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Seabed Survey

At Korsnäs Offshore Wind Farm

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9.6.2025

MERINOVA TECHNOLOGY CENTRE
Tampereen yliopisto
Tampereen ammattikorkeakoulu
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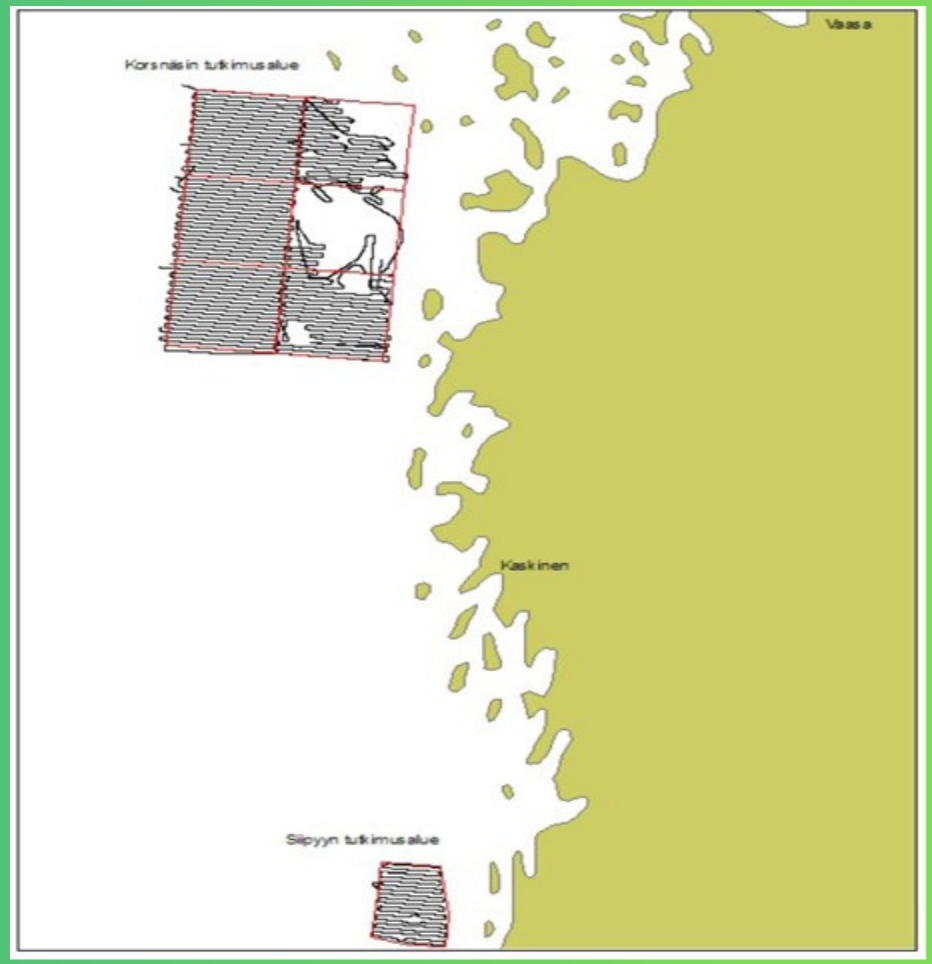
Survey made in 2005

- Acoustic-seismic surveys were conducted in June and July 2005 aboard GTK's research vessel Geomari.
- A total of approximately 1000 km of survey lines were investigated. The distance between the lines was 500 meters and some shallow areas were not surveyed.



