

# SGU, Geological Survey of Sweden CCS Project 2023-2025

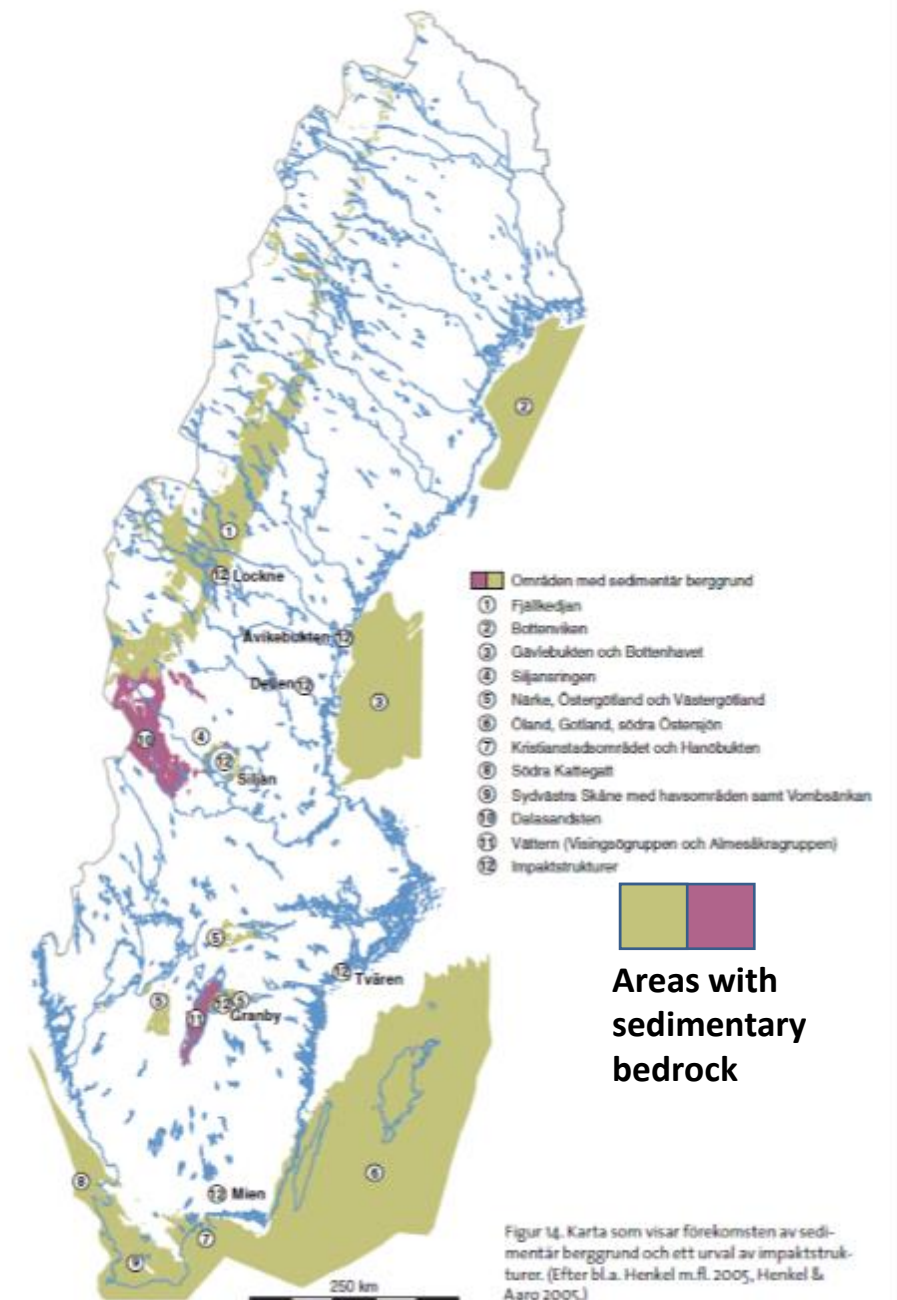
Thomas Andolfsson 2024-10-03



# Screening of the Swedish bedrock

2011

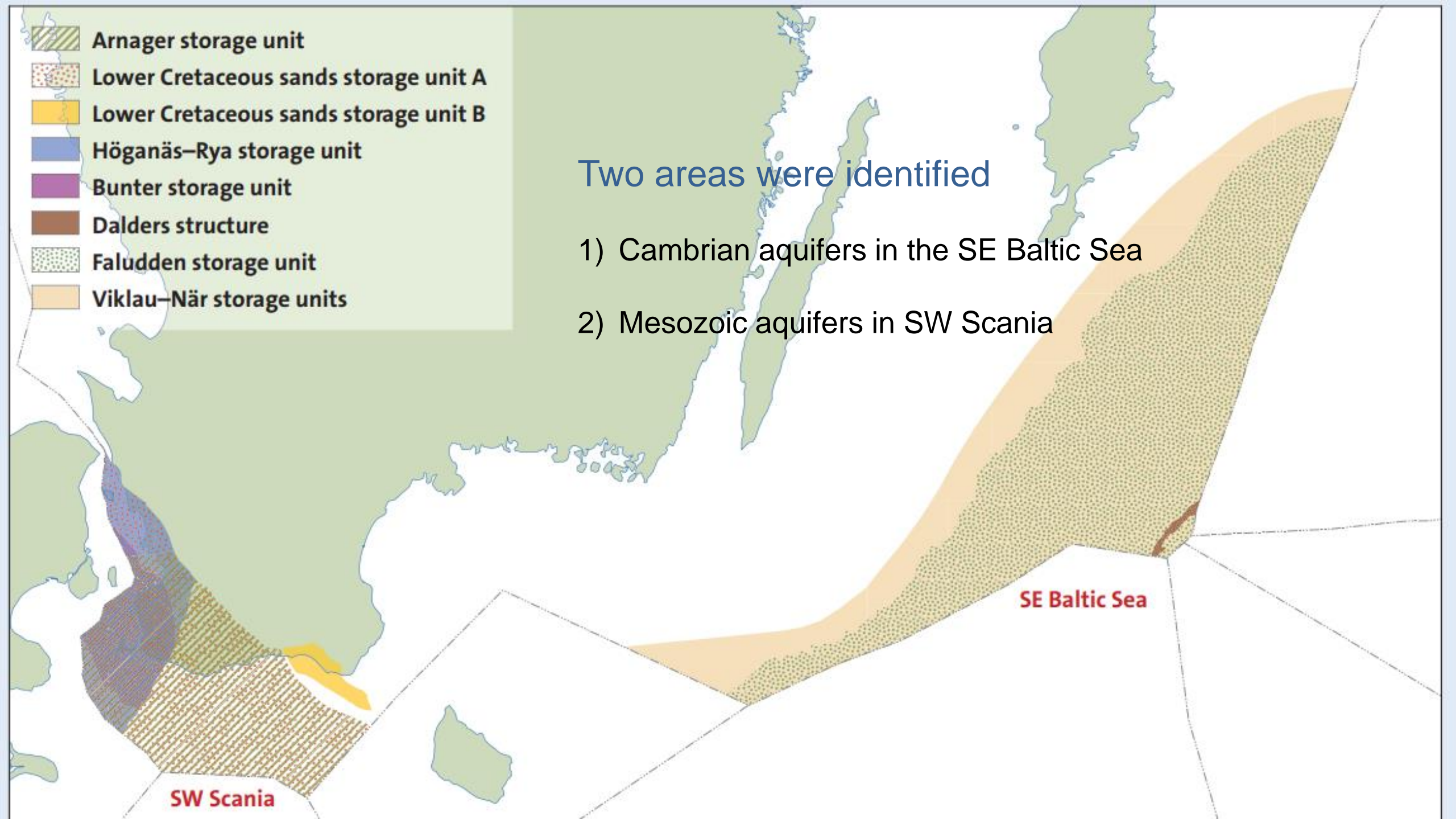
Sedimentary bedrock	
Depth	800–2500 m
Thickness (net sand)	> 20 m
Porosity	> 10 % (> 20 %)
Permeability	> 100 mD
Temperature	> 31,1°C
Formation pressure	> 73,9 bar
Storage capacity	> 100 Mt CO <sub>2</sub>
Appropriate seal	> 100 m thick



