

# Estonia

## Switch to new height system simplifies cross-border projects in Estonia

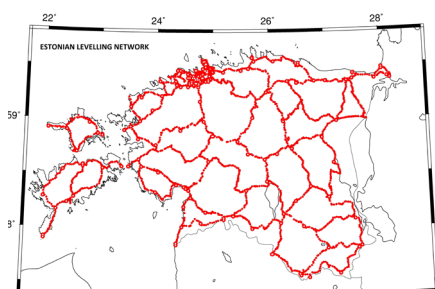
Estonia is benefiting from the transition to a new height reference system that helps to reduce costs, simplifies the implementation of cross-border projects and enhances marine navigation.

Following approval by the Minister of the Environment, the Regulation on the Geodetic System saw Estonia switch from the Baltic Height System (BK77) to the European Vertical Reference System (EVRS) which is used by many European countries, including its closest neighbours. Its introduction not only benefits the implementation of international construction and infrastructure projects but also the management of pan-European spatial databases, data exchange and navigation at sea as all nautical charts and data of shipping routes of the Baltic Sea now use a common system.

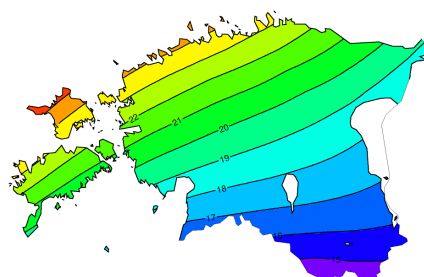
Due to the transition, the Estonian geoid model also needed updating with the new model, EST-GEOID2017, used for converting GNSS height values to EH2000. An online calculator is available via the Estonian National Land Board's geoportal.

Preparations for using the Amsterdam Ordnance Datum were thorough with an extensive reconstruction of Estonia's levelling network taking place between 2003 and 2016. Today, the network consists of 3,144 benchmarks, 4,238 km of levelling lines and an average distance between benchmarks of 1.4 km. The accuracy of the levelling network is  $\pm 1.7$  mm.

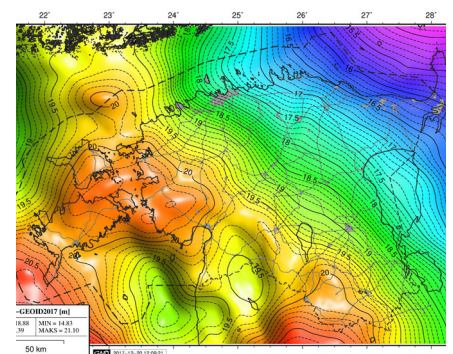
As a result of the switchover, the southern region has seen an average 15 cm increase in absolute height with an average of 23 cm in the north. These differences are due to differing postglacial land uplift values. For example, Estonia's highest point was previously 317.2 m above sea level and is now 317.4 m.



Estonian levelling network



Height corrections (cm) for conversion from BK77 heights to EH2000 heights



Estonian geoid model EST-GEOID2017