Séminaire LGGE

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Perspectives and examples from Norwegian Arctic research focusing on atmospheric science, oceanography and the carbon cycle

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Arctic climate change is occurring and will most likely accelerate during the next decades according to the new IPCC report. Under the "*business as usual*" scenario the temperature projections for some Arctic areas show an increase of more than 10 degrees in the annual mean by the end of this century. This will have severe consequences not only for the Arctic, but also globally. Exploration and research in the Arctic region have long and important tradition in Norway. Currently there are several new large research projects on the understanding of Arctic changes and the impact on the ocean, cryosphere, atmosphere and global climate. This presentation will give a brief overview of the Norwegian Arctic research landscape, and include selected examples from research studies. In particular, new results on sources of absorbing aerosols present in the Arctic, and the understanding of Arctic CH_4 budget will be presented. Both natural and anthropogenic sources will be discussed, including the impact of increased oil and gas activity in the region. The studies are based on a combination of novel measurements, analysis of long term observations, and various state-of-the-art modelling tools. The talk will finish with introduction to large relevant Norwegian projects starting in 2013 and 2014 focusing on Arctic change, and the impact on atmosphere, ocean and the cryosphere.