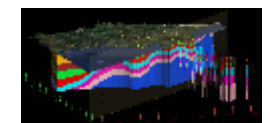
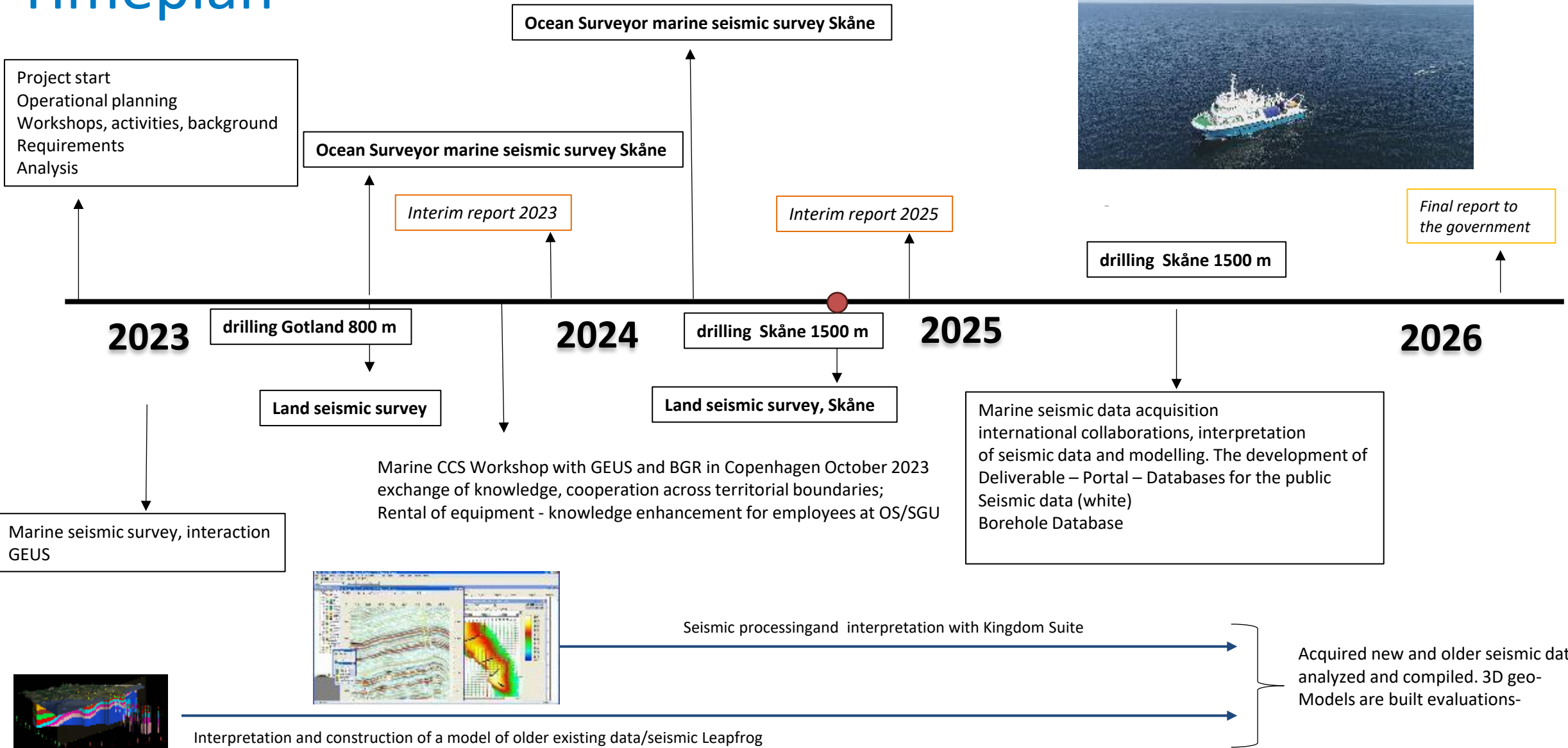
- Arnager storage unit
- Lower Cretaceous sands storage unit A
- Lower Cretaceous sands storage unit B
- Höganäs–Rya storage unit
- Bunter storage unit
- Dalders structure
- Faludden storage unit
- Viklau–När storage units