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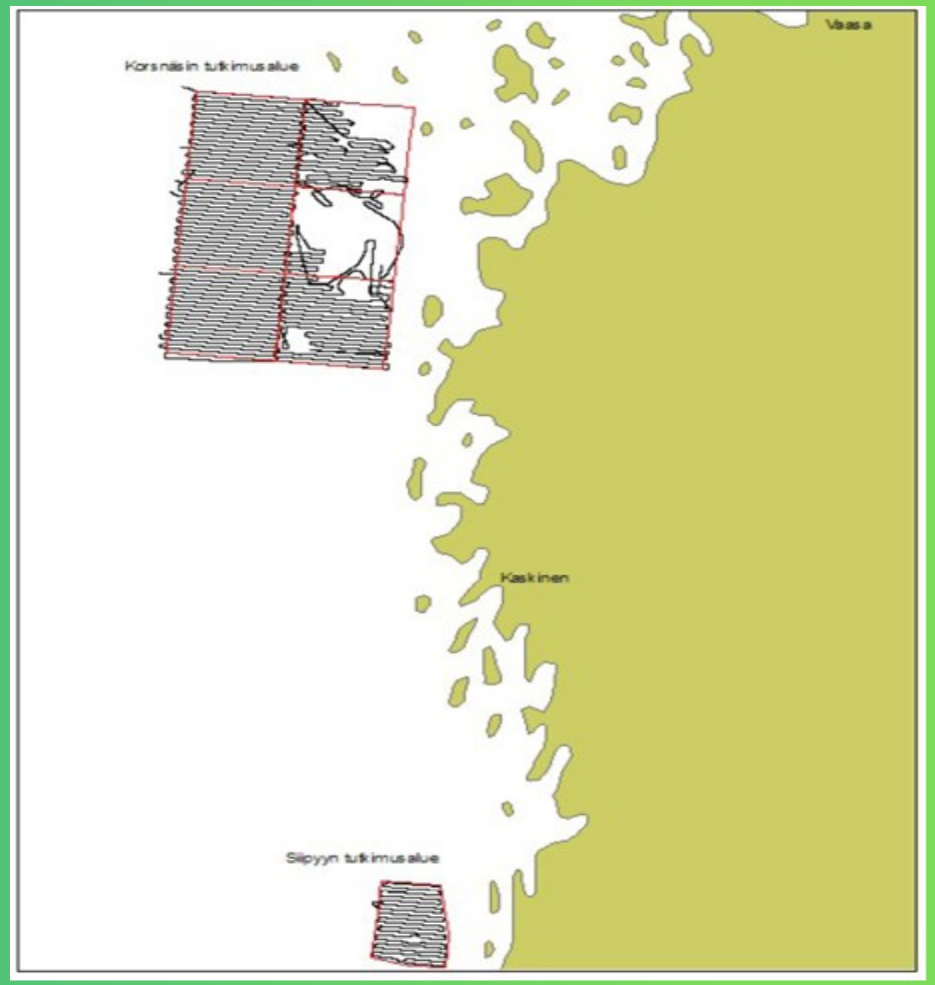
Survey methods in 2005

- Sediment echosounder (28 kHz transducer)
- helps to determine water depth, bottom topography, the thickness of soft soil layers, and the internal structure of clays of different ages.
- The transducer of the echosounder is attached to the hull of the vessel.



