

SVALEX

**A multi-disciplinary field-course for graduate
students in petroleum geology/reservoir
technology**

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SVALEX

- **Svalbard Expedition**
- Sponsored by **Statoil**
- **NTNU/IPT** is technical operator
- Open for 90 graduate students from **NTNU, UiB, UiO, UiT, UiS/HiS and UNIS**
- Takes place **in late August/early September** (12 days total including 8 days on board a ship boat)



Objectives

- Improved quality of graduating students from Norwegian Universities
- Improved interaction between different specialist groups (geologists, geophysicist, reservoir engineers, drilling engineers and others) involved in the petroleum industry.
- Field-based education in petroleum geology
- Improved interaction between students and teachers from the different Norwegian Universities



Svalex 2001+2002

Styringsgruppe

Jon Kleppe, NTNU (Leder)
Jon Huslid, Statoil
Arild Andresen, UiO
Rolf Mjelde, UiB
Karin Andreassen, UiT
Svein Skjæveland, UiS

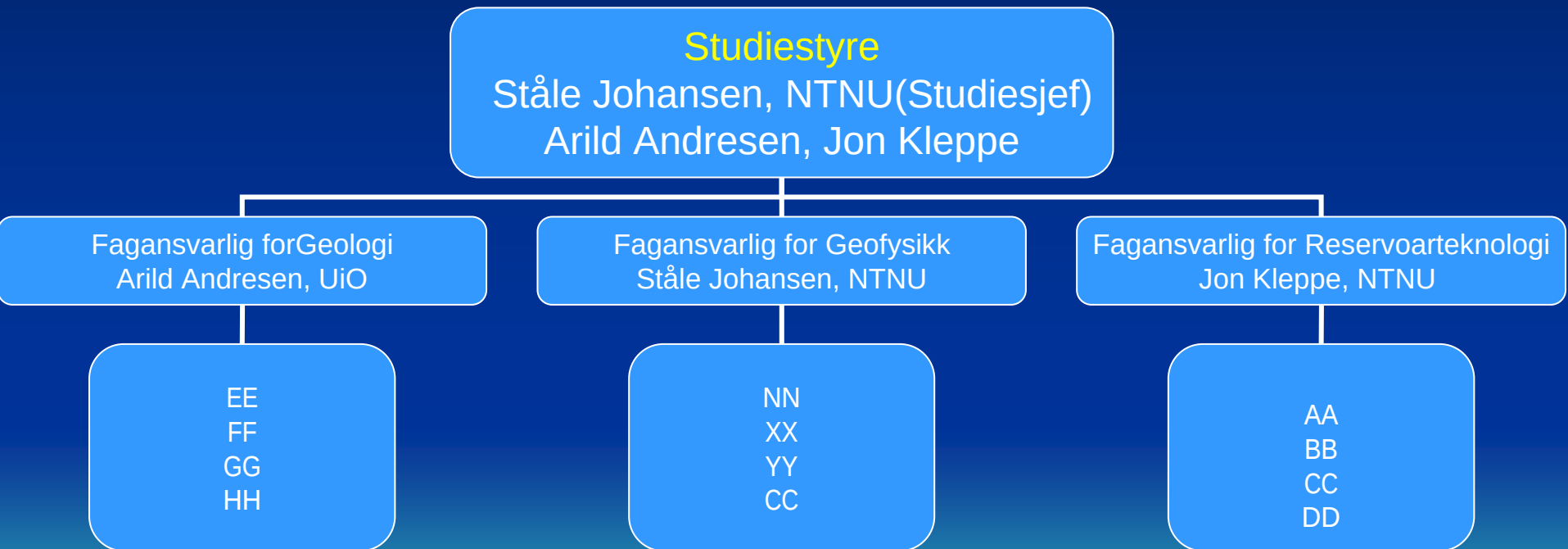
Prosjektleder

Egil Tjøland

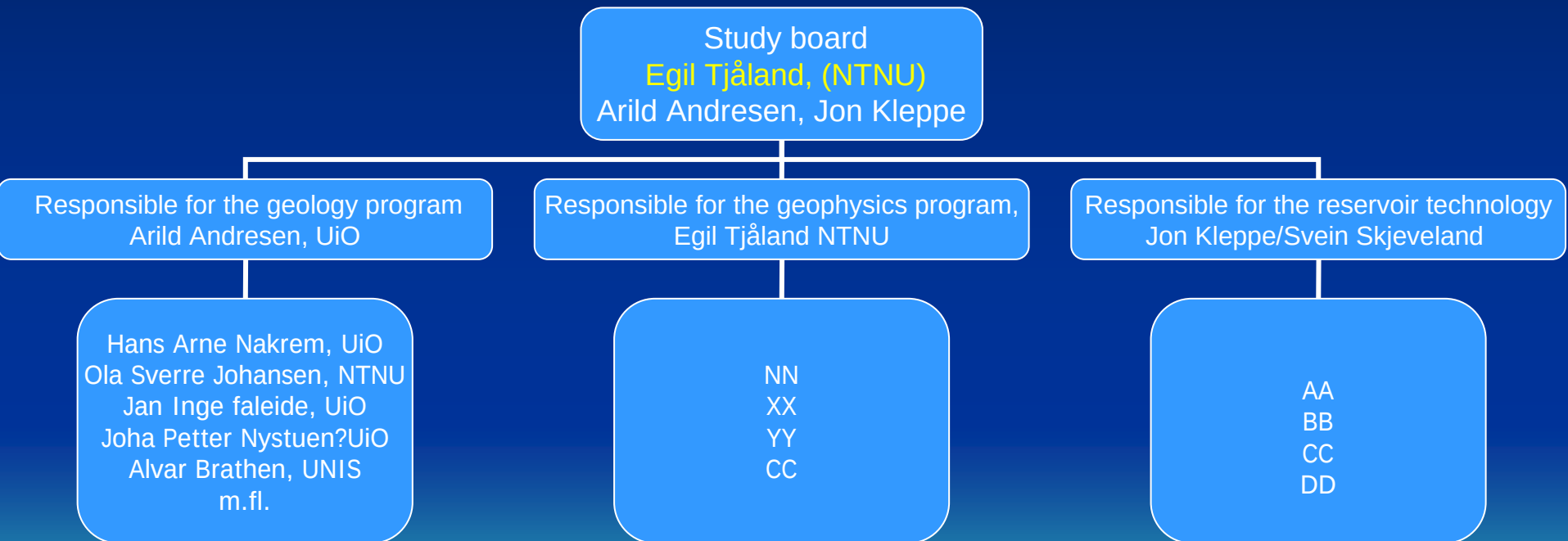
Studiestyre

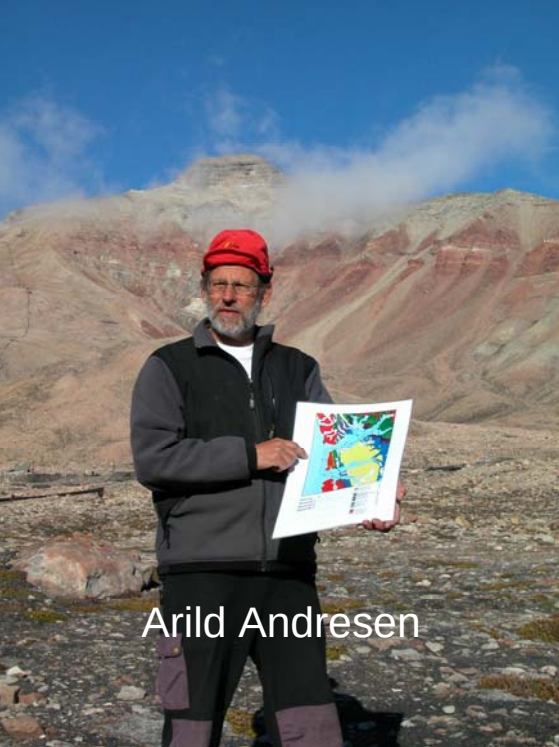
Arild Andresen, Egil Tjøland, Jon Kleppe

