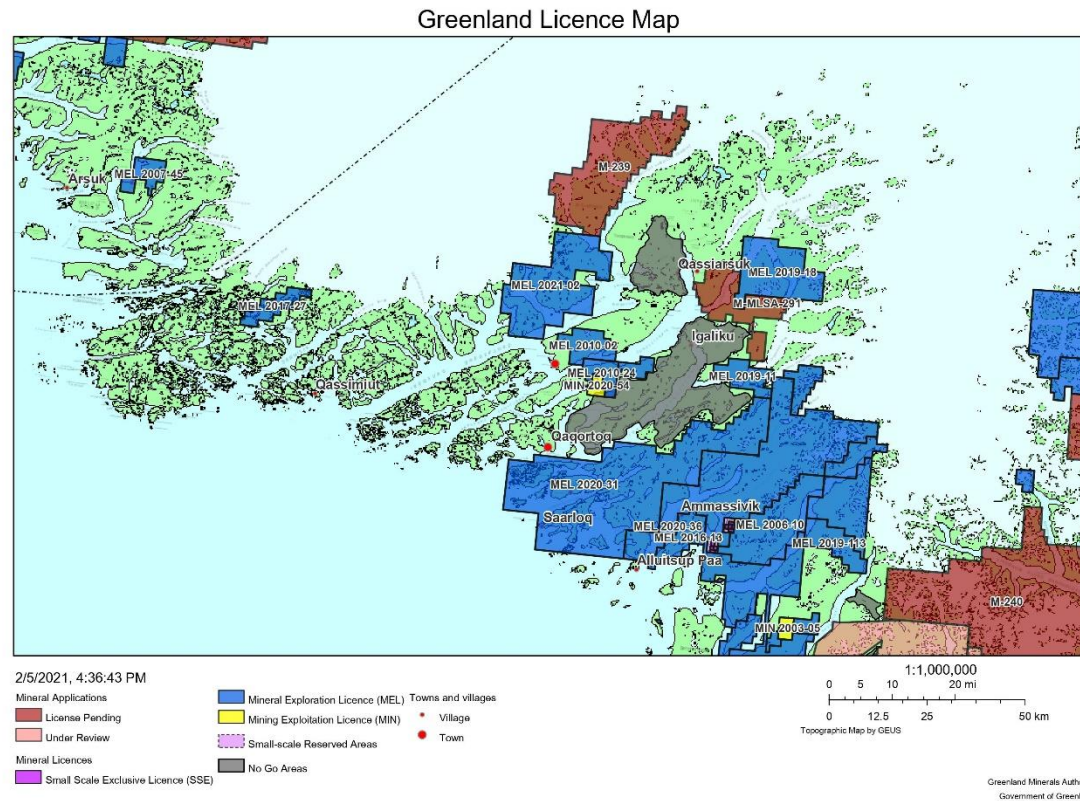
## Specific threats to the Kujataa WHS - Kringlerne

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- **The Kringlerne rare earth elements mining project** was granted an exploitation license in August 2020. It is **located very near the Kujataa UNESCO WHS**.
- In 2013, the Greenlandic government estimated that it contained more than **4.3 billion tons of ore**.
- Measured by the requirements of Greenland's Mineral Resources Act, there is little doubt that the public consultation material and the basis of the licensing was **insufficient**.
- The approval by the Mineral Resources Authority was based on **seven years old EIA consultation material**, which did not include the latest version of the EIA report, and the public response from that time.
- The material did also not include the plans for a **chemical separation plant**, which the government wanted to be a part of the project. The plant would have a daily consumption of **up to 2,000 tons of sulphuric acid**.