Two areas were identified

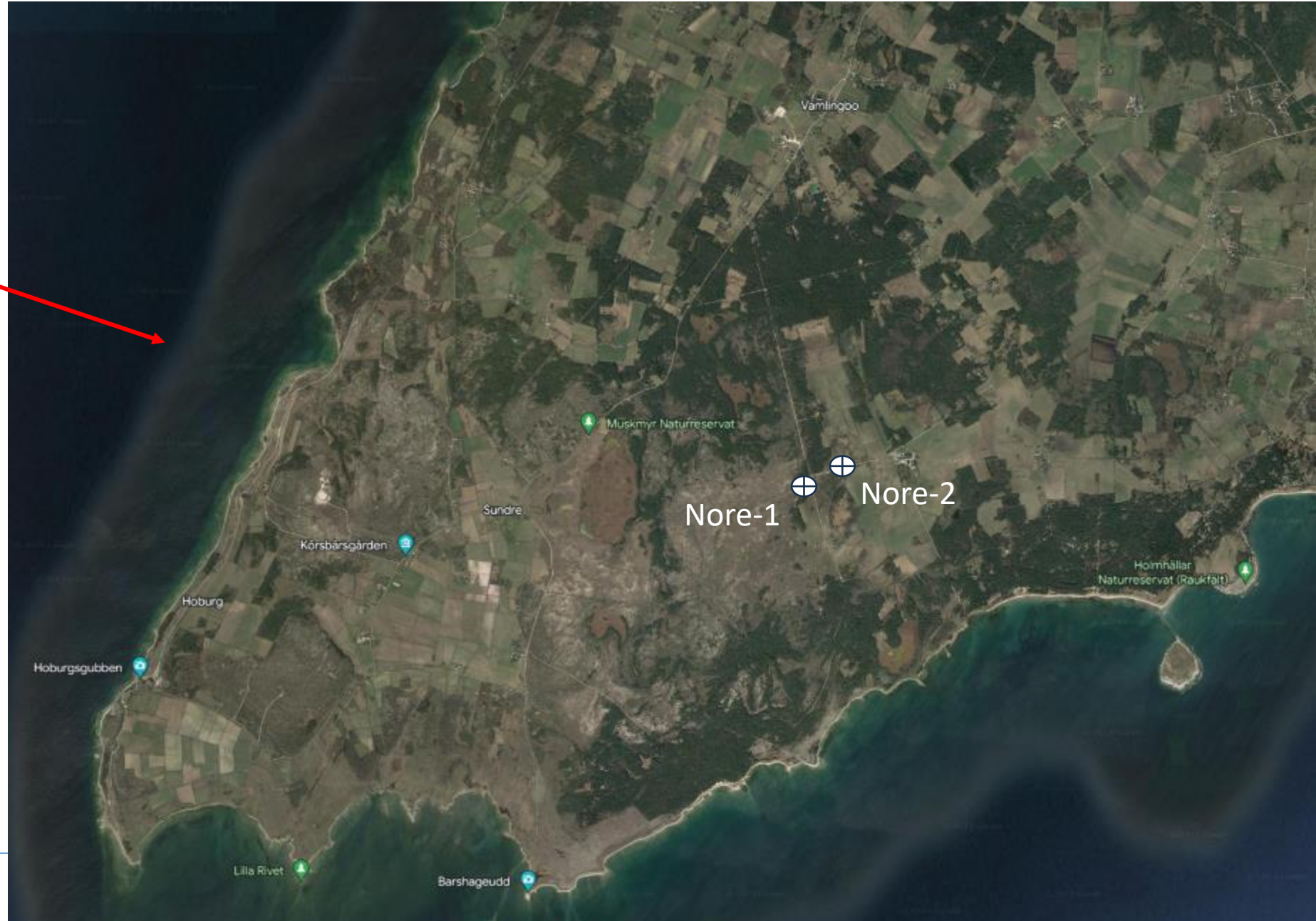
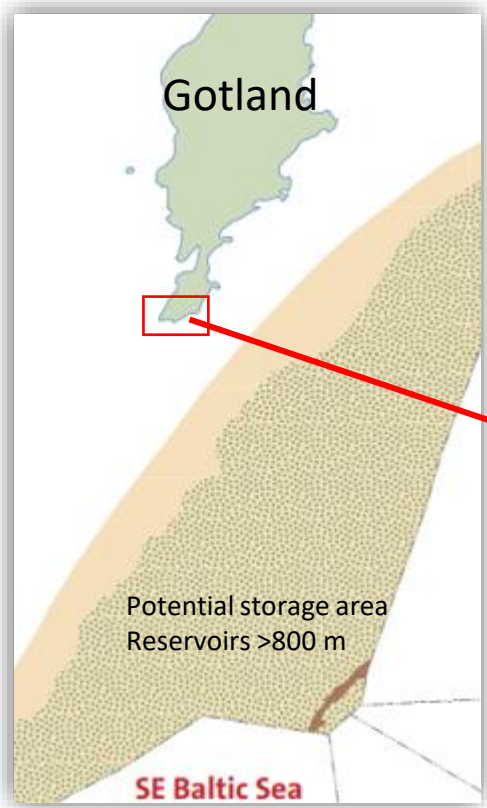
- 1) Cambrian aquifers in the SE Baltic Sea
- 2) Mesozoic aquifers in SW Scania



# Timeplan



# Investigation boreholes



# Logging



# Riksriggen





Skåre Skansar  
(2025)

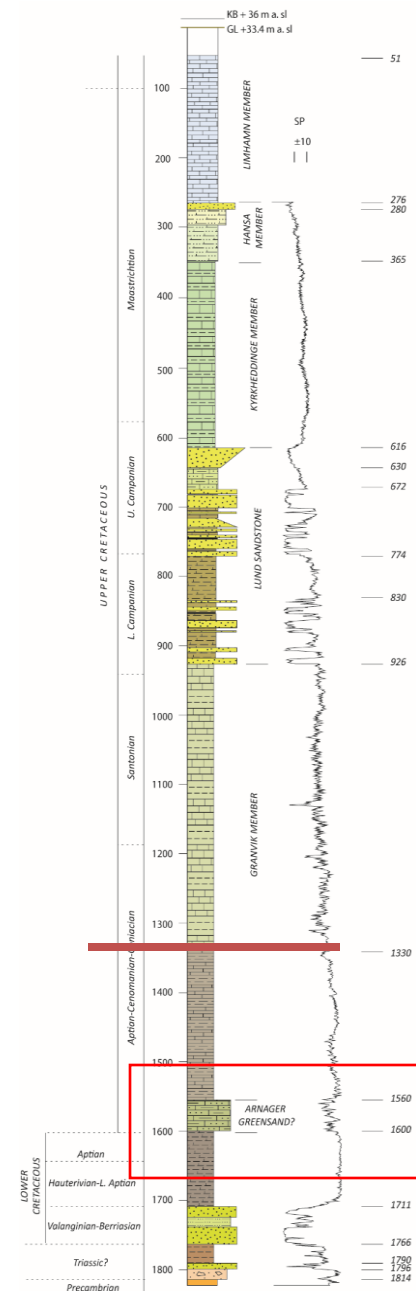
Lilla  
Beddinge





## Borehole logging program for all boreholes:

- Geological logging at different scales:
  - Coarse logging of the whole borehole
  - Detailed logging of potential reservoir rocks and sections of high importance.
- Samples taken and sent for testing both inhouse and 3rd party:
  - Thinsection – made outside, but studied in-house
  - Mechanical properties – 3rd party
  - Porosity & permeability – 3rd party
  - Thermal properties – in-house (me)
- Whole cores sent for high res photo, XRF
- Bore hole tests:
  - Pumptests
  - Pressure testing caprock
- Logging
  - Traditional suite
  - Acoustic televiewer
  - Spectral Gamma
  - NMR



