

Is my data prone to dual-use?

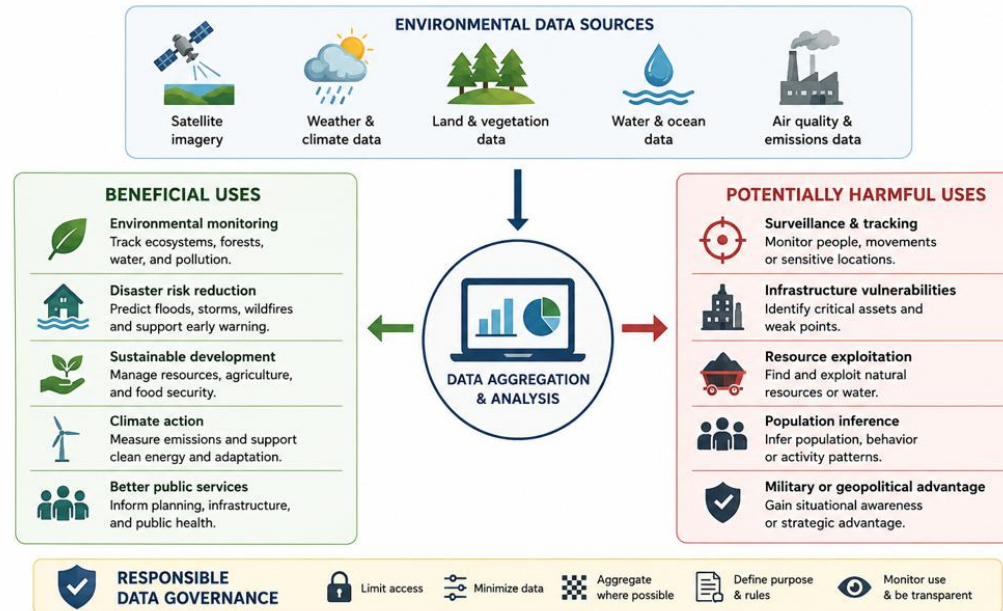
Heikki Lihavainen, 3.9.2026

Is my data prone to dual-use?

YES

DUAL-USE OF ENVIRONMENTAL DATA

The same data can be used for good—or for harm.



Is my data prone to dual-use?

- Dual users are smart (pizza theory+ other intel)
- Everything that is in digital format can be accessed
- yes, but one can make it more difficult (should it be done?)

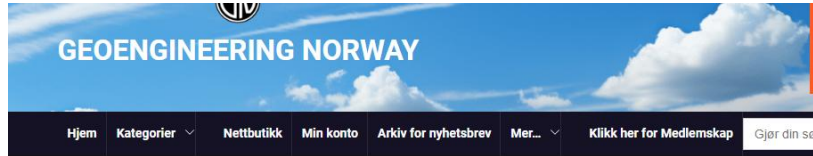
Definition

- The **dual-use of data** refers to the potential for data, research, or technology—originally developed for beneficial, legitimate purposes—to also be misused for harmful or malicious intent.
- “Misuse” refers to any unethical or malicious application of the research, whether in civilian or military contexts (Miller and Selgelid, 2007)

Examples

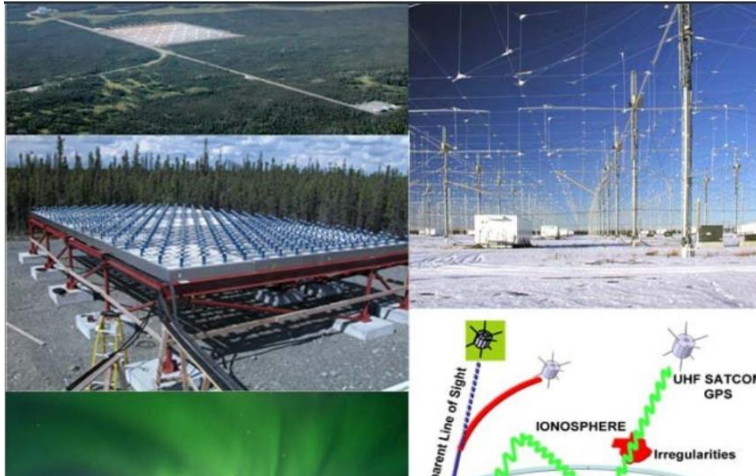


Examples



HAARP – Et av Verdens mest farlige energivåpen...OG EN SAMMENSATT INFO OM HAARP!

By Jan Winås 13. november 2023 0 comments



Conspiracy Theories Abound as U.S. Military Closes HAARP

The U.S. Air Force has told Congress it intends to shut down HAARP, a controversial Alaska-based research facility that studies the upper atmosphere.



The Military's Mystery Machine: The High-frequency Active Auroral Research Program, or HAARP, has been called a missile-defense tool and a mind-control device, whether modification...

