

# Country update, Denmark

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Forum of Arctic Research Operators Annual Meeting  
Arctic Science Summit Week 2023  
Vienna, Austria, 17 February 2023



# ITEMS:

1. Research infrastructure in Greenland
2. New developments
3. ISAAFFIK

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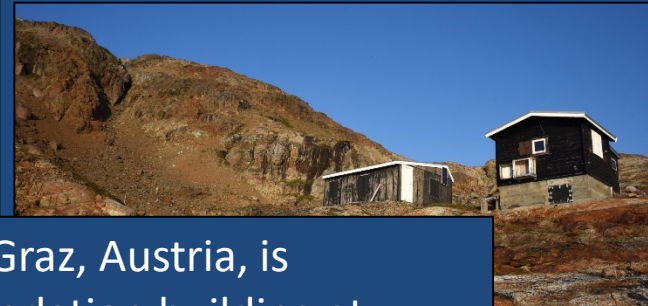
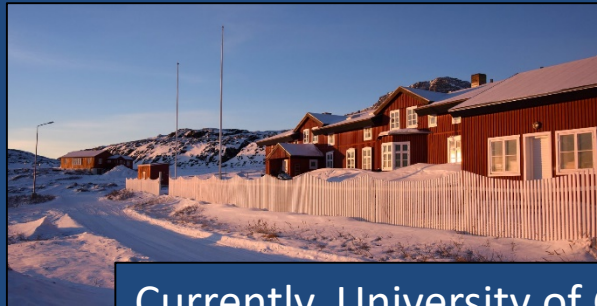
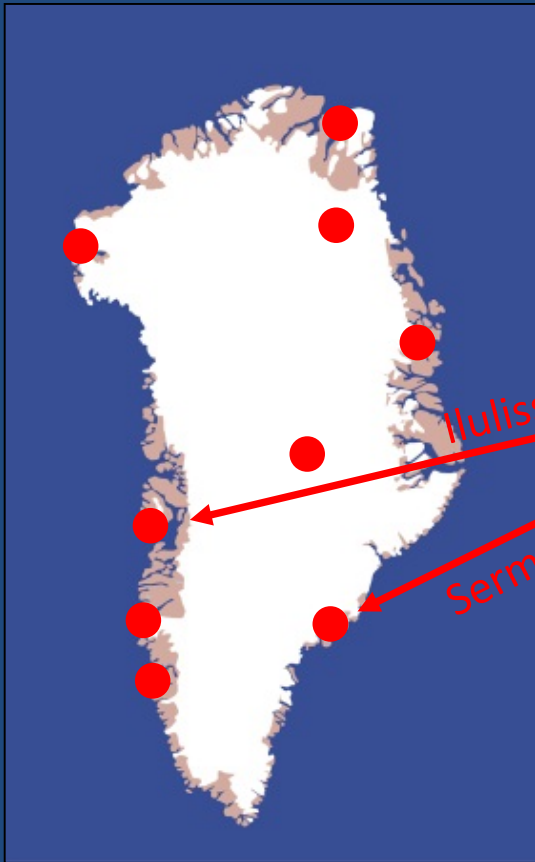
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# Research infrastructure in Greenland

There are nine research stations. Four of them are owned by Danish institutions, four of them are owned by Greenland institutions, and one is owned by US National Science Foundation.



Currently, University of Graz, Austria, is establishing an accommodation building at Sermilik Station, and Bergen University, Norway, is establishing a logistical hub in Ilulissat.



