

Experience of Using the ellipsoid as vertical reference for seabed mapping.

NHS now utilizes the ellipsoid as vertical reference for offshore work. To be able to use this method it is necessary to provide vertical positioning data with high accuracy. For this purpose we use TerraPos, which is a new GPS post processing software package.

To convert seabed data from ellipsoidal heights to mean sea level (MSL) we utilize a mean sea surface (MSS) model. There exist several MSS models, which are based on satellite altimetry data. Up to now we have utilized the KMS04 MSS model, but we will switch to the new DNSC07 MSS model in the near future.

Conversion from MSL to chart datum is done using tidal numerical models to calculate lowest astronomical tide (LAT) at high seas. At high seas chart datum is a distance (LAT) below MSL. We are currently cooperating with the Norwegian Meteorological Service (met.no) to improve LAT estimates for offshore areas. We also plan to use the same technology for near shore areas.