Svalex 2001 + 2002



Svalex 2006



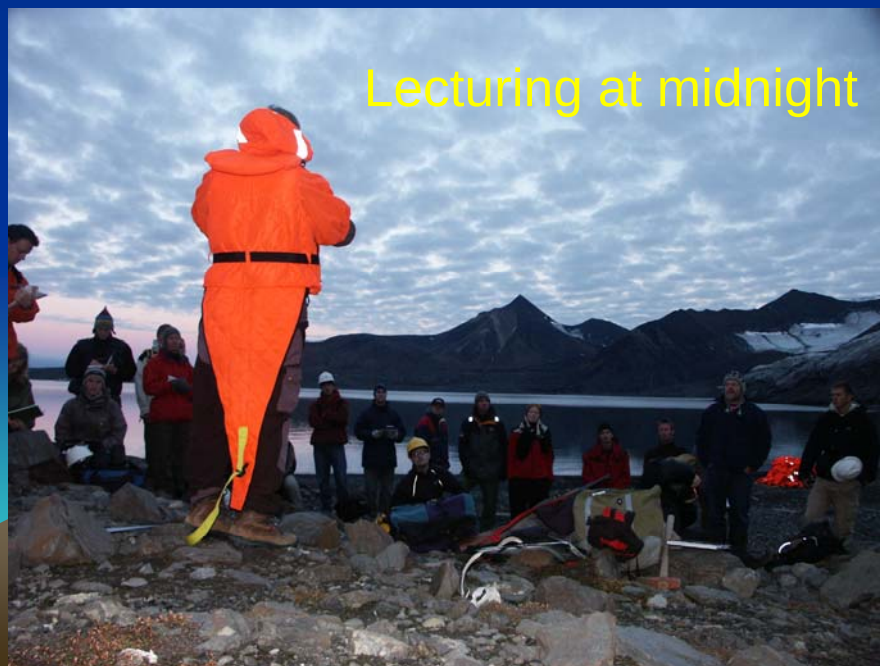


Arild Andresen

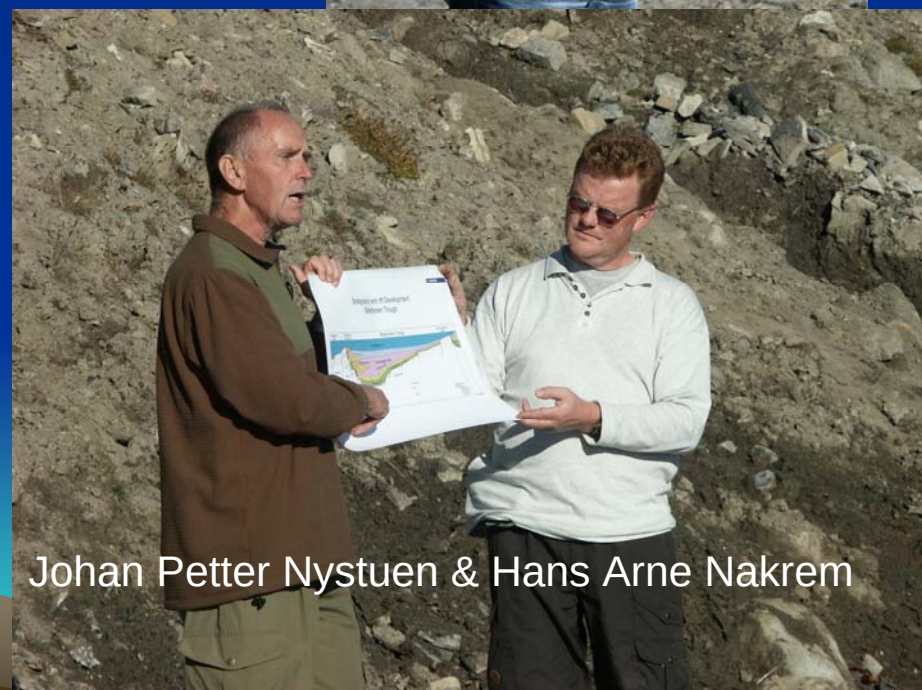
Teachers from all 5 Universities
+ specialists from industry