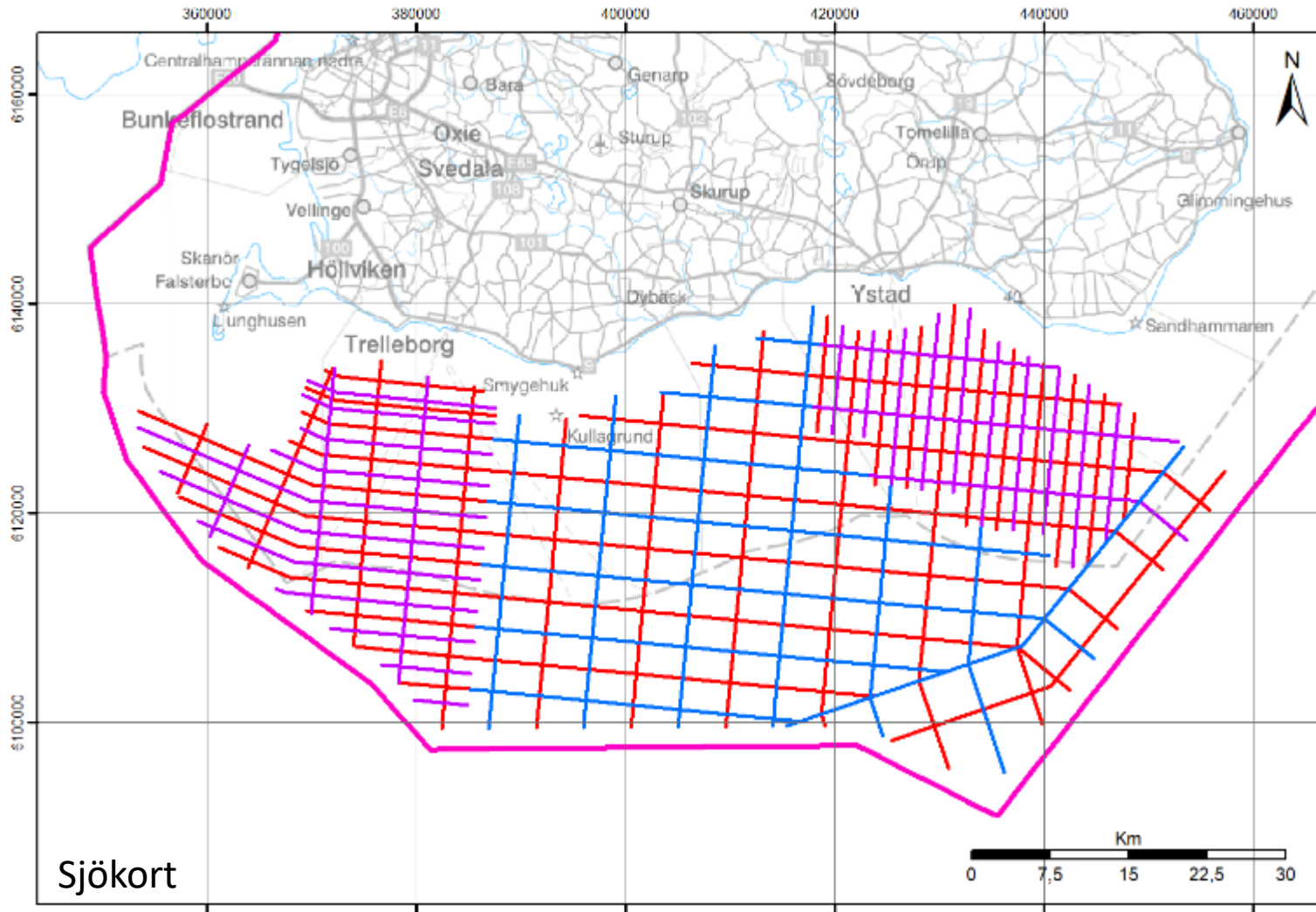
# Onshore seismic - Gotland



# Onshore seismic – Skåne (ongoing)



# Marine seismic



The profiles in this grid have been prioritised for the acquisition during 2023.

- Prio1: 1020 km
- Prio2: 520 km
- Prio3: 480 km

Additional profiles from the dense grid can be collected if we manage to collect all of these profiles or in upcoming years.

- Prio1
- Prio2
- Prio3
- Boundary of Swedish economic zone



# Inventory of legacy seismic data

## Seismic data:

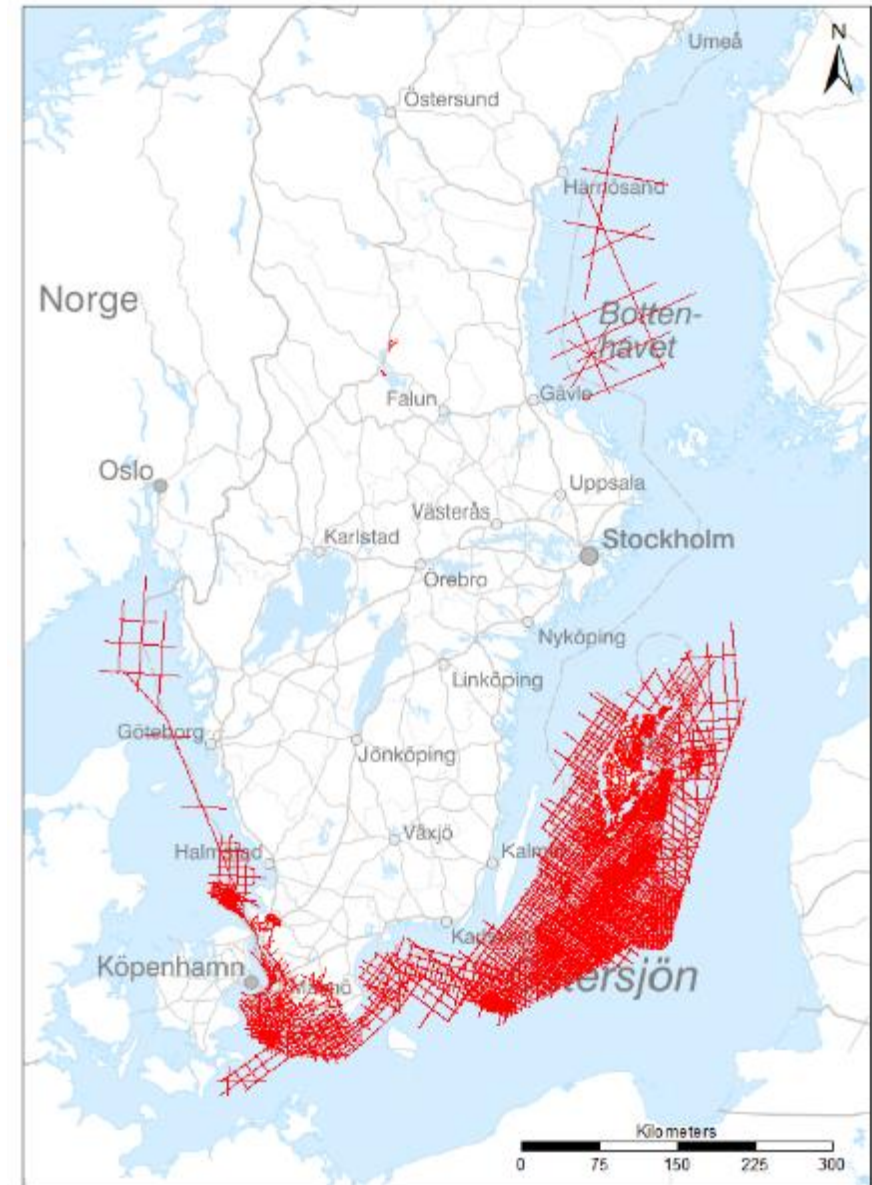
All the seismic data available in the database is shown opposite

Both onshore and offshore seismic data available.