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# Research infrastructure in Greenland

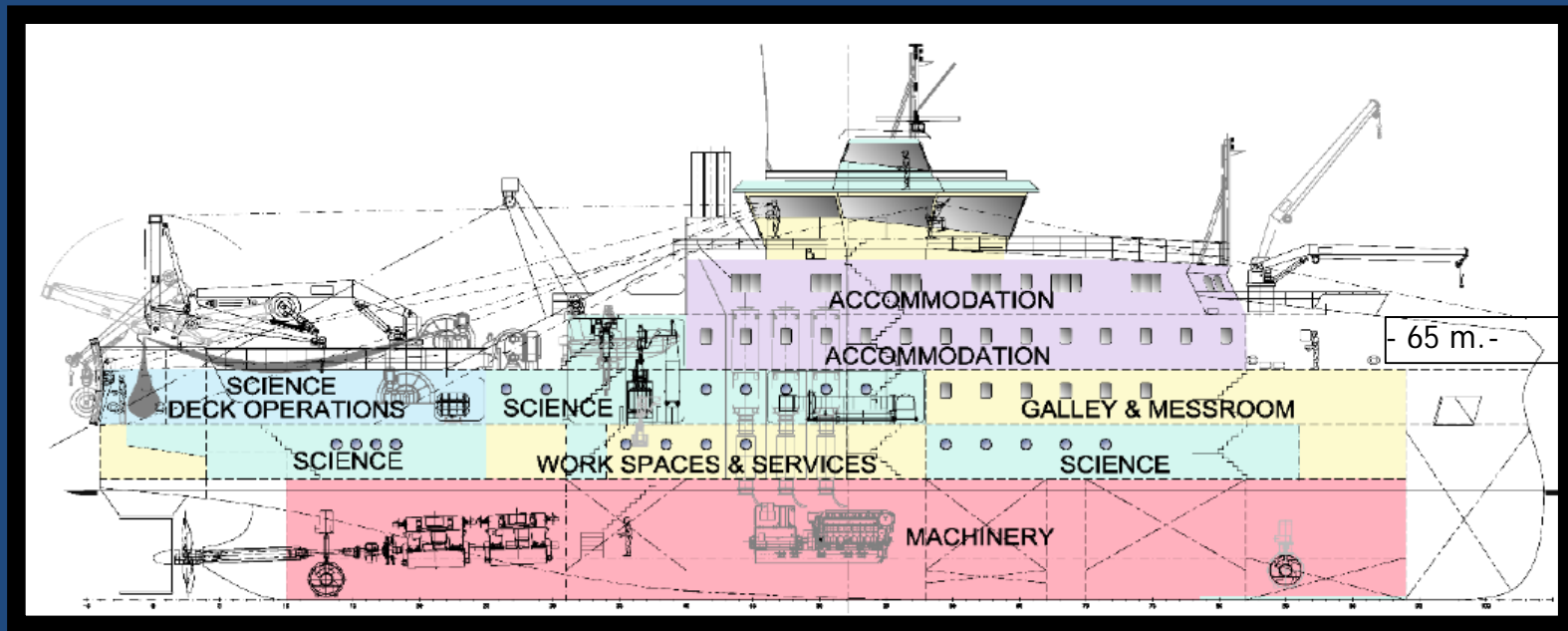
There are three research vessels in Greenland, M/V Sanna, M/V Porsild and M/V Tarajoq. M/V Sanna and M/V Tarajoq belong to the Greenland Institute of Natural Resources, while M/V Porsild belongs to University of Copenhagen. Besides that, the Danish military provides some capacity for scientists onboard their ships around Greenland. Application for use of military infrastructure goes through ISAAFIK.



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# M/V Dana V

Technical University of Denmark (DTU) is planning the construction of a new research vessel for operations in the waters around Denmark and Greenland. The ship is planned to start operation in 2026. Budget: 50 mio. EURO. The Danish Parliament allocated in 2021 22.8 mio. EURO for M/V Dana V. The rest of the financing comes from DTU and private funds.