# Specific threats to the Kujataa WHS - Kringlerne



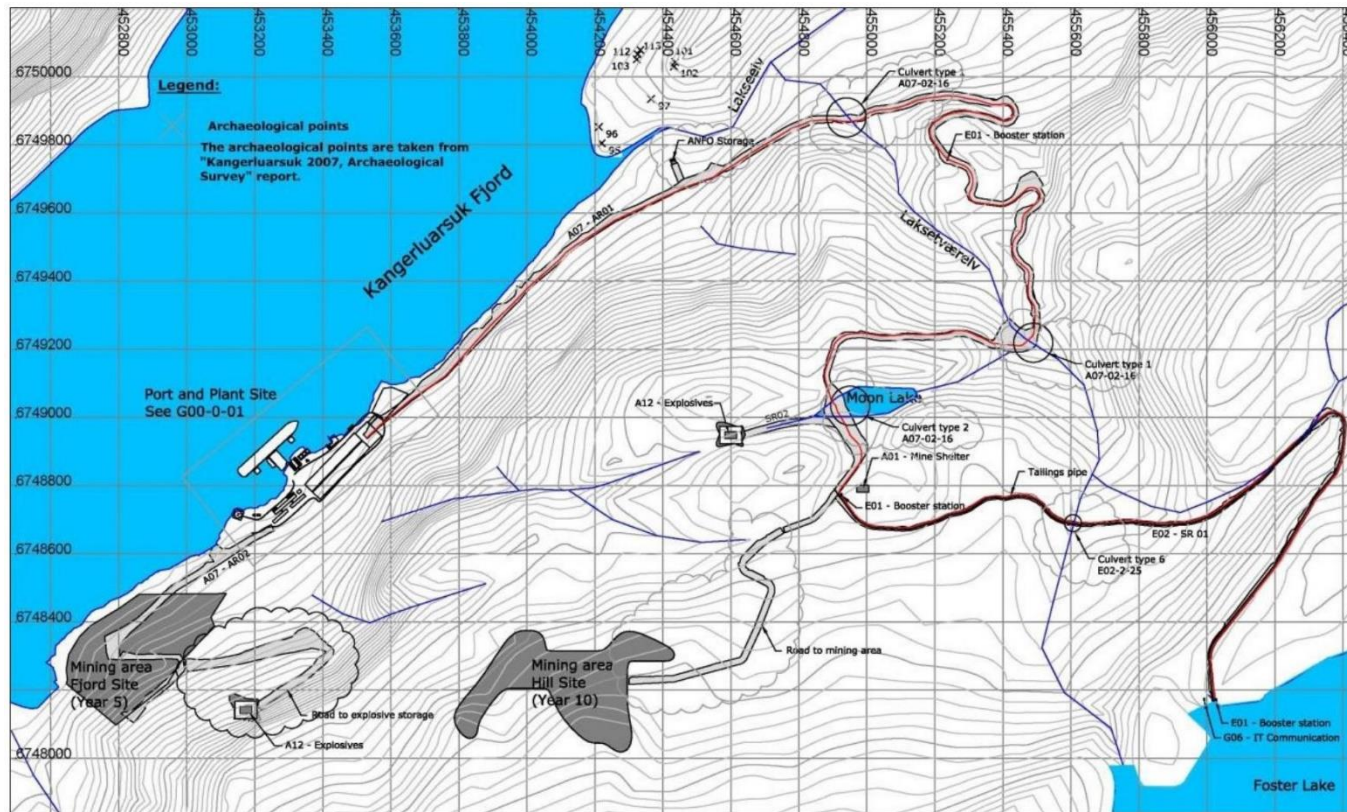
Mineral licenses in Kommune Kujalleq in February 2021. MIN 2020-54 (yellow area) marks the Kringlerne exploitation license area, MEL 2010-02 (blue area) the Kvanefjeld exploration license area. *Map:* Greenland Minerals Authority, February 2021.