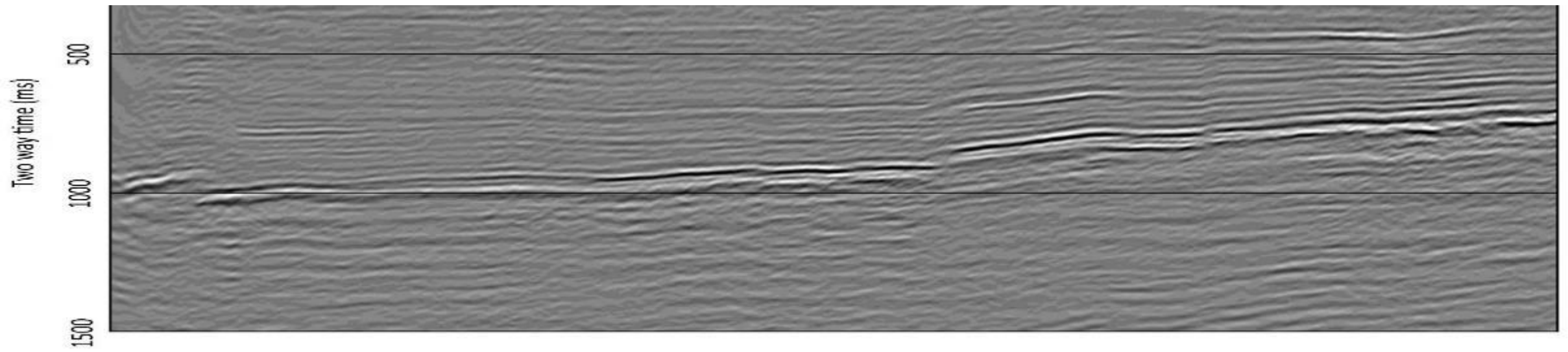
Data is available in different formats:

- Raw SEGY digital data (shot gathers).
- Digital stacked SEGY data (processed).
- Analogue stacked data (scanned hardcopies in TIFF format).
- Sometimes only geometry data available.

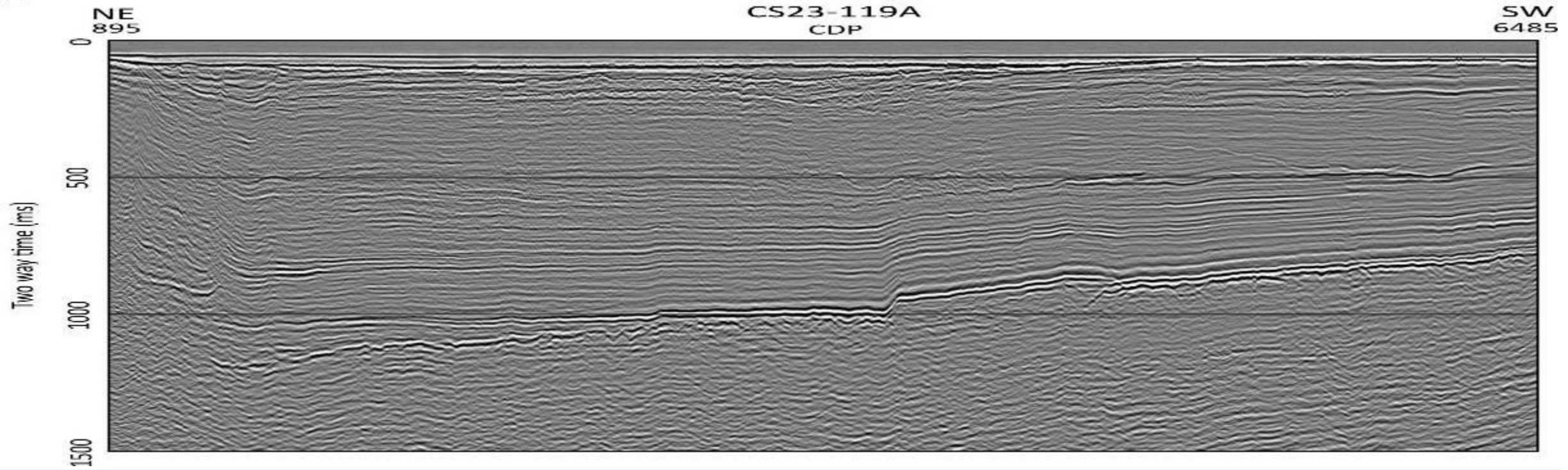
Profiles prioritized for re-processing and digitization (conversion from TIFF to SEGY).