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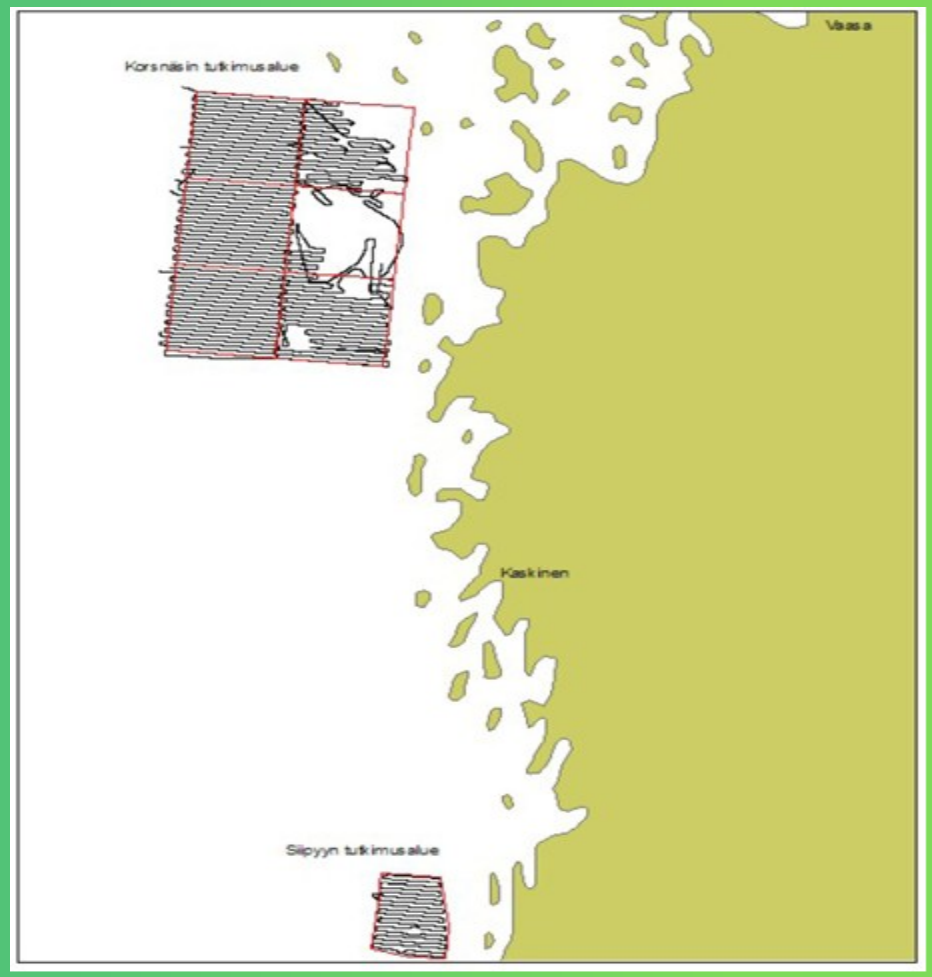
Surveymethods in 2005

- Single-channel reflection seismic device (sounding frequency 400-700 Hz, depth accuracy ±2 m)
- used to investigate the thickness and internal structures of friction soil layers (sand, gravel, and moraine), as well as the depth of the bedrock.
- The equipment consists of a transmitter for electromagnetic impulses and a hydrophone.
- Both are towed near the surface behind the vessel and far enough behind (about 35 m) to eliminate the effects of the vessel's engine noise.