## Specifications:

Length: 68 m

Width: 16 m

Maximum number of people on board: 38 (18-20)

Cruise speed: 12 knots



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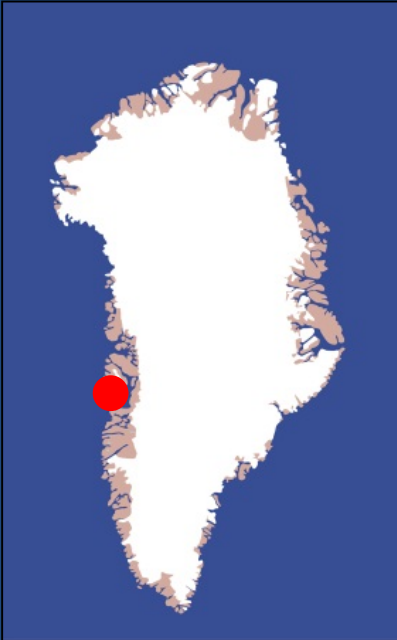
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# Modernisation of Arctic Station, West Greenland

University of Copenhagen has finished the modernisation of Arctic Station, in the town of Qeqertarsuaq in Disko Bugt, West Greenland. The modernisation includes improved laboratory facilities and increased capacity for accommodation (from 26 to 39 scientists). The station is already more or less fully booked for 2023.



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# Sustainable Energy, Zackenberg Research Station:

Zackenberg Research Station in Northeast Greenland is establishing a solar energy plant to fully support the station with sustainable electrical power.

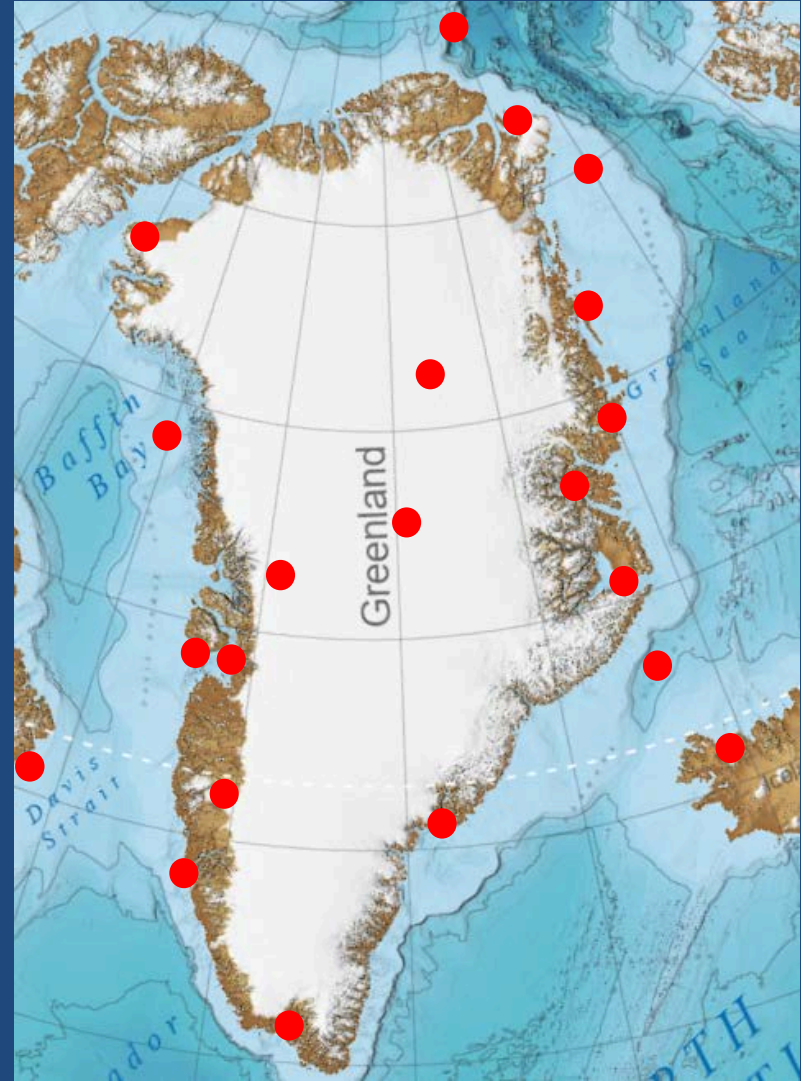


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# GIOS (<https://gios.org>)

GIOS is a new coordinated network of sustainable long-term research infrastructures in and around Greenland observing the changing air, ice, land, and ocean conditions.