# Questions



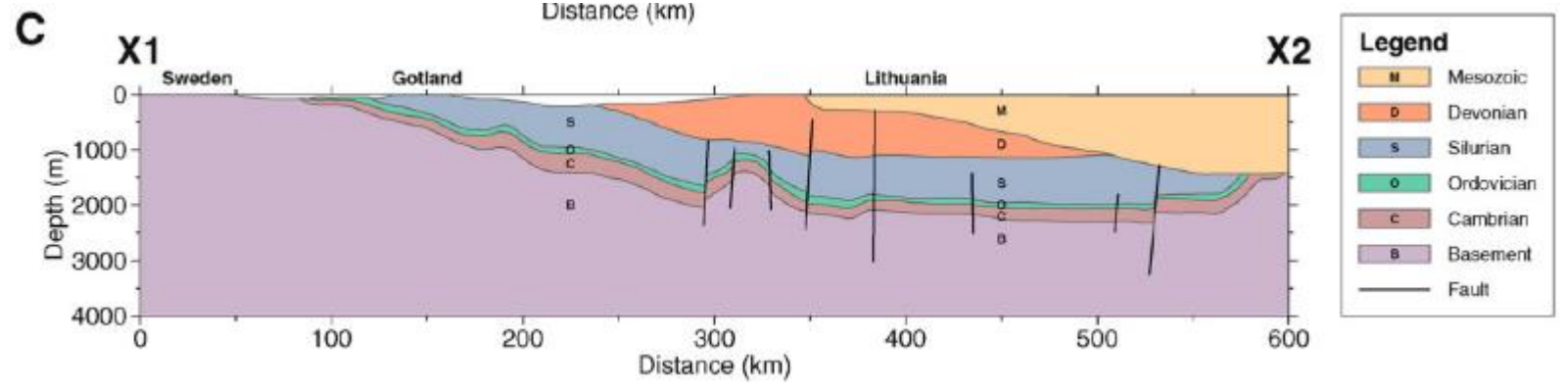
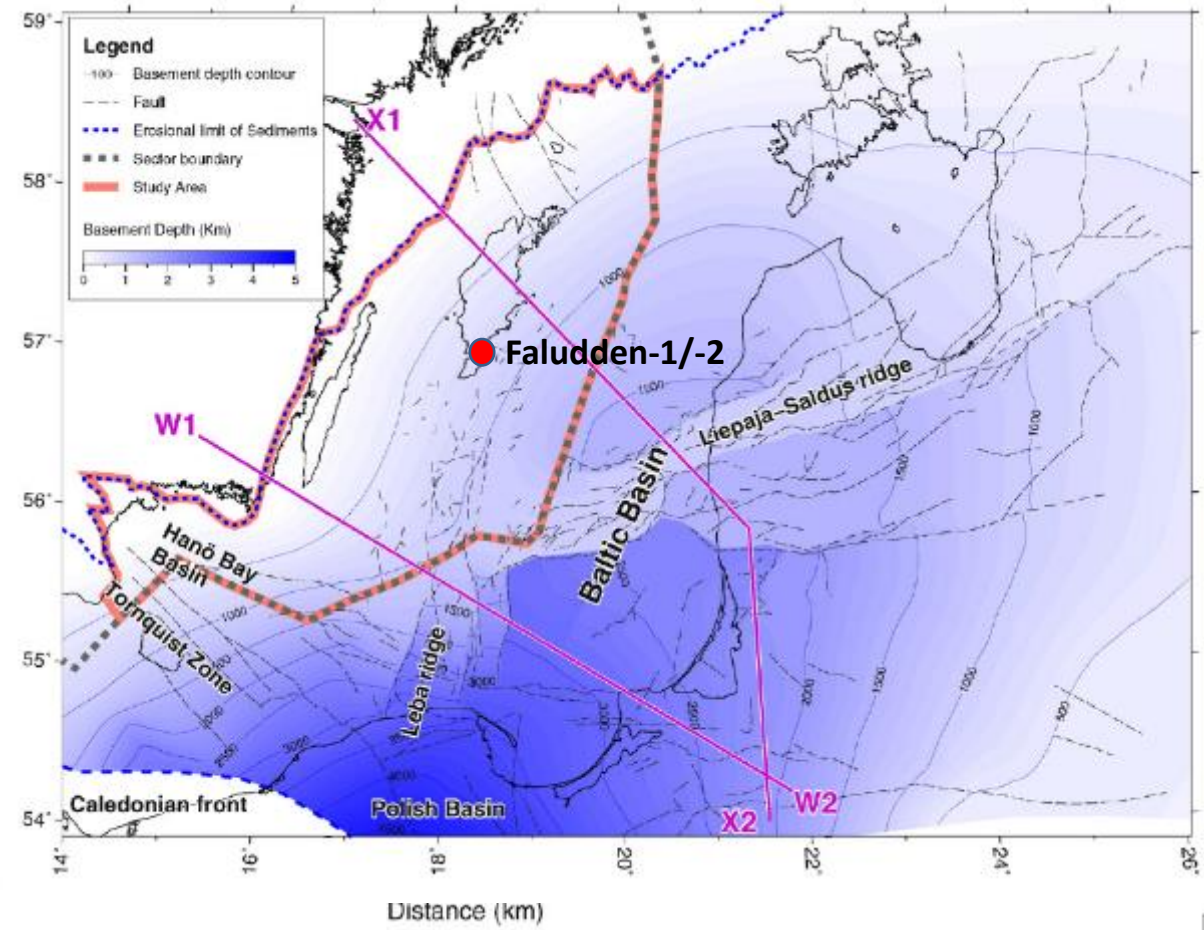
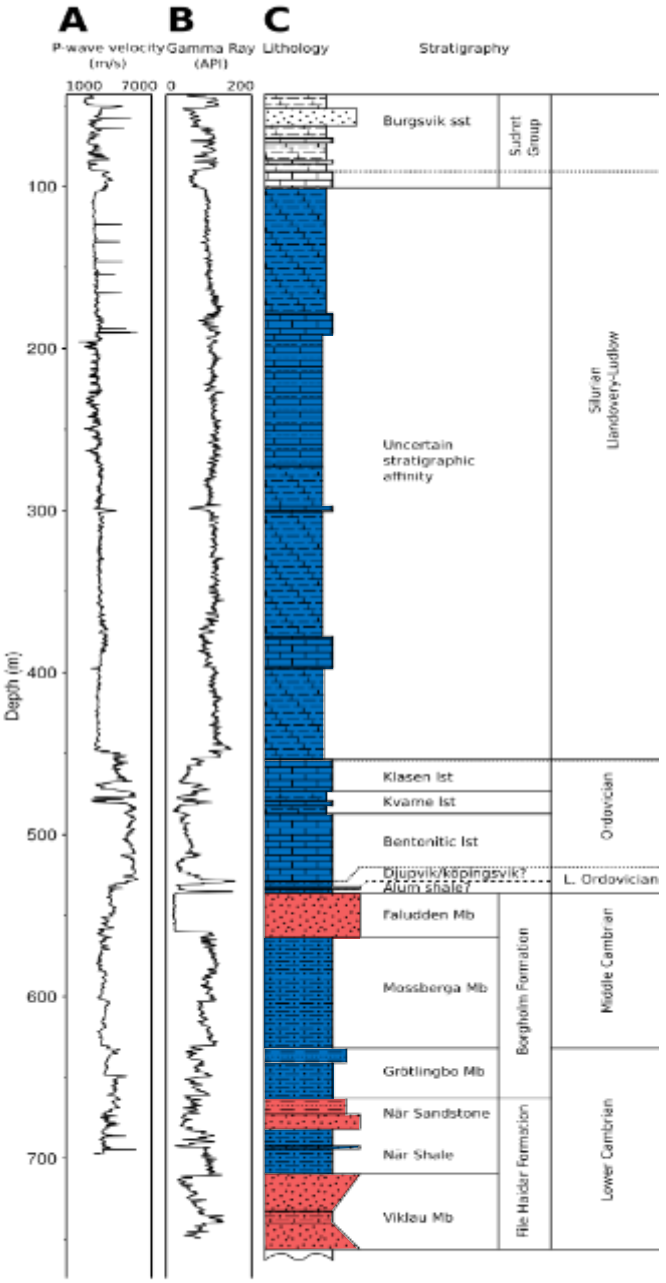
**B**