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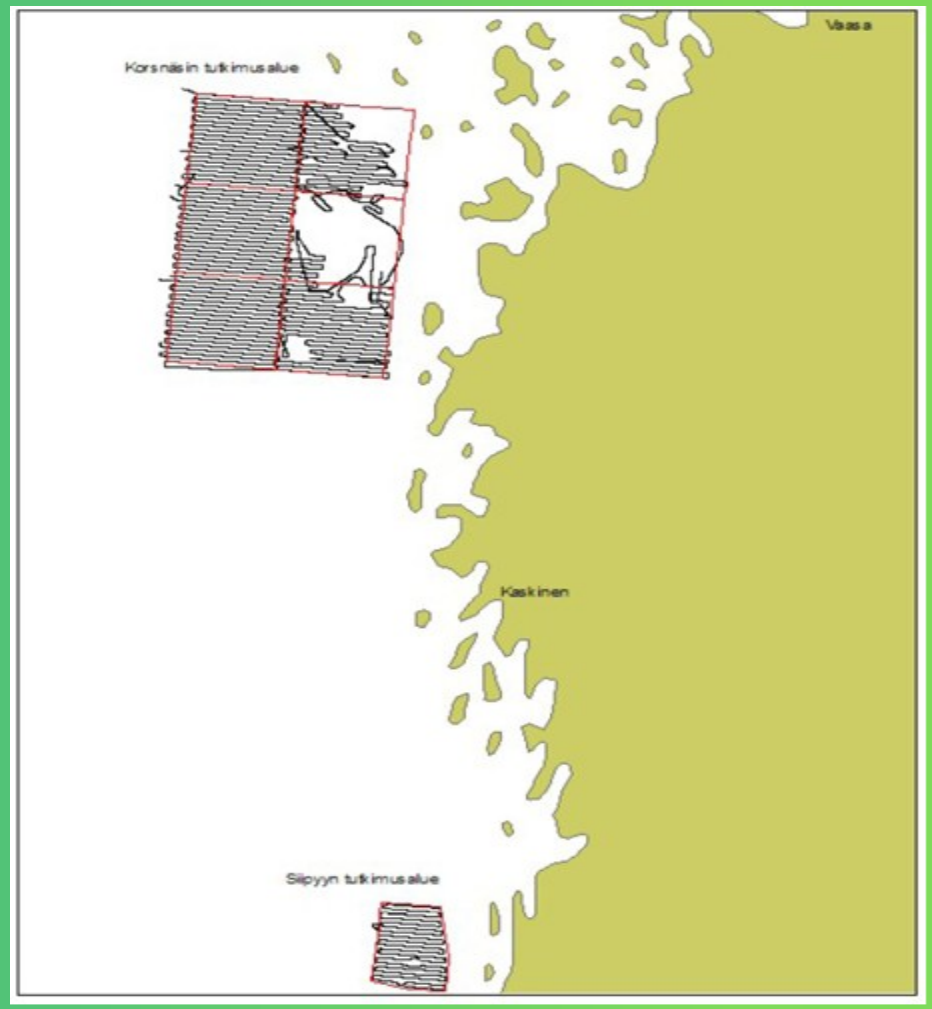
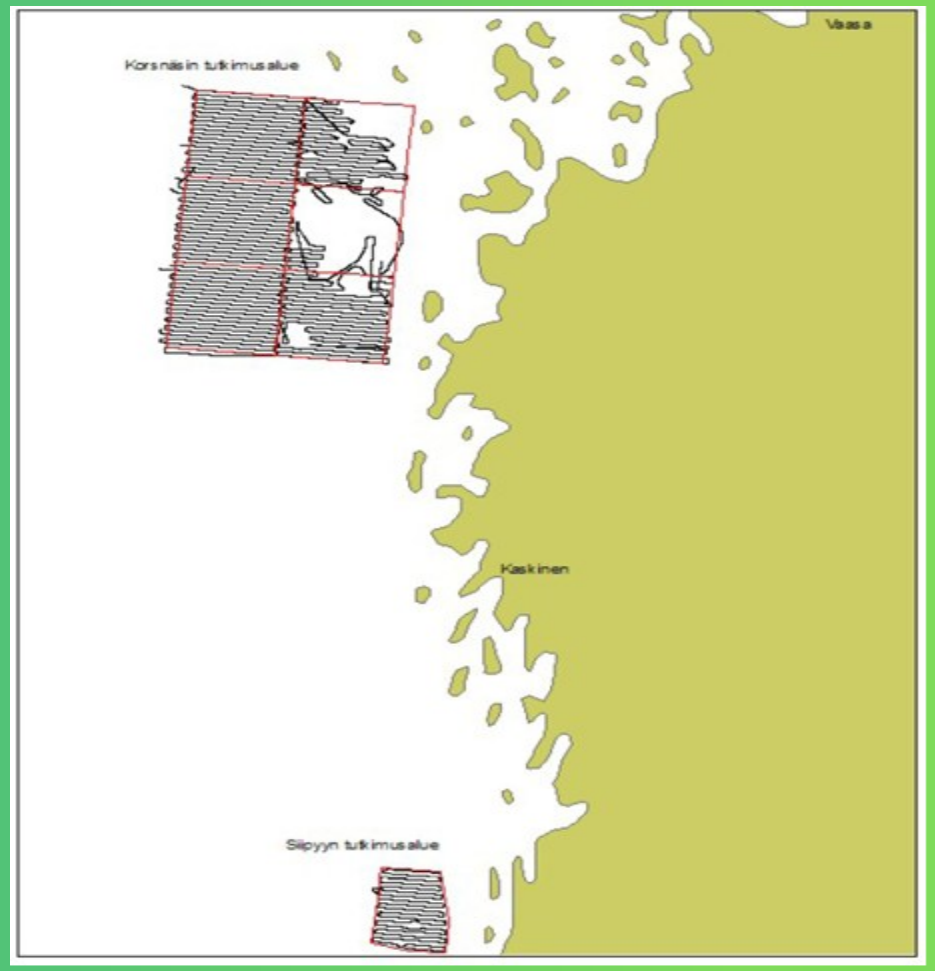
Survey methods in 2005