The truth is a bit less ominous



Photo: Heikki Lihavainen

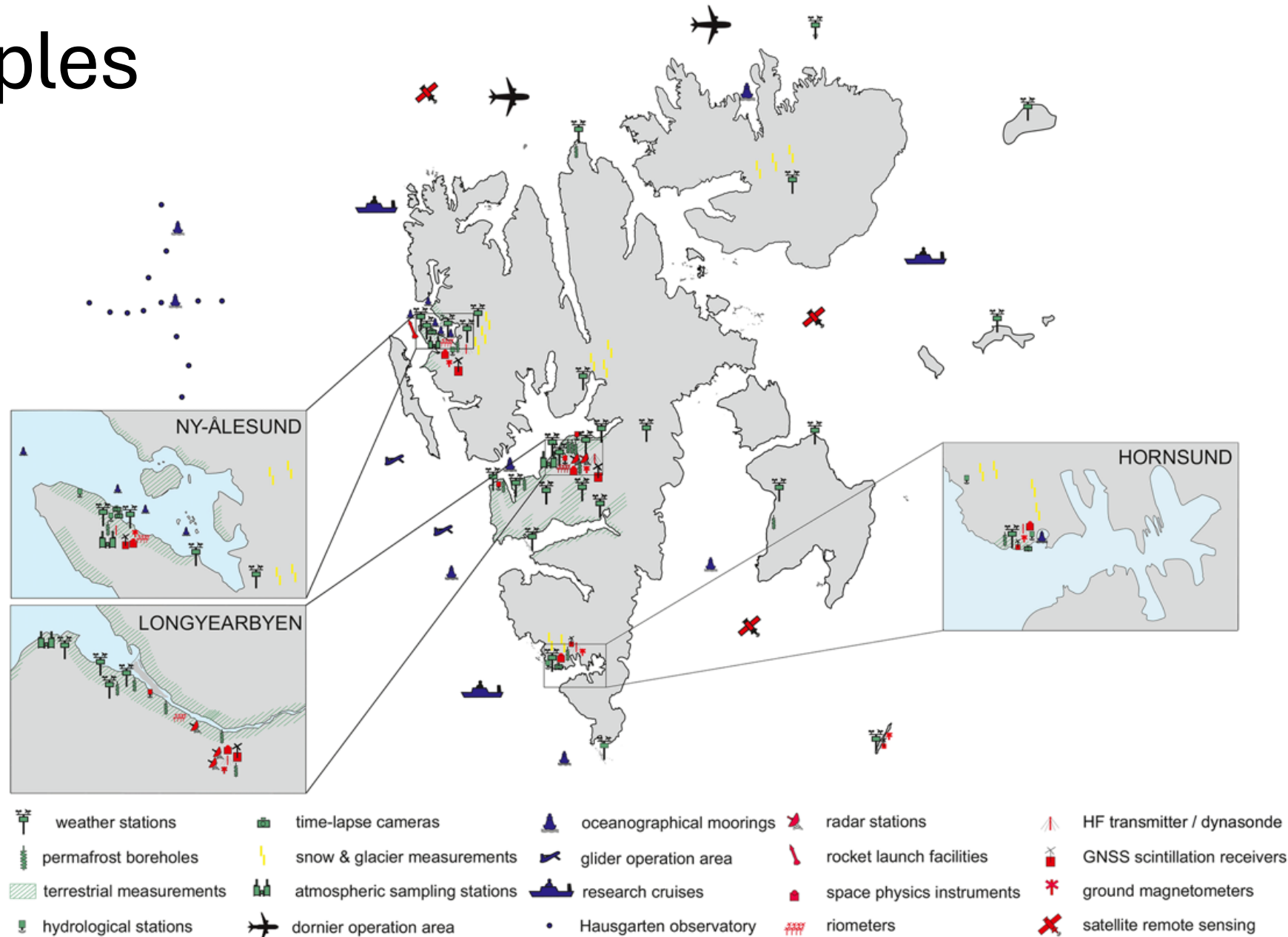


After the discovery of the Svalbard archipelago a radical exploitation of the resources commenced with the virtual extirpation of Greenland whales (of order 40000 animals killed) altering the entire ocean ecosystem (Węśławski et al., 2000)

notable increases in seabird populations since a large mass of plankton was not harvested by whales and thus became available to fish and birds

When we express concern about declining seabird populations today (SEAPOP, <https://seapop.no/en/about/>) and attribute those changes to climate change we are actually discussing an already highly perturbed system caused by historic and current human activity

Examples



Christiansen, H. H., Matero, I. S. O., Baddeley, L., Holmén, K., Hoppe, C. J. M., Loonen, M. J. J. E., Storvold, R., Vitale, V., Zaborska, A., and Lihavainen, H.: Developing the Svalbard Integrated Arctic Earth Observing System (SIOS), *Earth Syst. Dynam.*, 15, 933–946, <https://doi.org/10.5194/esd-15-933-2024>, 2024.