Sverre Ola Johnsen



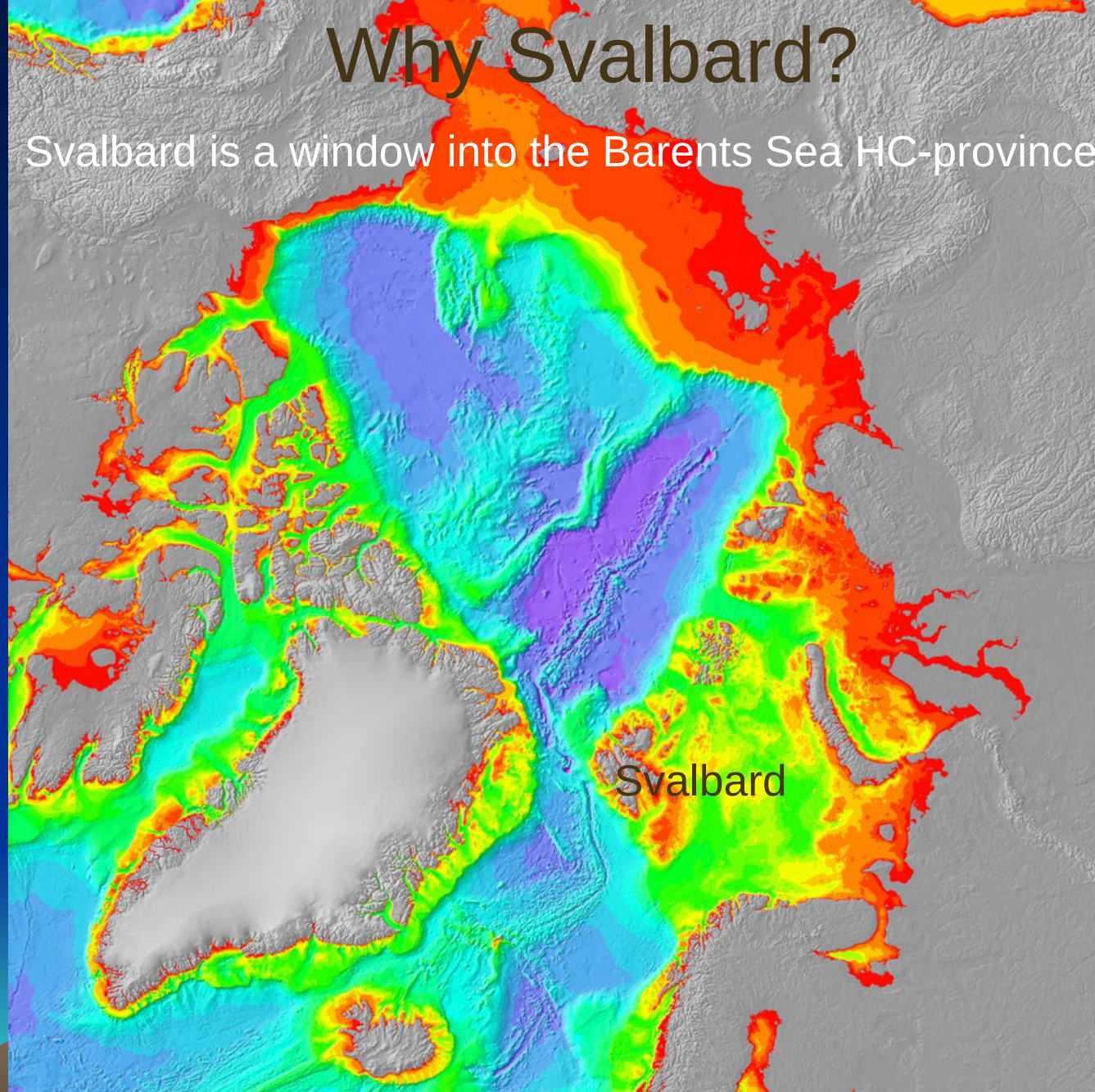
Lecturing at midnight



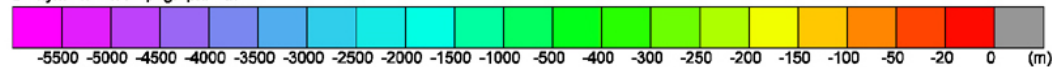
Johan Petter Nystuen & Hans Arne Nakrem

Why Svalbard?