# Specific threats to the Kujataa WHS - Kringlerne

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- The EIA report from 2013, which was the basis of the licensing, only describes **ten years of mining operations** – five years for each of the two open mine pits – whereas the exploitation license allows **30 years** of operations.
- Position papers by KANUKOKA – The National Association of Greenland’s Municipalities – and Kommuneqarfik Sermersooq, neighbour municipality to Kujalleq Municipality, are **very critical** of the mining project.
- Kommuneqarfik Sermersooq points out that the project will **harm agriculture** in the region. This is significant, because Kringlerne is located very close to the Kujataa WHS, which is a historic agricultural site.
- Among other things, the **position papers** emphasise the significant uncertainty regarding the annual mineral production and the de facto life-span of the mine (Greenpeace), that water polluted by lead and other heavy metals will spread to rivers and fiords from the planned storage facility for tailings and waste rock in Foster Lake (KANUKOKA, Kommuneqarfik Sermersooq, Greenpeace, WWF), pollution by fluorine (DCE/GN, WWF, Avataq) and insufficient validation and assessments of dust and particle emissions and dissemination (KANUKOKA, Kommuneqarfik Sermersooq, DTU Wind Energy, WWF). According to Kommuneqarfik Sermersooq, mining operations will increase the quantities of dust in Narsaq town by 43 per cent and in Qaqortoq by 9 per cent. In addition to lead, the dust will contain uranium, thorium, zink, arsenic and other toxic elements. The mining projects CO<sup>2</sup> emissions, as they are described in the EIA report, equals 3,5 per cent of Greenland’s total CO<sup>2</sup> emissions in 2012.

# Specific threats to the Kujataa WHS - Kringlerne



Description of the overall design of the Kringlerne mining project with two open pit mining sites, tailings deposition in Fostersø (Foster Lake) and the crusher, separator and all other facilities located at the fjord. *Map:* Tanbreez Project, EIA, August 2013.

