Visual Computing Forum

Applied visualization and modeling of environment and geology

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Abstract

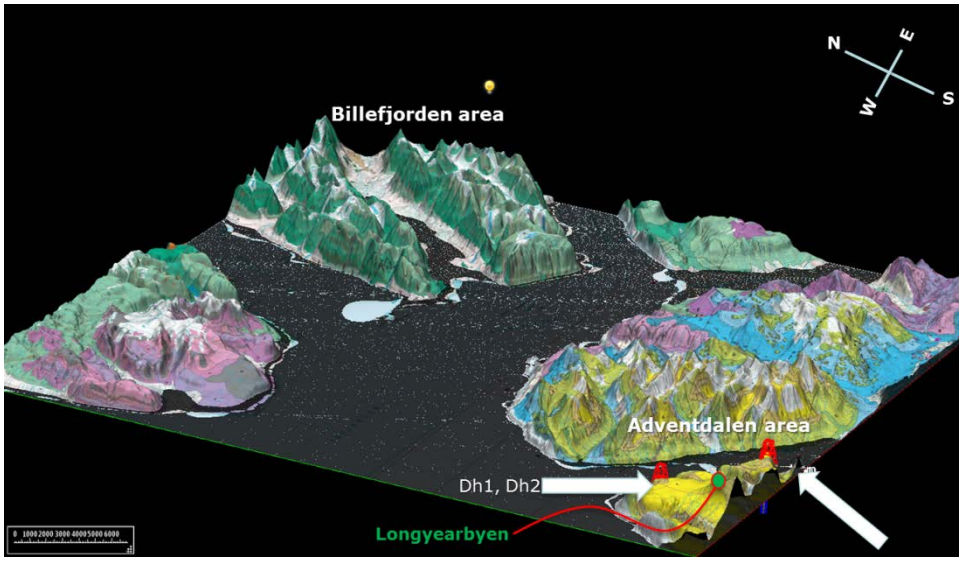
Computing is a research department of Christian Michelsen Research (CMR) for applied research in visualization, data analysis and decision support. CMR computing works closely together with industry and government and develops innovative solutions and software prototypes in application areas such as energy, oil&gas, maritime, marine and medicine. In this talk, we will present selected projects that are related to modeling and visualization for geology and environment.

Decision support for offshore wind turbine installation (DECOFF).

Offshore operations such as the installation, maintenance and repairs of wind turbines are complex and to a large extent weather sensitive. The cost of such operations is to a high degree determined by waiting for convenient time for weather-sensitive phases (transportation of equipment, mooring, crane operations, etc.). In this project, we are developing a decision support tool which is based on real physical limitations of the equipment being used and which takes into account uncertainties such as weather conditions.

Virtual CO2 Laboratory (VIRCOLA).

The rapidly advancing deployment of geological CO2 storage requires a better comprehension of the CO2 storage reservoirs, CO2 injection, and long-term fate of geologically stored CO2. In this cross-disciplinary project, we address the challenge by building a virtual CO2 laboratory for co-visualizing and visual analysis of different data types involved.



Geoillustrator

This project focuses on illustrative geology. We will present a prototype that allows for intuitive and quick creation of geological models via sketching. The prototype supports modeling of layers, faulting.