Svalbard is a window into the Barents Sea HC-province



Bathymetric and topographic tints



Why Svalbard?



"Nordstjernen"

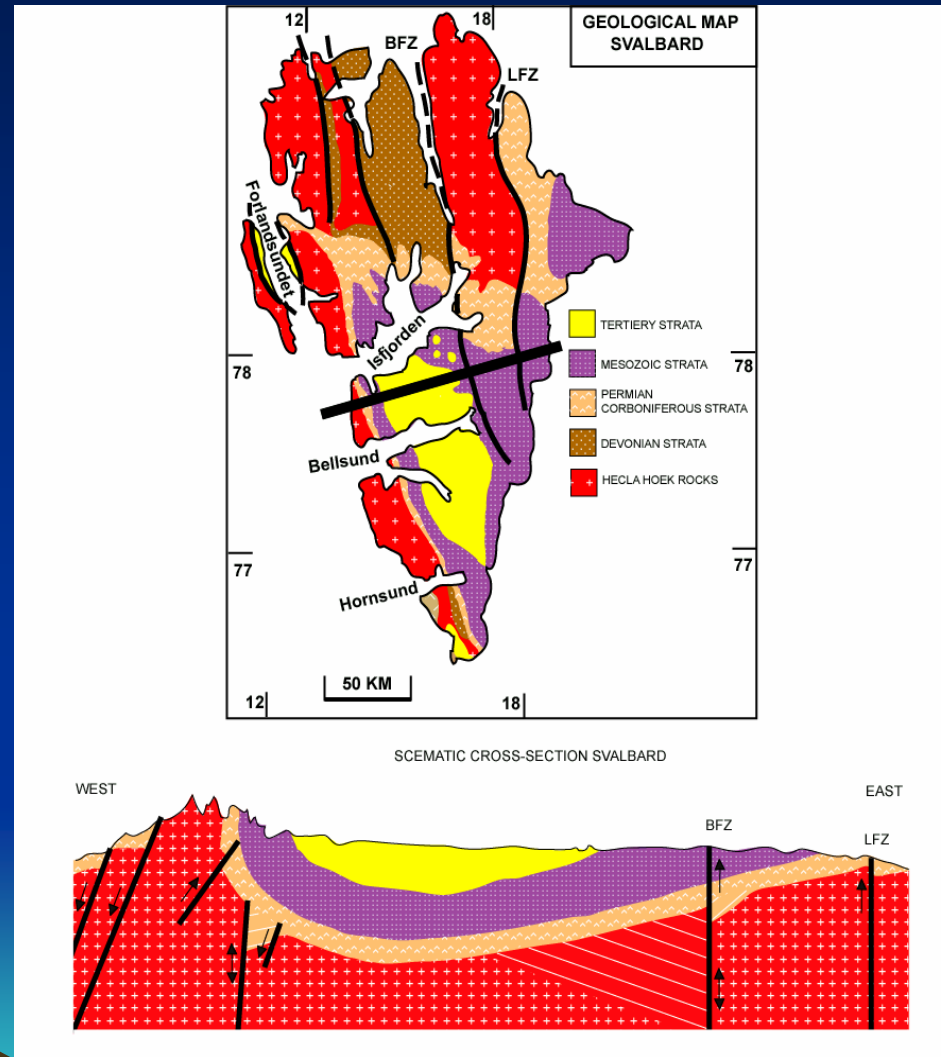
UNIS-building (www.unis.no)



