calculations show the importance of the dynamics for many different glaciers.
The current overall Arctic data indicates that the Arctic (Canada, Svalbard, Russian Arctic) with about 1/3 of all ice in worlds GIC have an increasing negative mass balance. The net mass balance is: $B_n = -38 \pm 7$ $km^3 yr^{-1}$ or $b_n = -0.15 \pm 0.03$ m yr^{-1} which is in SLE = 0.11 ± 0.02 mm yr^{-1}. Thus they contribute less than 15 % of the ice input to global sea level but has a large potential to higher contribution.

Exploration for new CO_2 storage opportunities

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This paper presents an outline of a new subsurface exploration program initiated by Statoil within the field of CO_2 storage. Geological storage of CO_2 for the purpose of climate mitigation is only tenable if carefully selected sites, that meet strict requirements, are identified, risked and developed. A business driver (i.e. economic incentive) is also required to sustain a prolonged effort in CCS (carbon capture and storage).
Secure and reliable storage of the captured CO_2 is a key prerequisite in every CCS value chain development. Several storage options have been evaluated (deep ocean, salt caverns, etc.), but generally regarded as the most promising, due to both capacity and safety, is injection of CO_2 as a dense phase into subsurface geological reservoirs. This is a proven technology, pioneered by Statoil at Snøhvit, In Salah (Algeria), and Sleipner, where storage of CO_2 has occurred for more than a decade.
Existing CO_2-storage projects aim to reduce CO_2 content in natural gas to meet sale specifications. As a result, these developments are coupled with sites for natural gas development. In the future however, more focus will probably be placed on storage of CO_2 from industrial sources, such as power plants. In this latter scenario it will be necessary to capture and store large volumes of CO_2 safely and with high regularity. For public acceptance, both forms of CCS must induce no significant impact to the environment, either locally or globally.
The Statoil initiative, called the *CO_2 Storage Mapping Programme* (COSMaP), aims to explore, mature and develop future CO_2 storage sites. In the initial phase of COSMaP, our focus will be to establish a common methodology, aligned with international expertise within CCS, that describes the necessary activities involved, and the criteria used to characterise and verify CO_2 storage and capacity estimation. In parallel, all hazards and risks (for example top seal integrity, fault leakage and induced fracturing during injection) involved with CO_2 storage are to be described, assessed and handled satisfactory to assure public and regulatory acceptance.
Exploration for CO_2 storage shares several standard activities with oil & gas exploration. However, some important differences are obvious, and basins that lack oil & gas opportunities, may prove to be valuable for CO_2 storage. By utilising the subsurface knowledge situated in an E&P company, we claim that swift maturation towards industrial-scale CO_2 storage is possible.

Clastic dykes from the Upper Jurassic of Svalbard, Norway

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Two clastic dykes have been identified in the Agardhfjellet Fm. at Janusfjellet, Central Spitsbergen. The dykes originate near sandy horizons in the Oppdalssåta Mbr. (Kimmeridgian), and can be followed more than 60 m vertically until they terminate near the top of the Slottsmøya Mbr. (Tithonian). The dykes are 20-30 cm thick, and consist of sand and larger quartz pebbles with fragments (xenoliths) of black shale from the side rock. The large vertical extent reflects sand injection under high pressure. The stratigraphic level at the upper termination coincides with that of numerous methane seeps in the area, close to the Jurassic-Cretaceous boundary. We speculate that the two phenomena both reflect a phase of considerable fluid or gas expulsion, and that the injectites may represent part of the plumbing systems for the seeps. Calcite veins within the dykes have isotopic signatures interpreted as hydrothermal, similar to late-phase sparites in the seeps. Several near-contemporary events may have contributed to the formation of injectites and seeps, such as the global warm pulse at the Jurassic-Cretaceous boundary causing release of gas hydrates, production of thermogenic methane through steepening of the geothermal gradient during preliminary phases of the High Arctic LIP, seismic activity or even the Mjølnir impact.

Carbon isotope chemostratigraphy of the Upper Jurassic of Svalbard, Norway

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We present bulk $\delta^{13}C_{org}$ curves for the Volgian (Tithonian-Berriasian, Upper Jurassic to lowermost Cretaceous) of Svalbard, Norway. The two sections