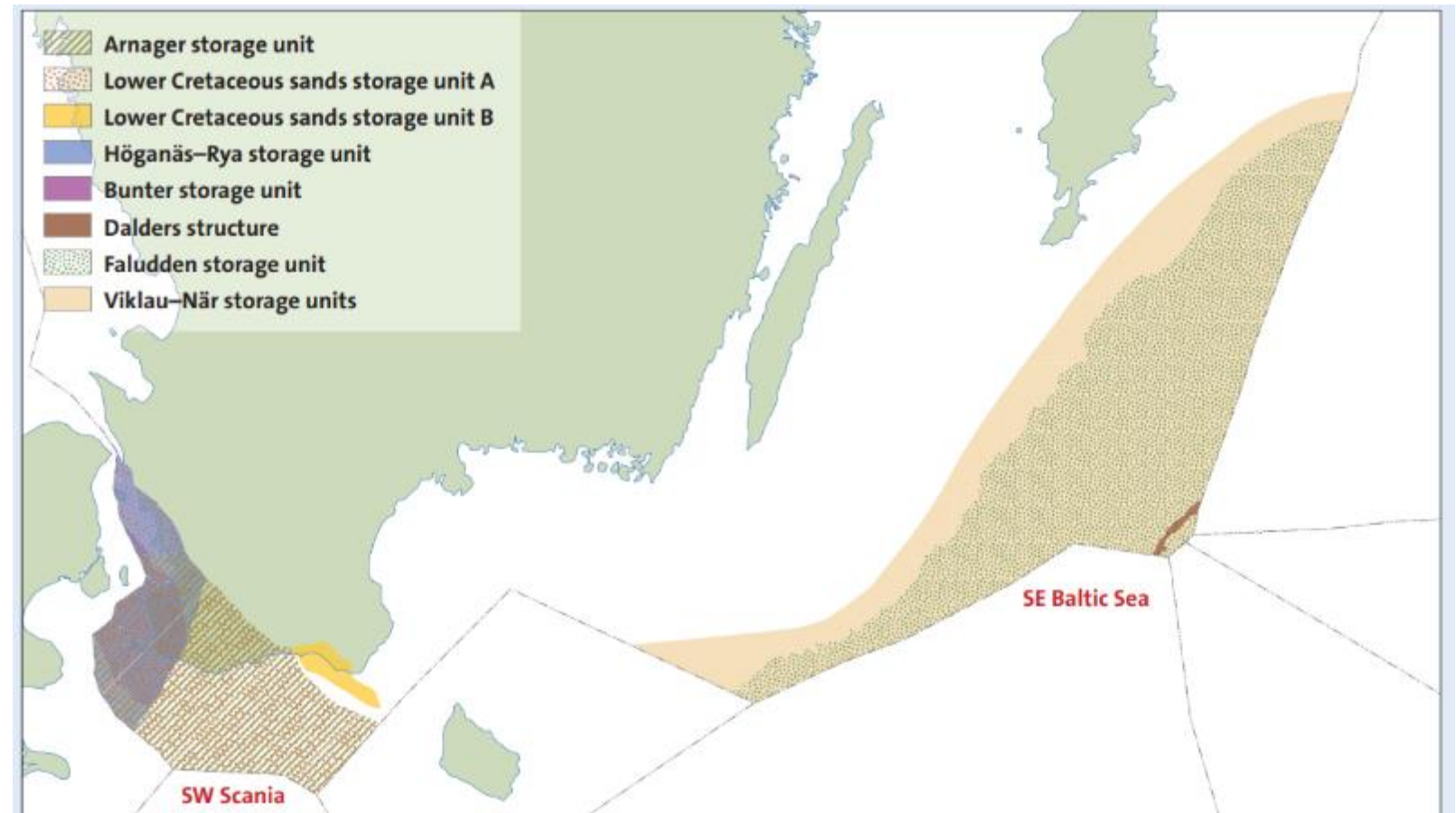


# Faludden-1/-2: Gotland

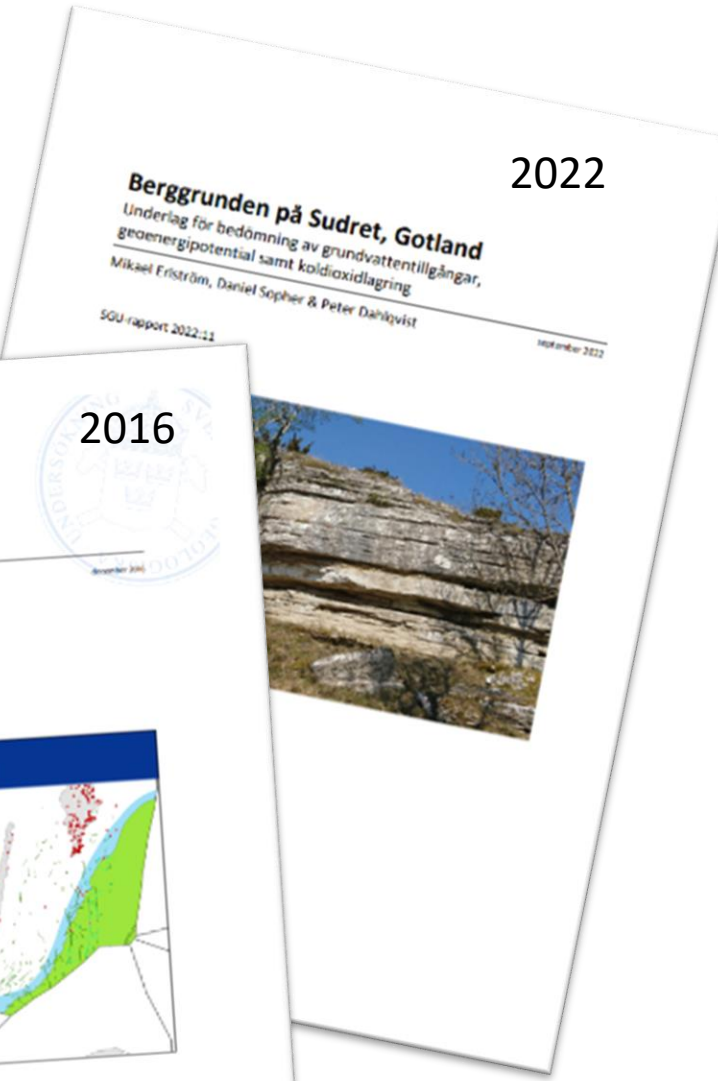
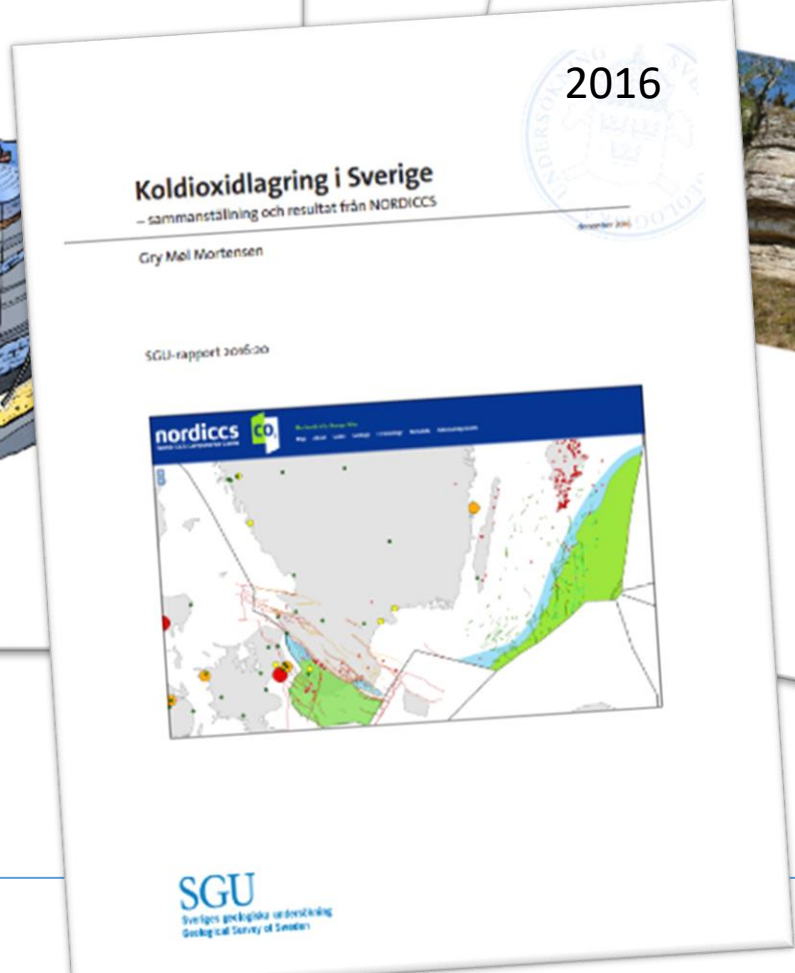
## Baltic Basin