- A side-scan sonar (100 kHz) was also used
- provides an image resembling an aerial photograph of the seabed on either side of the vessel. The width covered by the image usually varies between 200-300 meters.
- used to investigate the characteristics of the seabed surface, such as the presence of boulders, structures formed by currents and wave action, and the distribution of soil types.
- The sonar's transmitter/receiver unit, the so-called "fish," is towed below the surface behind the vessel.



Survey methods in 2005

- For the positioning of the survey, the DGPS system (Differential Global Positioning System) was used, with an accuracy of ±2 meters.



Since the planned Wind farm area has changed since 2005, new surveys have to be made

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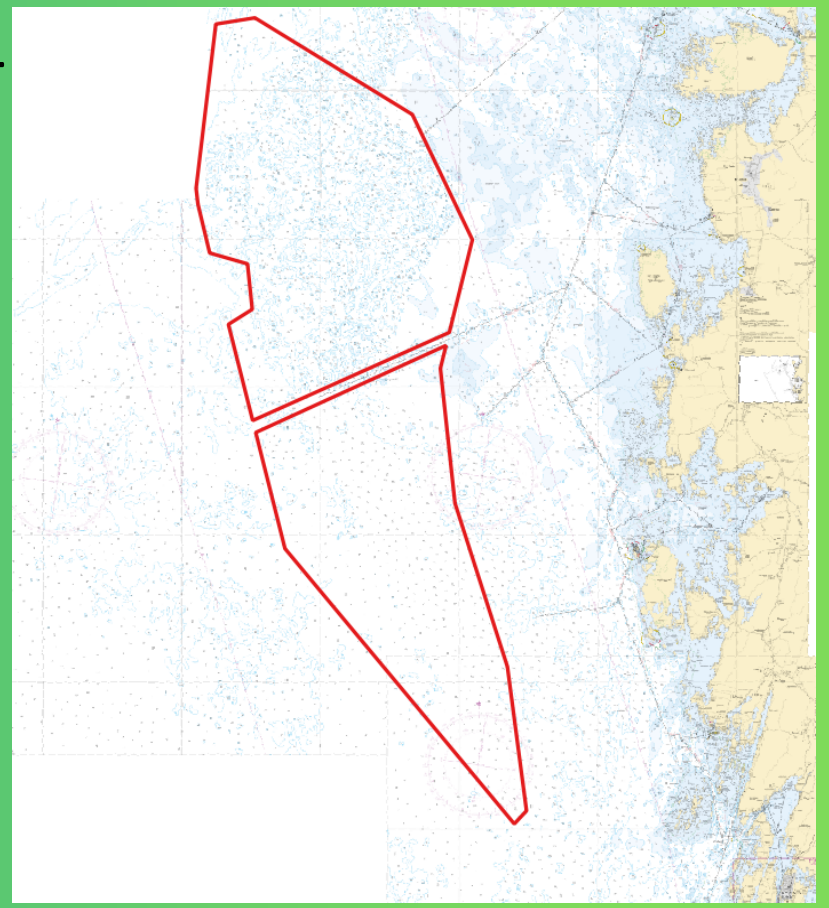
- 2005