## Specific threats to the Kujataa WHS - Kvanefjeld

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- The biggest and most controversial of the mining projects near the Kujataa WHS is the **Kvanefjeld rare earths and uranium mining project**, owned by the Australian company Greenland Minerals Ltd., GML.
  - The plans for Kvanefjeld started **more than sixty ago** in Denmark, when its uranium deposit was discovered and explored by the Danish Nuclear Energy Commission, which needed a stable uranium supply for the **Denmark's planned nuclear power program**.
  - According to GML, in addition to containing the **second biggest uranium** and **by far the largest thorium deposits**, the Ilimaussaq-complex, of which Kvanefjeld is a part, **possesses the second largest deposits of rare earth elements in the world**.
  - The mine, which would be **the world's second largest open pit uranium mine**, is located on top of a mountain, almost one kilometre above sea-level, only six kilometres away from Narsaq, a town of approximately 1,500 inhabitants, and also **near some of the parts of the Kujataa WHS**.
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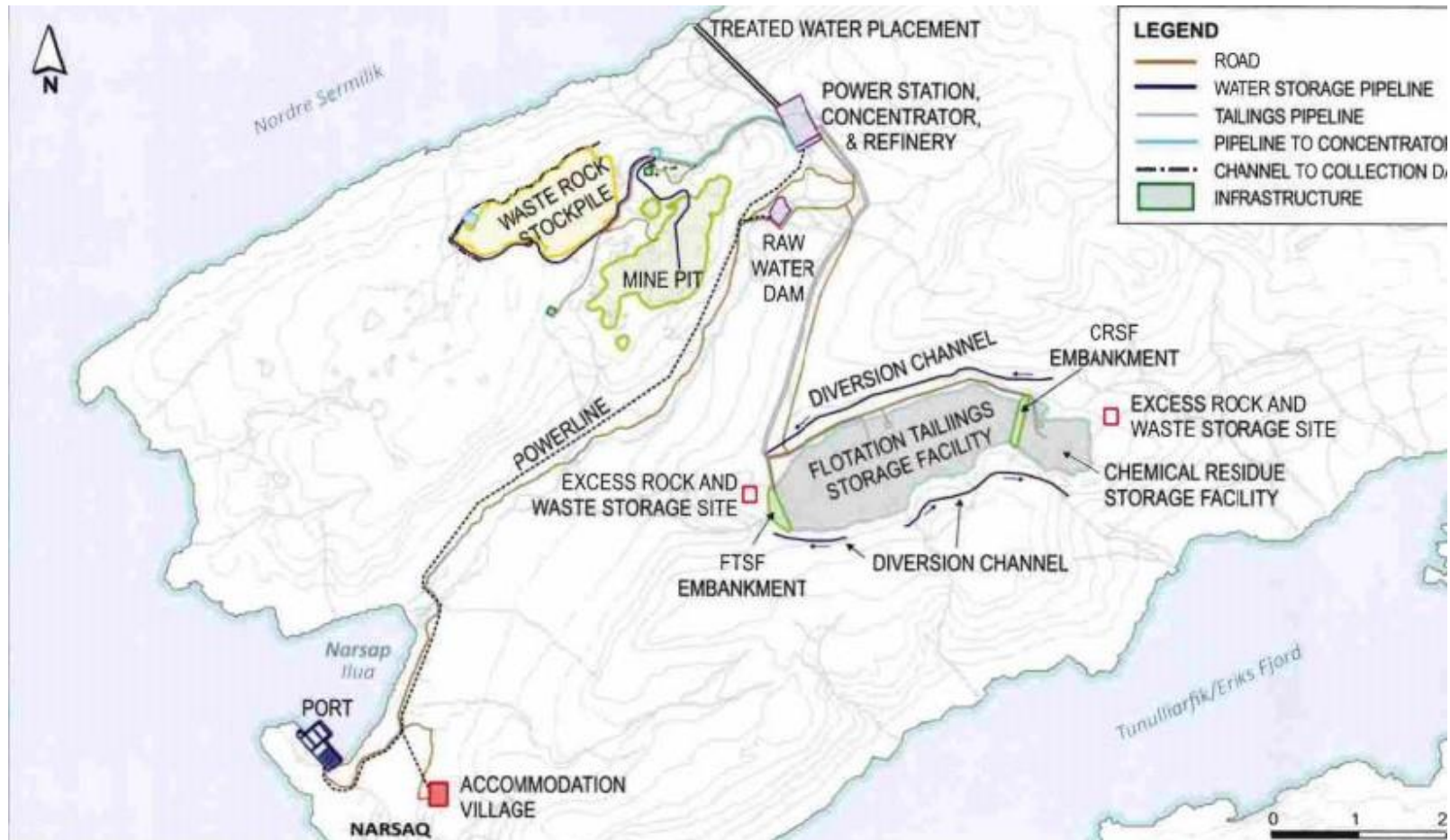
# Specific threats to the Kujataa WHS - Kvanefjeld

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Kvanefjeld and Narsaq. *Photo: NASA ICE NASA / Jeremy Harbeck*

# Specific threats to the Kujataa WHS - Kvanefjeld



Kvanefjeld project layout. *Source:* Greenland Minerals Ltd., Kvanefjeld EIA



# Specific threats to the Kujataa WHS - Kvanefjeld

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- On December 18<sup>th</sup> 2020, the government **started public hearings** on the mining project as part of the EIA process. The hearings will go on for 23 weeks, until June 1st 2021, whereafter the government will decide whether to grant GML an exploitation permit or not.
- Although by far Kvanefjeld is the biggest and potentially most polluting industrial project in the history of the Danish Realm (according to the EIA report increase Greenland's current total CO<sup>2</sup> emissions by 45 per cent), the government **did not notify the neighbouring countries**, although Greenland has been **party to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context** since 1997.
- On April 6<sup>th</sup>, a **general election** has been called. The incumbent government coalition fell apart mainly because of disagreements over Kvanefjeld. The election is so far the culmination of almost a decade's dispute over which path Greenland should follow in regard to uranium mining.