GIOS link all institutions and universities currently carrying out Arctic research in the Danish Realm.







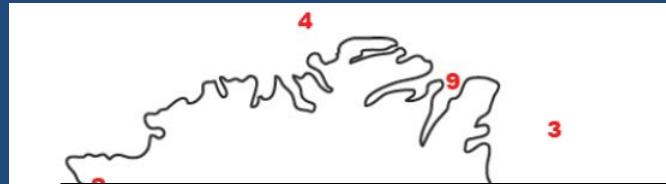
### AIR

- The ICOS (level 2) measurements existing at VRS will be expanded along the Greenland latitudinal gradient
- The GEM station at Qaertarsuaq will be upgraded.
- All GEM Climatebase stations will also be upgraded with satellite-based broadband modem connections.



### SPACE WEATHER

- GIOS will upgrade and expand the network of observatories to increase the data measurement frequency and coverage.
- A new observatory in Thule Air Base will enable us to continue the index derivation and together with the two new magnetometer installations, provide a unique dataset that enables development of space weather applications and improvement of our knowledge of space weather impacts in Greenland.



For land-based observations, GIOS has developed an autonomous container-system supporting many different instruments powered by sustainable energy.



# ISAAFFIK

The Arctic Gateway – Facilitating Arctic Scientific Collaboration – within the Kingdom of Denmark and Internationally.

[www.isaaffik.org](http://www.isaaffik.org)

**Registered users:** > 750

**Infrastructures:** > 650

**National partners:** Aarhus Universitet (AU), Danmarks Meteorologiske Institut (DMI), Danmark Tekniske Universitet (DTU), Nationale Geologisk Undersøgelser (GEUS), Grønlands Naturinstitut (GN), Københavns Universitet (KU), Uddannelses- og Forskningsministeriet (UFM), Syddansk Universitet (SDU), Arktisk Kommando (AKO), Ilisimatusarfik - Grønlands Universitet (GU), Nationalmuseet (Danmark) (ND), Grønlands Selvstyre (GS), International Arctic Hub (IAH)

**International partners:** Centre for Earth Observation Sciences - Canada (CEOS), UiT Norges arktiske universitet - Norge (UIT), National Science Foundation - USA (NSF), Alfred Wegener Institute - Tyskland (AWI)

The screenshot displays the ISAAFFIK website interface. At the top, the logo 'ISAAFFIK the arctic gateway' is visible alongside navigation links for 'How to guide', 'News', 'Events', 'Education & Training', 'Sign-in', and 'Sign-up'. Below the navigation bar, there are tabs for 'Projects', 'Infrastructures', 'Logistics', 'Data-Links', and 'People'. The main heading is 'Search projects', with a search input field and a 'Search' button. A secondary search option for 'fieldworks' is also present. To the right, there is a map of the Arctic region with an overlay box titled 'GET AN OVERVIEW' that encourages users to search for projects, fieldwork, infrastructure, education, and more. Below the search section, the 'Fieldwork projects' section is titled 'Latest fieldworks' and features four project cards. Each card includes a date range, a title, a description, and the organization's name. The projects shown are: 'Snow measurements - Sismitut' (Nov 2021 - 01/06/2022) by Technical University; 'Hudson Land geological mapping' (Nov 2021 - 29/06/2021) by Geological Survey of Denmark and Greenland; 'PROMICE KAN + GAP 2021' (Nov 2021 - 29/06/2021) by Geological Survey of Denmark and Greenland and DTU; and 'Siku Aajitsoq - Kangerlussuaq survey' (11/06/2021 - 01/06/2021) by Technical University of Denmark (DTU).

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Thank You

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