Examples

Observable

- Arctic sea-ice and oceanographic observations
- Hydrophones
- Weather and atmospheric composition data
- Satellite imagery and remote sensing
- Ocean currents, bathymetry, and seabed information
- Permafrost and glacier measurements
- Wildlife and ecosystem distributions
- Pollution and chemical monitoring
- Infrastructure and coastal vulnerability data
- High-resolution geographic and geospatial datasets

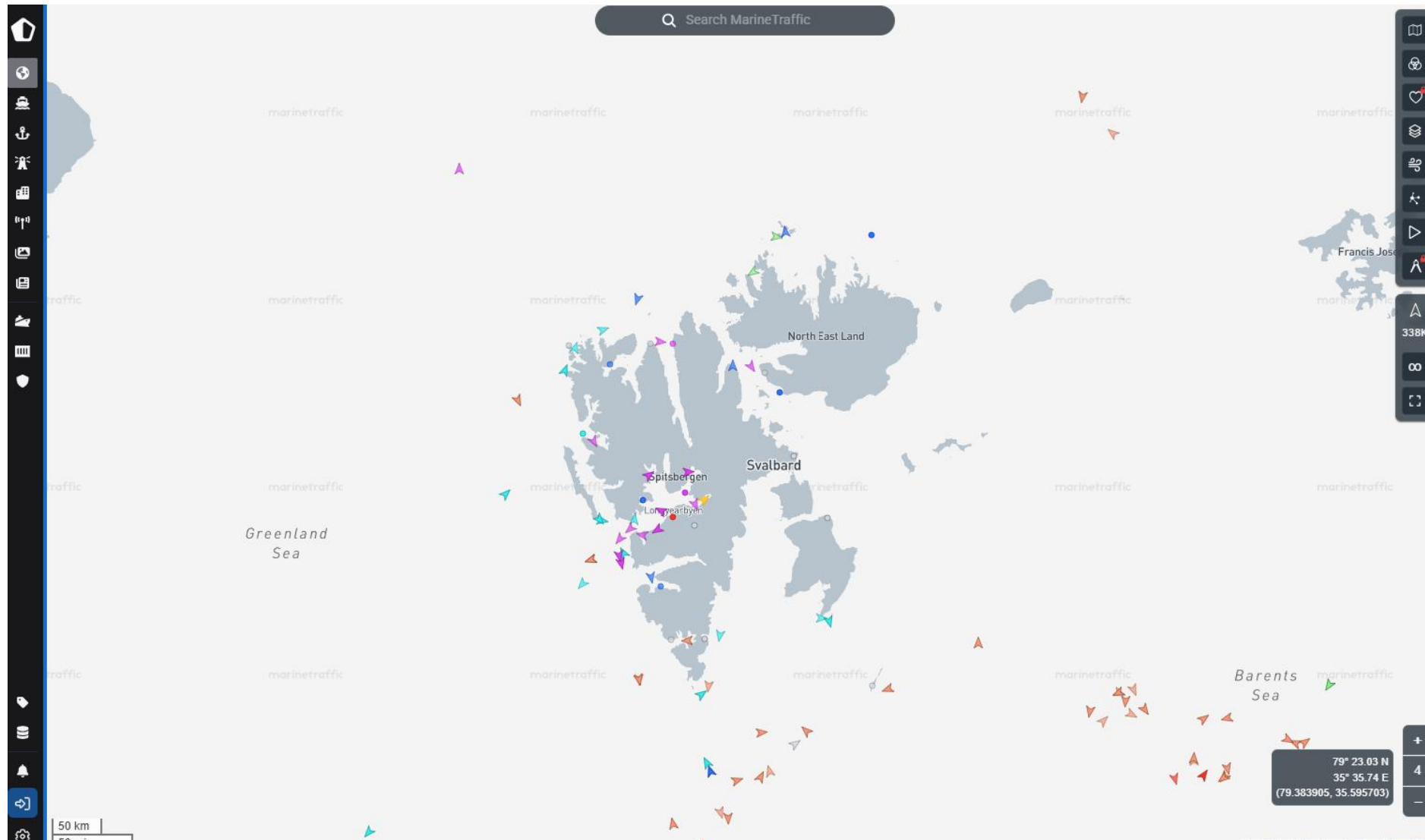
Intended use

- Understanding climate change
- Extreme weather prediction
- Search and rescue
- Studying marine mammals
- Planning logistics (terrestrial and marine)
- Pollution monitoring
- Supporting Indigenous and local communities

Other use

- Military planning
- Monitoring marine traffic
- Monitoring and identifying strategic infrastructure
- Assessing vulnerabilities of infrastructure
- maritime operations
- Resource competition
- Commercial intelligence

Examples



Barentz Observer



"Professor Molchanov" Thomas Nilsen

Norway seizes Russia's Svalbard liner

The Governor of Svalbard has confirmed the seizure of the *Professor Molchanov*, a Russian passenger vessel that has been sailing between Murmansk and Barentsburg for a second consecutive season.



Thomas Nilsen



New Russian military doctrine 2023, civil ships can be used for military purposes

Can I prevent dual use (of environmental data)?

- YES and NO, but it can be made harder
- Risk assessment
- Resolution (spatial and temporal)
- Delaying data publishing
- Access to data, Authentication, “As open as possible, as close as necessary”
- Technical safeguards, Water mark data, data passport, encryption
- Legislation, GDPR (General Data Protection Regulation)
- International collaboration
- training

- Open data vs data and research security
- ACA 2025
- Who has the responsibility