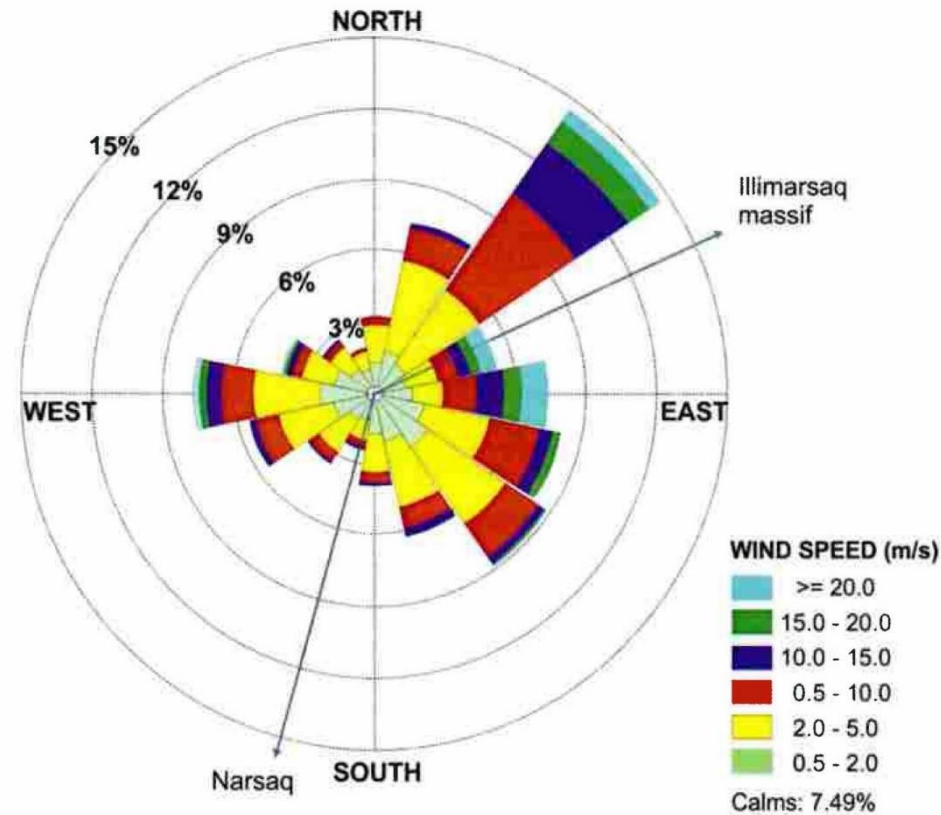
# Kujataa's Outstanding Universal Value under threat

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- Kujataa's unique farming traditions have been a determining factor in designating it as WH. However, the Danish Risø National Laboratory has estimated that **up to a thousand tons of radioactive dust** might be released annually from just the Kvanefjeld open pit mine due to material handling, hauling and blasting and from the ore stock and waste rock piles.
- Furthermore, if the **tailings** by some unforeseen cause such as leakages, technical problems, etc. **would turn dry**, massive amounts of radioactive and toxic dust would be blown away.
- The **predominant wind direction** and the direction for the strongest winds are east- and northeastwards, where the Kujataa WHS is located. Because of the dust, **domestic animals and wildlife** in the contaminated areas would be **chronically exposed to radioactive and other toxic species via drinking water, food and air.**