- Svalbard is a window into the Barents Sea Hydrocarbon Province
- Excellent logistics (UNIS and cruise-ship, student housing +hotels in Longyearbyen)
- Access to seismic research vessel (Haakon Mosby from Bergen)
- Seismic data in the fjords
- Well studied excellent exposures of siliciclastic and carbonate sediments
- Both extensional and contractional deformation structures

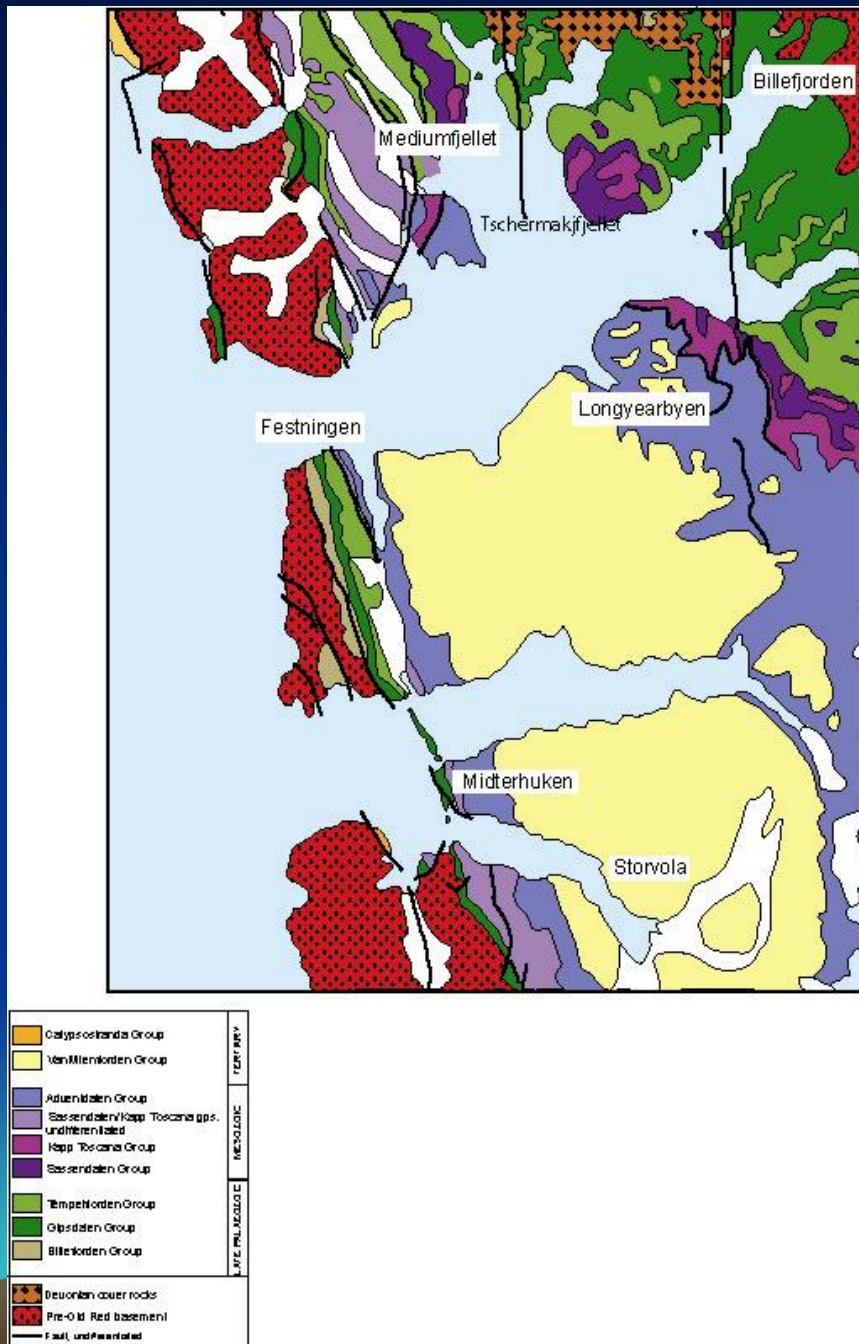
Geology of Svalbard

- Tertiary deposits
- Mesozoic siliciclastic deposits
- M. Carboniferous-Permian shelf carbonates
- Early/mid-Carboniferous rift sequences
- Devonian continental deposits (Old Red Cont.)
- Pre-Devonian Hecla Hoek Basement variably reworked during the Caledonian orogeny



Key localities

- **Billefjorden**
 - Rift basin, basin inversion, carbonates, rapid facies variations
- **Festningen**
 - Late Paleozoic and Mesozoic stratigraphy
- **Mediumfjellet**
 - Thin-skin contractional deformation
 - Carbonates, evaporites
- **Midterhuken**
 - Decollement folding
- **Storvola**
 - Foreland basin, sedimentology, used in reservoir modelling
- **Tschermakfjellet**
 - Seismic imaging of sills and dikes



Academic and logistic challenges



- Highly variable academic background, particularly when it comes to field experience
- Bad weather (fog, waves, snow)
- Too many students
- HMS

Student activities

- Approved assignments to qualify for SVALEX (geology, geophysics, reservoir-technology problems)
- On Svalbard, groups of 6 "experts"/ students work together as a team to solve assignments ("experts in team")
- Field-activities is a combination of excursion and problem solving activities
- All groups have to write a PUD (Plan for development and operation)
- Student presentations the last day



Logistical challenges



- Use of two ships ("Nordstjerne" + Haakon Mosby"/"G.O.Sars")
- Transport of more than 80 students + teachers + guests onshore from the ship and back every day.

