

Using the ellipsoid as vertical reference for seabed mapping.

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

To convert seabed data from ellipsoidal heights to mean sea level (MSL) we will use a mean sea surface (MSS) model. There exist several MSS models, which are based on satellite altimetry data. Conversion from MSL to chart datum will be 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.

At first we will use this method for seabed mapping at high seas because it is difficult to get reliable water level data and because the current MSS models are not reliable near shore and in inshore areas.