# Kujataa's Outstanding Universal Value under threat

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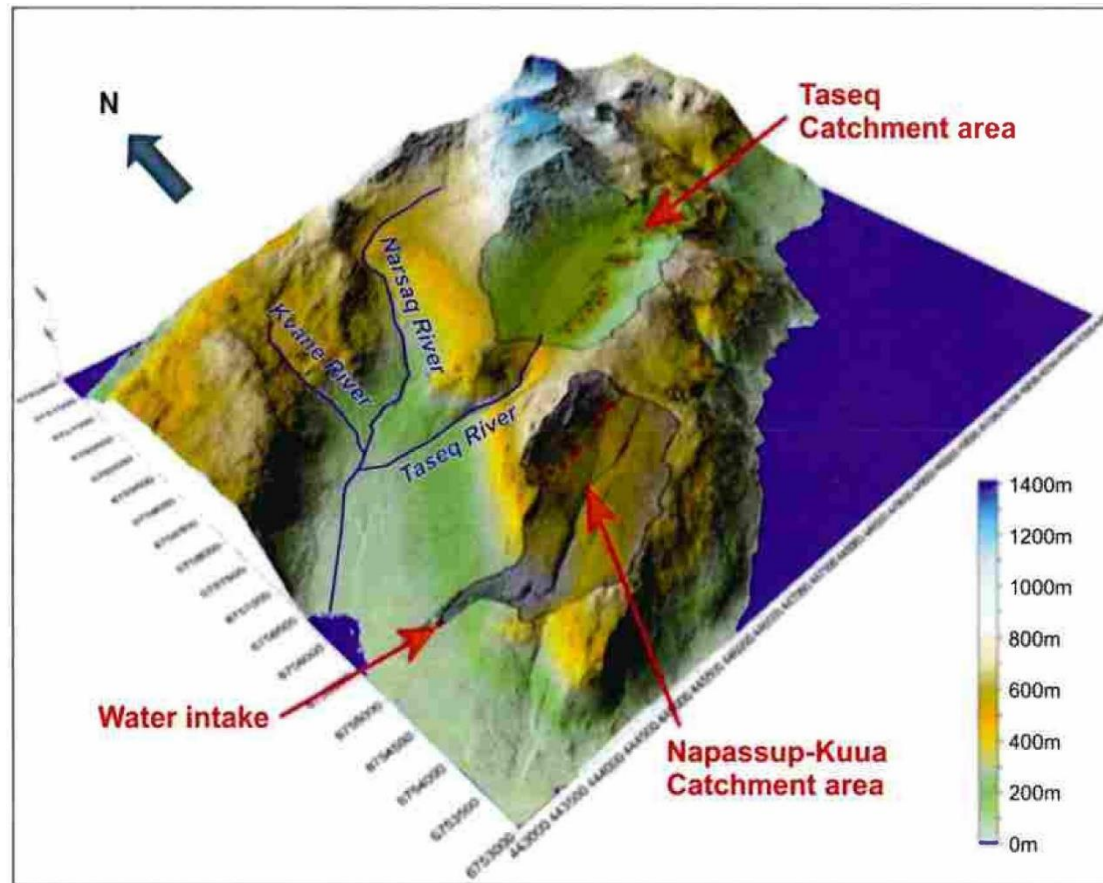
Wind directions and speed recorded from Kvanefjeld weather station. *Source:* Greenland Minerals Ltd., Kvanefjeld EIA

# Kujataa's Outstanding Universal Value under threat

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- According to the Kvanefjeld EIA report, a **dilution factor in the order of 2000** for the mine's waste water would be required to be rendered safe for the most critical parameters.
- The discharges of waste water during just one year would have to be diluted into **7 km<sup>3</sup> of seawater** in the Fiord system, which is part of the Kujataa WHS, and into **260 km<sup>3</sup> of seawater** during the mine's lifetime.
- Seepage, leaks and spills of liquids from the tailings will cause **contamination of groundwater** and rivers by radioactive and non-radioactive toxic chemical species. Seafood would become contaminated as well, due to the **substantial discharges of wastes** into the Fjords and the coastal sea.
- Although there is no significant visual impact of the mining projects on the WHS, the landscape would change in the development **from a rural to an industrial area**. Among others, new ports, port facilities and accommodation villages have to be built and corresponding support infrastructure implemented.