- 2024



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Surveys in 2024

- During the summer 2024 there has been at least two survey vessels conducting survey in the area
- GTK´s Geomari which made the survey in 2005, probably better equipped today
- My guess is that they have been doing similar survey as in 2005

Surveys in 2024

- KAIKU from Meritaito has worked in the area in autumn 2024.
- They have probably been doing Multibeam surveying for detailed planning of windmill places

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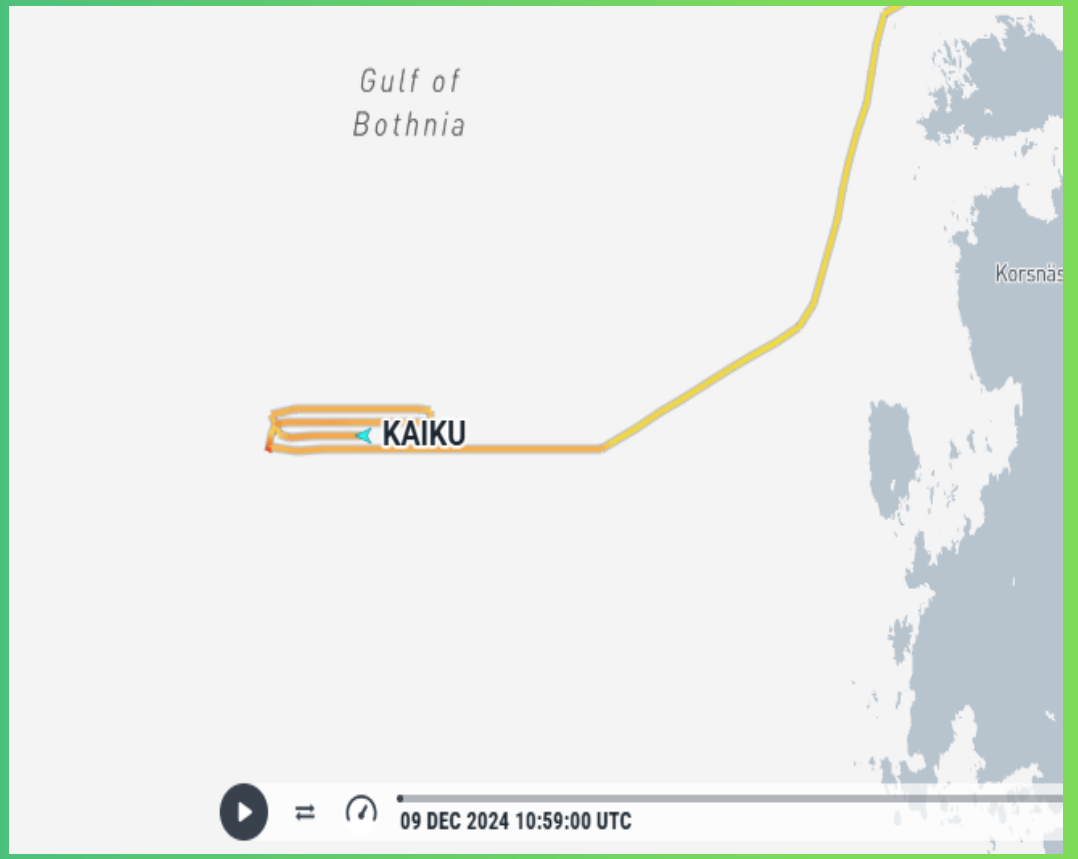
Surveys in 2024

All surveys are perhaps not ready yet.
As we can see from Marinetraffic survey vessel KAIKU was still surveying on dec 9 2024.



Hybrid project, financed by SBUF
Source: MarineTraffic

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Thank You!

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