

Effect on future sea level around Denmark from the melting of the Greenland Ice Sheet.

Geomatics Lab

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Introduction.

Sea level change has great impact on flooding in a future climate. This will cause increased flooding, rain and inundation in many populated areas of Denmark and design of future cities should develop new solutions to handle an increased sea level around Denmark. How accurate can current sea level rise be determined from satellite and what will be the effect of increased melting of the Greenland Ice sheet on sea level rise. The ongoing accelerated melting of the Greenland ice sheet is not included in the IPCC 4 assessment report on future sea level rise.

Case

The project focus on determining the present-day sea level rise from satellite altimetry and attempts to make prediction of future sea level rise for the next 10-20-50 years. This is based on current knowledge of the melting of the large icecaps in the World. Most prominently the Greenland Ice Sheet, but also the Antarctic ice cap might have considerable effect. Establishment of a model for ice sheet melting based on in-situ and remote sensing data over Greenland will be used to derive the scenario.

Result.

Since the project is a part of the three week course "Geomatics Lab" in June 2012, obviously no results have been obtained so far, but existing research shows that current sea level rise estimates must take into account a possible accelerated melting of i.e. Greenland in a warmer climate.