# Kujataa's Outstanding Universal Value under threat



Water catchments, Kvanefjeld project. *Source:* Greenland Minerals Ltd., Kvanefjeld EIA

# No real plans to protect Kujataa

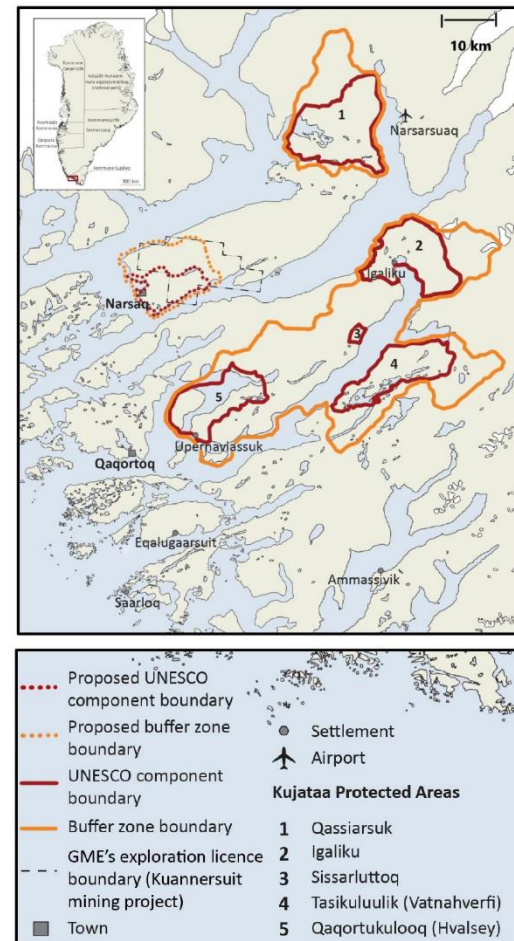
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- The Kujataa WHS governed and managed by a **steering group** with representatives from the Greenlandic government, the Greenland National Museum and Archives, Kujalleq Municipality, village councils, farmers, the Danish Agency for Culture and Palaces and the tourism industry.
- Although it is acknowledged that the site is vulnerable, it is assumed that **the buffer zones are enough** to protect the integrity of the property. However, since the current management plan, which barely touches on the mining issues, was written in 2016, the number of exploration licenses in the region has exploded.
- In its description of the impacts of the nearby mining activities, the management plan relies on a draft of an EIA of the Kringlerne mining project, which was **rejected by Greenland's Environmental Agency for Mineral Resources Activities (EAMRA)**, due to lack of relevant information. EAMRA also rejected four EIA draft reports on the Kvanefeld project because of lack of information, before a final draft was approved in 2020.



# Proposals for extension of the Kujataa WHS

- Especially in Southern Greenland, there has long existed a notion that the Kujataa WHS in its present form has been delineated to accommodate particularly the Kvanefjeld mining project.
- *Also:* Potential impacts of the other mining projects surrounding the site have not been considered.
- In March 2018, a proposal from local organisations was submitted for an extension of the WHS in order to address this issue.
- Generally, the proposed sites meet a wide range of selection criteria for nomination to the WH Tentative List.



Map: Marine Duc 2018 / WHW

# Recommendations

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- In December 2018, Greenland's Minister of Mineral Resources and Labour was asked by an MP, whether the government would carry out a **Heritage Impact Assessment (HIA)** of the Kvanefjeld mining project and not make a decision on licensing the project, before it had been presented to UNESCO for an evaluation in accordance with §172 of the operational guidelines for the World Heritage Convention.
- The Minister responded that the government would not take a position on this question **before a valid exploitation application had been made** by the owner of the project. Such an application has now been submitted, reviewed and approved, and is submitted to public hearings. However, no HIA has been carried out. The same pertains to the Kringlerne mining project, which is located even closer to Kujataa and has been granted an exploitation license.
- **A HIA should be carried out for both mining projects in order to analyze their possible effects and consequences of development on the OUV of the Kujataa WH properties.**

# Thank you

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For further information, please contact:

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See also the website of NOAH Friends of the Earth Denmark's Uranium Group: [www.noah.dk/urangruppe](http://www.noah.dk/urangruppe)