HMS



+ armed guards for protection against polar bears
(so far only seen a few pixels)

Course evaluation

(Svalex 2004)

Mr. Caine

Ms. Clinton



Experiences so far

- Approved pre-expedition projects to avoid "geotourism".
- Never enough information to the students before showing up in Longyearbyen
- Posting daily itineraries both in Longyearbyen and on board "Nordstjernen"
- Avoid too many and too long lectures (LYR, båt, felt)
- Importance of high quality teaching material.
- Inform the geology students that this is not a field excursion for geologists only
- Offer lectures at various levels (structural geology for geologists, as well as for non-geologists)
- Need for alternative localities in case of bad weather (wind, snow)
- More use of SvalSim before and during the field course



Challenges for the teachers:

- 1) Make the students understand what you as teacher are saying (terminology)
- 2) Make the students see the same as you see (experience).



Some useful web pages

www.svalex.net

www.unis.no

www.spitsbergentravel.no



The "Old" UNIS building

SVALEX 2006

- Maximum 12 **qualified graduate students** from UiO. No tourism.
- Completion of pre-field trip assignments
- Oslo –LYR w/SAS Sunday Aug. 20
- LYR-Oslo w/SAS Saturday morning Sept. 2.
- On-land activities in LYR 21-24 Aug.
- On-ship activities 24.8 – 1.9
- NTNU has signaled that the trip to and from LYR will be paid by Statoil this year.
- You get a diploma and 5 credits when you have completed the course
- Alcohol is banned in the ships. Violation of this rule will result in quick, but expensive transportation back to the mainland.
- There is a big party Friday night September 1 !!!! (only for those interested, of course)

And then on to the questions!

- ?
- ?
- ?
- ?
- When do we meet next time?
- When can we start "flying in SvalSim"