# 2025 Baltic Sea



# Previous studies – historical background

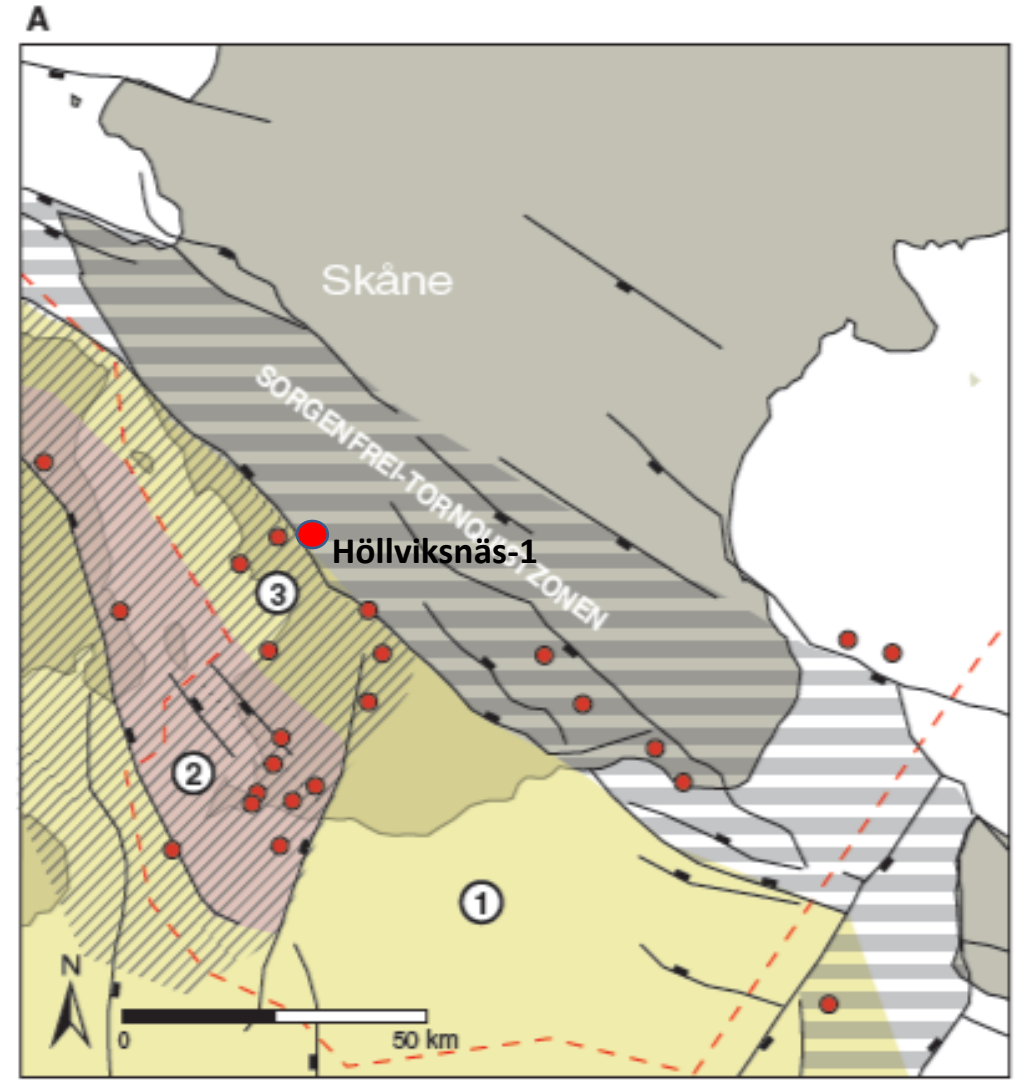
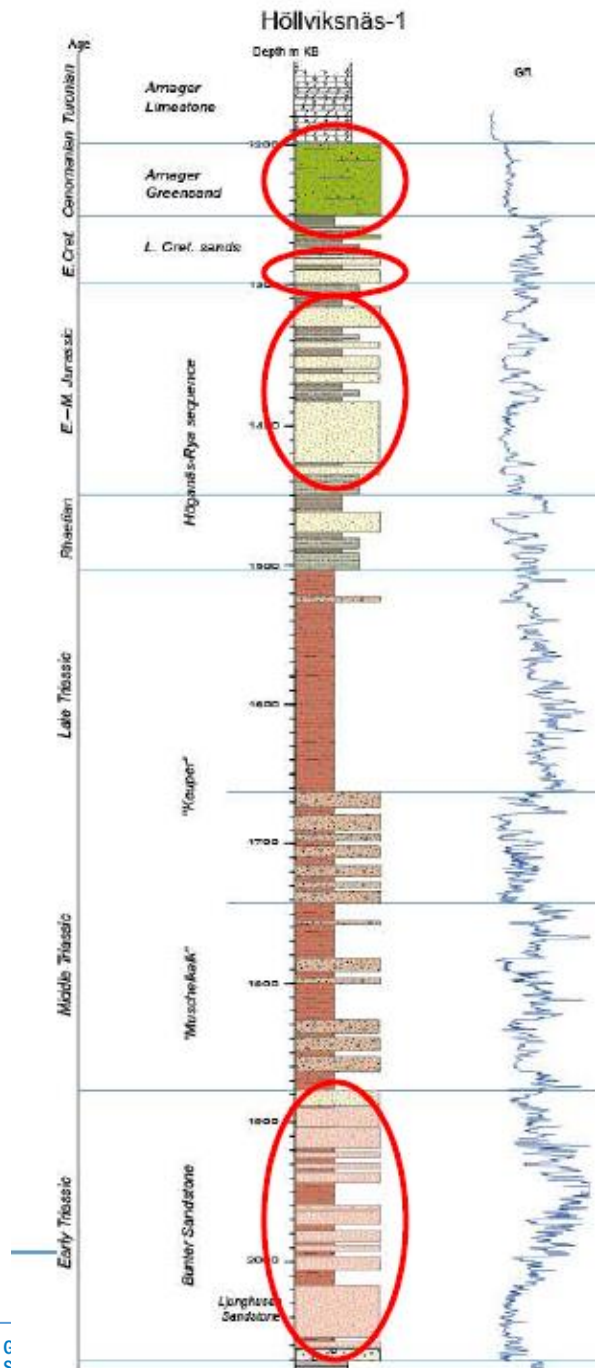


# Southern Skåne

Arnager Greensand and other Lower Cretaceous sands

Höganäs and Rya formations

Bunter and Ljunghusen sandstones



# Government assignment 2023-2025 CCS

