Southern Sunnmøre projects

Background

Within the Norwegian Mapping Authority three projects have been initiated that implies cooperation between the H*ydrographic Service*, the *Mapping and Cadastre* and the *Geodetic Institute.* All the projects are in an initial phase and all are related to the same geographical region. The region Søre (Southern) Sunnmøre is between the landmark Stad in the south to the city of Ålesund in the north.

A former project in the actual region has provided basic marine maps of the surface geology with rather detailed bathymetric information. In general, the military classification scheme impede us from publishing bathymetric information with higher resolution than 50x50 meter. This restriction has been lifted for an area of 825km^2 and the bathymetric data may be presented at any resolution. This creates new possibilities for the Hydrographic Service to demonstrate products based on MBES surveying and any other technique.

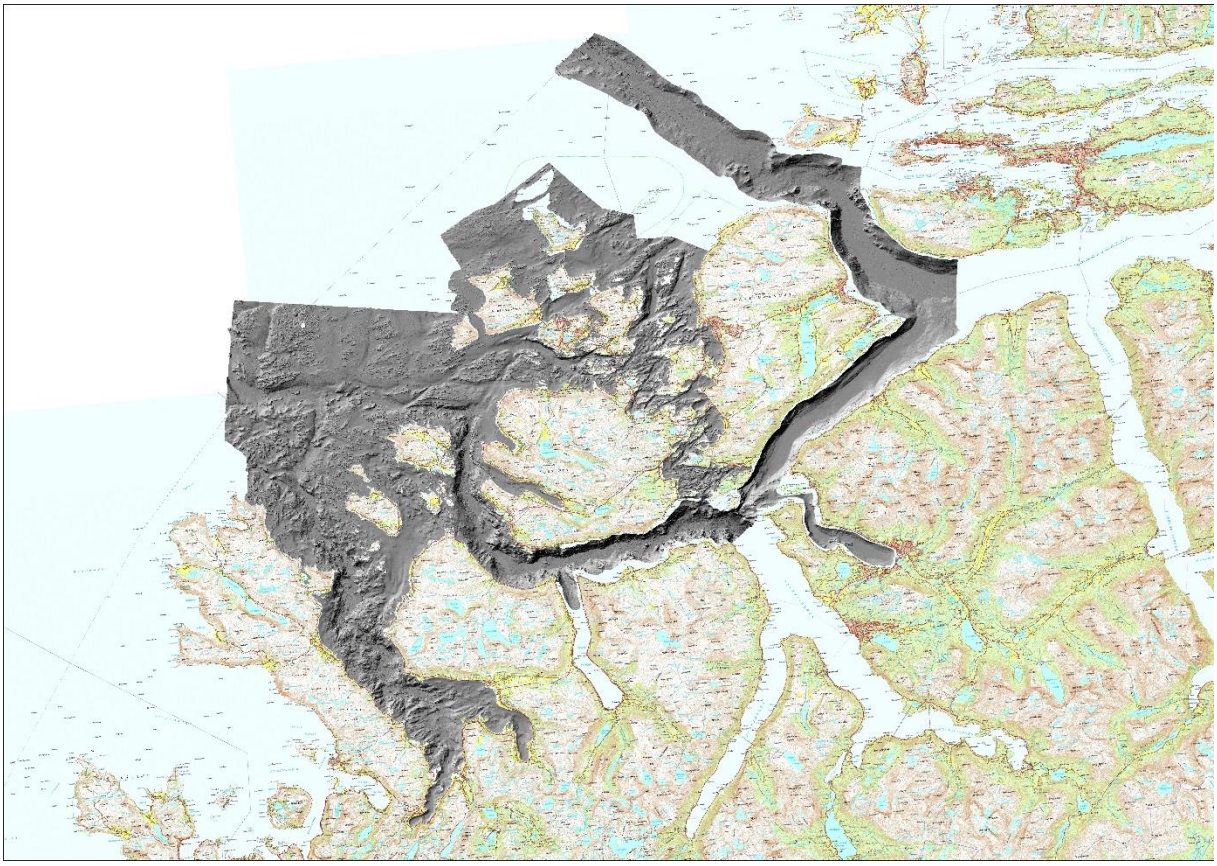

Fig. The grey area constitute the sea area of the projects

Description of the projects and expected outcome

The projects aim at

- Establishing a common reference frame for elevation data (depths at sea and heights at land)
- Close the gap between the existing data in the maps and the navigational charts
- Demonstrating how an integrated sea and land model can be utilized to visualize for example sea level changes

The "Common reference frame for sea and land" will establish a Mean Sea Surface related to the ellipsoid and improve the existing model of the quasi geoid by collecting high quality data for water level, levelling, gravity and GNSS. The new information will be used to connect the Chart Datum for bathymetry to the reference for topographic data (NN2000). The project has started and will last until the end of 2017.

The project "Green Laser Southern Sunnmøre" (GLaSS) will collect data from the coastal zone, down to appr. 5 meter depth, by utilizing airborne green laser. Together with existing bathymetric data and topographic data, a seamless high-resolution terrain model will be created. The surveying was planned for 2016, but the offers were outside the limits of a budget. Some adjustment to the plans have been done and a new tender process is ongoing. The surveying will be split into two periods, autumn 2016 and spring 2017. The final report is expected to be finalized before the end of 2017.

In the project "Vizualization of the sea level" we will combine the detailed elevation model with information of historic storm surges, prediction of future sea levels etc. This will be a tool for planning functions, decision makers etc. The project will include analysis of GNSS and InSAR observations, to improve estimates of local sea level change. Others location data information might also be combined with the elevation model. The project will start up in 2016.

Action requested from NSHC32

The NSHC32 is asked to note this information